

Psychological Pathways from Financial Conditions to
Outcomes for Youth

by

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ABSTRACT

Low-income and minority youth are dramatically less likely to reach a college education than their higher income and White counterparts. The dissertation evaluates how socioeconomic circumstances and family assets come to influence academic motivation and lifetime outcomes for youth. In chapter II, structural equation models, constructed from recent waves of the Panel Study of Income Dynamics, test the proposition that a family's assets increase a child's level of subsequent academic attainment in young adulthood by boosting adolescent expectations for college enrollment. The second chapter also shows that assets benefit motivation and achievement for youth in particularly low-income neighborhoods.

Primarily through field experiments, chapters III and IV test the specific effects of financial information about college on middle-school youth from low socioeconomic backgrounds. First, college costs information that indicates an open path to college (through financial aid) enhances immediate academic goals

and motivation, compared to information that suggests a closed (high costs) path to college. Finally, in chapter IV, information that highlights the high economic returns to a college education increases current plans for academic engagement and actual effort on a school-related task amongst low-income youth, compared to students in a condition who receive information that does not connect college to subsequent income. All participants were fully debriefed with information on the benefits and accessibility of a college education.

Taken together, the dissertation outlines general and specific psychological pathways that translate socioeconomic circumstances into patterns of behaviors that lead to significant lifetime consequences. Implications for community and policy interventions also emerge, as the findings provide suggestions for effective ways to frame economic circumstances for young students that may help them to establish a clearer image of their future possibilities.

Chapter I

Introduction

Overall, the adult population of the United States has become increasingly more educated and experienced significant gains in equal access to educational opportunities. In 1980, only 17% of adults who were at least 25 years or older had earned a bachelor's degree, compared to the 31% who failed to earn a high school diploma. By 2006, the figure for bachelor's degrees rose to 28% and the figure for high school dropouts fell to 15% (U.S Census Bureau, 2006). Despite the apparent gains in educational attainment, the distribution of individuals with a college education remains heavily stratified by socioeconomic indicators. In 2005, high school graduates from the highest income quartile showed over an 80% chance of college enrollment. In the lowest income quartile, youth are significantly less likely to graduate from high school, and even those who do only have about a 50% chance of college enrollment (Baum & Ma, 2007). Socioeconomic inequality can also be observed in the types of colleges

that students from different family income levels attend. At the most prestigious four-year universities, 1/3 of students come from families that earned over \$100,000 in annual income, compared to only 10% from families earning less than \$20,000. Instead, low-income students are significantly more likely to enroll in a two-year institution (Horn et al., 2006).

Educational attainment and the completion of a college degree are particularly important because correlational studies suggest that they may hold value and predictive power toward a host of other important lifetime outcomes. In 2005, full-time workers, 25 years of age and older with a post-graduate, professional degree earned an average of \$100,000. Those with a bachelor's degree, associate's degree, or without a high school diploma earned \$50,900, \$40,600, and \$23,400, respectively (U.S. Census Bureau, 2006a).

Correspondingly, unemployment, poverty, and public assistance rates are notably higher among people with less education (Baum & Ma, 2007). The National Health Interview Survey also shows that higher income and education are associated with more exercise, less smoking, and better perceptions of overall health (National Center for Health Statistics, 2005). The

apparent benefits of education display a cyclical quality, and a mother's educational level is related to many child outcomes, including cognitive skills of pre-school aged children (U.S. Census Bureau, 2007).

Finally, correlational evidence suggests that a progression towards increased educational and income equality would benefit society as a whole. People with a bachelor's degree are more likely to volunteer, donate blood, and vote (Bureau of Labor Statistics, 2007; National Center for Health Statistics, 2005; U.S. Census Bureau, 2004). International comparative research also shows that higher economic inequality within a country is associated with worse health outcomes and decreased life expectancy for a society, overall. As a developed country, the United States scores surprisingly high on indicators of income and wealth inequality, and socioeconomic disparities in educational attainment contribute to this trend (Danziger & Gottshalk, 2004; Oliver & Shapiro, 2006; Sherman & Aron-Dine, 2007).

Because most evidence connecting socioeconomic status to educational attainment uses correlational methods, this dissertation evaluates *how* financial resources come to influence academic motivation and

lifetime outcomes for youth. Largely, the literature has not focused on relevant psychological processes, particularly amongst youth, that stem from financial circumstances to facilitate larger societal trends in education. In order to adequately approach this task, multiple methods of research must be employed. Through a combination of national survey analyses, field studies, and field experiments, the dissertation links socioeconomic trends in educational outcomes to specific patterns of thoughts and behaviors of youth, which can be modified to reduce disparities through targeted psychological intervention.

The first paper (Chapter II) uses national, longitudinal data to test the general process model that a family's financial assets increase a child's likelihood of subsequent high school graduation and college enrollment by boosting the child's own expectations for college enrollment during adolescence. The paper also examines an urban, low-income sample to determine the effects of assets on academic behaviors and achievement of youth in underprivileged contexts. Together, these studies illuminate the significance of wealth and assets for how youth see their future, engage in school behaviors, and reach their actual goals.

The second and third papers (Chapters III & IV) move beyond correlational evidence to test psychological mechanisms that connect socioeconomic circumstances to behaviors and outcomes, primarily through controlled field experiments with middle-school youth in low-income settings. Chapter III specifically confronts young students' perceptions of economic barriers to academic goals. In two studies, an "open path" intervention enhances immediate academic motivation and behaviors by providing youth with information about need-based financial aid, compared to information that suggests a closed path to college, through high tuition costs. Finally, Chapter IV addresses how young students perceive the connection between educational attainment and future financial stability. An "education dependent future" intervention increases youth's plans for academic engagement and actual school-related effort by drawing attention to the high economic returns to a college education.

Taken together, the three papers present general and specific psychological pathways that translate socioeconomic circumstances into patterns of behaviors that lead to significant lifetime consequences.

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Chapter II

Family and neighborhood wealth influence children's educational expectations, behaviors, and outcomes

A family's financial and economic resources are consistently related to better development and outcomes for children (for a review, see McLoyd, 1998). Historically, research regarding socioeconomic status (SES) and child outcomes has centered on the influence of family household income and/or parental education. Wealth (also termed assets or net worth) has gained attention as a particularly significant contributor to well-being for families and children, beyond the effects of other socioeconomic indicators, like household income and parental education (Sherraden, 1991; Oliver & Shapiro, 1995, Conley, 1999). As a more stable measure of financial resources, wealth allows families to make larger investments in their children, encouraging their academic success over time. It remains to be tested, however, if wealth leads to better school outcomes by encouraging youth to imagine college as a more tangible outcome. Further, much of the research connecting wealth

to child outcomes relies on national survey analysis, and it remains unclear if financial assets can affect motivation for youth in particularly underprivileged contexts.

Benefits of Wealth for Families & Children

Whether through savings, home ownership, investment portfolios, or other forms, wealth accumulation can bring many benefits to families. Assets help to reduce the dependence on income from employment and can ensure a family's financial security during periods of unemployment or decreased income (Lerman & McKernan, 2008). Subsequently, asset building can help low SES families avoid issues of depression, divorce, and child/spousal abuse that are associated with financial instability (Charles & Stephens, 2004; Liem & Liem, 1988; Kalil & Ziolo-Guest, 2005). In the American Dream Demonstration, those who participated in Individual Development Accounts, a subsidized matched-savings, asset-building instrument, expressed greater security, confidence, future orientation, and responsibility, compared to control participants (Sherraden, McBride, Johnson, Hanson, Sswemala, & Shanks, 2005). In addition to the benefits for families as a whole, assets appear to

enhance child development and outcomes (for a review, see Williams Shanks, Kim, Loke & Destin, 2010).

For youth, wealth is associated with better achievement, school behaviors, and educational attainment, even when controlling for factors like race and income. Williams Shanks (2007) used the Panel Study of Income Dynamics (PSID), an ongoing national survey of individuals and families in the United States, to examine the effects of measures of household wealth on child development. Controlling for household income, more wealth in a family was significantly related to better math scores and less behavioral problems among 3 to 12 year-olds. Conley (2001) also used the PSID, with a focus on the effects of wealth on educational attainment outcomes. His analyses found that family wealth had predictive power towards a child's later likelihood of high school graduation that was distinct from the effect of family income on high school graduation.

Because home equity remains one of the most common sources of financial assets amongst Americans, home ownership is sometimes used as a measure of wealth and is positively related to a number of outcomes for youth. For example, children of homeowners are more likely to stay in school longer and show reduced emotional and

behavioral problems, and these effects are particularly pronounced for lower-income families (Green & White, 1997; Boyle, 2002).

Mediators of Wealth Effects

There are several possible mechanisms that may drive the association between wealth and children's outcomes. For example, increased assets are associated with environmental improvements that may contribute to better child outcomes, like neighborhood and school quality (Oliver & Shapiro, 2006). Wealth and assets are unique, though, in that they can directly influence the ability to fund a young adult's post-secondary education. Some models of academic attainment find, in fact, that borrowing constraints, or the lack of funding for a college education, are an essential explanatory factor for the unequal distribution of educational attainment, particularly amidst increasing college costs (Belley & Lochner, 2007; Huang et al., 2010).

In a review, Rohe, Van Zandt, & McCarthy (2002) conclude that wealth accumulation, measured through home ownership, leads to better school outcomes through changes in the perception of opportunity structures and other psychological factors. Parents who have saved more

wealth and assets may come to see brighter futures as possible for their children, and evidence suggests that children perform better in school when their parents have higher expectations for their academic attainment (Benny & Mistry, 2008; Halle, Kurtz-Costes, & Mahoney, 1997; Davis-Kean, 2005). Further, studies show that parental expectations act as a mediator of the effects of wealth and assets on children's achievement in school (Zhan, 2006; Zhan & Sherraden, 2003). Research on wealth has not, however, modeled the effect that assets may have on a child's own expectations for educational attainment and college enrollment.

Wealth and Motivation

Identity-based motivation theory asserts that people will work more diligently towards a goal when it is connected to an image that they hold of their future self (Oyserman & Destin, in press). In particular, when youth imagine a college-bound, successful future, spontaneously or through intervention, they are more engaged in the everyday school behaviors leading to that success (Destin & Oyserman, in press). Thus, the expectation of future college enrollment is a motivating force at early ages, and this expectation may be more stable when children

believe that the financial resources will be available to fund higher education. When youth perceive that more resources are available in their family or community, especially in the form of wealth or assets, they should be more likely to expect to reach post-secondary education and work persistently towards this goal.

Even in low-income contexts, the perception of greater relative wealth should influence the way that young students engage in school. In a set of field experiments, Destin & Oyserman (2009) show that low-income children who receive financial aid information are more motivated in middle-school than those who receive information on high college costs or no information at all. In a similar manner, the presence of wealth and assets should cue that college will be financially possible and encourage stronger academic motivation.

In the current studies, we aim to illuminate the role of a child's own expectations for college enrollment in the association between wealth and young adult outcomes. Further, we seek to provide evidence that wealth is beneficial for motivation and outcomes even amongst youth in low-achieving contexts as they make the difficult transition into high school. In Study 1,

structural equation models derived from the Panel Study of Income Dynamics test the notion that adolescent expectations for college enrollment mediate the relationship between family wealth and the child's subsequent high school graduation and college enrollment. Study 2 looks more closely at low-income, low-achieving contexts to determine if neighborhood rates of homeownership, within an underprivileged context, influence trajectories in school behaviors and achievement for youth as they face the difficult transition into high school.

Study 1

The current study contributes to the growing body of asset literature by using a longitudinal, national sample of young adults to show that more wealth in their childhood environment increases chances of high school graduation and college enrollment later in life; an effect that is mediated by the youth's own increased expectations for educational attainment during adolescence.

Sample & Measures

The analyses drew from Panel Study of Income Dynamics (PSID) data at three time points, following 450

participants from childhood through young adulthood. The sample of young adults who grew up in PSID families, known as the Transition to Adulthood (TA) sample, was aged 19-21 when they were asked in 2005, "Did you graduate from high school" and "Have you ever attended college?"

In 2002, during adolescence, as part of the Child Development Supplement (CDS), participants indicated "What do you think are the chances that you will graduate from a 4-year college?" on a 5-point response scale, from "No chance" to "It will happen."

Finally, data were linked to a composite measure of wealth, constructed from family responses to a list of questions concerning their assets and debts in 1994, when participants were 8-11 years old. The measure included the sum of a family's net worth on any business or farm, home equity, other real estate, stocks, mutual funds, investment accounts, personal vehicles, other investments, and checking or savings accounts, minus the sum of all debts in 1994. To establish a normal distribution, analyses use a log transformation of wealth.

A measure of total family income, averaged from 1993, 1994, & 1995 to improve stability, was log

transformed and included as a control variable. Race, parental education, and gender were also included as control variables.

Thus, two structural equation models tested the indirect pathway from family wealth during childhood through adolescent educational expectations to young adult 1) high school graduation and 2) college enrollment. The models also tested for direct effects of early family wealth on young adult outcomes and all analyses controlled for family income during childhood, race, parental education, and gender.

Results & Discussion

As shown in Figures 2.1 & 2.2, the structural equation models support the proposed indirect effect of early family wealth on high school graduation (NFI = 1.000, NNFI = 1.059, CFI = 1.000, & RMSEA = .000, Satorra-Bentler $\chi^2(1, N = 450) = .150, p = .70$) and college enrollment (NFI = 1.000, NNFI = 1.043, CFI = 1.000, & RMSEA = .000, Satorra-Bentler $\chi^2(1, N = 449) = .171, p = .68$) through educational expectations during adolescence. The direct pathways from wealth during childhood to high school graduation and college enrollment were not significant.

Wealth and the control variables were correlated with each other, so the model included covariate terms between each of the correlated indicators. Income during childhood showed both direct effects on young adult outcomes and indirect effects through children's educational expectations. Race, parental education, and gender did not show stable direct or indirect effects. Thus, the effect of wealth on child outcomes is independent of the effect of income and other controls, and wealth appears to influence child outcomes primarily through increased expectations for college enrollment during adolescence.

Although the models support a general pathway for the positive effects of wealth on outcomes for young adults, the sample lacks a sufficient low-income subsample for separate analysis. Thus, study 2 focuses specifically on a sample of low-income, minority youth to determine whether financial assets, assessed as neighborhood rates of homeownership, can benefit achievement behaviors and outcomes for relatively underprivileged youth.

Study 2

In order to understand the potential effects of financial assets on youth in underprivileged contexts, it is hypothesized that low-SES minority youth from neighborhoods with relatively higher financial assets will show less of a decline in classroom participation and grades than their lower-asset peers and classmates as they transition into high school.

Sample & Procedure

Low-SES African American students from three Detroit middle schools ($n = 98$, 54.1% of households below poverty line) participated in a larger study from eighth through ninth grade. At four time points (twice during 8th grade and twice during 9th grade), student *participation* and *effort* were assessed. To assess participation in class, teachers completed student participation questionnaires (adapted from Finn, Pannozzo, & Voelkl, 1995), indicating how often each student "pays attention in class, completes homework and in-class assignments, works especially hard to solve difficult problems, & thinks classes are valuable for the future", from 1 = *Never* to 5 = *Always*. For effort, students were asked, "How well do you finish homework assignments by deadlines?" from 1 = *Not at all* to 5 = *Very Well*. Finally, student grade point averages (GPA) were collected from school records at 6

time points (four times during 8th grade and twice during 9th grade) on a 0-4 point scale. Because student participation, effort, and GPAs tended to drop over time, we calculated and presented difference scores as outcome variables in two ways; 1) the difference between the first and last time points and 2) the difference between average responses across 8th grade and average responses across 9th grade.

To assess neighborhood asset levels, student responses were confidentially matched to their physical address and data from the U.S. Census Bureau. A measure of neighborhood level assets was created by dividing the number of owned housing units by the total number of housing units within each census tract ($M = .51$), such that a larger score represented a higher asset neighborhood.

Analyses included controls for the log of each student's census tract's median household income ($M = \$29,433.95$), the census tract's percentage of males with a bachelor's degree ($M = 5.07\%$), and each student's baseline 8th grade score on the corresponding outcome measure (*effort, participation, or GPA*).

Results & Discussion

Because individual students were nested in census tracts, we use multilevel regression (HLM 6.06) to assess the effects of neighborhood level assets on behaviors and outcomes based on the equation:

$$\text{Outcome} = \gamma_{00} + \gamma_{01} * (\text{NeighborhoodAssets}) + \gamma_{02} * (\text{LogNeighborhoodIncome}) + \gamma_{03} * (\text{NeighborhoodEducation}) + \gamma_{10} * (\text{BaselineOutcome}) + u_0$$

Controlling for median neighborhood household income, neighborhood education, and outcome measures at baseline, youth from higher asset backgrounds show significantly smaller declines in *participation* ($\beta = -1.36$, $SD = .46$, $p < .01$; $\beta = -.80$, $SD = .39$, $p < .05$), *effort* ($\beta = -1.16$, $SD = .59$, $p = .05$; $\beta = -1.04$, $SD = .53$, $p = .05$), and *GPA* ($\beta = -1.32$, $SD = .64$, $p < .05$; $\beta = -.96$, $SD = .43$, $p < .05$) than their peers and classmates from lower asset backgrounds (see Figures 2.3 - 2.5, high & low asset groups are divided at the mean). In this low income sample, higher median neighborhood household income predicted an opposite pattern of larger drops in *participation* ($\beta = .81$, $SD = .22$, $p < .01$; $\beta = .46$, $SD = .2$, $p < .05$), with similar, but less consistent patterns on *effort* ($\beta = .59$, $SD = .30$, $p = .06$; $\beta = .30$, $SD = .29$, $p = .31$), and *GPA* ($\beta = .51$, $SD = .30$, $p = .10$; $\beta = .29$,

SD = .22, $p < .05$). Neighborhood education levels did not have any significant effects on behaviors or outcomes for youth.

In racially segregated, low-SES schools, financial assets emerge as the particularly stable differentiating demographic factor to positively influence children's motivation and grades.

General Discussion

Study 1 supported a pathway from family financial assets to higher expectations for youth and better educational outcomes for young adults. In study 2, we find that more wealth, at the neighborhood level, accompanied a reduction in the decline in school behaviors and grades for youth in low-achieving schools during the difficult transition into high school. While prior research on assets and child outcomes has predominantly focused on the explanatory significance of adult level expectations, the current studies focus on how assets, measured from the family to the neighborhood-level, can directly influence the expectations and behaviors of children, measured through self-report, teacher-report, and school records.

These findings call for future research that investigates the normative processes by which youth come to understand their relative level of financial assets, through family, neighborhood, and/or school socialization, and how different types of messages translate into student behaviors and achievement. The current research measured wealth at the family and census tract levels, suggesting that messages about economic opportunities come from other contextual influences, in addition to the household environment.

Also, the studies suggest that assets may be differentially influential for child outcomes across different socioeconomic contexts. While income and wealth both show positive effects on educational attainment within the relatively higher SES sample of study 1, increased neighborhood-level assets appears to eclipse any effect of increased neighborhood-level income amongst the low SES sample of study 2. So, when income is lower, savings and financial assets may carry more weight. These potential patterns can be supported through future research that evaluates assets and child outcomes for families across the full socioeconomic range. The PSID is one of very few resources that contain comprehensive information on family wealth, and new data resources will

be necessary to compare the neighborhood wealth effects observed in study 2 with potential individual family wealth effects in low-income contexts.

Finally, similar to other asset-oriented research, the current findings lend support to asset-building policy initiatives, like Child Accounts, aimed to help families save money and build wealth, regardless of income. In combination with psychological intervention that reframes economic possibilities to improve motivation, actual structural incentives to reduce economic inequality could vastly reduce cyclical patterns of socially stratified achievement.

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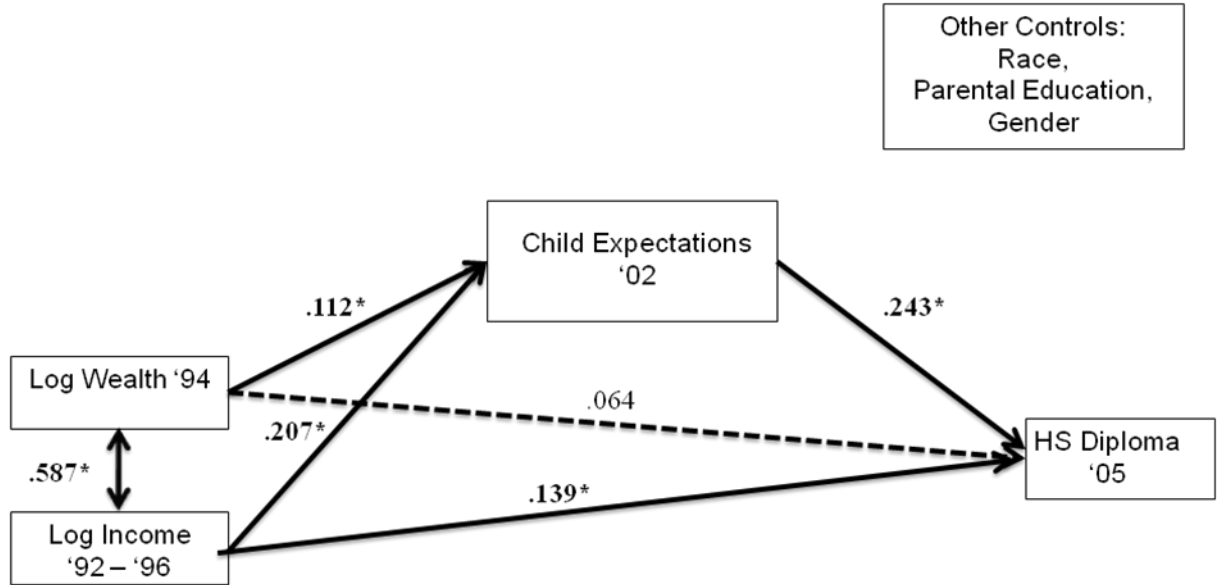
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Figure 2.1

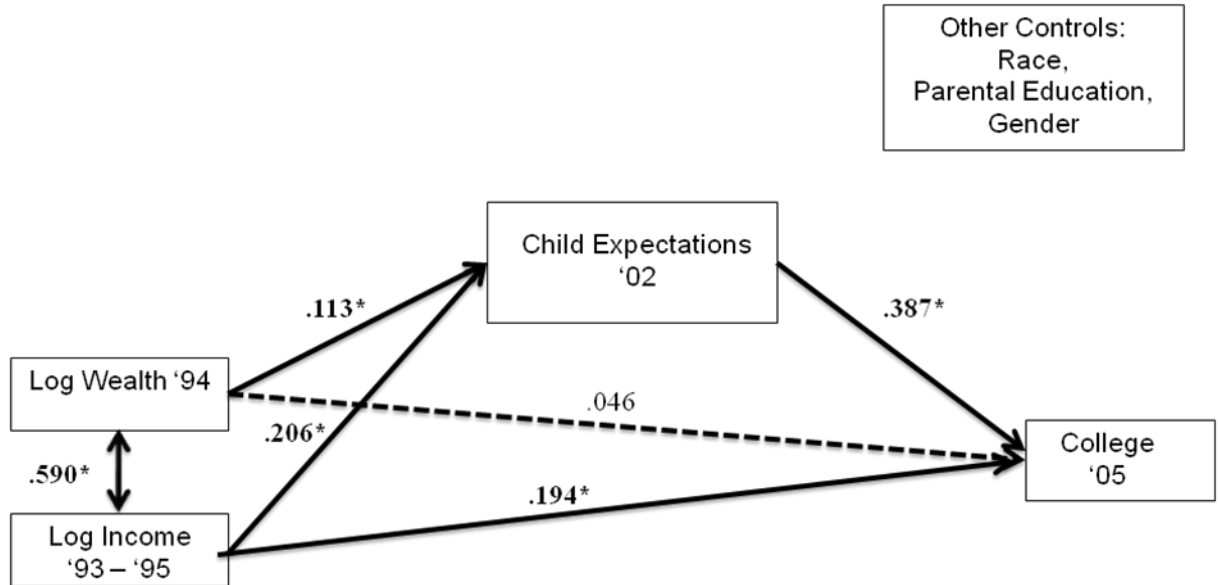
Structural equation model of early household wealth effects on high school graduation through educational expectations during adolescence, controlling for early income, race, parental education, and gender. * $p < .05$.



RESULTS: Satorra-Bentler Scaled Chi-Square χ^2 (df = 1, N = 450) = .150
 NFI = 1.000; NNFI = 1.059; CFI = 1.000; RMSEA = .000

Figure 2.2

Structural equation model of early household wealth effects on college enrollment through educational expectations during adolescence, controlling for early income, race, parental education, and gender. * $p < .05$.



RESULTS: Satorra-Bentler Scaled Chi-Square χ^2 (df = 1, N = 449) = .171
 NFI = 1.000; NNFI = 1.043; CFI = 1.000; RMSEA = .000

Figure 2.3

Decline in teacher-rated participation for low asset youth.

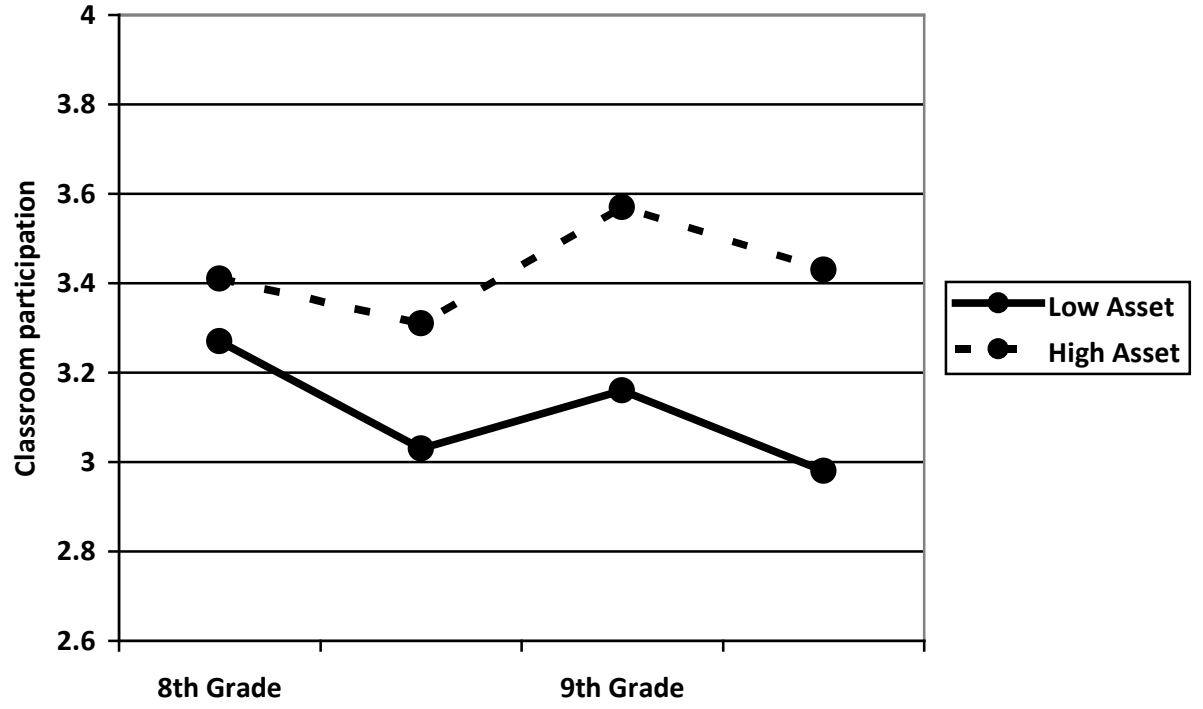


Figure 2.4

Decline in homework completion, particularly for low asset youth.

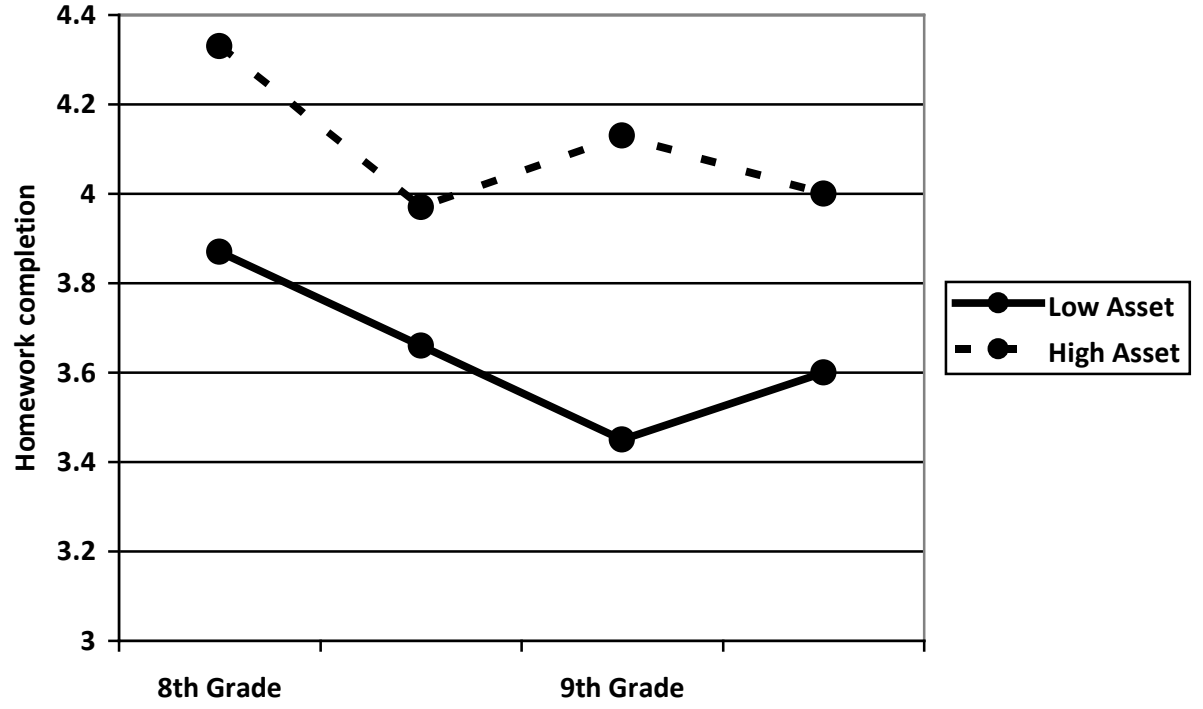
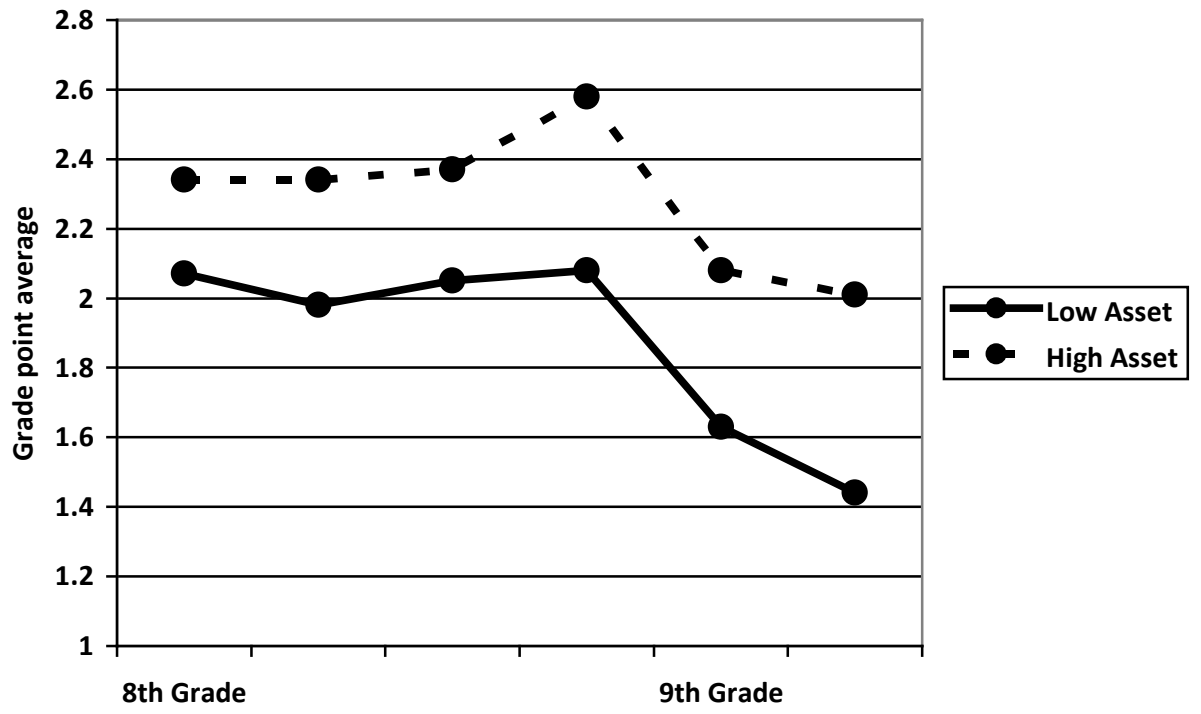


Figure 2.5

Decline in GPA, particularly for low asset youth.



Chapter III

From assets to school outcomes: How finances shape children's perceived possibilities and intentions (Destin & Oyserman, 2009, *Psychological Science*, 20, 414-418)

Abstract

People do not always take action to attain their desired *possible selves* - after all, whether consciously or nonconsciously, taking current action makes sense if there is an open path toward attaining the desired self, but not if paths are closed. Following this logic, children from low asset families may lower their expectations for school success and plan to engage in less effort in school. To test this hypothesis, two studies examine the impact of experimentally manipulating mindset about college as either "closed" (expensive) or "open" (can be paid for with need-based financial aid) among low-income early adolescents. Adolescents randomly assigned to the open-path condition expected higher grades (predominantly Hispanic/Latino 7th graders, Study 1, $n = 48$, compared to the closed-path

condition) and planned to spend more time on homework (when controlling for current grade point average, predominantly African American 7th graders Study 2, $n = 48$, compared to no-prime control).

"And now... it's kind of like they're raising the price up higher so we can't get in... cus most of our people don't have that much money, to succeed." (African American seventh grade male, attending an urban middle school in a low-income neighborhood, talking about college in a focus group)

Teachers routinely offer students non-educational activities (parties, movies, or class trips) as rewards and threaten educational activities (extra homework, pop quizzes, or more reading) as punishments. An unintended consequence is reinforcement of the idea that schoolwork is a bitter pill, not fun. To motivate school-focused effort, teachers describe current school-effort as mattering for the future, not as fun now (Husman & Lens, 1999). Given this framing, when it seems unlikely that school will matter for the future, students should begin to show signs of academic disengagement. In the current paper we investigate the effects two different mindsets – a mindset that current effort in school matters for the future and a mindset that current effort in school does not matter for the future. We focus on low-income and minority youth and the latter mindset, as expressed in the opening quote about college being too expensive for people like oneself. When college is too expensive, the path to a college future feels closed. Following this line of reasoning, a lack of financial assets can

undermine aspirations and school-focused effort. Like the youth in the opening quote, youth from low asset families are likely to see college as too expensive for people like them, making current aspirations and effort meaningless. The probable result of this mindset over time is the kind of school under-attainment noted in the literature on income- and race-based achievement gaps (Orfield et al., 2004).

Of course, even though college is expensive, a path toward a college future or possible self *is* open -- low-income and minority students can receive need-based financial aid. However, information about need-based financial aid for college is typically provided towards the end of high school, well after significant performance decrements occur. Because current action takes on meaning in light of future goals, believing that the path to college is closed should make planning to engage in school-focused activities less likely, even for early adolescents. Indeed, in the current studies, we document that thinking of the path to college as closed (college is expensive) versus open (affordable with need-based financial aid) influences the achievement goals and action plans of children as young as 11 years of age.

Academic Goals and Financial Resources

We use as a framework modern goal theories, which highlight that goals can be nonconsciously activated or inhibited by features of the context (for a review, Fishbach & Ferguson, 2007). We apply this work to the achievement gap, focusing on the negative effect of a lack of resources on young students' goals and intentions - their aspired-for grades and plans to work on homework. We argue that a lack of financial assets in an adolescent's everyday context can undermine current achievement goals and planned effort in school.

It should be noted that there is no evidence that the achievement gap is due to a lack of high academic aspirations. Available evidence suggests that low-income and minority students experience a larger gap between their aspirations and their actual attainments than do white and middle-income students (Alexander, Entwisle, & Bedinger, 1994; Pizzolato, 2006). Thus, students may often wish to attain school success, but current actions do not always follow these wishes (Roderick, 2005). Why might this be? In the current studies we focus on features of the context that cue one of two mindsets; a mindset suggesting that the path to college is open *in spite of* low family assets or a mindset suggesting that

the path to college is blocked *due to* low family assets. As can be seen in the opening quote, even seventh grade students can have a sense that the path to college is closed, due to a lack of economic assets. We propose that perceiving that college is financially out of reach will undercut expectations that current effort will matter, inhibiting planned effort and aspirations, even while the explicit desire for college may remain. Following modern goal theories, there is no reason to assume that these processes are necessarily explicit; they can be cued automatically by salient features of the context.

Possible Selves Theory and Social Structural Barriers

A possible self is a self one might become in the future, including hoped for, feared, and expected versions of oneself (Markus & Nurius, 1986). Possible selves are assumed to motivate current goal-directed action (Oyserman & James, 2008). Field-based research with low-income and minority youth has demonstrated that possible selves are malleable and that they influence important school outcomes. In two experiments, middle school students whose possible selves were cued by choosing images of themselves in the future, drawing timelines into the future, and mapping out paths between

proximal (this year) and distal (as an adult) possible selves, increased school-focused effort (e.g., time spent on homework) (Oyserman, Bybee & Terry, 2006; Oyserman, Terry, & Bybee, 2002). Effects persisted over follow-up times of up to two years. These studies demonstrate positive effects of an open-path mindset -- activities that cued an open-path mindset resulted in significantly improved effort in school and significantly improved grades.

Research to date has not yet demonstrated the posited parallel negative effects of a closed-path mindset -- that when students see the path to college as blocked, their school-focused aspirations and planned effort will be undermined, even if they retain a hoped-for college possible self. In the current studies we address this gap, asking what happens to current expectations and planned effort in school when the path to college feels closed because of the lack of financial assets. Understanding the likely underlying psychological process is important in its own right but also has clear policy implications given the evidence that a lack of assets and other structural barriers is predictive of worse school outcomes (e.g., Conley, 1999; Taylor,

Repetti, & Seeman, 1997). We propose that, compared to a closed-path to college mindset (e.g., college costs make college out of financial reach), an open-path to college mindset (e.g., need-based financial aid is available) will increase aspirations and planned effort toward academic success as early as middle school. In Study 1, we directly manipulate salient mindset (open-path, closed-path). In Study 2, we follow up by comparing open-path to a no-mindset prime control condition and by including controls for current academic attainment.

Study 1

We hypothesized that compared to a closed-path mindset (thinking about college costs, an open-path mindset (thinking about financial aid) would enhance academic aspirations and planned effort.

Method

Sample

Two seventh grade homeroom classes in a predominantly low-income Chicago middle school (95% free/reduced lunch) were randomly selected to participate ($n = 48$, 22 female, 26 male, self-identified as Hispanic/Latino $n = 43$, Other $n = 5$). Students were sampled in homeroom (not track-related). The school was low-performing - a lower percentage of students were

attaining state standards (reading 51%, math 59%) than the state average (reading 73%, math 79%) (GreatSchools, 2008).

Procedure

Parents received consent forms explaining the study, its anonymous nature, and educational goal; no student or parent opted out of the study. Each classroom was randomly assigned to a condition (closed-path $n = 29$, open-path $n = 19$). The mindset prime was a text that the experimenter distributed and read out loud. The closed-path text described college costs (average tuition costs \$31,160 to \$126,792). The open-path text described need-based financial aid opportunities (e.g., the Free Application for Federal Student Aid). Students then completed a brief questionnaire. As an indicator of academic goals they were asked two questions: "Circle the grade you think you will get in Math (English)" (13-point response scale, 1=F, 13=A+, $M = 8.25$ (B-), $SD = 2.43$, $\alpha = .71$). As an indicator of planned effort, they were asked to estimate on an 8-point response scale (0= *Less than an hour*, 7 = *All night long*) how much of their time at home that night they planned to spend in two critical activities (*reading or studying* and *doing homework*, $M = 1.08$, $SD = 1.23$, $\alpha = .84$), embedded in four filler

activities (e.g., watching television, playing videogames). Finally, students were debriefed, and those in the closed-path condition were also provided the financial aid information.

Results and Discussion

As expected, mindset mattered. Students predicted that they would get better grades (about a B average) in the open-path condition ($M = 9.39$, $SD = 1.92$) than in the closed-path condition (about a C+ average, $M = 7.53$, $SD = 2.47$), $F(1,43) = 7.80$, $p < .01$. When induced to perceive the path to college as open (via financial aid), even young students aspired to better grades. The mindset manipulation also influenced planned effort, ($F(1,44) = 5.81$, $p < .05$), which was higher in the open-path condition ($M = 1.42$, $SD = 1.47$) than closed-path ($M = .86$, $SD = .99$).

No main effect of gender was found for either aspired-for grades ($F(1,43) = 1.04$, $p = .31$) or planned effort ($F(1,44) = 1.30$, $p = .32$). No gender x condition interaction was found for aspired-for grades ($F(1,43) = .06$, $p = .81$), but a significant effect was found for planned effort, $F(1,44) = 9.16$, $p < .01$. Girls' planned effort increased in the open-path condition ($M = 2.29$, $SD = 1.7$) as compared to the closed-path condition ($M =$

0.53, $SD = 0.64$, $t(44) = 3.41$, $p = .001$). Boys' planned effort, on the other hand, was not improved in the open- vs. closed-path condition ($M = 1.08$, $SD = 1.15$, $t(44) = -0.67$, $p = .50$).

We suspected that the lack of an effect for boys on planned effort was related to their generally lower achievement level (e.g., Orfield et al., 2004). Even if the path to college is financially open, a history of low achievement may, itself, be the stumbling block. To test whether current low achievement undermines planned effort, in Study 2 school-recorded current grade point average was added as a control. Study 2 addressed another possible limitation of Study 1, which was the assumption that without priming, students' mindset fits the closed-path frame. Therefore, in Study 2, we compared the open-path condition to a no-prime control group instead of a closed-path condition.

Study 2

In Study 2, we compared open-path mindset priming to a no mindset control and included grade point average as a control. We hypothesized that, controlling for current grades, both male and female students primed with an open-path mindset would plan to engage in more school-focused effort than students in the no-prime control

group. The pattern of effects in the no-prime condition was expected to parallel the observed pattern for the closed-path mindset prime in Study 1.

Method

Sample

Two seventh-grade classrooms ($n = 48$, 25 female, 23 male, self-identified as African American $n = 28$, White $n = 11$, Latino $n = 3$, Other $n = 6$) in a low-income Detroit-area middle school (57% free/reduced lunch) participated. The school was low-performing - a lower percentage of students were attaining state standards (reading 56%, math 62%) than the state average (reading 73%, math 73%) (GreatSchools, 2008).

Procedure

Consent procedures were identical to Study 1. Each classroom was randomly assigned to a condition. The open-path condition received financial aid information ($n = 22$), and students in the no-prime control condition were not given any college information ($n = 26$). Both groups completed the same planned effort items as in Study 1 ($M = 1.89$, $SD = 1.66$, $\alpha = .66$). Student grade point average (GPA) ($M = 2.35$, $SD = .90$) was obtained from the guidance office and confidentially linked to students through an

ID number, which respondents recorded at the end of their questionnaire.

Results and Discussion

As expected, girls ($M = 2.73$, $SD = .83$) had significantly better grades than boys ($M = 1.94$, $SD = .80$), $F(1,46)=11.01$, $p<.01$). GPA was therefore included as a covariate in the analyses of the effect of mindset on planned effort. With this control, planned effort was higher in the open-path ($M = 2.39$, $SD = 2.01$) than in the control condition ($M = 1.47$, $SD = 1.18$, $F(1, 43) = 5.76$, $p<.05$). GPA was a significant covariate $F(1, 43) = 7.23$, $p<.05$). Once GPA was included, no significant gender effect was found (main $F(1, 43) = 2.56$, $p = .12$, gender x condition, $F(1, 43) = .47$, $p = .50$). An open-path mindset improves planned effort when students are not already behind academically.

General Discussion

Low-income and minority youth's academic attainment begins to decline prior to the high school years when information about college is typically provided. We proposed that part of the reason children begin to fall behind is that effort in school is understood to have meaning only when it leads to a path to the future. When the path to college feels closed due to a lack of

financial assets, school-focused aspirations and planned effort suffer. In two studies, we demonstrated that even as early as age eleven, thinking about college as affordable with need-based financial aid enhances school-focused goals (Study 1) and corresponding planned effort, when controlling for current achievement level (Study 2). Because the positive effect of perceiving an open path to college is blocked when current grades are already low, our results suggest that in low asset contexts, children and parents should learn about the financial accessibility of college early, before gaps in student achievement levels emerge and some fall behind.

Our results are congruent with a growing policy focus on asset building. Asset policy researchers argue that when families have more assets, both parents and children will be more focused on investing current effort toward long term goals like college (Haurin, Pacel, & Haurin, 2002; Lindsey, 2004; Schreiner, Clancy, & Sherraden, 2002; Yadama & Sherraden, 1996; Zhan & Sherraden, 2003). While asset researchers do not test specific process models, our results suggest that assets linked to goals create an open-path mindset that is vital for maintaining aspirations and planning to invest the effort needed to make the goal a reality. If college

seems too expensive, what is the point of homework? Doing homework, studying, staying after school for extra help or going to the library for extra reading make little sense if all of these are focused on a future that is blocked.

Our results suggest that even young children can and do titrate effort -- their expectations and planned effort are undermined when a believable path to future possibilities is not clear. We demonstrate effects on expectations and plans to show that just hearing about financial aid opportunities for college creates an immediate effect on current intentions. While future studies may include longer-term interventions and longer follow-ups to document behaviors in and outside of the classroom across time, the current results are important because they document immediate psychological effects. Adolescents in low income contexts can more effectively reach towards higher goals when they perceive an open path connecting their efforts to their desired college-bound future selves.

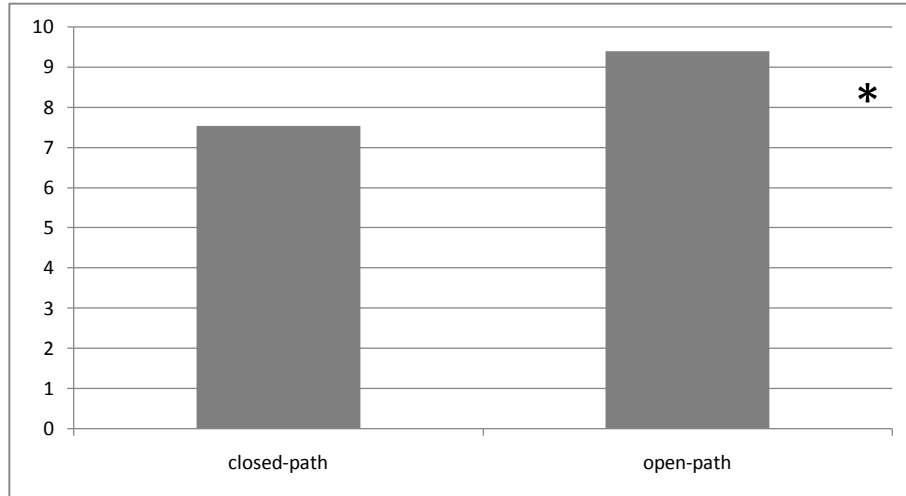
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Figure 3.1

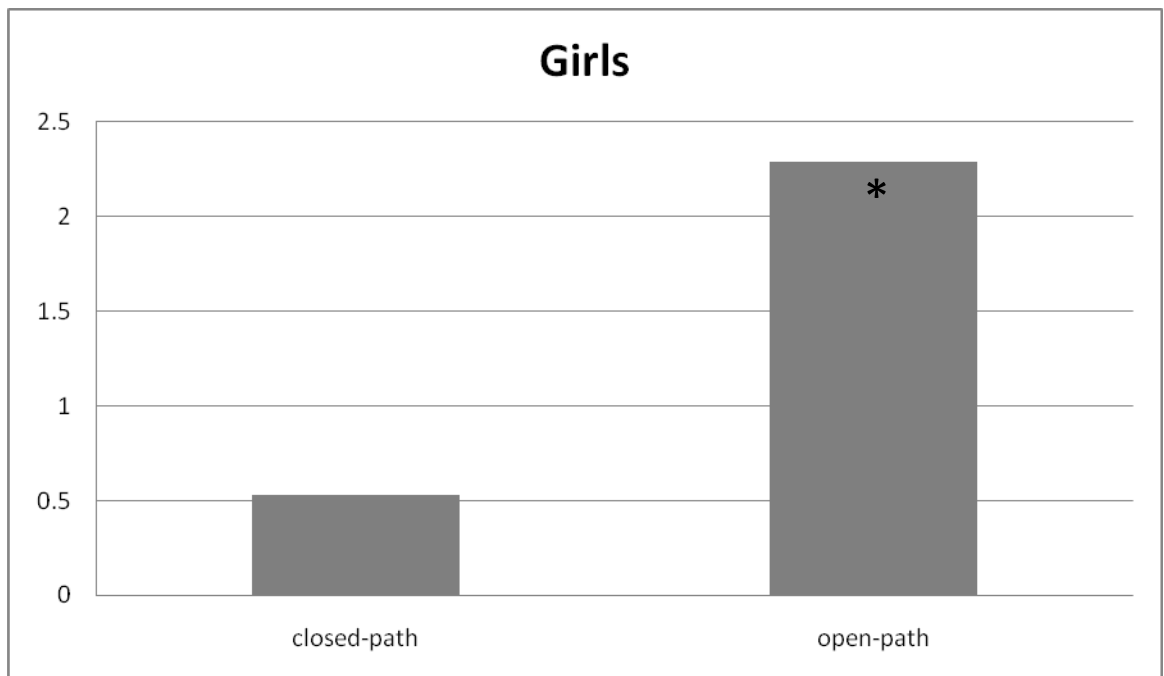
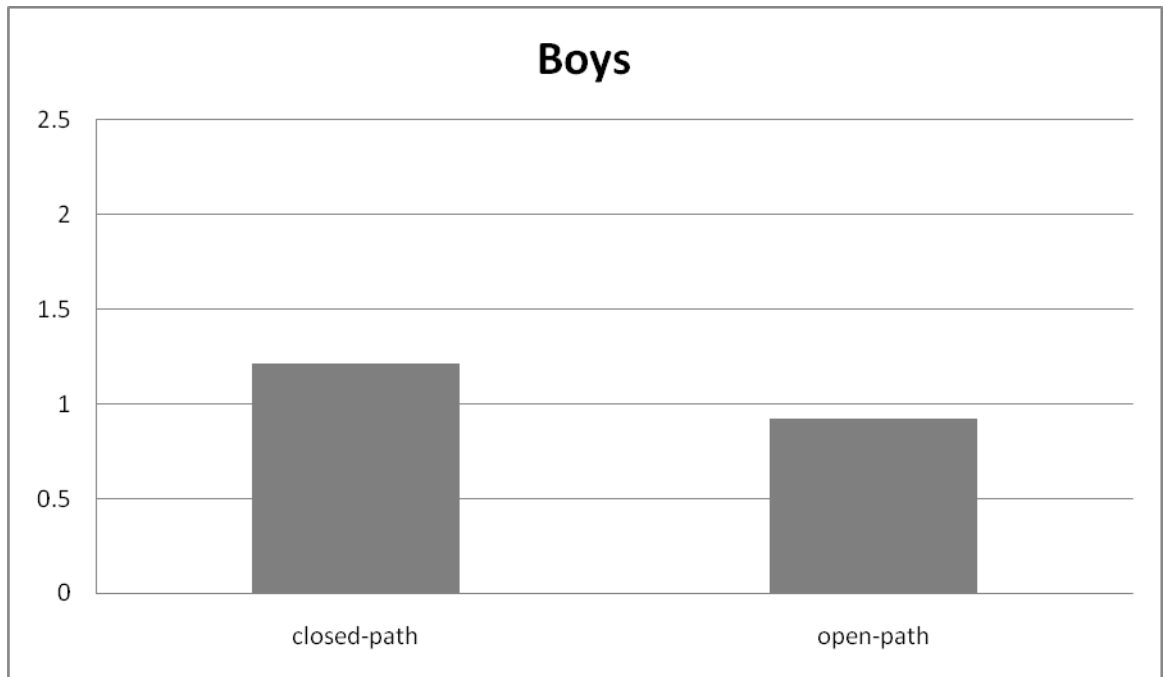
Study 1 Effect of mindset on expected grades.



*significantly higher than comparison group

Figure 3.2

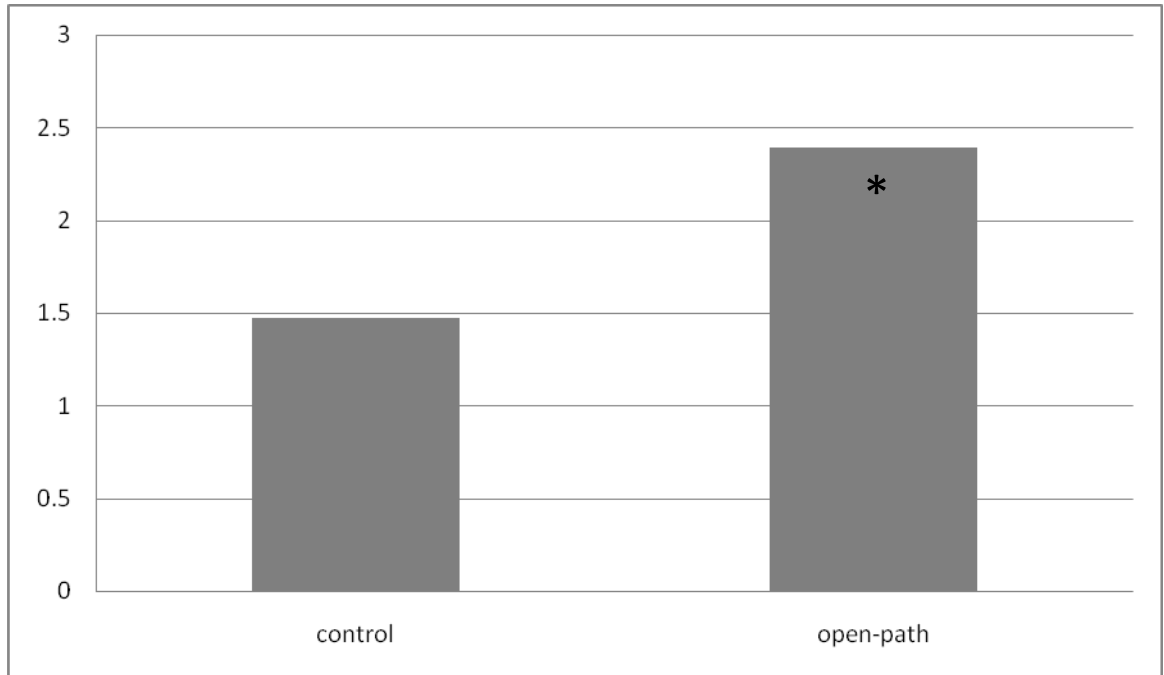
Study 1 Effect of Mindset on Planned Effort.



*significantly higher than comparison group

Figure 3.3

Study 2 Effect of mindset on planned effort.



*significantly higher than comparison group

Appendix A

Closed-Path Condition

2008-2009 College Costs

- At **four-year private nonprofit institutions**, tuition costs average **\$25,143** per year.
- At **four-year public institutions**, tuition costs average **\$6,585** per year.

- Some Examples:



- Four years of tuition = **\$40,608**

- **EASTERN MICHIGAN UNIVERSITY**. Four years of tuition = **\$26,552**



- Four years of tuition = **\$30,660**



- Four years of tuition = **\$17,420**



- Four years of tuition = **\$108,216**



- Four years of tuition = **\$82,248**

*Information provided by collegeboard.com, umich.edu, emu.edu, msu.edu, wayne.edu, kzoo.edu, & osu.edu

Appendix B

Open-Path Condition

Financial Aid Opportunities

Keep Rising Prices in Perspective

There is more financial aid available than ever before—over **\$134 billion**. And, despite all of the college cost increases, a college education remains an affordable choice for most families. The financial aid system is based on the goal that anyone should be able to attend college, regardless of financial circumstances. Here's how the system works:

- Students and their families are expected to contribute to the cost of college to the extent that they're able.
- If a family is unable to contribute the entire cost, financial aid is available to bridge the gap.

When you are closer to applying to college, here are the simple steps you can take to find financial aid and scholarships that help pay for college:



- 1) Log on to [FastWeb](http://fastweb.com/) and the website will find scholarships that you may be eligible for because of the work you do in school:
<http://fastweb.com/>



- 2) Complete the FAFSA form online with your parents to find out what kind of free money is available from the government for you when you get into college:
<http://www.collegeboard.com/student/pay/scholarships-and-aid/8341.html>

By visiting these two websites, you can find information that could make it financially possible to attend any major four-year college.

Last year, students at the University of Michigan received over **\$43 million** dollars in financial aid. Also, some prestigious colleges, like Stanford University and Harvard University are now **free** from tuition costs for excellent students whose household income is below a certain amount.

*Information provided by collegeboard.com, fafsa.gov, fastweb.com, cnn.com, and the University of Michigan Office of Financial Aid.

Chapter IV

Incentivizing education: Seeing schoolwork as an investment, not a chore (Destin & Oyserman, in press, *Journal of Experimental Social Psychology*)

Abstract

Most American children expect to attend college but because they do not necessarily spend much time on schoolwork, they may fail to reach their imagined "college-bound" future self. The proposed identity-based motivation model helps explain why this gap occurs: Imagined "college-bound" identities cue school-focused behavior if they are salient and feel relevant to current choice options, not otherwise. Two studies with predominantly low-income and African American middle school students support this prediction. Almost all of the students expect to attend college, but only half describe education-dependent (e.g., law, medicine) adult identities. Having education-dependent rather than education-independent adult identities (e.g., sports, entertainment) predicts better grades over time,

controlling for prior grade point average (Study 1). To demonstrate causality, salience of education-dependent versus education-independent adult identities was experimentally manipulated. Children who considered education-dependent adult identities (vs. education-independent ones) were eight times more likely to complete a take-home extra credit assignment (Study 2).

Sports, video games, or homework? A variety of choices compete for children's time and attention. Children are unlikely to succeed academically if schoolwork consistently fails to be chosen, yet they may under invest in schoolwork even while desiring school success. For example, when asked how far they expect to go in school, most children in their last year of middle school report expecting to attend college, but this expectation does not predict the coursework they plan for the coming year (Trusty, 2000). These results, from national survey data, hold equally for low-income and minority students (Mello, 2009). Indeed, African American and Latino low-income children value education (e.g., Harris, 2008; Steinberg, Dornbusch, & Brown, 1992) and expect to attend college (Mello, 2009) yet do not necessarily expend sufficient school-focused effort to attain such "college-bound" imagined future selves, on average investing less time in schoolwork (Steinberg et al., 1992) and being more likely to fail (Orfield, 2004).

To understand why this gap occurs we turned to identity-based motivation theory, which postulates first that people prefer to act in ways that feel identity congruent and second that the identity-to-choice linkage is often unclear (Oyserman, 2007, 2009; Oyserman,

Fryberg, & Yoder, 2007). Identities feel stable but they are highly sensitive to contextual cues. Which identities come to mind, what these identities mean and which behaviors feel congruent with them are highly influenced by situational cues. Thus, an identity is more likely to matter for behavioral choices when it is salient and meaningful in the moment (Oyserman, Bybee, & Terry, 2006).

With regard to the gap between college-bound identities and school-focused behavioral choices, the identity-based motivation model yields the following predictions. First, having a college-bound imagined future does not necessarily predict behavior because this possible future identity may not be salient when choices are made. Second, children are more likely to expend effort on school if this effort feels like an investment toward attaining an education-dependent future identity, and not like a future identity-irrelevant chore. Because adolescent future identities are career and wage-earner focused (Erikson, 1963), when these future identities feel, consciously or nonconsciously, education-dependent they are more likely to incentivize effort in school. In contrast, future identities perceived as education-independent will not cue school-focused choices.

For several reasons, having a chronically or situationally salient education-dependent future identity is unlikely for low-income and minority children. First, these children are likely to grow up in neighborhoods with higher than average unemployment and poverty (Bureau of Labor Statistics, 2009). Such neighborhoods are often segregated, providing very limited exposure to adults who are college graduates (Adelman & Gocker, 2007; Krivo, et al., 1998), making salient instead the possible adult identity of becoming a paid worker who can earn a living and support a family (Bowlby, Evans, & Mohammad, 1998; Mickelson, 1990; Pahl, 1988). Second, these neighborhoods are "media saturated", providing vivid models of adult identities that seem education-independent, such as professional athletes and entertainers (Roberts, 2000). Low-income minority children watch more television than higher income white children (Christiansen, 1979) and report drawing future identities from television personalities and the roles they play (Boon & Lomore, 2001; King & Multon, 1996). As a consequence, their college-bound possible identities are unlikely to be contextually cued and cued adult identities are unlikely to feel education-dependent. Indeed, there is some evidence that for minority students, school focus

decreases when primed with education-independent rather than education-dependent media icons (Fryberg, Markus, Oyserman, & Stone, 2008). Following the identity-based motivation model, having a college-bound possible identity is unlikely to matter if it is never salient and more chronically salient adult identities, including careers, will only evoke increased investment in school if they are conceptualized as education-dependent.

Two studies demonstrate the effect of salient education-dependent vs. education-independent adult possible identities on current education-focused choices. Replicating survey results, Study 1 demonstrates that low-income children expect to attend college. Moving beyond prior research, Study 1 then demonstrates that when education-dependent adult future identities are chronically salient, children's school outcomes improve. Study 2 uses a subtle experimental manipulation to demonstrate the causal impact of salient adult future identities by leading children to focus on futures in which financial success feels either education-dependent or education-independent.

Study 1

We hypothesized that children would invest more effort in school and attain better grades over time if

education-dependent rather than education-independent adult identities were salient. We operationalized salience as education-dependent (vs. education-independent) descriptions of adult possible identities, testing our hypothesis with two outcome variables - time spent on homework and end-of-term grade point average, controlling for prior grades.

Sample and Procedure

Eighth graders from three Detroit middle schools ($n = 266$, 72% African American, 17% Latino, 11% White) serving high poverty (54.1% of households below poverty line; two-thirds receiving free/reduced price school lunches) and high unemployment neighborhoods (43.4% of adults were employed, U.S. Census Bureau, 2000) participated as part of a larger study. Students encountered the following prompt: *"The next questions are about the job you see yourself having as an adult. Think about yourself as an adult, what job do you think you'll have (if more than one, you can answer for the job you feel you will be most likely to have). What will you be doing in 10 years?"* Responses were content coded to distinguish education-dependent adult identities that mentioned school (e.g., "Going to college and starting a new career as an engineer") from education-independent

adult identities that did not mention school (e.g., "I will be playing professional soccer or football").

Children indicated weekly homework time (8-point response scale: 0 = 0 hours a week, to 7 = more than 10 hours a week, $M = 3.91$, $SD = 1.91$, 4 = 2-3 hours a week of homework) and how far they expected to go to in school (1= attend high school, to 6= attend 2-year or community college, 7= attend 4-year college 8= attend graduate or professional school, $Md = 8$, $Mode = 8$, $M = 7.00$, $SD = 2.00$). Baseline and end-of-term grade point average (GPA) were obtained. Data were collected at the start of the academic year. Therefore at baseline school records could not be used. The baseline measure ("*What grades do you usually get*") was self-reported on a 9-point response (0 = mostly F's to 8 = mostly A's, $M = 5.63$, $SD = 1.53$), where 6 = mostly B's. End-of-term GPA was obtained from school records (0-4 point scale, $M = 2.22$, $SD = .78$, where 2.0 is a C).

Results and Discussion

Replicating national survey responses, almost all children had very high educational expectations. Nine of 10 (88.8%) expected to attend at least a two-year college. Very few (8.8%) expected to attain a high school degree or less. However, only half of children (46%)

expected an education-dependent adult identity (54% expected an education-independent adult identity) and this difference mattered. Children invested more time on homework and got better grades over time when their adult identity was education-dependent rather than education-independent. Though statistically marginally associated with planned effort (education-dependent $M = 4.11$, $SD = 1.81$ vs. education-independent $M = 3.73$, $SD = 1.98$), $F(1, 264) = 2.74$, $p = .10$; the effect of education-dependent future identity ($M = 2.37$, $SD = .73$, vs. education-independent $M = 2.10$, $SD = .80$) on grades was statistically significant, $F(1, 264) = 7.83$, $p < .01$) even when controlling for baseline grades ($F(1, 263) = 5.19$, $p < .05$). Children who envisioned an education-dependent adult identity were more likely to invest current effort in schoolwork than those who did not and these efforts paid off in better grades.

Study 1's strengths were in yielding important findings about the spontaneous salience of education-dependent adult identities and the temporal effect of these identities on school grades as obtained from school records. Study 1 was also limited in a number of ways. First the measure of effort was self-reported. Second, we measured rather than manipulated the salience of

education-dependent adult identities. To establish causality, in Study 2 our goal was to experimentally manipulate salience, conceptually replicate behavioral self-report results, and demonstrate an effect on actual behavior in natural context.

Study 2

We hypothesized that children would invest more effort in school if education-dependent, not education-independent, adult identities were salient. We focused on a central component of identity in adolescence, future wage-earning careers (Erikson, 1963). We experimentally manipulated whether these futures would feel education-dependent or education-independent and assessed effects on both planned effort (time spent on homework) and actual effort (completion of an extra credit assignment) controlling for prior grades.

Sample and Procedure

A cohort of seventh-grade children ($n = 295$, African American 57%, White 29%, Biracial/Other/No response 12%, Latino 2%) in a Detroit-area middle school (61% eligible for free/reduced lunch) participated in their science classrooms (two science classrooms and five class periods). Science classrooms were not achievement tracked and all children participated on the same day. Each

teacher agreed to assign students an extra-credit assignment relevant to current class material (unrelated to the experiment) at the end of the class period.

Teacher and condition were not confounded -- children were randomly assigned to condition (*education-dependent, education-independent*) by class period across both classrooms. In each class period, the teacher briefly introduced the experimenter as a visitor from a local university, distributing career-related information. Students were also told that they would be asked complete a short time use questionnaire as part of a separate general survey that would not ask students for their name or affect their grade. Teachers then left the classroom and remained blind to condition and hypotheses.

The career-related information sheet provided real and relevant information about adult earnings presented as graphs. Children saw one of two graphs. The *education-dependent* condition graph showed a step-wise increase in median earnings by level of education (no high school degree, high school graduate, 4-year college degree, beyond 4-year college - medicine, business, law, PhD) in Michigan, the state in which children resided (U.S. Census Bureau, 2006). The *education-independent* condition graph showed median earnings in Michigan and the very

high earnings of top actors, athletes, and musicians (Forbes Magazine, 2008). We used these careers both because in Study 1 these were common among education-independent adult identity descriptions and because prior research suggests that these are salient adult career identities among low-income and minority children (Guiffrida, 2009). Thus, the education-dependent condition drew explicit attention to the connection between education and adult wage-earning identities, while the education-independent condition made no mention of education. In addition to passing out a graph to each child, the experimenter read the content of the graph out loud verbatim (without comment or further description) to control reading comprehension differences. Then students received a survey of everyday behaviors to fill out on their own. At the end of the survey they indicated gender and student number. Then the experimenter thanked the class and left, ostensibly ending the study.

Planned effort was operationalized as two critical items (*homework* and *study time*, $M = 1.50$, $SD = 1.43$, $\alpha = .81$) embedded in fillers (*watching TV*, *listening to music*, *playing video games*, *playing sports*, *using the computer*) in the survey of everyday behaviors (to avoid demand effects). *Actual effort* was operationalized as

whether children handed in their extra-credit assignment the next day, at which time, all classes were debriefed and provided with information focusing on the benefits of a college education.

To assess actual effort uncontaminated by condition, teachers were simply asked to hand out course-relevant extra credit, remaining blind to condition and hypotheses. We did not set what the extra-credit would be and assumed it would be the same assignment across class periods. However, due to budget constraints, teachers simply used copies of worksheets they already had on hand so that class periods received different worksheets. One teacher handed different worksheets for all five class periods and the other teacher handed out different worksheets for three class periods then ran out of worksheets and assigned a written topic with instructions to be copied from the board, conflating assignment and condition in all but these latter two class periods ($N = 61$), one in the education-dependent and the other in the education-independent condition.

Results and Discussion

When adult identities were presented as education-dependent, children invested more effort in school (*planned effort* $M = 1.67$, $SD = 1.60$ vs. $M = 1.24$, $SD =$

1.08, $F(1,293) = 6.34$, $p < .05$, *actual effort* logistic regression $\beta = 2.25$, $SE = 1.13$, $p < .05$). Actual effort increased almost eight-fold (23.33% vs. 3.23%). The positive effect of salient education-dependent futures remained even after we added controls for teacher (for planned effort), prior GPA, and gender (planned effort $F(1,221) = 4.72$, $p < .05$, *actual effort* $\beta = 2.21$, $SE = 1.10$, $p < .05$).¹

General Discussion

Children commonly imagine college-bound future identities but these identities do not necessarily translate into investment in schoolwork (e.g., Harris, 2008; Mello, 2009; Trusty, 2000). In two studies, we predicted and found that effort in school increased when salient adult identities felt education-dependent (not education-independent). Study 1 demonstrated that almost all children expected to attend college but only about half had adult wage-earning identities that were education-dependent. Moreover, children planned to spend more time on schoolwork and in fact attained better grade point averages (controlling for baseline grades) when their adult wage-earning identities were education-dependent, not education-independent. To test the causal effect of salient education-dependent wage-earning

identities in Study 2, we manipulated which identity was salient. In the education-dependent condition wage-earning increased with education, in the education-independent condition wage-earning was not explicitly education-linked. As predicted, when the future felt education-dependent, children planned to study more and most impressively, in this condition, eight times as many children went home and actually did an extra credit assignment.

Our studies were conducted in field settings and assessed actual school-related behaviors. Their strength is the combination of ecological validity (Study 1) and internal validity (Study 2). Together, our findings argue for the powerful effect of considering the distal future (adult wage-earning identity) as linked to the proximal future (youth student identity) and for the ability of a small manipulation to make this link salient even in the face of many competing influences. Of course any set of studies also carries limitations and future research may be necessary to determine how students understood the material and explicitly quantify the effect of the manipulation on student identities. Also, while assignment to condition by classroom helped the experimenter gain the full attention of a class of

students and results were robust to control for prior academic attainment, operationalized as GPA, assignment at the individual level (e.g., through writing or individualized presentation) can help determine how children process this information and demonstrate further stability of this effect.

In addition to demonstrating the need to prime education-dependent future identities, our results also inform an ongoing debate regarding the academic value of athletic participation for low-income and minority youth. Despite apparent benefits for academic achievement and outcomes for more privileged youth, national survey data do not yield positive effects of athletic participation for urban and minority youth (Melnick et al., 1992b; Sabo et al., 1993; Eitle, 2005; Fauth et al., 2007) or female and rural Latino youth (Troutman & Dufur, 2007; Melnick et al., 1992a). Our results are congruent with these analyses, implying that for low-income and minority children, sports do not necessarily cue school-focused effort. Future studies are needed to understand when sports cue education-dependent vs. education-independent adult identities.

Studies 1 and 2, together with results of a randomized clinical trial (Oyserman et al., 2006),

demonstrate the power of subtle cues in framing whether school-focused effort feels identity congruent or not and highlight the power of small interventions to influence low income and minority children's school-focused future identities and subsequently their grades over time. Children are more likely to engage in current school-focused effort when adult wage-earning identities feel education-dependent, linking proximal and distal future identities to current effort. Failing to see connections between adult identities and current action puts children at risk of low school-focused effort. Waiting until low-income and minority children are in high school to make connections to college-bound programs increases the chance that they will already be too far behind to make a college-bound future viable.

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Footnotes

¹Priming focused children's attention on schoolwork, not away from any particular alternative activity (item-level $ps > 0.2$). Some of these alternative activities varied by gender but gender had no effect (main or interaction) on planned or actual school effort.

Figure 4.1

Association of salient future identity with GPA.

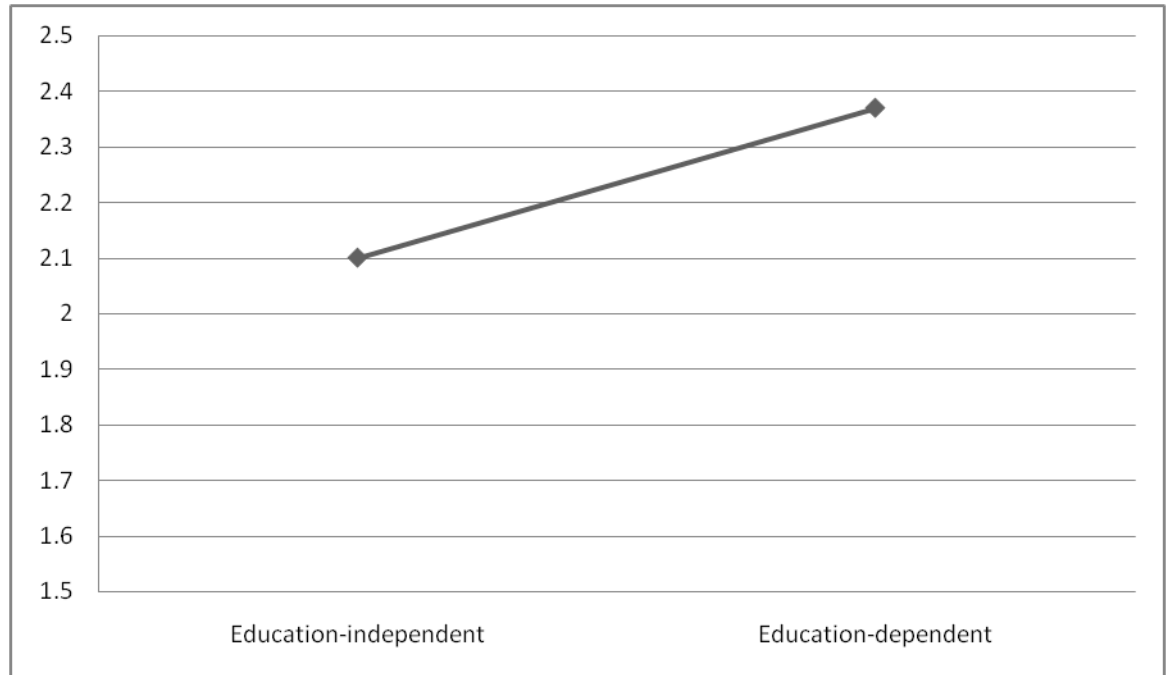
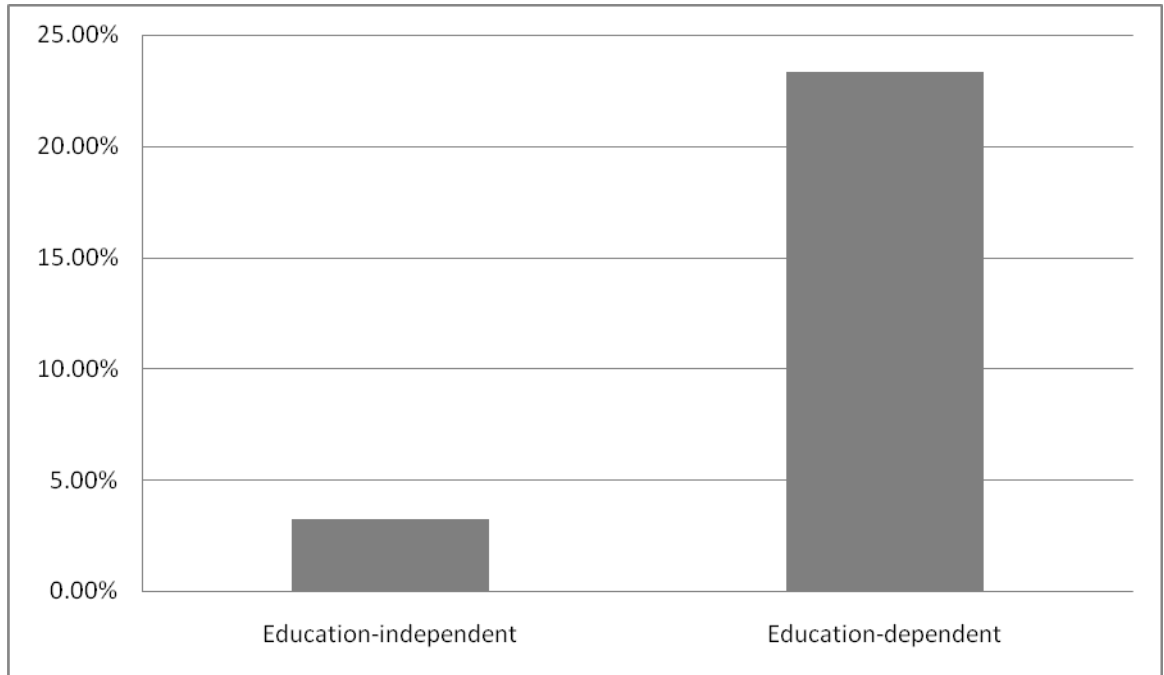


Figure 4.2

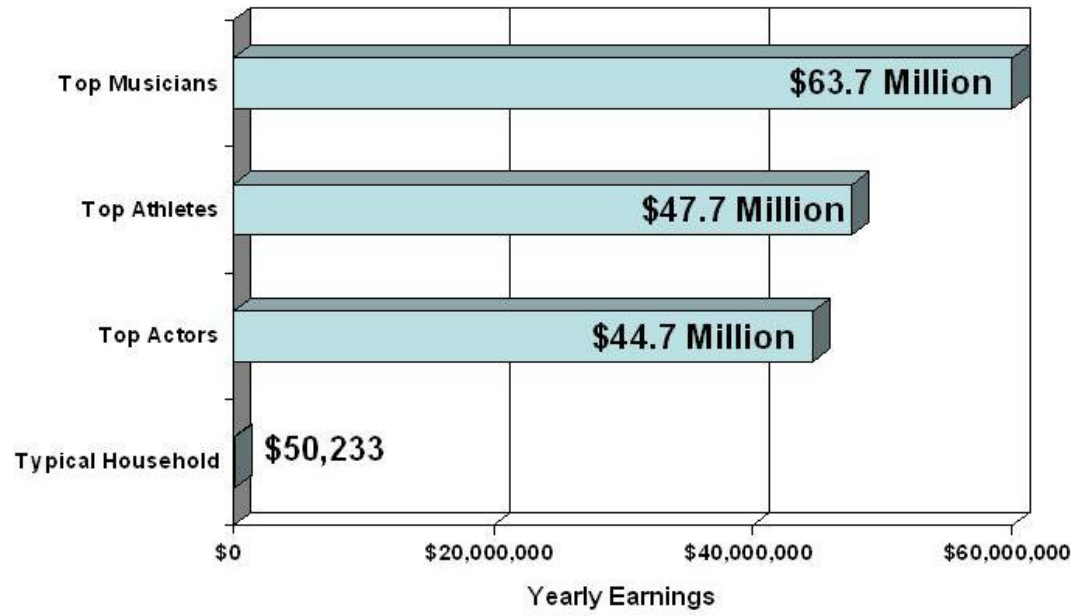
Effect of salient future identity manipulation on extra-credit completion.



Appendix C

Education-Independent

Earnings by Profession

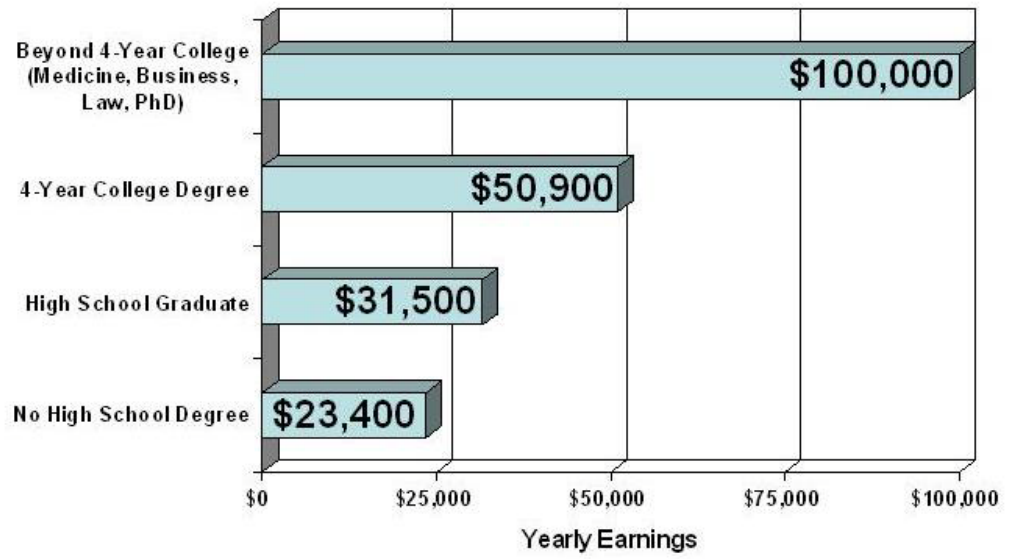


Source: U.S. Census Bureau, 2008; Forbes Magazine, 2008

Appendix D

Education-Dependent

Earnings by Education Level



Source: U.S. Census Bureau, 2006

Chapter V

Conclusion

Socioeconomic resources can make a significant difference in children's development, and the dissertation explored important psychological consequences of economic conditions that produce effects on child outcomes. Individually, each paper contained a unique contribution to the topic, confirming several predicted hypotheses and introducing some nuanced findings.

The first paper described effects on relatively large samples of youth and measured outcomes over time. The proposed pathway from family wealth during childhood to high school completion and college enrollment, through adolescent educational expectations was supported. Further, the effect of wealth appeared to function differently than the effect of income, which maintained both direct and indirect effects on young adult outcomes. Wealth, on the other hand, only led to better outcomes in young adulthood through increased expectations in

adolescence. The second study extended the differentiation between income and wealth effects by focusing specifically on a lower-income sample. Here, higher neighborhood income levels did not improve achievement, but higher neighborhood assets did maintain a positive influence on trajectories of achievement for youth. So, wealth appears to draw effects through processes unique to the effects of income and the patterns differ across socioeconomic contexts.

The second and third papers focused on children in low-income contexts, experimentally manipulating information about future goals that is relevant to the availability and pursuit of financial assets. When students were led to believe that they would be able to afford college in the future, they set higher goals and planned to engage more diligently in schoolwork. When students were led to believe that higher education was economically valuable, they took immediate action to improve achievement. In all three papers, expectancies for the future form a crucial, yet malleable, link from children's current socioeconomic contexts to school-related goals, behaviors, and achievements.

The compiled set of studies illuminates a necessity for continued research. It is apparent that assets and

thoughts about educational and economic opportunities function differently, depending upon the socioeconomic context. Continued survey and experimental research can dissect how youth perceive assets and opportunities, which may differ and hold different motivational outcomes systematically, by context. By building a critical mass of data that combines relevant student-level responses with specific family and neighborhood-level socioeconomic indicators, contextual moderators may emerge to further enhance general asset effect models on achievement and targeted intervention.

Explicitly including psychological constructs and models into the discussion of broader societal trends in inequality and achievement has led to a more accurate assessment of how large, robust patterns emerge and are maintained. The field of Psychology, itself, also celebrates increased accuracy and validity when theories are built and tested in real-world contexts and designed to address complicated concepts, like social class. Finally, by bridging disciplines and methodologies, social science can more effectively inform large-scale efforts to improve equal opportunity within a diverse society.