

Tiger Parenting and American Inequality: An Essay on Chua and Rubenfeld's
*The Triple Package: How Three Unlikely Traits Explain the Rise and Fall of
Cultural Groups in America* *

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Abstract: The role of culture in the creation and persistence of racial and ethnic inequalities has been the focus of considerable controversy in the social sciences. In *The Triple Package: How Three Unlikely Traits Explain the Rise and Fall of Cultural Groups in America*, a new book intended for a popular audience, “tiger mom” Amy Chua and Jed Rubenfeld argue that relatively successful ethnic, religious, and national origin groups in the United States possess a common set of culturally-determined traits that drive this success: a sense of group superiority, individual insecurity, and good impulse control. The book is an unscholarly romp through fields of ethnic stereotypes and immigrant anxiety that relies on anecdote rather than data and that ignores the selectivity of immigrant flows. In their insistence on the need for the whole triple package, however, the authors raise issues relevant to current research on non-cognitive skills—that there are important trait-environment interactions in the determinants of economic success and that the source and impact of aspirations deserves greater attention.

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1. Introduction

The idea that culture is a driver of racial and ethnic stratification in the United States has been a recurring source of controversy in the social sciences. The “culture of poverty” approaches of Lewis (1966) and Moynihan (1965) postulated that the burdens of poverty led to a set of attitudes and aspirations that, passed on to children, impeded their escape from poverty. Critics charged that this approach essentially blames the victims for their oppression, and called for poverty scholars to focus instead on the structural constraints facing the poor. A typical entry in the scholarly to-and-fro is *Race and Culture: A World View*, a 1994 book by the conservative economist and social theorist Thomas Sowell, which argues that ethnic differences in income and wealth can be understood as a consequence of persistent group disparities in cultural capital—defined in a later book as “work habits, perseverance, social cohesion, and law-abiding patterns of life” that are passed down from parents to children.¹ This view is echoed by the most recent contribution to the conversation on culture and success: *The Triple Package: How Three Unlikely Traits Explain the Rise and Fall of Cultural Groups in America*, a book by Amy Chua (of Tiger Mother fame²) and her husband Jed Rubenfeld.

The authors, both law professors at Yale, assert that successful ethnic, religious, and national origin groups in United States possess a common set of culturally-determined traits that spur unusual drive and persistence in the pursuit of money and status. These traits are 1) a sense of group superiority, 2) individual insecurity, and 3) good impulse control, and they are imparted to the next generation through community cultural narratives and norms of strict and demanding parenting. The authors claim that children raised in “Triple Package” cultures achieve superior outcomes in income, job prestige, and other measures of status and success in adulthood, relative to non-Triple Package children. The American Triple Package groups highlighted in the book range from the predictable (Chinese and Jewish) to the surprising (Mormon and Nigerian). Whites in Appalachia are the focal non-Triple Package community, but African- and Mexican-Americans are included among those the authors consider culturally disadvantaged by lack of a superiority narrative and poor impulse control. The book culminates in a broad critique of contemporary America. Once the “quintessential” Triple Package country, the United States is now in decline due to a widespread surrender to decadent ideas such as “everyone is equal” and “children need self-esteem.”

The Triple Package is a deeply flawed book that aims at populist storytelling rather than serious scholarship. The BuzzFeed-style title signals its agenda—book sales. Is it worthy of any attention at all from economists? The question it claims to answer—which traits contribute to success?—is of considerable interest and, though the evidentiary base of *The Triple Package* is very thin, it stakes out some interesting territory by daring to be specific about the commonalities of successful groups. The authors offer this appealing criticism of pundits (such as Sowell) who claim that successful groups are simply “hardworking cultures” or “education cultures”:

“... education—like hard work—is not an *independent*, but a *dependent* variable. It’s not the explanatory factor; it’s a behavior to be explained. Successful groups in America emphasize education for their children because it’s the surest ladder to success. The challenge is to delve

¹ *Migrations and Cultures*, p. 138.

² Chua’s best-selling memoir *Battle Hymn of the Tiger Mother* was published in 2011.

deeper and discover the cultural roots of this behavior—to identify the fundamental cultural forces that underlie it.” (p. 26, emphasis in the original)

For better or worse, the authors attempt to do just this, focusing on a set of beliefs that are culturally-transmitted (group superiority and individual insecurity) and a particular skill fostered by normative parenting practices (impulse control) as their candidates for the cultural roots of hard work, educational striving, thrift, and family cohesion that are characteristic of successful ethnic groups.

Related questions are very much in play in current economic research. Recent empirical evidence suggests that non-cognitive skills, including impulse control and related traits such as grit and conscientiousness, are important determinants of educational attainment, earnings, and the avoidance of criminal behavior. The new cultural economics explores how the intergenerational transmission of attitudes and beliefs contributes to persistent differences in behavior across social groups. *The Triple Package* provides mainly anecdotal evidence that the traits it identifies are, in fact, implicated in the economic stratification of ethnic and racial groups. As economists we can go further and ask—is there anything to their story, given what we have learned in recent years about cultural transmission and broader notions of human capital?

In the end, Chua and Rubenfeld’s thesis that the economic success of their Triple Package groups rests on a common set of cultural traits is fatally-flawed by their confusion about the roles of ethnicity versus socioeconomic status in explaining the upward mobility of social groups that have undergone strong positive selection in the immigration process. Neither the Triple Package itself nor the notion that a small set of learned traits explain differences in economic status are well-supported empirically. There is some merit, however, in their insistence that combinations of traits, rather than individual traits in isolation, are important, and they resurrect an idea that is not in the forefront of the current economics of poverty—that knowledge and beliefs about what is possible may be important constraints on actions and achievements, and may be culturally transmitted.

2. The Triple Package and Material Success

In the chapter “Who’s Successful in America,” Chua and Rubenfeld identify eight “cultural” groups as notably successful: Mormons, Cubans (specifically, the post-Castro “Cuban Exiles”), Nigerians, Indians, Chinese, Jews, Iranians, and Lebanese. Their markers of success include relatively high median household income in the 2010 Census,³ a substantial proportion of households earning more than \$100,000, and a variety of specific metrics: the prominence of Mormon CEOs, Nigerian success at Harvard Business School and on Wall Street, Cuban domination of Miami politics, Chinese over-representation at the Juilliard School of Music, Indian trophies in spelling bees and science competitions, and the disproportionate success of American Jews by any economic measure except perhaps “fortunes amassed through golf.” Some fudging occurs when the numbers fail to cooperate. Mormon household income is not that high but “Mormon women are encouraged to be full-time mothers” and the Cuban Exiles need to be distinguished from the later-arriving, and less successful, Marielitos.

³ Or other surveys for groups not identified in the Census, such as Mormons and Jews.

What do these diverse groups have in common, according to Chua and Rubenfeld? First, each has a group superiority complex grounded in “theology, history, or imported social hierarchies.” Jews and Mormons both believe that they are God’s chosen people. Jews believe, at least quietly, that they are intellectually, culturally, and morally superior to other groups (quotes from Sigmund Freud, Justice Brandeis, and Philip Roth are provided in support). Chinese- and Iranian-Americans take pride in the accomplishments of the ancient civilizations that are their heritage. The Cuban Exiles were largely representative of the upper strata of Cuban society, and arrived with a “sense of entitlement.” Indian-Americans are predominantly from high-caste families and this status is an important aspect of their identity. Superiority complexes, the authors note, can be “invidious” but they provide for minorities a defensive shield against discrimination and exclusion. African-Americans, on the other hand, have been denied a group superiority complex both by a history of slavery and oppression and “equally in the new era of equality, when everyone must kowtow to the idea that there’s no difference between different racial groups.”⁴

Feeling innately superior ought to be a good start on the path to exceptional accomplishment, but the story here requires that individuals also be motivated to work hard in the pursuit of material success by fear and anxiety. This is the leg of the Triple Package stool that Chua and Rubenfeld appear to have had the most difficulty establishing as a common cultural trait, and their treatment of insecurity is rooted firmly in the immigrant experience of most of these groups. For immigrants to America and their children, insecurity can arise from racism and discrimination and from the economic losses associated with language transition and lost credentials. Political refugees may be scarred by fear and violence, and experience “status shock” due to the expropriation or abandonment of assets. The first-generation immigrant parents who incur these losses may put extreme pressure on their children to recoup the family’s fortunes and to achieve the security that professional status and high incomes can provide. The cultural dimension to this story is embodied in family systems that enable this intergenerational pressure, such as traditional Confucian notions of family honor and respect for elders in Chinese-American families, rather than the transitory hardships of new arrivals.⁵ The basic story is that insecurity generates a drive to prove yourself—both to the new society that despises you and the parents who harangue you—and that this drive leads to both extraordinary effort and a narrow focus on achieving material success rather than happiness or self-actualization.

Finally, outsized achievement in academics and careers requires diligent effort, persistence in the face of failure, and a willingness to defer gratification—impulse control in *Triple Package* terms. Chua and Rubenfeld treat impulse control as a learned skill; what is cultural here is really the values and strategies of the parents who impose strict regimens and outsized expectations on their children. The focus is on Chinese-American families, and inevitably brings to mind Chua’s polarizing best-seller *Battle Hymn of the Tiger Mother*. *Tiger Mother* is a satirical and humorous memoir of Chua’s attempt to drive two children to pinnacles of academic and musical achievement with high-pressure work schedules, severely-restricted

⁴ The “stereotype threat” studies of Claude Steele and others (Aronson and Steele, 2005), which show that a perceived risk of confirming negative group stereotypes can hamper intellectual performance, are the principal evidence cited for the salience of ethnic identity for success.

⁵ The strict and controlling style of parenting called “authoritarian” by psychologists is not generally associated with positive outcomes for children and adolescents (see, for example, the review in Aunola et al., 2000). The consequences of having extremely demanding and critical parents on children’s mental health and generational conflict are treated in a later chapter on “The Underside of the Triple Package.” It should be noted that there are also Jewish mother jokes.

social and leisure pursuits, and unrelenting criticism. Although that book ends in her defeat by a rebellious younger daughter, elements of Chua’s extreme parenting strategy (rejection of a hastily-scribbled birthday card, a threat to burn an under-performing child’s stuffed animals) generated a storm of media criticism. Chua identifies her parenting strategy as traditionally “Chinese” and motivates it as an attempt to avoid the third-generation assimilation and family decline that reappears as a theme in *Triple Package*.⁶

Triple Package is not serious scholarship. It is uneven in tone, inconsistent in reasoning, and almost devoid of systematic quantitative evidence. The focus on high-achieving groups rather than disadvantaged ones provides some novelty and the opportunity to tell stories about the rich and famous, and the approach is almost exclusively anecdotal.⁷ The “groundbreaking original research” heralded on the publisher’s website consists of consulting a couple of Census table, totting up the ethnicity of Nobel Prize winners, and reading a bit of scholarly research in psychology. It is also difficult to consider “unlikely” (as the title asserts) a thesis that unusual professional success is more likely for individuals who have confidence in their ability to attain it, extraordinary drive for material and status achievement, and the ability to work hard and defer gratification. Nor is it highly original to ascribe elements of this orientation to culture—this is essentially Weber’s Protestant Ethic (Weber, 2002).

The critical reaction to *Triple Package* has been predictable: the authors have been accused of racism and of pandering to our taste for cultural stereotypes, but also hailed as brave and honest in addressing difficult issues, and praised (astonishingly) for presenting serious evidence regarding the sources of inequality. *Triple Package* is, however, more cautious in its treatment of ethnicity than the ebullient *Tiger Mother*. The authors have crafted their portfolio of Triple Package groups in an obvious attempt to avoid the racism charge, and maintain that Triple Package traits are culturally constructed (in sharp contrast with the arguments of *The Bell Curve* (Herrnstein and Murray, 1994) and Charles Murray’s more recent book, *Coming Apart* that stratification is due to genetically-driven gaps in cognitive ability). Nevertheless, the low incomes of disadvantaged groups are attributed to their own culturally-driven behaviors and the possibility that social and economic barriers play a role in inhibiting upward mobility for some groups is dismissed. Early critics of the book also emphasized the central empirical weakness of Chua and Rubenfeld’s argument: the strong positive selection induced by the immigration process for most of the Triple Package groups renders their success, and that of their children, unsurprising. No appeal to ethnic cultures and their distinctive characteristics is needed.

3. Immigrant Selection

The core of Chua and Rubenfeld’s narrative about cultural groups and success is an immigrant story, focusing particularly on second-generation Americans and their interactions with immigrant parents,

⁶ One insightful critic argues that we might think of this book by Chua and her husband, both scions of Triple Package groups, as “performative self-interpretation” rather than pop social science—that the authors are attempting to make sense of the sacrifices and pains of their own chosen parenting experience (Joshua Rothman, *New Yorker*). This makes some sense of the book’s tone, which occasionally seems frivolous.

⁷ Burstein (2007) discusses the lack of attention paid to documenting and explaining outcomes for high-income groups and, in particular, the social science neglect of Jewish-American success. He speculates that this is due, not just to small samples, but to a fear of inciting resentment and anti-Semitism. The negative reaction of some Asian-American associations to a recent Pew study of the relative economic status of Asian groups also highlighted “model minority” sensitivities.

the conveyers of the Triple Package traits. The economically-successful groups chosen as Triple Package representatives are not just model minorities bursting with ethnic pride, drive, and grit, they are also for the most part immigrants and the children of immigrants. Ultimately, this choice undercuts their central empirical premise that ethnic and religious cultural forces are key determinants of group success. The children of the immigrant groups they highlight do well compared to the American population as a whole because they started out ahead, not because they are endowed with superior cultural traits.

Migration is a selective process—individuals choose to move between countries because the expected benefits to doing so exceed the expected costs, and immigration rules and institutions determine who among the willing are able to enter. Immigrants to the United States are not, in general, representative of the non-migrants they leave behind. Their characteristics will depend on the economic, social, and political conditions that are pushing them from their country of origin, and on the opportunities they expect in the United States, as well as the current institutional barriers to crossing borders—legally or otherwise. People move across borders because they expect to be successful in a new environment, and we expect them to be unusually skilled, energetic, and optimistic—that is, we expect migrant selection to be generally positive.⁸

There is considerable evidence supporting the presumption that immigrants are positively selected on observable characteristics associated with income, including education and health status, but the extent of this positive selection varies substantially by country of origin (Feliciano, 2005b; Akresh and Frank, 2008). For example, immigrants from different countries tend to enter through different visa and preference category mechanisms which select on skill levels in very different ways. Immigrants who first entered the U.S. on a student/trainee visa or a temporary work visa tend to earn higher wages than natives, and much of this advantage is explained by the immigrants' higher education and more technical field of study (Hunt, 2011). This is important for the Triple Package groups: in 2012, more than 50 percent of new permanent residents from India were admitted through employment-based preferences, which tend to favor highly-skilled workers, rather than through family connections (U.S. Dept. of Homeland Security, 2013). This fraction falls the longer an immigrant group has resided in the U.S., but one-quarter of new permanent residents from China were admitted via employment preferences (and about the same number as refugees and asylees). In contrast, only 6 percent of new residents from Mexico were employment-based admissions: the vast majority were admitted either as immediate relatives of U.S. citizens or through another family-based category, and these mechanisms (as well as illegal entry) are much less selective.

Another way to measure the selectivity of immigrant groups is to compare their observable characteristics to the distribution in their country of origin. A comparison of the educational distributions of adult immigrants with the contemporaneous educational distribution of home-country populations shows that U.S. immigrants from Asia are more positively selected than immigrants from Latin America and the Caribbean (Feliciano, 2005b). If other components of human capital are positively correlated with

⁸ Borjas (1987) formalized the possibility that selection may be negative in a model of immigrant self-selection in which the returns to migration will depend on the earnings differentials between sending and receiving countries at different parts of the skill distribution. Holding all other aspects of migration costs and returns constant, migrants from countries with greater income inequality than the U.S. will tend to be less positively-selected than migrants from countries with less income dispersion.

education, an individual near the top of the education distribution, even in a country with a low average level of education, is likely to be well-endowed with other attributes that will lead to economic success in America. The relative education level of migrants from Iran and India is extremely high, and positive selection is also substantial for immigrants from China and Japan. Educational selection of immigrants from Mexico, though positive, is the lowest among countries that send substantial numbers of migrants to the U.S. The average Mexican immigrant is reasonably typical of the entire population of Mexico while the average immigrant from India or Nigeria was extraordinarily privileged in their home countries.

In addition to selectivity on observable qualifications such as education, we can expect immigrant selection on attributes not directly observable to authorities. Because immigration is an investment with immediate costs and uncertain long-term benefits, it should be more attractive to those who are more adaptable, less risk-averse, and more patient—all attributes that are economically valuable. This is difficult to get at empirically. McKenzie, Gibson, and Stillman (2010) exploit the randomness of a lottery for positions on a New Zealand quota for immigrants from Tonga to examine selection on unobservables. Applicants for the lottery earned nearly twice the Tongan income of non-applicants, controlling for observable qualifications, indicating substantial selection on unobservables in the decision to migrate.

The relative importance of immigrant selection and Triple Package traits can be demonstrated by considering immigrant groups not highlighted in this book. Chua and Rubinfeld assert that a superiority complex is an essential Triple Package trait: “If a disproportionately successful group could be found in the United States *without* a superiority complex, that would be a counterexample, undercutting the Triple Package thesis” (p. 83, emphasis in the original). Finding such a counterexample is a trivially simple exercise. Census data indicates that the median household income of individuals who identify their ancestry as “Canadian” is substantially higher than the U.S. median.⁹ As any reasonable person will agree, Canadians do not have a superiority complex. However, Canadian migrants to the U.S. (nearly half of them admitted under employment-based preferences) tend to be economically successful.

Positive selection on productive traits implies that the relatively high incomes of the first-generation migrants in *The Triple Package* are unsurprising. This selectivity also has obvious implications for the prosperity of the second generation. Parents of positively-selected groups have high levels of human capital and other positive traits that will provide advantages for their children, even if their current income is depressed by the adjustment to a new social and economic environment.¹⁰ Though positive educational mobility for the children of immigrants is substantial for all groups, the educational attainment of the second generation tends to be higher for immigrant groups that are more positively selected (Feliciano, 2005a; Luthra and Waldinger, 2013).

If community resources matter for the wellbeing of the second generation, the composition of an ethnic immigrant stream may matter for their outcomes in addition to parental attributes and resources.¹¹ Lee and Zhou (2013) study Chinese, Vietnamese, and Mexican immigrants in the Los Angeles area, and find that Asian children benefit from a socioeconomically more diverse immigrant community. Co-ethnic

⁹ Author’s tabulation from the American Community Survey 2010 3 year sample (2008-2010).

¹⁰ Since migrants bear the costs and children share in the returns from immigration, migrants may also be selected for altruism/concern for their children and so tend to invest more in their children in other ways (Berman and Rzakhanov, 2000).

¹¹ Borjas (1992) found that “ethnic capital”—the average skills of co-ethnics in the parents’ generation—was an important determinant of children’s outcomes.

neighbors with higher status provide role models, connections, and information about college and opportunities to children of low-education Vietnamese parents. Luthra and Waldinger report that Salvadoran and Mexican immigrants in Los Angeles are more concentrated in unskilled work, have uniformly low levels of education, and high levels of undocumented status, leaving children “without the protection of a strong and diverse ethnic community” and less likely to be mobile. This argument extends to the achievement of African-Americans, with racially-segregated neighborhoods focusing social externalities within a historically-oppressed group (Loury, 1998).

The Triple Package compares the fortunes of immigrants (and their children) who were relatively advantaged in their home country and have arrived in the U.S. as students and Microsoft programmers with the fortunes of unselected groups of native-born Americans and less strongly-selected migrants from Latin America. The Triple Package traits themselves can be re-interpreted as class-based rather than ethnic characteristics. High-caste and relatively wealthy migrants have a superiority complex and high expectations for their children. Many of the immigrants experience status shock and discrimination in their early years in America—this generates a transitional insecurity and a focus on rebuilding family status through children’s achievements. In this, they are helped in some cases by the parental authority of a more traditional society that enables them to impose strict discipline on their children (who therefore learn impulse control). If culture matters, it is primarily the culture of status that generates persistent advantage.

Are there systematic variations in non-cognitive traits that are clearly cultural in origin, as Chua and Rubenfeld argue, rather than socioeconomic? We can investigate differences in self-assessed impulse control with the first wave of the National Longitudinal Study of Adolescent Health (Add Health), which surveyed students in grades 7 through 12 in 1994-95.¹² With ethnic oversamples, the samples for two of the Triple Package groups—Chinese and Cubans—and two non-Triple Package groups—Mexican and African-American—are large enough to compare their responses to those of a reference group, non-Hispanic whites. No behavioral measure of impulse control is available, but the students are asked whether they agree or disagree (on a scale of 1 to 5) with the statement “When making decisions, you usually go with your ‘gut feeling’ without thinking too much about the consequences of each alternative.” At first glance, there appear to be sizable race-ethnic differences in these self-reports. Chinese students are substantially more likely to disagree that they tend to behave impulsively, while African-American and Mexican students are significantly more likely to agree than whites. Cuban responses are not significantly different from those of the reference group. Once family income, mother’s education, and family structure controlled for, however, the black and Mexican coefficients are small and statistically insignificant. Students who identify as Chinese remain less impulsive, but the conditional effect is much smaller than the unconditional effect.¹³ Though there are some ethnic differences, much of what appears to be a “cultural” effect on youthful impulsivity in the Add Health sample is in fact a socioeconomic status effect—this is Chua and Rubenfeld’s fundamental confusion.

Of course, cultural transmission may be the right way to think about some aspects of the forces driving intergenerational correlation in economic status. There are well-documented differences in parental behavior by education and income: more educated parents spend more time with their children, engage in more shared decision-making, and initiate more developmentally-appropriate activities (Guryan et al., 2008;

¹² See the Data Appendix for a description of the data and results.

¹³ The Cuban sample is also significantly less impulsive when a full set of family controls (including family structure) is added, however.

Lundberg et al., 2009), Kalil et al., 2012). It is difficult to establish causal links between parental strategies and child outcomes, but Bowles et al. (2001) argue that one important mechanism whereby economic privilege is passed on from one generation to the next is that parents and schools transmit “incentive-enhancing preferences” such as rates of time preference and self-control. The Triple Package view of economic mobility is consistent with this reasoning—what children need to succeed is a set of well-defined traits and these traits can be molded, purposefully or inadvertently, by parents, schools, and communities.

4. Don't Eat the Marshmallow!

Chua and Rubenfeld invoke the famous marshmallow test to demonstrate the fundamental importance of one of these traits—impulse control. Beginning in the late 1960s, psychologist Walter Mischel led a series of studies that showed a strong association between the ability to delay gratification as a 4-year old and later test scores, educational attainment, and health (Mischel et al., 1972).¹⁴ Of the Triple Package traits, impulse control will seem most familiar to economists. Self-control, persistence, grit—traits that represent the ability to master ones' desires and resist temptations—are among the stars in the constellation of non-cognitive skills that we now believe are important determinants of economic success. In recent years, economics has become an important contributor to studies documenting the importance of social and emotional traits in determining economic success and the socioeconomic gaps in these traits at early ages. This represents an important shift in economists' concept of human capital, moving beyond brains and brawn to incorporate an ill-defined set of psychological traits that range from “executive functioning” to “character.”

Children from disadvantaged backgrounds begin school well behind the peers in the ability to focus their attention and control their impulses and these gaps tend to persist as they progress through school (Duncan and Magnuson, 2011). Advances in neuroscience, molecular biology, developmental psychology, and economics are beginning to link deficits in behavioral, health, and cognitive abilities to early experiences and environmental influences, including toxic stress and pollution (Shonkoff et al., 2012; Currie, 2011). There is considerable optimism, however, concerning the malleability of these traits and the prospects for mitigating socioeconomic gaps through early interventions. James Heckman and a number of collaborators have shown that intensive enrichment interventions for young children such as the Perry Preschool and Abecedarian programs had substantial impacts on adult outcomes, reducing crime and increasing earnings. Since these programs appear to have only transitory impacts on cognitive tests, Heckman concludes that these programs have enhanced what he called “non-cognitive skills”.¹⁵ Psychologists believe that executive functions, a set of mental regulatory skills that are related to problem solving and self-control, are affected by early life conditions but can also be influenced by later

¹⁴ This research agenda began with a small study Mischel conducted in Trinidad that explored the sources of ethnic stereotypes about self-control (Mischel, 1958). Differences in self-control were later attributed to differences in the ability of the children to regulate their attention strategically—away from the tempting marshmallow (Ayduk et al., 2000).

¹⁵ A recent paper shows that Perry improved an index of externalizing behavior measured after the end of the program for both boys and girls, and also improved girls' academic motivation (Heckman et al., 2013). Unfortunately, these two older programs are positive outliers among the large set of early childhood education programs in their impacts on later human capital, and we know little about the connections between program components and particular sets of skills (Duncan and Magnuson, 2013).

interventions.¹⁶ This suggests that we can think of self-control (or impulse control) as a type of human capital, a stable but augmentable capability that enhances our performance on tasks that require patience and resistance to temptation, and thus contribute to positive economic outcomes. Chua and Rubenfeld's assertion that impulse control is an important and teachable attribute has a lot of scholarly support, but is it the only important skill, or the most important one?

School programs that foster non-cognitive skills are widely believed to be promising approaches to increasing the productivity-enhancing traits of children from poor families, but their focus extends well beyond impulse control. The charter school network KIPP announces on their website that in their "character strengths program" they are "focused on seven highly predictive strengths: zest, grit, self-control, optimism, gratitude, social intelligence, and curiosity." This is a large laundry list of traits, and is indicative of the conceptual confusion that permeates this area. Paul Tough's recent book "How Children Succeed: Grit, Curiosity, and the Hidden Power of Character" focuses enthusiastically on KIPP and other programs for poor children, as well as on the research of Heckman and the psychologist Angela Duckworth. Duckworth has developed a measure of persistence that she calls "Grit", and shows that it is strongly related to academic success (Duckworth et al., 2007).

We are only beginning to learn which specific skills are important for long-term consequences, how to measure them, and how to foster them in children and adolescents, and there are serious empirical difficulties facing studies that address these questions. Random assignment treatments can at least provide convincing evidence that a particular program, such as Perry Preschool, has been effective in improving adult outcomes, though the results vary widely and in general we know little about the mechanisms (or skills) through which they operate. There has been a profusion of recent studies, however, that find cross-sectional variation in traits, behaviors, or preferences that are strongly associated with outcomes such as earnings, educational attainment, and health. Like the marshmallow studies, the results are interesting and suggestive of what constitute valuable non-cognitive traits: an internal locus of control is powerfully predictive of a variety of positive outcomes (Cobb-Clark and Schurer, 2013), patience is rewarded (Golsteyn et al., 2013), a psychologist's assessment of the suitability of a young man for military service predicts his suitability for other jobs as well (Lindqvist and Vestman, 2011) and interviewer reports of survey respondent fidgeting are correlated with later economic outcomes (Cadena and Keys, forthcoming).¹⁷

These studies are carefully conducted: they include available controls for other skills and family background, and the trait is usually measured earlier than the outcome of interest. However, the case for a causal interpretation is generally weak. The traits being measured will inevitably be correlated with unobservable family and environmental factors that have both influenced skill levels and will also contribute

¹⁶ Mischel (2014) has developed programs that increase children's self-control in the marshmallow test and offers these skills to the general public in a new book.

¹⁷ The economics literature on non-cognitive skills and productive traits has expanded rapidly, incorporating individual descriptors and measures from other fields, such as psychology. The particular traits that are studied are often based on what happens to be available in surveys, such as the non-cognitive skills (self-esteem and locus of control) used in the classic study by Heckman et al. (2006). For most measures, we have no conceptual framework comparable to the choice theory that informs our use of preference parameters, and this impedes any effort to move beyond a piece-meal approach to non-cognitive skills and developing a standardized set of instruments. Referring to psychological traits as "skills" is an attempt to maintain the economic distinction between preferences and constraints, but in fact the line has become blurred. The personality trait "extraversion" reflect both social skills and an orientation towards social interaction; the "impatience" revealed by a survey respondent may be evidence of a high rate of time preference or of limited impulse control.

to future outcomes. Productive traits are also likely to be correlated with each other and no surveys or administrative data sources can include measures of all the traits that have been identified as potentially important drivers of success. One study has illustrated the bias that results in studies that examine the “effects” of cognitive ability, risk aversion, or patience on key adult outcomes without including measures of all three traits (Dohmen et al., 2010). The skepticism that we invariably bring to the interpretation of a coefficient on IQ in a model of educational attainment or income is appropriate in our new focus on non-cognitive skills as well. To state the obvious, the later successes of the children who were able to wait for the marshmallows may have been due to their optimism, charm, doting parents, or other unobserved resources that were likely to be correlated with their infant impulse control.

5. Traits and Circumstances

Chua and Rubenfeld have chosen the triple package of traits and beliefs they consider essential to success and have described how parents in certain cultural groups inculcate them. Though their approach is informal and the focus is on successful groups, it is understandable within the framework of recent work on the technology of skill formation and inequality (Heckman and Mosso, 2014). Their analysis has an additional dimension that, though not inconsistent with theoretical approaches to multiple skills, is not usually reflected in empirical studies.¹⁸ They emphasize repeatedly that the entire triple package is necessary for success—that there are important interactions between the traits in the generation of material returns. The Amish cultivate impulse control, but not the driving ambition that comes with the other two traits, and they are not rich. The old WASP establishment retains a healthy superiority complex but their fortunes are declining, say Chua and Rubenfeld, because they have lost the hunger of insecurity and the discipline that maintains impulse control. In Triple Package terms, impulse control is valuable in the context of a household in which aspirations are high (superiority) and parenting is intensive and demanding (insecurity).

Applied more generally, it seems unsurprising that individual traits should interact with other traits and the environment in ways that cause rates of return to vary. In fact, interactions between traits and circumstances can preclude even reliable measurement of socioeconomic skill differences. We now know that the results of IQ tests, far from being pure indicators of intellectual ability, are influenced by personality and motivation, and that invoking racial stereotypes can affect test performance.¹⁹ Measures of children’s non-cognitive skills are usually based on teacher and parent reports of “externalizing behavior” such as physical aggression or lying and of a child’s ability to maintain focus on an assigned task. We should be skeptical of trait measures based on children’s behavior and particularly skeptical of interpreting differences in either test scores or behavior between children from high- and low-income families as differences in skills. Actual performance depends not only on individual characteristics, but also on the circumstances of the test-taker.

¹⁸ Almlund et al. (2012) construct an economic model of personality traits and productivity. In this model, an individual must decide how to allocate their fixed endowment of effort over a set of tasks, conditional on personality traits that affect the returns to effort. Individuals with the same traits, but different levels of resources, will experience different outcomes.

¹⁹ Borghans et al. (2008), Segal (2012), Duckworth et al. (2011), Aronson and Steele (2005). Heckman and Kautz (2012) discuss the identification problem associated with testing for skills when situations and incentives matter.

One environmental factor that affects behavior in a particular situation is the intensity of other demands on a person's capabilities. There is ample evidence that an individual's reserves of self-control can be depleted by exertions of control (Muraven and Baumeister, 2000). In experimental conditions, resisting temptation leads to a weakened ability to resist subsequent temptations, and individuals who have to cope with stressors such as noise and crowding are less able to delay gratification. Mani et al. (2013) find that poverty appears to degrade cognitive functioning. The farmers in their study exhibit diminished cognitive functioning before the harvest, when they are poor, compared to after the harvest, when they are richer. The differences are not accounted for by nutrition or work effort, and appear to be due to poverty-related demands on mental resources. Poor children, who are likely to face more chaotic and stressful conditions at home, may be less able to muster the resources to maintain focus and control at school, even if their capabilities are identical to other children.

Children with identical levels of a trait such as self-control may also have different expectations about the payoffs to exerting control. In a variant of the marshmallow test cited in *The Triple Package*, researchers preceded the classic test with two sessions in which randomly-assigned children were primed to believe that their environment was reliable or unreliable (promised art supplies either did or did not show up). Children who had been exposed to the unreliability of the experimenters' promises scored substantially worse on the marshmallow gratification delay test (Kidd et al., 2013). The researchers conclude that differences in performance on the marshmallow test may be due, not just to differences in self-control capabilities, but also to experiences about the reliability of their environments via an "implicit rational decision-making process." Kearney and Levine (2012) come to a related conclusion concerning the extremely high rate of teenage childbearing in the United States. Finding a relationship between teen childbearing and levels of income inequality across states, they argue that a perceived lack of economic opportunity leads young women who begin life in low-income families to believe that they have little to gain from deferring childbearing. In some environments, impulse control may not make much sense—and when such skills are not rewarded, they are not likely to be reinforced.²⁰

Variation in the circumstances faced by individuals, including the environmental demands on their capabilities and their expectations about the rewards to specific actions, imply differential returns to specific traits. Indeed, the economic literature on behavioral poverty traps begins from the basic notion that individuals with the same productive traits can experience different outcomes.²¹ The qualities that benefit the well-off need not help the disadvantaged, and the traits that contribute to resilience in poverty can be worthless to the fortunate. The classic statement of this environment-trait interaction is: "a gene for aggression lands you in prison if you're from the ghetto, but in the boardroom if you're the manor born,"²² but we can say more specifically that poor impulse control is likely to have different consequences

²⁰ Some aspects of an individual's expectations about the way the world works may be transmitted culturally—based on the experiences of others rather than one's own experience. This would seem to be the case in the findings of Henrich et al. (2001) that individuals in 15 small-scale communities seem to follow societal templates in the way they play the ultimatum game. In economies in which the payoff to cooperation is higher, individuals play more cooperatively.

²¹ Bertrand et al. (2004) argue that the poor possess the same psychological biases and cognitive weaknesses as the wealthy, but that small errors lead to worse outcomes in poverty. Models in which aspirations serve as reference points for utility incorporate various mechanisms by which aspirations are set—both social and individual (Genicot and Ray, 2014; Dalton, Ghosal, and Mani, 2014). If effort depends on aspirations, and aspirations adapt, then a poverty trap is a possible outcome. Far more complex is Loury's (2002) notion of racial stigma, in which persistent racial stereotypes affect interracial interactions in ways that disadvantage African-Americans in equilibrium.

²² Here cited by Conley (2009).

for a young black man in a poor neighborhood than it will for a middle-class young white man. The latter, for example, is more likely to survive to an age at which impulse control is less likely to be an issue.

There is increasing evidence of environment-trait interactions in the determinants of economic success. Traits that are usually considered productivity-enhancing interact with school and parental resources such that they are not equally beneficial for everyone. Conscientiousness, which tends to predict good educational outcomes, has no positive association with educational attainment for young men and women from disadvantaged households in the Add Health sample, though it does have a significant payoff for respondents with higher-income or higher-education parents (Lundberg, 2013, 2014). The dimension of personality that does appear to yield substantial returns for low-income students is openness to experience, a trait associated with imagination and adventurousness. Why should openness be valuable for disadvantaged youth? Openness is associated with migration and novelty-seeking more generally, and may be particularly useful for those moving into unknown territory (i.e. college). One possible mechanism is through the child's educational aspirations—early reports of wanting to attend college are strongly positively associated with openness for students with low-education mothers (Lundberg, 2014). Programs that teach low-income students impulse control may not lead to substantial increases in upward mobility without the removal of additional barriers—barriers that young people high in openness to experience are able to surmount on their own.²³ More research that investigates heterogeneity in the returns to individual characteristics or responsiveness to interventions would be very useful as we proceed to expand skills-investment programs for disadvantaged children.

The importance to disadvantaged youth of a trait that signals a willingness to imagine alternatives and to deviate from a socially-prescribed path suggests that we consider an aspect of culture that has been described as “horizons of possibilities” or “what is thinkable” (Small et al., 2010). Chua and Rubenfeld's notion of a superiority complex as a building block of success can be thought of as a crude description of an expansive cultural horizon of possibilities. Estimates of life expectancy provide a potent signal of perceived possibilities, and there are substantial differences in reported time horizons among American middle- and high-schoolers. When asked how likely they think it is that they will live to age 35, the responses of Chinese and Cuban students (the Triple Package groups) are not significantly different from those of non-Hispanic whites. Black, Mexican, and Native American students, on the other hand, believe they are less likely to survive, even after controlling for family background, and the effect size for blacks is large²⁴.

Chua and Rubenfeld's stories of Triple-Package-parenting among immigrant groups depict mothers and fathers who have high expectations of economic success for their children, considerable confidence that they know the path to that success, and a willingness to invest time and energy in shepherding children up that path. They are describing, in essence, middle-class parenting founded in the abundant human capital and sense of entitlement of an elite, even if that elite has been temporarily brought down by the shock of migration. The cultural components of this parenting strategy, in the sense of ethnic or national culture, are certainly dwarfed by the contribution of social class in positively-selected cohorts of immigrants—in this sense Chua and Rubenfeld's cultural story is a hoax. What they have usefully added to our current focus

²³ Openness may act as a substitute for parental guidance and information provision in moving across schooling level thresholds. Hoxby and Turner's (2013) finding that the rate at which high-achieving, low-income students apply and are admitted to selective colleges can be substantially increased by a low-cost intervention that provides information and application fee waivers is consistent with this view.

²⁴ See Data Appendix.

on investing in children's non-cognitive traits, however, is reminder of the role of aspirations, of an expansive sense of "what is thinkable", as a culturally-transmitted key to success.

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Data Appendix

The National Longitudinal Study of Adolescent Health (Add Health) began in 1994-95 with a nationally-representative school-based survey of students in grades 7 through 12.²⁵ Hispanic and Asian students were oversampled, and the sub-samples for two Triple Package groups, Chinese and Cubans, are large enough to compare their responses in Wave I with those of a reference group, non-Hispanic whites. Including the samples for two non-Triple Package groups, Mexicans and African-Americans, as well as Filipinos, other Hispanics, and Native Americans yields a sample of about 14,000 young men and women, most of them between the ages of 12 and 18.

No behavioral measure of impulse control is available, but the students are asked whether they agree or disagree (on a scale of 1 [strongly agree] to 5 [strongly disagree]) with the statement “When making decisions, you usually go with your ‘gut feeling’ without thinking too much about the consequences of each alternative.” They are also asked how likely they think it is (on a scale of 1 [almost no chance] to 5 [almost certain]) that they will live to age 35.

	Observations	Mean	Standard deviation
Impulsive	13954	3.03	1.13
Probability Live to 35	13970	4.37	0.85

	Impulse Control		Impulse Control		Live to 35		Live to 35	
	coef.	s.e.	coef.	s.e.	coef.	s.e.	coef.	s.e.
Black	-0.114	(0.02)	-0.047	(0.03)	-0.338	(0.02)	-0.298	(0.02)
Mexican	-0.142	(0.04)	-0.032	(0.05)	-0.315	(0.03)	-0.214	(0.03)
Chinese	0.378	(0.08)	0.277	(0.10)	0.045	(0.06)	-0.010	(0.08)
Cuban	0.069	(0.06)	0.141	(0.07)	-0.089	(0.04)	-0.058	(0.05)
Family controls			X				X	

Other controls: age, gender, other Hispanic, Filipino, Native American.

Family controls: mother’s education, lived with both parents at Wave I survey, family income at Wave I.

²⁵ Add Health is a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (<http://www.cpc.unc.edu/addhealth>). No direct support was received from grant P01-HD31921 for this analysis.