Grit: A Potential Protective Factor Against Substance Use and Other Risk Behaviors Among Latino Adolescents



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Received for publication September 8, 2015; accepted December 31, 2015.

ABSTRACT

OBJECTIVE: Grit, defined as "working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress," is strongly associated with academic achievement and life success and may also be associated with health outcomes and behaviors. We examined predictors of grit, and the association between grit and health behaviors among at-risk Latino adolescents.

METHODS: We analyzed baseline survey data collected in 2013–2014 from a sample of 1270 9th graders in low-income neighborhoods of Los Angeles. We examined factors associated with grit and whether grit is associated with substance use and delinquent behaviors, controlling for adolescent and parent sociodemographic factors.

RESULTS: In a sample of mostly Latino adolescents (89.5%), compared to those with low grit, those with high grit had signif-

icantly lower odds of alcohol use in the last 30 days (odds ratio 0.30, P < .001), marijuana use (odds ratio 0.21, P < .05), and fighting (odds ratio 0.58, P < .05). Involvement in delinquent behavior was also lower ($\beta = -0.71$, P < .001). Factors associated with more grit included authoritative parenting style, parental employment, and high self-efficacy scores.

CONCLUSIONS: Grit may be an important candidate protective factor against substance use and other risk behaviors among Latino adolescents.

KEYWORDS: adolescents; grit; Latinos; noncognitive skills; risk behaviors; substance use

ACADEMIC PEDIATRICS 2016:16:275–281

WHAT'S NEW

Although grit is increasingly being recognized as a predictor of academic and socioeconomic success, less is known about its link with health. We found that grit may be a protective factor against substance use and delinquent behaviors among adolescents.

EDUCATION AND HEALTH outcomes are closely linked, but some evidence suggests that simply increasing academic achievement may not reduce risky behaviors or improve health. Prior research on human capacity building suggests that life success depends on much more than the acquisition of specific academic skills learned in school such as literacy and math. It has been theorized that social-emotional and other noncognitive skills learned in childhood and adolescence are the key ingredients that lead to better educational and health

trajectories over the life course, including long-term academic success, employment, marriage stability, health behaviors and outcomes, and incarceration rates. 3,5–8

Noncognitive factors are a set of attitudes, behaviors and strategies including motivation, perseverance, self-control, and grit, which contribute to one's ability to recognize and manage emotions, forsake short-term for long-term gratification, overcome failures, and make more responsible decisions. The causal impact of noncognitive factors on life success is supported by research showing that social emotional learning programs can improve academic performance, promote positive adjustment, and reduce problem behaviors in school. 9,10 Although noncognitive factors are increasingly being recognized as strong predictors of academic and socioeconomic success, much less is known about their link with health and health behaviors.

Given the strong association between education and health, as well as the need to understand how to prevent

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substance use and delinquent behaviors among adolescents, we wanted to explore whether one particular noncognitive factor—grit, defined as "working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress"¹¹—might also be connected to health and risk behaviors. Grit has recently been identified as a strong and important predictor of academic and life success. 10,11 In studies by Duckworth and colleagues, 11 individual differences in grit accounted for variance in successful academic outcomes over what could be explained by traditional intelligence quotient (IQ) tests. They also found that grit mediated the final performance of spelling bee competitors, enabling them to engage in sustained activity of deliberate practice that increased their overall performance. 12 In general, grit has been associated with long-term academic success, employment, marriage stability, future exercise, good health behaviors, and lower incarceration rates.^{3,5–8} However, the relationship between grit and adolescent risk behaviors has not been examined previously. We hypothesized that grit might be associated with lower levels of delinquent behaviors and substance use.

Analyzing data from a sample of mostly Latino adolescents living in low-income neighborhoods of Los Angeles, we examined potential factors associated with grit and the relationship between grit and risk behaviors, including alcohol use, marijuana use, fighting, and delinquent behaviors. We chose to study grit in this population, as previous studies on this noncognitive factor have not been tested among them.

METHODS

We analyzed the baseline data from the RISE UP study, which is a natural experimental study designed to understand the impact of high-performing school environments on adolescent health and health behaviors. RISE UP is a follow-up study from RISE (Reducing health Inequities through Social and Educational change Study), which surveyed applicants to 3 high-performing public charter high schools in low-income neighborhoods of Los Angeles to test the hypothesis that exposure to such schools reduces risky behaviors. For the RISE UP study, in 2013 we identified 35 public charter high schools in Los Angeles that were in the top tertile of performance based on the 2012 Growth Academic Performance Index¹³ among all 507 Los Angeles public high schools. Of these schools, we selected 5 charter schools that had a student population at least 75% underserved as measured by free/ reduced-price lunch eligibility. We also selected for participation in this study schools that had an admissions lottery with at least twice the number of applicants as seats available.

We sought to recruit students who had applied to attend 9th grade for fall 2013 or fall 2014 at 1 or more of the 5 high-performing charter public high schools. We randomly selected students from the applicant list with the goal of obtaining equal numbers of students who were and were not offered admission to create our experimental and con-

trol groups. We excluded students who could not be contacted or who had moved out of the Los Angeles area before matriculating to the 9th grade. We also excluded those who received preferential admission as a result of having a sibling who was already accepted into the school.

After being clearly informed that participation in the study would have no bearing on their admission to the schools, obtaining written informed consent from the parent, and obtaining an assent form from the participating students, we performed 90-minute face-to-face baseline interviews with the students between March of 8th grade through November of 9th grade. Individual students participated in a face-to-face interview with a researcher at a location convenient to them—usually in their home, at school, or in a public place (like a library or coffee shop). The interview consisted of the researcher asking them questions and providing response options. Student responses were recorded by the researcher on a laptop or iPad. When the survey asked sensitive questions, including substance use and other risk behaviors, the students responded by entering answers themselves using an audio-enhanced, computer-assisted self-interview (audio CASI) on a laptop or iPad. This study is based on the baseline data collected.

The survey includes measures of 30-day alcohol and substance use, fighting, and delinquent behaviors taken from national studies of adolescent risk behaviors including the Youth Risk Behavior Survey, Monitoring the Future Survey, and the National Longitudinal Study of Adolescent to Adult Health. 14-16

We measured grit using the previously validated Short Grit Scale. 11,17 This scale consists of 8 statements like "I finish whatever I begin," "I am diligent," and "New ideas and projects sometimes distract me from previous ones," and are asked with response options ranging from "very much like me" to "not like me at all." With some questions requiring reverse scoring, all items are averaged to get an overall grit score ranging from 1 (not at all gritty) to 5 (extremely gritty). For our study, we examined the correlation between the grit items and found that one of the statement items ("setbacks don't discourage me") correlated with the other 7 items in a direction opposite from what would be expected. We suspect that respondents were confused by this item because it asks them to affirm a negative statement. The Cronbach's alpha for the scale including all 8 items was 0.63 and was 0.67 for the 7-item scale without this statement. Given this, we chose to drop this item from the final grit scale score for this analysis.

We also measured general self-efficacy using the previously validated New General Self-Efficacy Scale with a Cronbach alpha of 0.90 in this sample, ¹⁸ and hopelessness using the previously validated Brief Hopelessness Scale with a Cronbach alpha of 0.87. ¹⁹ Students self-reported their grade point average (GPA) and completed the Index of Parenting Style, ²⁰ which assesses adolescents perceptions regarding their parents' acceptance/involvement (Cronbach $\alpha = 0.62$) and strictness/supervision (Cronbach $\alpha = 0.63$).

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