CAN EMPLOYMENT PREVENT RISK BEHAVIOR? 
THE ROLE OF SOCIO-EMOTIONAL SKILLS

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Abstract

This paper uses unique experimental data to identify the causal effects of employment on risk behavior of young adults. For this purpose, we exploit the exogenous variation induced by a youth training program that successfully increased employment. The program was not designed to affect risk behavior directly. We find no significant effects of employment on the probability of engaging in risk behavior; however, we see improvements in risk behavior of individuals who have higher socio-emotional skills.

JEL Classification: O11, O22, and O17.

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1 Introduction

The young are the segment of the population that has the highest use of illegal drugs, marijuana, cigarettes, and alcohol. They also have the highest crime rates and make up the greatest proportion of crime victims. Consequently, in recent years, interest has grown in the field of economics for identifying the means to prevent at-risk young adults from engaging in risk behavior. For economists a natural question is whether labor market incentives can prevent risk behavior (see a recent review by Blattman and Ralston, 2015). However, little evidence currently exists on the causal effects of labor market incentives on risk behavior because of the difficulty in finding exogenous sources of variation on factors such as employment or labor earnings.

This paper contributes to the discussion in four ways. First and foremost, it employs experimental data to identify the causal effects of employment on the risk behavior of young marginalized individuals living in poverty. For this purpose, we use experimental data from a youth training program implemented in the Favelas, Brazil. The program succeeded in its primary and sole objective of increasing employment, and hence, the earnings of the individuals who received training.

We use the exogenous variation induced by the program on employment to identify the causal effects of being employed on risk behavior—that is, drugs, alcohol, or cigarette consumption, as well as victimization rates.

Second, by relying on individual data, our paper overcomes the confounding biases of studies that employ regional aggregate data to study risk behavior. As suggested by Blattman and Ralston (2015), studies that employ aggregate regional data make it impossible to distinguish whether changes in individual decisions or on other market forces drive changes in risk behavior. For example, if a municipality experiences lower risk behaviors,
it is impossible to determine if the individuals themselves are behaving differently or if the opportunities for risky activities are dropping. Since our analysis is based on surveys collected at the individual level, we are able to examine the direct effect of employment on an individual’s decision to engage in risk behavior.

Third, we examine whether youth training programs that successfully increase employment can also indirectly reduce risk behavior. Because youth training programs primarily aim to improve participants’ employability, previous work has primarily focused on studying its impact on that outcome (see for example Card et al. (2011); Attanasio et al. (2011); Ibarrarán et al. (2012); Hirshleifer et al. (2015); Ibarrarán et al. (2015); and Kugler et al. (2015)). Hence, little evidence currently exists on the indirect effects of youth training programs on other outcomes.

Fourth, following the literature emphasizing the importance of socio-emotional skills on preventing youth risk behavior (Heller et al., 2015; Cook et al., 2014; Ludwig and Shah, 2014; Blattman et al. (2015)), we study whether youth training programs may be more successful in deterring risk behavior for individuals with better socio-emotional skills. The increasing interest in the role of socio-emotional skills in the young arises from two bases. First, recent findings suggest that youth discount the future more than adults (myopia), which prompts intrapersonal conflict between “selves.” This conflict is apparent in decisions made at separate times—a decision made by today’s self for tomorrow might differ from one made by tomorrows self. These limitations could lead to poor decision-making, particularly with regard to risk behaviors (JPAL, 2013). However, the importance of socio-emotional skills is also supported by findings in neuroscience that demonstrate the malleability of the prefrontal cortex—the region of the brain in charge of emotions and self-regulation—until the early twenties and the strong association between the development of the prefrontal cortex with preventing risk behavior (Cunha et al., 2006; Heckman, 2008; Almlund et al., 2011). Hence, it is likely that higher levels of employment could have differential effects on individuals based on their heterogenous socio-emotional skills.
We use experimental data from the youth training program *Galpão*. The program was designed to improve the employment and earnings of at-risk youth living in the *Favelas* in Rio de Janeiro, Brazil. The program’s sole main objective was to improve the employability of young marginalized adults. *Galpão* was not intended to reduce the risk behavior of the treatment recipients directly. Calero et al. (2015) evaluated the impact of the program on earnings and employment. In contrast to other interventions that show modest effects from these types of programs (see Kenneth and Palmer, 2010), *Galpão* was effective in increasing employment and earnings. We use the successful effects induced by the program on employment to identify the causal effects of being employed on risk behavior.

Brazil presents an interesting context for studying youth risk behavior because it ranks eleventh among 90 countries in the rate of firearm-related deaths, with 21.9 deaths per 100,000 inhabitants (Waiselfisz, 2015). Victims of this violence are more likely to be among the young, and youth violence has shown a sharp increase in the last three decades. According to Waiselfisz (2015), the homicide rate by firearms rose from 12.8 to 47.6 per 100,000 inhabitants between 1980 and 2012—an increase of 271.8 percent (see Figure I). Higher rates of violence have also exposed youth to other types of risks. For instance, the use of illegal drugs (e.g., marijuana or cocaine) has also increased in recent years among the young, and criminal organizations continually recruit young individuals, particularly those with low income, little education, and no religious attachment (Carvalho and Soares, 2013).

We first confirm that the program had a significant positive effect on employment. We find that after it was implemented, the treated individuals had a 10 percent increased probability of being employed relative to the control group. However, we find no significant evidence suggesting that the subsequent higher levels of employment induced changes in the risk behavior of the treated individuals.

We also check if the program had a significant effect on socio-emotional skills, but we find no evidence of such an effect. We then proceed to examine if the program had differential

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2For a comprehensive review of crime and violence trends in Brazil see Murray et al. (2013).
effects on treatment recipients who had heterogeneous levels of socio-emotional skills. We find that individuals with higher socio-emotional skills who participated in the program, reduced their alcohol consumption and had lower crime victimization.

In analyzing the socio-emotional skills that were important in predicting risk behavior, we find that consistency of interests and empathy have the highest correlation with lower measurements of risk behavior. Consistency of interest is defined as an individuals capacity for maintaining constant interest in goals and projects and keeping stability in his or her actions and thoughts concerning goal achievement (Duckworth and Quinn, 2009). Empathy measures an individuals capacity to understand and accept other individuals, to consider their points of view, and to show respect for opinions that differ from ones own (Brea, 2010). Our findings suggest that consistency of interest and empathy should receive higher emphasis when trying to modify the risk behavior of young individuals.

From a policy perspective, our results suggest that reducing risk behavior for youth may go beyond helping them find a job and subsequently increase their income. In particular, socio-emotional skills have a crucial role in guiding an individual’s decision to engage in a risk behavior. Hence, further efforts should be directed at understanding how socio-emotional skills can be improved more efficiently.3

We contribute to two groups of literature. First, we contribute to the literature on the link between income and risk behavior. Most of the relevant work in this area focuses on the associations between poverty, violent crime, and conflict (see Bazzi and Blattman, 2014; Berman and Couttenier, 2013; Dube and Vargas, 2013; Iyer and Topalova, 2014; Miguel et al., 2004). Most of these studies show that unexpected negative changes in income or unemployment increase violent crime and conflict. We instead analyze the effects of a positive income shock (caused by higher employment) on risk behavior of young adult men.

Second, we contribute to the group of studies that examine the unintended effects of socio-emotional skills develop and stress the importance of early investments in both cognitive and socio-emotional skills.

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3Heckman and Masterov (2007) and citeheckman2003 study when in life socio-emotional skills develop and stress the importance of early investments in both cognitive and socio-emotional skills.
youth training programs. The most closely related papers in this area are Ibarrarán et al. (2012) and Novella and Ripani (2014), who study the training program Juventud y Empleo. The former is a preliminary exploration on the effects of the program on teenage pregnancy rates; it finds small but significant effects. The latter examines the effect of the program on teenage pregnancy in more detail. The authors report that the program effectively reduces teenage pregnancy rates, particularly for teenagers with higher self-esteem scores.\textsuperscript{4}

The rest of the paper is structured in seven additional sections. Section 2 describes the program, section 3 describes the data, and section 4 presents the research methodology. Section 5 studies the effects of employment on risk behavior. Section 6 studies the heterogeneous effects of the program by socio-emotional skills. It also studies which personality traits (noncognitive behavior) are better predictors of risk behavior. Section 7 studies the correlation between cognitive and socio-emotional skills, and finally, the last section presents conclusions.

2 Background and context of the intervention

The Instituto Stimulu Brazil, a small-scale Brazilian non-governmental organization, and the Inter-American Development Bank launched the Galpāo program in 2009. It was designed with the sole primary objective of improving the employment and labor earnings of at-risk youth living in the Favelas (squatters’ slum) in Rio de Janeiro, Brazil.\textsuperscript{5}

In comparison with other youth training programs in Latin America (LAC), Galpāo offers treatment over a long time frame.\textsuperscript{6} Participants remain in the program 6 months, 5 hours

\textsuperscript{4}More particularly, they find that females aged 1619 years in the treatment group are six percentage points less likely to be pregnant at the time of the follow-up survey on average. This corresponds to a 48 percent drop compared to the average pregnancy rate in the same age group in the control group.

\textsuperscript{5}According to the last census, in 2010, approximately 11.4 million people live in Favelas, which represents 6 percent of Brazil’s population.

\textsuperscript{6}For example, Juventud y Empleo in the Dominican Republic includes 225 hours of a wide range of job training courses divided into 75 hours of life skills training and 150 hours of technical or vocational training (Ibarrarán et al., 2012; Card et al., 2011). In Argentina, entra21 comprises 100 hours of technical training, 64 hours of life skills training, and 16 extra hours depending on the type of course (Alzua et al., 2015).
a day, 5 days a week. The training includes 300 hours of vocational or technical skills, 180 hours of training on academic or basic skills, and 120 hours on socio-emotional skills. The vocational or technical training prepares youth for jobs mainly in the areas of construction and soldering. The academic or basic skills training includes remedial courses in mathematics and Portuguese. Some of the concepts that the participants learn in these courses are used in the vocational training. For example, to build a metal bench they use basic concepts from geometry such as an understanding of angles. The socio-emotional skills classes emphasize certain values and basic principles like respect, tolerance, confidence, prudence, courage, ethics, and civic responsibility.

The novel dimension of the project is the pedagogical approach, which makes extensive use of arts and theater. Almost all sessions start with group activities to facilitate the understanding of skills and concepts. The activities include exercises that make extensive use of artistic and theatrical techniques and are directed by program instructors with an artistic background.7

Unlike other youth training programs, the project did not have an explicit job placement service or a formal internship program. Rather, it relied on informal contacts with private-sector partners and partnerships with local firms.

The program’s facilities were located in the port area, away from the Favelas. Because of the high incidence of violence in the Favelas and the youth being unable to move among communities owing to the existence of gangs, the location was chosen in a neutral downtown space. Recognizing that this might be a constraint to participation, the program covered

7For instance, during the socio-emotional training the class is divided into small groups. The instructor has the participants act out short plays in which they demonstrate a value (e.g., courage) in their daily lives. The next session starts with the same exercise focused on a different value (e.g., prudence). Then the participants discuss the stories. For example, in a particular session one group dramatized a youth witnessing an assault and intervening to stop it, showing courage. They reflected upon it. Was it appropriate to be courageous in such situation? Did he put his own life in danger? They then concluded that he risked his life in the situation, and he should have acted with prudence. This type of exercise teaches participants to reflect, analyze, and identify the appropriate values for different situations. The academic training relies on different activities. For example, to introduce the equation concept, the instructor uses a weight scale and explains to the participants that equilibrium requires both sides of the scale bear equal loads. Thus, an abstract concept is taught in an experimental way.
the transportation costs of the participants.\textsuperscript{8}

\section{Selection process}

\textit{Galpão}'s participants are selected in a two-stage process. In the first stage all individuals interested in the program fill a “pre-inscription” questionnaire that includes information related to the personal and household situation, current employment, and education status, among other factors. This information is used to identify individuals with a monthly household income under two minimum salaries and between 17 and 29 years old. Those who meet these criteria are considered for the next phase.

In the second stage, individuals are invited to take mathematics and Portuguese tests on basic concepts. They also go through an interview process. The interview attempts to identify youth who are involved in criminal activities. If the interview reveals that the person is involved in such activities, he is not invited to participate in the program—regardless of his performance on the tests. The youth who perform best on the tests are invited to enroll in the program. Given that the number of eligible individuals is greater than the number of slots available in the program, youth are randomly assigned to the program.

\section{Data}

This paper uses experimental data collected through the randomized trial of \textit{Galpão}. Given that the number of eligible individuals was greater than the number of slots available in the program, youth were randomly assigned to either the treatment group or the comparison group. In total 451 youth were eligible. Approximately half of them were randomly assigned to the treatment group and the other half to the control group. There are data for the three cohorts implemented in 2012: the first cohort began in April, the second in June, and the

\textsuperscript{8}Based on administrative data, the cost per participant is R$ 810 (USD 385) a month, or R$ 4,680 (USD 2,225) for the entire training. Transportation costs represent around 27 percent of the monthly cost.
third in July. Around 90 percent of the treatment group attended the training, and none of the individuals of the control group participated in the program. The data include the socio-demographic characteristics of the individuals as well as information on their cognitive skill (years of education and a cognitive test), socio-emotional skills (Grit Scale and a Social and Personal Competencies Scale), risk behavior, earnings, and employment status.

A baseline survey and two follow-up surveys were conducted by a Brazilian firm (Overview Pesquisa). The baseline data were collected between June and October 2012 on a rolling basis.\textsuperscript{9} Overview Pesquisa was able to interview 84 percent of the initial group. The first follow-up survey took place between 2 and 5 months after the end of training, and the second was between 11 and 13 months. A total of 348 youth responded to the first follow-up survey, and 299 individuals to the second. The attrition rates, relative to the baseline sample, at the first follow-up (8 percent) and the second follow-up (21 percent) are comparable to other impact evaluations of youth training programs.\textsuperscript{10}

3.1 Measuring risk behavior

We use self-reported measures of risk behavior collected in the baseline survey and all the follow-up surveys. Seven variables are available, including indicator variables for i) ever smoking; ii) consuming alcohol in the last week; iii) smoking marijuana during the last week; iv) ever consuming any type of hard drug, including cocaine, heroin, ecstasy, or any other substance; v) participating in a physical fight in the last month; vi) witnessing a crime in the last year (including carrying weapons, sexual violence, physical aggression, robberies, homicides, corruption, or police misbehavior); and vii) being the victim of a crime in the

\textsuperscript{9}In the case of the first cohort, the survey was done after the training began. Although randomization makes baseline surveys unnecessary in principle (Duflo et al., 2007), the questionnaire included retrospective time frames to capture information before the program started. Furthermore, a balance check between the treatment and control group from the first cohort versus the other two cohorts reveals no differences, particularly in time-variant variables.

\textsuperscript{10}These attrition rates are comparable to other impact evaluations of youth training programs in Latin America (38 percent in Card et al. (2011); 18.5 percent in Attanasio et al. (2011); 18.5 percent in Alzua et al. (2015); and 20 percent in Ibarrarán et al. (2012)).
last year (including verbal or physical abuse, threat, being chased, or being injured by any weapon).

### 3.2 Measuring socio-emotional skills

We base our analysis on two measures of socio-emotional skills: the Social and Personal Competencies Scale and the Grit Scale. The Social and Personal Competencies Scale (CPS for its acronym in Spanish, Escala de Competencias Personales y Sociales) was developed in 2010 (Brea, 2010; Ibarrarán et al., 2012). It was designed to measure the effectiveness of the life skills module of the youth training program Juventud y Empleo in the Dominican Republic in modifying personality traits. For Galpão’s evaluation, the test was translated from Spanish to Portuguese and adapted to the local context, a process involving a group of experts in psychology and language.

The CPS scale measures six basic competencies: i) leadership; ii) behavior in situations of conflict; iii) self-esteem; iv) abilities to relate with others; v) orderliness; and vi) empathy and communication skills. It contains 44 questions to which respondents are asked to answer using a four-point (i.e., forced) Likert scale, expressing whether they strongly agree, agree, disagree, or strongly disagree with the specific statement. The responses are used to generate a general score as well as specific scores for each of the six dimensions. A higher score reflects a higher level of development in the social and personal competencies.

The Grit scale was developed by Duckworth et al. (2007) and Duckworth and Quinn (2009). Grit is defined by the authors as “...perseverance and passion for long-term goals. Grit entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity and plateaus in progress.” The scale, designed for adolescents and adults, measures persistency of effort, enthusiasm about long-term goals, consistency of interests, and ambition. It is a self-reported test. As Duckworth et al. (2007) point out “...grit is expected to be associated with Big Five Conscientiousness and with self-control
but, in its emphasis on focused effort and interest over time, to have incremental predictive
validity for high accomplishment over and beyond these other constructs.” In general, the
authors find that the Grit scale accounts for more variance in socio-emotional behavior than
the Big Five Conscientiousness. The respondent provides a self-rating on a series of items
using a five-point Likert scale where 1 refers to disagree strongly and 5 to agree strongly; 3
is the neutral option. In the literature, several versions of the test exist, and the number
of questions ranges from 10 to 17. In this study we use a 13-item scale. Higher scores
on the scale are associated with higher levels of motivation and determination over years
despite failure or adversity. We also report three subscales: “Grit 01” measures consistency
of interest, “Grit 02” captures perseverance of effort, and “Grit 03” captures ambition.
Consistency of interest measures the capacity for maintaining constant interest in goals and
projects and keeping stability in their actions and thoughts concerning goal achievement.
Perseverance is the attitude of maintaining effort in the long term despite challenges and
problems. Ambition is the desire to achieve and power to do so.

3.3 Measuring cognitive skills

We use two measures of cognitive skill: i) average years of education, and ii) a cognitive
test. The cognitive test was developed by the MIDE UC at the Department of Psychology
of the Pontificia Universidad Católica de Chile and applied in Busso et al. (2012). The test
has previously been used in individuals between 25 and 30 years of age in Argentina and
Chile, and it was chosen among 48 possible questions that were tested in those countries.
It measures general intellectual ability through questions designed to assess analytic and
abstract reasoning. Most of the questions correspond to analogies and figures. Each question
presents one pair of related terms, followed by a second term that should be related to one
of the four alternatives presented. There is only one correct answer per question. For this
study we used 12 questions (four verbal and eight figures). The total cognitive score was
constructed as the sum of the correct answers for each individual—the mean score was
3.98 (s.e. 2.00). The cognitive test was conducted only in the second follow-up survey, which should not be a source of concern because Duflo et al. (2007) suggests that successful randomization makes baseline surveys unnecessary.

Years of education are used as a proxy of cognitive skills since the available literature reveals that intelligence is highly correlated with years of education (Almlund et al., 2011).

Table I shows descriptive statistics for the baseline survey for the treatment and control groups. Individuals targeted by the program were single men of approximately 24 years with low levels of education and income. Additionally, approximately 20 percent of the individuals in the sample have smoked, 30 percent consumed alcohol in the last week, and 50 percent had more than five drinks in the last week, at least 3 percent reported smoking marijuana in the last week, had consumed hard drugs, or being part of a fight in the last month. The variables of hard drug consumption or fight participation should be analyzed with caution since the information is self-reported and individuals may refrain from reporting a negative behavior for fear of being excluded from the program. As expected, the variables of witnessing or being a victim of a crime, for which individuals may not have issues with reporting the truth, show substantially higher risk exposure. More particularly, approximately 50 percent of the individuals witnessed a crime and 6 percent were victims of a crime in the last year.

4 Research methodology

The motivation for relying on randomized variation to identify the effects of employment on risk behavior follows standard concerns of selection bias, endogeneity, and double causality. Individuals employed may be different, or may be trending different, than those who are unemployed. Since at least some of the characteristics that explain the differences between employed and unemployed individuals may be unobserved by the researcher but correlated with risk behavior, the estimates of the causal effects of employment on risk behavior will be biased. Additionally, individuals that are already engaged in risk behavior have a lower prob-
ability of being employed since employers run background and health checks on prospective employees.

All these biases are expected to overestimate the effects of employment on risk behavior. In general, employed individuals may make better choices and consequently should show lower levels of risk behavior. Hence, a simple comparison on the risk behavior of individuals who are employed and those who are unemployed is likely to overestimate the effects of employment on risk behavior. Additionally, the differences in the risk behavior between employed and unemployed individuals may be exacerbated over time. As individuals gain more job experience, they may become more informed on better choices related to risk behavior. They could also decide to pursue more training, further reducing their risk behavior, and so on.

For the purpose of identifying the effects of employment on risk behavior we exploit the exogenous variation induced by the Galpão program on employment. More particularly, we use the random treatment assignment to Galpão as an instrumental variable for employment probability. Because the program was successful in improving the employment status of the treatment recipients, we use that variation to identify the causal effects of employment on risk behavior. Our main specification is given by the following equations:

\[
Risk_{it} = \alpha Employed_{it} + \gamma_i + \gamma_t + \epsilon_{it} \quad (1)
\]

\[
Employed_{it} = \beta Treat_i * Post_t + \gamma_i + \gamma_t + \mu_{it} \quad (2)
\]

where \(i\) stands for individual and \(t\) stands for the period of the survey, which can take three values for the baseline (pre-treatment), first (post-treatment), and second follow-up surveys (post-treatment). \(Treat_i\) is a dummy variable equal to one if the individual was treated by the Galpão program. \(Employed_{it}\) is an indicator variable for being employed last week. \(Risk_{it}\) stands for the indicator variable for an individual risk behavior, and \(Post_t\) is a dummy variable for the post-treatment periods (i.e., first and second follow-up surveys). We
also include fixed effects by time ($\gamma_t$) and individual ($\gamma_i$) to exploit the richness of the data and to control for possible biases caused by aggregate time trends or individual time-invariant covariates. In this specification, $\alpha$ identifies the local treatment effect of employment on risk behavior for the group of compliers (Angrist and Imbens, 1994). Standard errors were clustered at the individual level.

Our identification strategy will be valid so long as conditional on the covariates, the treatment is only affecting risk behavior through the changes induced on employment (i.e., validity of exclusion restriction), and the Galpão program had significant effects on employment (i.e., the so-called relevance assumption as defined by (Angrist and Imbens, 1994) and (Abadie, 2003)). In the next subsection we examine the validity of these assumptions.

4.1 Evidence on the instrument validity

We present evidence on the validity of the exclusion restriction using two exercises. First, we use the baseline sample to show the effectiveness of the randomization in the Galpão program. More particularly, we run mean differences test for the observable variables in the baseline sample. Table I shows the evidence for a successful randomization. In particular, only 2 of the 42 covariates analyzed showed significant differences for the full sample. They correspond to the CPS scale measurements of conflict behavior and order. These differences should not be a source of concern since the full sample remains balanced for the total Grit and CPS scales.

Second, we show that the program did not change cognitive or socio-emotional skills of treatment recipients. Since the program included 180 hours of training in academic or basic skills and 120 hours on social skills, there may be concerns that the program may have affected those skills and indirectly impacted risk behavior by this route. If this were the case, the exclusion restrictions would be violated because the program is only supposed to

\footnote{This is in line with the results presented in the impact evaluation of the Galpão program by (Calero et al., 2015).}
affect risk behavior through changes in employment.

We show that the program did not affect cognitive or socio-emotional skills in Table II (see columns 4 through 8). We hypothesize that the absence of consistent effects of the program on cognitive and noncognitive skills suggest that, although these variables are evolving through the life-cycle as shown by Almlund et al. (2011), they may be difficult to shape in the short to medium term.

In addition, columns 1 through 3 show the results of the first-stage specification presented in equation (2). They show strong evidence that the Galpão program had a positive impact on the probability of having a job in the last week, and hence, on unconditional income (conditional income only includes the observations of the employed individuals). More particularly, we find that the individuals treated by the program saw an additional 10 percentage points likelihood of being employed. In analyzing the dynamic effects of the program, it is clear that the changes in employment are mainly observed in the second follow-up (11 to 13 months after the treatment implementation). This is not surprising since the effects of the program may not be directly observable immediately after the program was implemented (3 to 5 months in the first follow-up survey), but they may instead require some months to occur.\footnote{This is in line with the results presented in the impact evaluation of the Galpão program by (Calero et al., 2015).}

Formal evidence on the validity of the relevance assumption is presented in panels B and C of Table III. The results are in line with the intuition that the program successfully increased employment and earnings. However, the estimates for the Kleibergen and Paap (2006) F-test suggest that the instrument is only strong in the second follow-up. Hence, our most preferred estimates are the ones presented in the even columns. The results of the Kleibergen and Paap F-test for the even columns of table III, are high; thus, it is unlikely that those estimates are biased by weak instruments.\footnote{The null hypothesis of the test states that the instrument is weak. More particularly, as described by Bazzi and Clemens (2013), it tests whether the weakest correlation between the instrument and the}
5 Effects of employment on risk behavior

We present the estimates of equations (1) and (2) in Table III. Panels A and B present the results using employment as the endogenous covariate, whereas Panels C and D use income as the endogenous variable. For all the estimates, we first use the treatment assignment interacted with a post-treatment dummy as an instrumental variable for the endogenous regressors. However, because the Kleiberg-Paap F-statistic for excluded instruments is low, and because we identified that the Galpão program was only able to modify employment and earnings in the medium-term (11 to 13 months after the treatment implementation), we also use the treatment interacted by each follow-up as instruments for the endogenous regressors. For all the estimates, the coefficients of the first stage are positive and statistically significant. Yet, only the interaction of the treatment reception and the second follow-up survey showed high values for the Kleiberg-Paap F-statistic, alleviating concerns of weak instrument biases, and thus, it is our most preferred instrumental variable.

The first-stage estimates, presented in Panel B, suggest that the treated recipients had 15.1 additional percentage points in the probability of being employed in the previous week in the second follow-up survey (i.e., 11 to 13 months after the treatment implementation). As shown in Panel D, the higher employment probability was also reflected in higher unconditional income, which also saw a statistically significant and positive change. Panels A and C show the results of the second-stage equation. Our most preferred estimates are presented in the even columns. They suggest no significant effects of employment or income on risk behavior. Hence, the evidence suggest that giving young adults a job is not enough to modify their risk behavior.

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endogenous variable contributes enough independent variation after exogenous covariates are partialled out to add to the empirical rank of the instrument matrix.
6 Effects of *Galpão* by type of socio-emotional skills

We now proceed to check whether the program was able to modify risk behavior when complemented with high socio-emotional skills. For this purpose, we run a reduced form regression of the risk indicators on the triple interaction of a treatment dummy, a post-treatment time dummy, and the CPS or Grit scales. We are no longer able to relate this part of the analysis with the effects of employment or earnings because once we interact the treatment reception with the socio-emotional skill variables, the instrumental variable will not satisfy the exclusion restriction. Hence, the results of the exercise are only informative on the effects of the *Galpão* program on individuals that have heterogeneous levels of socio-emotional skills.

The results of the exercise are presented in Table IV. They suggest that individuals with higher levels of socio-emotional skills who were treated by the program had a lower probability of consuming alcohol, had a lower probability of participating in fights, and faced a lower probability of being victims of crime.

To understand what types of personality traits are more related with risk behavior, we test for the correlation between the different types of socio-emotional skill and our multiple measures of risk behavior. Table V presents a panel regression of each risk behavior indicator on the z-scores for the socio-emotional tests (including fixed effects by individual and period of data collection—i.e., baseline, first, or second follow-up). In general, the estimates show a strong and negative correlation of the noncognitive tests and risk behavior. The correlation is particularly strong for the CPS scale measurements of empathy and the Grit Scale measurements of consistency of interest. Empathy measures the capacity to understand and accept other individuals, to consider their point of view, and to show respect for opinions that differ from ones own. Consistency of interest measures the capacity for maintaining constant interest in goals and projects and keeping stability in actions and thoughts concerning goal achievement.
Hence, targeting changes in empathy and consistency of effort may be an effective way of reducing risk behavior of young individuals. Our results are in line with evidence by (Dodge et al., 2014), who carry out a randomized controlled trial to test the efficacy of an early intervention to prevent adult psychopathology and to improve well-being in children with early-onset conduct problems. The authors find that early interventions to improve soft skills such as self-control and empathy are crucial for preventing future risk behavior.

We also study the predictability of socio-emotional skills on the risk behavior of individuals that belong to different age, gender, or income groups in Appendix A. The results suggest that higher CPS z-scores on empathy and consistency of effort are strongly associated with lower risk behavior for males in their upper twenties (25 to 29 years) with low levels of income.

7 Are cognitive and socio-emotional skills independent?

To take advantage of the richness of the data, we also study the correlation between cognitive and socio-emotional skills. This analysis is of great importance in determining, for example, if individuals with high levels of cognitive skills also develop high levels of socio-emotional traits, or if in contrast, these skills have independent variation.

Figure II presents simple correlations between cognitive and socio-emotional skills. As shown in the figure, almost no correlation exists between these measures. In particular, education is not correlated with any of the noncognitive measures, while in the case of the cognitive test most of the correlations are nonsignificant and the highest positive correlation is extremely low (0.13). This result suggests that individuals not only need support in improving their cognitive skills but that independent support must be given to support the development of socio-emotional skills as well.
8 Conclusions

We use experimental data for the youth training program *Galpão* to explore the causal effects of employment on risk behavior of marginalized young adults. We find no significant effects of employment on risk behavior. However, we find that individuals with higher levels of socio-emotional skills show relevant reductions in alcohol consumption and crime victimization.

We also study what types of socio-emotional skills are most highly correlated with risk behavior. Our results suggest that empathy and consistency of effort are the socio-emotional traits that have the highest correlation with the risk behavior of young individuals.

Finally, we also find evidence of independence between cognitive skill measurements and socio-emotional skills. This is an important finding since it suggests the importance of directing resources to develop both types of skills (i.e., not only focusing on cognitive skills, as has been the focus in many education programs).

From a policy perspective our results suggest that having a job, and hence, having a higher income, may not be enough to prevent at-risk young adults from engaging in risk behavior. Moreover, we find that socio-emotional skills play a crucial role in the risk choices of young individuals.

Although our paper provides one step forward in understanding efficient ways to target risk behavior in young adults, there is still a lot to learn. More particularly, future research should test if other types of interventions may be successful in improving risk behavior. According to our results, successful interventions will likely be those that can improve socio-emotional skills. Hence, the next steps in this research agenda should focus on efficient ways to develop and strengthen socio-emotional skills. This includes identifying what types of actions or programs may be effective.
## Appendix A: Non-cognitive Skills and Risky Behavior

### Table A.1: Correlation between Risky Behavior and Non-Cognitive Skill (Ages < 20)

<table>
<thead>
<tr>
<th></th>
<th>Smoke</th>
<th>Alcohol</th>
<th>Marijuana</th>
<th>Any Substance</th>
<th>Fight</th>
<th>Witness Crime</th>
<th>Victim</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPS: Leadership</strong></td>
<td>0.000</td>
<td>0.000</td>
<td>-0.004</td>
<td>0.009</td>
<td>-0.001</td>
<td>0.000</td>
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<tr>
<td></td>
<td>(0.014)</td>
<td>(0.014)</td>
<td>(0.025)</td>
<td>(0.007)</td>
<td>(0.025)</td>
<td>(0.008)</td>
<td>(0.029)</td>
</tr>
<tr>
<td><strong>CPS: Conflict beh.</strong></td>
<td>0.002</td>
<td>0.002</td>
<td>-0.053**</td>
<td>0.009</td>
<td>-0.043</td>
<td>-0.010</td>
<td>-0.005</td>
</tr>
<tr>
<td></td>
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<td>(0.017)</td>
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<td>(0.007)</td>
<td>(0.029)</td>
<td>(0.013)</td>
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</tr>
<tr>
<td><strong>CPS: Self-esteem</strong></td>
<td>-0.004</td>
<td>-0.004</td>
<td>0.013</td>
<td>-0.004</td>
<td>0.017</td>
<td>-0.005</td>
<td>-0.008</td>
</tr>
<tr>
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<td>(0.021)</td>
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<td>(0.004)</td>
<td>(0.029)</td>
<td>(0.011)</td>
<td>(0.033)</td>
</tr>
<tr>
<td><strong>CPS: Relations</strong></td>
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<td>0.006</td>
<td>0.028</td>
<td>0.014</td>
<td>0.027</td>
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<td>-0.022</td>
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<td>(0.028)</td>
<td>(0.009)</td>
<td>(0.029)</td>
<td>(0.014)</td>
<td>(0.029)</td>
</tr>
<tr>
<td><strong>CPS: Order</strong></td>
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<td>-0.005</td>
<td>-0.007</td>
<td>0.001</td>
<td>-0.014</td>
<td>0.000</td>
<td>-0.021</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.023)</td>
<td>(0.007)</td>
<td>(0.026)</td>
<td>(0.010)</td>
<td>(0.028)</td>
</tr>
<tr>
<td><strong>CPS: Empathy</strong></td>
<td>-0.002</td>
<td>-0.002</td>
<td>-0.020</td>
<td>-0.007</td>
<td>-0.034</td>
<td>-0.032**</td>
<td>-0.044*</td>
</tr>
<tr>
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<td>(0.013)</td>
<td>(0.024)</td>
<td>(0.005)</td>
<td>(0.024)</td>
<td>(0.013)</td>
<td>(0.026)</td>
</tr>
<tr>
<td><strong>CPS: Total</strong></td>
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<td>-0.001</td>
<td>-0.018</td>
<td>0.006</td>
<td>-0.022</td>
<td>-0.016</td>
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<td>(0.006)</td>
<td>(0.031)</td>
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<td>(0.030)</td>
</tr>
<tr>
<td><strong>Grit: Consistency</strong></td>
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<td>-0.010</td>
<td>-0.038</td>
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<td>-0.045*</td>
<td>-0.020**</td>
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<td>(0.019)</td>
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<td>(0.003)</td>
<td>(0.024)</td>
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</tr>
<tr>
<td><strong>Grit: Perseverance</strong></td>
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<td>0.031</td>
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<td>0.002</td>
<td>0.018</td>
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<td>(0.005)</td>
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<td>(0.030)</td>
</tr>
<tr>
<td><strong>Grit: Ambition</strong></td>
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<td>0.014</td>
<td>0.021</td>
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<td>0.018</td>
<td>0.008</td>
<td>-0.015</td>
</tr>
<tr>
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<td>(0.021)</td>
<td>(0.032)</td>
<td>(0.003)</td>
<td>(0.034)</td>
<td>(0.011)</td>
<td>(0.028)</td>
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<tr>
<td><strong>Grit: Total</strong></td>
<td>0.027</td>
<td>0.027</td>
<td>-0.009</td>
<td>0.000</td>
<td>-0.005</td>
<td>-0.007</td>
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<td>(0.020)</td>
<td>(0.032)</td>
<td>(0.003)</td>
<td>(0.030)</td>
<td>(0.010)</td>
<td>(0.030)</td>
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</tbody>
</table>

**Notes:** Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. Robust standard errors are presented in parenthesis. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Estimates with *** are significant at the 1%, those with ** are significant at the 5%, and those with * are significant at the 10%.
Table A.2: Correlation between Risky Behavior and socio-emotional Skills (Age 20 to 24)

<table>
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<th></th>
<th>Smoke (1)</th>
<th>Alcohol (2)</th>
<th>Marijuana (3)</th>
<th>Any Substance (4)</th>
<th>Fight (5)</th>
<th>Witness Crime (6)</th>
<th>Victim (7)</th>
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<tbody>
<tr>
<td>CPS: Leadership</td>
<td>-0.008</td>
<td>-0.008</td>
<td>-0.010</td>
<td>-0.003</td>
<td>-0.008</td>
<td>0.002</td>
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<td>(0.009)</td>
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<td>-0.014</td>
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<td>-0.004</td>
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<td>(0.010)</td>
<td>(0.020)</td>
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<td>(0.021)</td>
</tr>
<tr>
<td>CPS: Self-esteem</td>
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<td>0.018</td>
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<td>0.016</td>
<td>-0.005</td>
<td>-0.017</td>
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<td>(0.022)</td>
<td>(0.009)</td>
<td>(0.023)</td>
<td>(0.005)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>CPS: Relations</td>
<td>0.020</td>
<td>0.020</td>
<td>0.013</td>
<td>0.001</td>
<td>0.010</td>
<td>0.006</td>
<td>-0.016</td>
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<td>(0.019)</td>
<td>(0.023)</td>
<td>(0.013)</td>
<td>(0.023)</td>
<td>(0.005)</td>
<td>(0.023)</td>
</tr>
<tr>
<td>CPS: Order</td>
<td>0.008</td>
<td>0.008</td>
<td>0.022</td>
<td>-0.006</td>
<td>0.016</td>
<td>-0.002</td>
<td>-0.030</td>
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<tr>
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<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.022)</td>
<td>(0.009)</td>
<td>(0.020)</td>
<td>(0.005)</td>
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<tr>
<td>CPS: Empathy</td>
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<td>-0.009</td>
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<tr>
<td>CPS: Total</td>
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<td>-0.011</td>
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<td>-0.034</td>
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<td>(0.011)</td>
<td>(0.025)</td>
<td>(0.004)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Grit: Consistency</td>
<td>-0.020</td>
<td>-0.020</td>
<td>-0.045**</td>
<td>-0.015</td>
<td>-0.023</td>
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<td>(0.022)</td>
<td>(0.010)</td>
<td>(0.019)</td>
<td>(0.005)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>Grit: Perseverance</td>
<td>-0.014</td>
<td>-0.014</td>
<td>-0.022</td>
<td>-0.019</td>
<td>-0.014</td>
<td>0.007</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.025)</td>
<td>(0.012)</td>
<td>(0.022)</td>
<td>(0.006)</td>
<td>(0.026)</td>
</tr>
<tr>
<td>Grit: Ambition</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.041*</td>
<td>-0.018*</td>
<td>-0.010</td>
<td>0.001</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.024)</td>
<td>(0.011)</td>
<td>(0.022)</td>
<td>(0.007)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Grit: Total</td>
<td>-0.019</td>
<td>-0.019</td>
<td>-0.062**</td>
<td>-0.030*</td>
<td>-0.039*</td>
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<td>0.001</td>
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<td>(0.021)</td>
<td>(0.027)</td>
<td>(0.015)</td>
<td>(0.024)</td>
<td>(0.008)</td>
<td>(0.029)</td>
</tr>
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</table>

Notes: Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. Robust standard errors are presented in parenthesis. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Estimates with ** are significant at the 1%, those with * are significant at the 5%, and those with + are significant at the 10%.
### Table A.3: Correlation between Risky Behavior and Socio-emotional Skills (Age 25 to 29)

<table>
<thead>
<tr>
<th></th>
<th>Smoke (1)</th>
<th>Alcohol (2)</th>
<th>Marijuana (3)</th>
<th>Any Substance (4)</th>
<th>Fight (5)</th>
<th>Witness Crime (6)</th>
<th>Victim (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS: Leadership</td>
<td>-0.010</td>
<td>-0.010</td>
<td>-0.011</td>
<td>-0.018</td>
<td>-0.013</td>
<td>0.003</td>
<td>0.015</td>
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<td>(0.022)</td>
<td>(0.013)</td>
<td>(0.026)</td>
<td>(0.004)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>CPS: Conflict beh.</td>
<td>0.010</td>
<td>0.010</td>
<td>-0.036</td>
<td>-0.024*</td>
<td>-0.018</td>
<td>-0.009</td>
<td>0.003</td>
</tr>
<tr>
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<td>(0.025)</td>
<td>(0.024)</td>
<td>(0.013)</td>
<td>(0.025)</td>
<td>(0.007)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>CPS: Self-esteem</td>
<td>-0.009</td>
<td>-0.009</td>
<td>-0.018</td>
<td>-0.008</td>
<td>-0.029</td>
<td>-0.007</td>
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</tr>
<tr>
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<td>(0.027)</td>
<td>(0.026)</td>
<td>(0.011)</td>
<td>(0.025)</td>
<td>(0.008)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>CPS: Relations</td>
<td>-0.013</td>
<td>-0.013</td>
<td>-0.016</td>
<td>-0.022</td>
<td>-0.043*</td>
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<tr>
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<td>(0.014)</td>
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<tr>
<td>CPS: Order</td>
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<td>0.012</td>
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<tr>
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<td>(0.013)</td>
<td>(0.023)</td>
<td>(0.009)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>CPS: Empathy</td>
<td>-0.052**</td>
<td>-0.052**</td>
<td>-0.021</td>
<td>-0.008</td>
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<td>(0.021)</td>
<td>(0.008)</td>
<td>(0.023)</td>
<td>(0.007)</td>
<td>(0.029)</td>
</tr>
<tr>
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<td>-0.017</td>
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<td>-0.022</td>
<td>-0.042*</td>
<td>-0.006</td>
<td>-0.022</td>
</tr>
<tr>
<td>Grit: Consistency</td>
<td>-0.063**</td>
<td>-0.063**</td>
<td>-0.036</td>
<td>-0.013</td>
<td>-0.052**</td>
<td>-0.001</td>
<td>-0.023</td>
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<td>(0.027)</td>
<td>(0.025)</td>
<td>(0.014)</td>
<td>(0.025)</td>
<td>(0.007)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>Grit: Perseverance</td>
<td>0.035</td>
<td>0.035</td>
<td>-0.013</td>
<td>-0.012</td>
<td>0.017</td>
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<td>(0.026)</td>
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<td>(0.010)</td>
<td>(0.026)</td>
<td>(0.007)</td>
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</tr>
<tr>
<td>Grit: Ambition</td>
<td>0.024</td>
<td>0.024</td>
<td>-0.004</td>
<td>-0.021*</td>
<td>0.015</td>
<td>-0.007</td>
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<td>(0.013)</td>
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<tr>
<td>Grit: Total</td>
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</tbody>
</table>

**Notes:** Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. Robust standard errors are presented in parenthesis. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Estimates with ** are significant at the 1%, those with * are significant at the 5%, and those with * are significant at the 10%. 
Table A.4: Correlation between Risky Behavior and socio-emotional Skills (Men)

<table>
<thead>
<tr>
<th></th>
<th>Smoke (1)</th>
<th>Alcohol (2)</th>
<th>Marijuana (3)</th>
<th>Any Substance (4)</th>
<th>Fight (5)</th>
<th>Witness Crime (6)</th>
<th>Victim (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS: Leadership</td>
<td>-0.014</td>
<td>-0.014</td>
<td>-0.007</td>
<td>-0.007</td>
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<td>(0.014)</td>
<td>(0.004)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>CPS: Conflict beh.</td>
<td>-0.012</td>
<td>-0.012</td>
<td>-0.020</td>
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<td>-0.025*</td>
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<td>(0.014)</td>
<td>(0.004)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>CPS: Self-esteem</td>
<td>-0.000</td>
<td>-0.000</td>
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<td>(0.017)</td>
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<td>CPS: Relations</td>
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<td>-0.000</td>
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<td>(0.006)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>CPS: Order</td>
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<td>-0.001</td>
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<td>-0.008</td>
<td>-0.007</td>
<td>-0.004</td>
<td>-0.037**</td>
</tr>
<tr>
<td></td>
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<td>(0.006)</td>
<td>(0.014)</td>
<td>(0.005)</td>
<td>(0.016)</td>
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<tr>
<td>CPS: Empathy</td>
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<td>-0.031**</td>
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<td>-0.033**</td>
<td>-0.015***</td>
<td>-0.040**</td>
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<td>(0.006)</td>
<td>(0.016)</td>
<td>(0.006)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>CPS: Total</td>
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<td>-0.018</td>
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<td>-0.033*</td>
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<td>(0.016)</td>
<td>(0.007)</td>
<td>(0.017)</td>
<td>(0.004)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Grit: Consistency</td>
<td>-0.028**</td>
<td>-0.028**</td>
<td>-0.039**</td>
<td>-0.012**</td>
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<td>-0.010**</td>
<td>-0.036**</td>
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<td>(0.006)</td>
<td>(0.014)</td>
<td>(0.005)</td>
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</tr>
<tr>
<td>Grit: Perseverance</td>
<td>0.007</td>
<td>0.007</td>
<td>-0.007</td>
<td>-0.012**</td>
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<td>0.003</td>
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<tr>
<td>Grit: Ambition</td>
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<td>0.001</td>
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<td>-0.016**</td>
<td>-0.005</td>
<td>0.001</td>
<td>-0.007</td>
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<td>(0.017)</td>
<td>(0.007)</td>
<td>(0.017)</td>
<td>(0.005)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Grit: Total</td>
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<td>-0.016</td>
<td>-0.030*</td>
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<td>(0.005)</td>
<td>(0.017)</td>
</tr>
</tbody>
</table>

Notes: Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Each regression includes fixed effects by individual and year. Robust standard errors are presented in parenthesis. Estimates with *** are significant at the 1%, those with ** are significant at the 5%, and those with * are significant at the 10%.
Table A.5: Correlation between Risky Behavior and socio-emotional Skills (Women)

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<tr>
<th></th>
<th>Smoke</th>
<th>Alcohol</th>
<th>Marijuana</th>
<th>Any Substance</th>
<th>Fight</th>
<th>Witness Crime</th>
<th>Victim</th>
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<tbody>
<tr>
<td></td>
<td>(1)</td>
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<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
</tr>
<tr>
<td>CPS: Leadership</td>
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<td>0.043*</td>
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<td>0.022</td>
<td>0.068**</td>
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</tr>
<tr>
<td>CPS: Conflict beh.</td>
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<td>0.060**</td>
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<td>0.090**</td>
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<td>(0.013)</td>
<td>(0.037)</td>
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<td>CPS: Self-esteem</td>
<td>0.031</td>
<td>0.031</td>
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<td>0.016</td>
<td>0.036</td>
<td>-0.012</td>
<td>-0.026</td>
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<td>(0.037)</td>
<td>(0.031)</td>
<td>(0.013)</td>
<td>(0.031)</td>
<td>(0.009)</td>
<td>(0.042)</td>
</tr>
<tr>
<td>CPS: Relations</td>
<td>0.054**</td>
<td>0.054**</td>
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<td>(0.028)</td>
<td>(0.017)</td>
<td>(0.033)</td>
<td>(0.006)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>CPS: Order</td>
<td>0.061**</td>
<td>0.061**</td>
<td>0.037</td>
<td>0.028</td>
<td>0.096***</td>
<td>-0.004</td>
<td>0.033</td>
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<td>(0.029)</td>
<td>(0.026)</td>
<td>(0.019)</td>
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<td>(0.004)</td>
<td>(0.038)</td>
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<tr>
<td>CPS: Empathy</td>
<td>0.032**</td>
<td>0.032**</td>
<td>0.008</td>
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<td>0.011</td>
<td>-0.005</td>
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<tr>
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<td>(0.010)</td>
<td>(0.033)</td>
<td>(0.011)</td>
<td>(0.042)</td>
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<tr>
<td>CPS: Total</td>
<td>0.073***</td>
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<td>(0.040)</td>
<td>(0.016)</td>
<td>(0.044)</td>
<td>(0.011)</td>
<td>(0.041)</td>
</tr>
<tr>
<td>Grit: Consistency</td>
<td>-0.027</td>
<td>-0.027</td>
<td>0.001</td>
<td>0.010</td>
<td>-0.025</td>
<td>-0.001</td>
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<td>(0.033)</td>
<td>(0.039)</td>
<td>(0.008)</td>
<td>(0.042)</td>
<td>(0.012)</td>
<td>(0.043)</td>
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<tr>
<td>Grit: Perseverance</td>
<td>0.071**</td>
<td>0.071**</td>
<td>0.022</td>
<td>0.016</td>
<td>0.075*</td>
<td>-0.000</td>
<td>-0.040</td>
</tr>
<tr>
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<td>(0.030)</td>
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<td>(0.011)</td>
<td>(0.041)</td>
<td>(0.009)</td>
<td>(0.037)</td>
</tr>
<tr>
<td>Grit: Ambition</td>
<td>0.065**</td>
<td>0.065**</td>
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<td>-0.007</td>
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<td>(0.008)</td>
<td>(0.036)</td>
<td>(0.013)</td>
<td>(0.034)</td>
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<tr>
<td>Grit: Total</td>
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<td>(0.037)</td>
<td>(0.011)</td>
<td>(0.044)</td>
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</tbody>
</table>

Notes: Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Robust standard errors are presented in parenthesis. Estimates with *** are significant at the 1%, those with ** are significant at the 5%, and those with * are significant at the 10%.
Table A.6: Correlation between Risky Behavior and socio-emotional Skills (Income Quintile 1)

<table>
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<th>Alcohol</th>
<th>Marijuana</th>
<th>Any Substance</th>
<th>Fight</th>
<th>Witness Crime</th>
<th>Victim</th>
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</thead>
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<td></td>
<td>(1)</td>
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<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
</tr>
<tr>
<td>CPS: Leadership</td>
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<td>0.016</td>
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<td>-0.003</td>
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<td>(0.009)</td>
<td>(0.040)</td>
</tr>
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<td>(0.019)</td>
<td>(0.041)</td>
<td>(0.013)</td>
<td>(0.033)</td>
</tr>
<tr>
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<td>0.020</td>
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<td>(0.042)</td>
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<td>0.001</td>
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<td>-0.014</td>
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<td>(0.041)</td>
<td>(0.018)</td>
<td>(0.035)</td>
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<td>0.003</td>
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<td>-0.023</td>
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<td>(0.028)</td>
<td>(0.037)</td>
<td>(0.019)</td>
<td>(0.048)</td>
<td>(0.009)</td>
<td>(0.031)</td>
</tr>
<tr>
<td>Grit: Consistency</td>
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<td>-0.059</td>
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<td>-0.092**</td>
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<td>(0.038)</td>
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<td>(0.014)</td>
<td>(0.038)</td>
<td>(0.012)</td>
<td>(0.044)</td>
</tr>
<tr>
<td>Grit: Perseverance</td>
<td>0.019</td>
<td>0.019</td>
<td>-0.013</td>
<td>-0.023</td>
<td>0.024</td>
<td>0.019</td>
<td>-0.039</td>
</tr>
<tr>
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<td>(0.044)</td>
<td>(0.043)</td>
<td>(0.019)</td>
<td>(0.048)</td>
<td>(0.014)</td>
<td>(0.037)</td>
</tr>
<tr>
<td>Grit: Ambition</td>
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<td>0.008</td>
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<td>(0.046)</td>
<td>(0.041)</td>
<td>(0.020)</td>
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<td>(0.013)</td>
<td>(0.034)</td>
</tr>
<tr>
<td>Grit: Total</td>
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<td>-0.012</td>
<td>-0.065</td>
<td>-0.034*</td>
<td>-0.047</td>
<td>0.009</td>
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<td>(0.047)</td>
<td>(0.019)</td>
<td>(0.046)</td>
<td>(0.011)</td>
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</tbody>
</table>

Notes: Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions, each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Robust standard errors are presented in parenthesis. Estimates with *** are significant at the 1%, those with ** are significant at the 5%, and those with * are significant at the 10%.
Table A.7: Correlation between Risky Behavior and socio-emotional Skills (Income Quintile 5)

<table>
<thead>
<tr>
<th></th>
<th>Smoke (1)</th>
<th>Alcohol (2)</th>
<th>Marijuana (3)</th>
<th>Any Substance (4)</th>
<th>Fight (5)</th>
<th>Witness Crime (6)</th>
<th>Victim (7)</th>
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<tbody>
<tr>
<td>CPS: Leadership</td>
<td>-0.003</td>
<td>-0.003</td>
<td>0.014</td>
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<td>(0.028)</td>
<td>(0.048)</td>
<td>(0.026)</td>
<td>(0.041)</td>
<td>(0.009)</td>
<td>(0.042)</td>
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<td>CPS: Conflict beh.</td>
<td>0.010</td>
<td>0.010</td>
<td>0.004</td>
<td>-0.005</td>
<td>-0.013</td>
<td>-0.012</td>
<td>0.040</td>
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<td>(0.022)</td>
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<td>(0.024)</td>
<td>(0.041)</td>
<td>(0.010)</td>
<td>(0.041)</td>
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<td>CPS: Self-esteem</td>
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<td>-0.022</td>
<td>0.055</td>
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<td>-0.006</td>
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<td>0.009</td>
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<td></td>
<td>(0.043)</td>
<td>(0.043)</td>
<td>(0.060)</td>
<td>(0.033)</td>
<td>(0.063)</td>
<td>(0.004)</td>
<td>(0.048)</td>
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<td>CPS: Relations</td>
<td>0.032</td>
<td>0.032</td>
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<td>0.015</td>
<td>0.013</td>
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<td></td>
<td>(0.042)</td>
<td>(0.042)</td>
<td>(0.064)</td>
<td>(0.040)</td>
<td>(0.061)</td>
<td>(0.017)</td>
<td>(0.044)</td>
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<td>CPS: Order</td>
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<td>-0.003</td>
<td>0.013</td>
<td>-0.026</td>
<td>0.026</td>
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<td>0.007</td>
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<td>(0.028)</td>
<td>(0.028)</td>
<td>(0.047)</td>
<td>(0.022)</td>
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<td>(0.012)</td>
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<tr>
<td>CPS: Empathy</td>
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<td>-0.038</td>
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<td>-0.065</td>
<td>-0.049</td>
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<td>(0.028)</td>
<td>(0.050)</td>
<td>(0.022)</td>
<td>(0.040)</td>
<td>(0.004)</td>
<td>(0.038)</td>
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<td>-0.006</td>
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<td>-0.019</td>
<td>-0.011</td>
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<td>(0.031)</td>
<td>(0.031)</td>
<td>(0.056)</td>
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<td>(0.049)</td>
<td>(0.006)</td>
<td>(0.045)</td>
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<tr>
<td>Grit: Consistency</td>
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<td>0.010</td>
<td>0.004</td>
<td>-0.001</td>
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<td>(0.022)</td>
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<td>(0.006)</td>
<td>(0.046)</td>
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<td>Grit: Perseverance</td>
<td>0.054</td>
<td>0.054</td>
<td>0.072</td>
<td>-0.029</td>
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<td>0.063</td>
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<td>(0.037)</td>
<td>(0.048)</td>
<td>(0.024)</td>
<td>(0.047)</td>
<td>(0.016)</td>
<td>(0.050)</td>
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<td>0.026</td>
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<td>(0.025)</td>
<td>(0.044)</td>
<td>(0.028)</td>
<td>(0.040)</td>
<td>(0.015)</td>
<td>(0.040)</td>
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<tr>
<td>Grit: Total</td>
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<td>0.025</td>
<td>0.062</td>
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<td>(0.034)</td>
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</table>

Notes: Each coefficient of the table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. The Social and Competence Personal Scale (CPS) is a non-cognitive test designed and tested by Brea (2010) and Ibarraran et al. (2014). It measures an individual’s socio-emotional skill in six basic competencies: leadership, behavior in situations of conflict, self-esteem, abilities to relate with others, order, and empathy and communication skills. It is composed of 44 questions. Each question has a scale of 0 to 3 describing personal competencies of the individual. It produces a general score and a specific score for each of the six dimensions. A higher CPS score is associated with a higher level of development in the social and personal competencies. The Grit scale is a non-cognitive test designed by Duckworth et. al. (2007). It measures determination and strength of mind through the dimensions of: consistency of interests, persistency of effort, and ambition. It is composed of 13 questions. Higher scores on the Grit scale are associated with higher levels of determination and motivation during long periods of time despite failure or adversity. Non-cognitive scores are presented in standard deviations to ease interpretation i.e., the mean was subtracted to each observation and the result was divided by the standard deviation. Robust standard errors are presented in parenthesis. ***: Significant at 1%, **: significant at 5%, *: significant at 10%.
References


### Table I: Testing for Balanced Covariates - Mean Difference Test

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Treatment Group</th>
<th>Difference</th>
<th>SE</th>
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<td><strong>Female</strong></td>
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<td>0.1</td>
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<td>23.1</td>
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<td>0.2</td>
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<td>0.2</td>
<td>-0.0</td>
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<td>1.0</td>
<td>0.9</td>
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<td><strong>N. of Jobs</strong></td>
<td>4.8</td>
<td>5.1</td>
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<td><strong>Employed (last week)</strong></td>
<td>0.6</td>
<td>0.5</td>
<td>0.1</td>
<td>(0.1)</td>
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<tr>
<td><strong>Income (unconditional)</strong></td>
<td>498.6</td>
<td>416.1</td>
<td>82.5</td>
<td>(49.4)</td>
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<td><strong>Household Size</strong></td>
<td>3.5</td>
<td>3.9</td>
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<td><strong>Household Income</strong></td>
<td>1554.2</td>
<td>1729.5</td>
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<td><strong>N. Children</strong></td>
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<td><strong>Household’s Members Literate</strong></td>
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<td>1.0</td>
<td>-0.0</td>
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<td><strong>Rent</strong></td>
<td>348.3</td>
<td>338.1</td>
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<td><strong>Has TV</strong></td>
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<td><strong>Has DVD</strong></td>
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<td>0.9</td>
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<td><strong>Has Fridge</strong></td>
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<td><strong>Has Freezer</strong></td>
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<td>0.3</td>
<td>-0.1</td>
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<td><strong>Has Car</strong></td>
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<td><strong>Bolsa Familia Beneficiary</strong></td>
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<td>0.1</td>
<td>-0.0</td>
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**Observations**

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<tr>
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<th>Treatment Group</th>
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Table I (Continued): Testing for Balanced Covariates - Mean Difference Test

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<th>Treatment Group</th>
<th>Difference</th>
<th>SE</th>
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<tr>
<td><strong>Cognitive Skills</strong></td>
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<tr>
<td>Years of Education</td>
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<td>11.65</td>
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<tr>
<td><strong>Socio-emotional Skills</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CPS: Leadership</td>
<td>-0.00</td>
<td>-0.05</td>
<td>0.05</td>
<td>(0.11)</td>
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<td>CPS: Conflict beh.</td>
<td>-0.00</td>
<td>-0.36</td>
<td>0.36***</td>
<td>(0.10)</td>
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<td>CPS: Self-esteem</td>
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<td>-0.03</td>
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<td>CPS: Relations</td>
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<tr>
<td>CPS: Order</td>
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<td>0.31**</td>
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<td>CPS: Empathy</td>
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<td>0.02</td>
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<td>Victim Any Crime (Last Year)</td>
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<td>0.26</td>
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<td>(0.05)</td>
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Observations: 178, 150

Notes: CPS and Grit scales are presented in standard deviations to ease interpretation.
Table II: Effects of Galpão Program

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<th></th>
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<th>Socio-emotional Skills</th>
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<td>Grit Scale</td>
<td>Analogies</td>
<td>Figures</td>
<td>Total</td>
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<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
<td>(8)</td>
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<tr>
<td>Treated*Post</td>
<td>0.108*</td>
<td>142.919**</td>
<td>73.308</td>
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Panel B. Dynamic Effects

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<td>Cond. Income</td>
<td>CPS Scale</td>
<td>Grit Scale</td>
<td>Analogies</td>
<td>Figures</td>
<td>Total</td>
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<td>Treated*1st Follow-up</td>
<td>0.067</td>
<td>92.735</td>
<td>61.407</td>
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<td>-0.039</td>
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<td>(0.06)</td>
<td>(62.36)</td>
<td>(58.02)</td>
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<tr>
<td>Treated*2nd Follow-up</td>
<td>0.151**</td>
<td>191.472**</td>
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<tr>
<td>Obs.</td>
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<td>675</td>
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Controls for all Panels:

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<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Notes: The cognitive test was not tested for dynamic effects because it was only collected in the last follow-up survey. Clustered standard errors at the individual level are presented in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%.
Table III: Effects of Employability on Risk Behavior

<table>
<thead>
<tr>
<th></th>
<th>Smoke</th>
<th>Casual Alcohol</th>
<th>High Alcohol</th>
<th>Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Employed (last week)</td>
<td>0.518</td>
<td>-0.109</td>
<td>-0.099</td>
<td>-0.793</td>
</tr>
<tr>
<td></td>
<td>(0.47)</td>
<td>(0.47)</td>
<td>(0.42)</td>
<td>(1.78)</td>
</tr>
<tr>
<td>Obs.</td>
<td>949</td>
<td>949</td>
<td>949</td>
<td>333</td>
</tr>
</tbody>
</table>

Panel B. First Stage

|                  | 0.108* | 0.108* | 0.108* | 0.108* |
|                  | (0.06) | (0.06) | (0.06) | (0.06) |
| Treated*Post     | 0.067  | 0.067  | 0.067  | 0.067   |
|                   | (0.06) | (0.06) | (0.06) | (0.06) |
| Treated*1st Follow-up | 0.151** | 0.151** | 0.151** | 0.151** |
|                   | (0.07) | (0.07) | (0.07) | (0.07) |
| Obs.              | 949    | 949    | 949    | 949     |
| Kleiberg-Paap F-stat | 4.29   | 23.80  | 4.29   | 23.80   |

Panel C. 2SLS Second Stage, Endogenous variable: Income

| Income (unconditional) | 0.000 | -0.000 | -0.000 | -0.000 |
|                       | (0.00) | (0.00) | (0.00) | (0.00) |
| Obs.                  | 944    | 944    | 944    | 944     |

Panel D. First Stage

| Treated*Post | 142.919** | 142.919** | 142.919** |
|             | (59.94)   | (59.94)   | (59.94)   |
| Treated*1st Follow-up | 92.735 | 92.735 | 92.735 |
|                   | (62.36)  | (62.36)  | (62.36)  |
| Treated*2nd Follow-up | 191.472** | 191.472** | 191.472** |
|                   | (77.24)  | (77.24)  | (77.24)  |
| Obs.              | 944    | 944    | 944    |
| Kleiberg-Paap F-stat | 4.29   | 23.80  | 4.29   |

Controls for all Panels:

| Individual FE | Y | Y | Y | Y |
| Period FE     | Y | Y | Y | Y |

Notes: Clustered standard errors at the individual level are presented in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%.
Table III (Continued): Effects of Employability on Risk Behavior

<table>
<thead>
<tr>
<th>Panel A. 2SLS Second Stage, endogenous variable: Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed (last week)</td>
</tr>
<tr>
<td>(0.15)</td>
</tr>
<tr>
<td>Obs.</td>
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</table>

<table>
<thead>
<tr>
<th>Panel B. First Stage</th>
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</thead>
<tbody>
<tr>
<td>Treated*Post</td>
</tr>
<tr>
<td>(0.06)</td>
</tr>
<tr>
<td>Treated*1st Follow-up</td>
</tr>
<tr>
<td>(0.06)</td>
</tr>
<tr>
<td>Treated*2nd Follow-up</td>
</tr>
<tr>
<td>(0.07)</td>
</tr>
<tr>
<td>Obs.</td>
</tr>
<tr>
<td>Kleiberg-Paap F-stat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C. 2SLS Second Stage, endogenous variable: Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income (unconditional)</td>
</tr>
<tr>
<td>(0.00)</td>
</tr>
<tr>
<td>Obs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel D. First Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated*Post</td>
</tr>
<tr>
<td>(59.94)</td>
</tr>
<tr>
<td>Treated*1st Follow-up</td>
</tr>
<tr>
<td>(62.36)</td>
</tr>
<tr>
<td>Treated*2nd Follow-up</td>
</tr>
<tr>
<td>(77.24)</td>
</tr>
<tr>
<td>Obs.</td>
</tr>
<tr>
<td>Kleiberg-Paap F-stat</td>
</tr>
</tbody>
</table>

Controls for all Panels:

| Individual FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Period FE | Y | Y | Y | Y | Y | Y | Y | Y |

Notes: Clustered standard errors at the individual level are presented in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%.
Table IV: Effects of the Program on Risk Behavior (by type of socio-emotional skills)

<table>
<thead>
<tr>
<th></th>
<th>Smoke</th>
<th>Casual Alcohol</th>
<th>High Alcohol</th>
<th>Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Treat<em>Post</em>CPS Scale</td>
<td>-0.013</td>
<td>-0.001</td>
<td>-0.072</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.09)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Treat<em>Post</em>Grit Scale</td>
<td>-0.024</td>
<td>-0.071*</td>
<td>-0.110</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.09)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Obs.</td>
<td>968</td>
<td>968</td>
<td>968</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td></td>
<td>968</td>
<td>968</td>
<td>965</td>
</tr>
<tr>
<td>R-square</td>
<td>0.0085</td>
<td>0.012</td>
<td>0.022</td>
<td>0.042</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.049</td>
<td>0.049</td>
<td>0.082</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.12</td>
<td></td>
<td>0.012</td>
</tr>
<tr>
<td>Panel B. Dynamic Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat<em>1st Follow-up</em>CPS Scale</td>
<td>-0.002</td>
<td>-0.033</td>
<td>-0.034</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.05)</td>
<td>(0.11)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Treat<em>2st Follow-up</em>CPS Scale</td>
<td>-0.034</td>
<td>0.039</td>
<td>-0.147</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.06)</td>
<td>(0.11)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Treat<em>1st Follow-up</em>Grit Scale</td>
<td>-0.025</td>
<td>-0.130***</td>
<td>-0.008</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.12)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Treat<em>2st Follow-up</em>Grit Scale</td>
<td>-0.021</td>
<td>-0.005</td>
<td>-0.230**</td>
<td>-0.018</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.11)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Obs.</td>
<td>968</td>
<td>968</td>
<td>968</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td></td>
<td>968</td>
<td>968</td>
<td>965</td>
</tr>
<tr>
<td>R-square</td>
<td>0.019</td>
<td>0.017</td>
<td>0.079</td>
<td>0.067</td>
</tr>
<tr>
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<td>0.02</td>
<td>0.082</td>
<td>0.0082</td>
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<td></td>
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<td>0.13</td>
<td>0.013</td>
<td>0.013</td>
</tr>
<tr>
<td>Panel C. Full Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat<em>Post</em>CPS Scale</td>
<td>0.000</td>
<td>-0.021</td>
<td>0.037</td>
<td>-0.076**</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Treat<em>Post</em>Grit Scale</td>
<td>0.010</td>
<td>-0.022</td>
<td>0.062</td>
<td>-0.017</td>
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<td></td>
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<td>(0.02)</td>
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<td>(0.04)</td>
</tr>
<tr>
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<td>967</td>
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<td>968</td>
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<tr>
<td>R-square</td>
<td>0.0036</td>
<td>0.005</td>
<td>0.032</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
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<td>0.088</td>
<td>0.036</td>
<td>0.036</td>
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<tr>
<td></td>
<td></td>
<td>0.4</td>
<td></td>
<td>0.4</td>
</tr>
<tr>
<td>Panel D. Dynamic Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat<em>1st Follow-up</em>CPS Scale</td>
<td>-0.014</td>
<td>-0.031**</td>
<td>0.017</td>
<td>-0.068</td>
</tr>
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<td>(0.05)</td>
<td>(0.05)</td>
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<tr>
<td>Treat<em>2st Follow-up</em>CPS Scale</td>
<td>0.016</td>
<td>-0.009</td>
<td>0.064</td>
<td>-0.084</td>
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<td>(0.03)</td>
<td>(0.06)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Treat<em>1st Follow-up</em>Grit Scale</td>
<td>-0.006</td>
<td>-0.034*</td>
<td>0.081</td>
<td>-0.012</td>
</tr>
<tr>
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<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.06)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Treat<em>2st Follow-up</em>Grit Scale</td>
<td>0.026</td>
<td>-0.010</td>
<td>0.051</td>
<td>-0.011</td>
</tr>
<tr>
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<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.07)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Obs.</td>
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<td>968</td>
<td>967</td>
<td>968</td>
</tr>
<tr>
<td></td>
<td></td>
<td>967</td>
<td>967</td>
<td>968</td>
</tr>
<tr>
<td>R-square</td>
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<td>0.014</td>
<td>0.0069</td>
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</tr>
<tr>
<td></td>
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<td>0.013</td>
<td>0.047</td>
<td>0.049</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.05</td>
<td>0.051</td>
<td>0.051</td>
</tr>
</tbody>
</table>

**Controls for all Panels:**

<table>
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<tr>
<th></th>
<th>Ind. FE</th>
<th>Yer FE</th>
<th>Controls</th>
</tr>
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<tbody>
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<td>Y</td>
</tr>
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</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Notes: The controls include all the double interactions between variables. Clustered standard errors at the individual level are presented in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%.
Table V: Correlation between risk behavior and Non-Cognitive Skills

<table>
<thead>
<tr>
<th></th>
<th>Smoke (1)</th>
<th>C. Alcohol (2)</th>
<th>High Alcohol (3)</th>
<th>Marijuana (4)</th>
<th>Any Substance (5)</th>
<th>Fight (6)</th>
<th>Witness (7)</th>
<th>Victim (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS: Leadership</td>
<td>-0.007</td>
<td>-0.006</td>
<td>0.036</td>
<td>-0.003</td>
<td>0.001</td>
<td>0.001</td>
<td>-0.010</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.013)</td>
<td>(0.025)</td>
<td>(0.006)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.015)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>CPS: Conflict beh.</td>
<td>-0.002</td>
<td>-0.014</td>
<td>0.011</td>
<td>-0.007</td>
<td>-0.005</td>
<td>-0.008*</td>
<td>-0.014</td>
<td>-0.014</td>
</tr>
<tr>
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<td>(0.010)</td>
<td>(0.014)</td>
<td>(0.023)</td>
<td>(0.007)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.015)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>CPS: Self-esteem</td>
<td>0.002</td>
<td>0.005</td>
<td>-0.001</td>
<td>-0.003</td>
<td>-0.000</td>
<td>-0.006</td>
<td>-0.020</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.014)</td>
<td>(0.024)</td>
<td>(0.005)</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.016)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>CPS: Relations</td>
<td>0.006</td>
<td>0.010</td>
<td>0.071***</td>
<td>-0.001</td>
<td>0.002</td>
<td>0.005</td>
<td>-0.008</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.015)</td>
<td>(0.024)</td>
<td>(0.008)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.015)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>CPS: Order</td>
<td>0.007</td>
<td>-0.002</td>
<td>0.020</td>
<td>-0.003</td>
<td>0.003</td>
<td>-0.004</td>
<td>-0.031**</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.013)</td>
<td>(0.023)</td>
<td>(0.006)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.015)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>CPS: Empathy</td>
<td>-0.020</td>
<td>-0.011</td>
<td>-0.019</td>
<td>-0.008*</td>
<td>-0.002</td>
<td>-0.013***</td>
<td>-0.041***</td>
<td>-0.036***</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.014)</td>
<td>(0.026)</td>
<td>(0.005)</td>
<td>(0.003)</td>
<td>(0.005)</td>
<td>(0.016)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>CPS: Total</td>
<td>-0.006</td>
<td>-0.008</td>
<td>0.022</td>
<td>-0.008</td>
<td>-0.001</td>
<td>-0.008**</td>
<td>-0.032**</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.015)</td>
<td>(0.024)</td>
<td>(0.007)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.015)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Grit: Consistency</td>
<td>-0.028**</td>
<td>-0.038***</td>
<td>-0.047**</td>
<td>-0.009*</td>
<td>-0.003</td>
<td>-0.009**</td>
<td>-0.036**</td>
<td>-0.038***</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.014)</td>
<td>(0.024)</td>
<td>(0.005)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.016)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Grit: Perseverance</td>
<td>0.016</td>
<td>-0.007</td>
<td>-0.024</td>
<td>-0.008</td>
<td>0.001</td>
<td>0.002</td>
<td>-0.006</td>
<td>-0.018</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.015)</td>
<td>(0.026)</td>
<td>(0.006)</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.016)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Grit: Ambition</td>
<td>0.009</td>
<td>-0.011</td>
<td>-0.034</td>
<td>-0.011*</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.009</td>
<td>-0.030**</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.015)</td>
<td>(0.024)</td>
<td>(0.006)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.015)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Grit: Total</td>
<td>-0.009</td>
<td>-0.027*</td>
<td>-0.034</td>
<td>-0.014**</td>
<td>-0.002</td>
<td>-0.009</td>
<td>-0.018</td>
<td>-0.042***</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.016)</td>
<td>(0.027)</td>
<td>(0.007)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.016)</td>
<td>(0.014)</td>
</tr>
</tbody>
</table>

Notes: Each coefficient of the Table presents the estimates of a panel regression of a given risk behavior variable on each of the socio-emotional skill scores. Each regression includes fixed effects by individual and year. CPS and Grit Scores are presented in standard deviations to ease interpretation. Clustered standard errors at the individual level are presented in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%.
Figure I: Brazilian Mortality Rate from firearms per 100,000 inhabitants (1980-2012)

Notes: Mortality rates come from from Waiselfisz, 2015.
Figure II: Pairwise Correlations between Cognitive and Non-Cognitive Skills

Notes: The figure presents the pairwise correlations between cognitive and non-cognitive measures. The value in each box is the pairwise correlation. *** Statistically significant at the 1%, ** statistically significant at the 5%, and * statistically significant at the 10%.