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Conference Summary: Personality and Identity Formation in Childhood and Adolescence

May 24, 2013, Radison Blu Aqua Hotel

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The Conference on Personality and Identity Formation in Childhood and Adolescence convened on May 24th, 2013 to revitalize the Identity and Personality Network and define and plan for the network's goals.

This conference included discussions of identity and personality from a wide range of disciplines and methodologies that went beyond the conventional treatment of personality in economics. The leaders of the group presented research from economics, neuroscience, and psychology. Armin Falk discussed his work on personality and morality; Rachel Kranton's presentation reviewed her work with George Akerlof on the role of identity in decision making; Joseph Kable described his findings on the relationships between brain activity and behavior; and Angela Duckworth briefly presented her work on modeling personality. The presenters brought additional perspectives. Aldo Rustichini explained his studies of the strategic theory of mind and its development in childhood; Tim Kautz reviewed the state of research on the effects of interventions from birth to young adulthood on personality traits and outcomes; Ifat Levy demonstrated her findings for decision making under ambiguity and risk in adolescents and adults; Rebecca Shiner described her work on childhood predictors of adult personality; and Greg Walton and David Yeager presented their findings for a short term intervention designed to change adolescents' beliefs about the malleability of intelligence. The conference fostered cross-disciplinary conversations and pushed the conversation on the relationships between personality and identity and behavior beyond the traditional economic understanding.

Several themes emerged from the presentations and discussions. The presentations and discussions at the Conference on Personality and Identity Formation in Childhood and Adolescence were motivated by concerns about inequality and closely related to the study of interventions. Several themes specific to this conference were raised: (1) the relationship between interventions and personality traits; (2) the measurement of personality with attention to social context; and (3) the formation of beliefs and their development over the lifetime.

Following discussion, the participants made plans for future work. Problems in the measurement of personality were repeatedly returned to, and the creation of a subgroup focusing on these issues was proposed. Members of the network who were not present will be updated on the ideas and plans discussed at the conference.

Introduction

The Identity and Personality Network met to review and expand on the aims of the group and discuss members' work on personality and identity formation in childhood and adolescence. This was the inaugural meeting of the group. The conference organizers introduced the aims of the conference and reviewed their ongoing research.

Angela Duckworth
University of Pennsylvania

Angela Duckworth emphasized the need for agreement on terminology within the group. What some call "non-cognitive skills," others call "character skills," and agreement in definitions might be required for cross-disciplinary collaboration. She also reviewed the work she has done with James Heckman, Tim Kautz, and Steve Durlauf to model personality to parse patterns of behavior from the antecedents of the patterns. Finally, she called for the formation of a subgroup focusing on measurement, especially as measurement pertains to interventions.

Armin Falk
University of Bonn

Armin Falk introduced his group's work on personality and morality. His work on personality covers its measurement, development, and consequences. Meanwhile, his work on morality considers paradigms involving harming of third parties and the issue of why we act immorally, with a focus on the role of personality and institutions. To conduct this work, his group uses a combination of experiments, surveys and biometric measures.

Joseph Kable
University of Pennsylvania

Joseph Kable's work is based in neuroscience. At present, he is investigating the relationships between brain measures and structure and personality measures and attributes. Thus far, the strongest relationship he discovered was between two brain regions linked to decision making and activated by thinking about the future and discount rates; individuals with more activity in these brain regions tend to have lower discount rates. He is also using his findings on relationships between brain measures and personality to study what kinds of interventions, from persuasive communication to interventions on working memory, can influence personality.

Rachel Kranton
Duke University

Rachel Kranton introduced her work on identity, a designator of a social group separate from personality and self-concept. Her work on identity is motivated by the presence of socially systematic inequality, and it aims to understand whether identity is a descriptor of or part of the process that sustains and creates inequality. She described the economic model of decision making she and George Akerlof have developed to incorporate identity by acknowledging two kinds of preferences: what one "likes" or "doesn't like" and what one "should" and "shouldn't do." They find that their model predicts different patterns of behavior in equilibrium than the traditional economic model and allows us to consider changing identities or the norms associated with identities as avenues for intervention to work through. She called on participants to consider the expansion of the identity model to incorporate non-cognitive skills, habits, and detailed preferences and discussed the need to understand how identities and norms arise.

Cognitive Skills and Personality Traits' Effect on Social Behavior

Aldo Rustichini
University of Minnesota

Aldo Rustichini presented results from two experiments performed in second grade classrooms in Italy. These experiments explored relationships between personality traits, congnitive skills, and popularity, and investigated the development of strategic theory of mind reasoning: the ability to infer mental processes of others and predict their behavior given incentives.

The first game was a standard ultimatum game. Children played anonymously for six rounds, three as a proposer and three as a responder. In each round as a proposer, they could choose to keep 8 and give 2, keep 6 and give 4, or keep 5 and give 5. In each round as a receiver, they could choose to accept or refuse the offer made. No feedback was given.

The second game was a stickers game/beauty contest played against a computer. The child placed one to five

pictures in a box and the computer did the same. The player with the least number of pictures in the box wins the pictures. In the event of a tie, there is no winner. Feedback was provided after every round, and the computer was programmed to bid one less than the child had bid in the previous period.

Personality measures were obtained by an adapted big five questionnaire administered to the children themselves as well as by a big five questionnaire administered to the children's teachers.

Ultimatum game first and average offers were modeled as a function of child gender, age, math score, race, and all five personality measures from teacher reports. Results showed that males tended to offer less both in the first round and on average. First and average offers also decreased as age of the child increased. Children with higher math scores were found to offer less in the first round, but no relationship between math scores and the average offer was found. No relationships between personality measures and first or average offer were found.

First and total sticker offers were modeled as a function of: (a) child gender, (b) age, (c) math score, (d) agreeableness and conscientiousness from teacher reports, and (e) race. Results showed that children with higher math scores tended to have lower first and total sticker offers. Although age was not related to the first sticker offer, older children tended to have higher total sticker offers. Similarly, agreeableness and conscientiousness had no relationship to the first sticker offer, but more agreeable children tended to have higher total sticker offers while more conscientious children tended to have lower total sticker offers.

The observed relationships between ultimatum and sticker game offers and age was interpreted as evidence that strategic theory of mind is developed after age 6/7, and that cognitive abilities explain a substantial part of this behavior.

An exploration of the correlates of popularity was also conducted. Popularity was measured in two ways, one as the number of times a child was named as another child's best friend, another as the number of times a child was named as another child's best friend, homework friend, or play friend. Both measures were modeled as a function of child gender, age, number of siblings, number of rooms in home, participation in a sport, math score or IQ, all five personality measurements from teacher reports, and race. Results showed that more popular children tended to have higher math scores/IQ's, play a sport, be rated as more conscientious and less open, and have larger class size.

The Effect of Various Interventions on Personality and Cognition

Tim Kautz

The University of Chicago

Much recent evidence shows that personality traits matter for success in the labor market, education, and other aspects of life. Here, personality skills, or "non-cognitive" skills, are those that are not fully captured by measures of cognition (IQ and achievement tests). An important policy question is to what extent these traits can be improved at different ages. The impacts of 30 different interventions are summarized.

Earlier programs tend to be better evaluated and appear to be more effective than adolescent interventions. The early evaluations tend to follow participants for longer periods of time and include more measures of skills. Many early interventions have improved adult outcomes through personality skills without having any long-term effect on cognitive skills.

Adolescent programs tend to have less comprehensive evaluations and are often ineffective. A few adolescent programs appear to be successful because they teach personality skills in the context where they will be used, such as in the workplace. Several adolescent programs, such as Job Corps, improve outcomes in the short-run (1-2 years) but have no long-term benefits, likely because they only temporarily change incentives.

These findings suggest that measures of personality skills should complement achievement tests in assessing interventions, students, teachers, and schools. This idea is becoming prevalent in education reform. For example, some California schools have applied for a No Child Left Behind waiver in order to include measurements of "non-cognitive" skills. However, it is not yet clear which measures are best. Survey measures of the big five are commonly used in academic research, but they may not be appropriate for evaluating schools because they do not anchor the measurements in an objective scale. A more promising route may be to infer non-cognitive skills from objective behaviors such as course progression, attendance, and suspensions.

Decision-making under uncertainty: From adolescence to older adulthood

Ifat Levy

Yale School of Medicine

Ifat Levy discussed preferences and decision-making under varying conditions of uncertainty, including how people subjectively form preferences for both outcomes and the uncertainty of these outcomes, contributing to variation among populations. Her goal was to understand how individuals form their preferences. Specifically, how do preferences change under conditions of no uncertainty, known uncertainty, and various forms of ambiguity? She summarized an experiment where individuals chose between a fixed payout or an option with some odds of winning a larger payout. The odds were not known in ambiguous cases. The probability of selecting the uncertain payout increased with the size of the payout. The more ambiguous the odds, the less likely individuals are to select the uncertain payout. This ambiguity aversion changed between games that involve choosing gains versus those that chose losses.

To understand how the brain reacts to ambiguity, Ifat Levy performed the same experiment, but with subjects in an fMRI machine. She found that brain activity under risk was the same as that under ambiguity. She found these results suggestive of a unified representation of subjective value in the MPFC and the striatum, as well as the PCC and the amygdala.

Her presentation continued with findings from an experiment tracking people's attitudes toward ambiguity and risk across the lifespan. The experiment took a cross section of individuals aged 12 to 90 years old in New Haven, CT and New York, NY. She found that while adolescents were more risk averse, they seemed to be less ambiguity-averse under gains compared to adults. Additionally, older adults were more risk-seeking, but less ambiguity averse under losses compared to adults.

Ifat Levy concluded by discussing the response of ambiguity attitudes to an intervention. She found that teaching individuals how to calculate odds under ambiguous scenarios increases the likelihood of selecting the uncertain, ambiguous payout.

Childhood Competence and Parenting Predict Personality Change from Childhood to Adulthood

Rebecca Shiner

Colgate University

Rebecca Shiner presented on personality traits and their development across the lifespan. She began by summarizing the old view of personality traits, which viewed traits as static, removed from the context of development. Advocating a new theory, she recognized three patterns in the development of personality skills: changes in rank stability, changes in mean-level, and changes across cohorts. She urged researchers to discover the drivers of these changes. She proposed a few childhood predictors of adult personality, including environmental factors such as parenting, school context, stressors and socioeconomic status; and intrapersonal factors such as IQ, neuropsychological skills and competence in life tasks.

Rebecca Shiner then discussed evidence of the malleability of personality attributed to parenting quality and competence in life tasks, both of which may be targeted in interventions. Parenting quality includes both acceptance/warmth and rules/expectations. She suggested competence in life tasks may shape behaviors, and ways of thinking and feeling. Her evidence drew on data collected in the Project Competence Longitudinal Study. The study consisted of 205 children followed from age 10 to age 30, and has data on the big five and big three personality traits. Evidence showed statistically significant correlations of personality traits over time. Stepwise regressions suggested childhood social competence and academic achievement predict extraversion and openness, respectively. These adult traits were poorly predicted by parenting quality, a fact possibly due to how parents value these traits themselves. However, in models of agreeableness and negative emotionality, traits most parents find desirable, parenting quality was predictive. Rebecca Shiner concluded that with evidence of causal relationships between childhood predictors and adult personality, we may be confident in possible routes to intervention.

The Role of Beliefs in Adolescent Personality Development: Evidence from Intervention Experiments

Greg Walton and David Yeager

Stanford University

David Yeager provided a context through which individuals form mental representations of the world. This subjective view of the world, and how we view ourselves within it, governs how we make decisions regarding the accumulation of skills. The development of this subjective view or belief system grows as we do, and in understanding its development we may learn how to reshape these beliefs. David Yeager then presented evidence of the malleability of these beliefs and the subsequent effects on school performance. He found that when students learn that the brain is plastic and like a muscle it grows if you work it out, they perform better on IQ tests, earn higher grades in math classes and experience lower course dropout rates. Part of this effect is mediated through increases in challenge-seeking behavior.

Greg Walton conducted a similar study, one that focused instead on acceptance and belonging in learning environments. Feeling more accepted at school should increase school performance. He presented evidence of first-year college students who, after intervention, experienced statistically significant increases in GPA over peers who did not get the intervention. The intervention informed students that doubts about belonging in college are common, thereby reducing this doubt in students who, after negative social experiences, might otherwise associate those experiences with their acceptance into the social learning environment. The intervention had greater effects on minority students, for which negative stereotypes exist, putting them at high risk for doubting their belonging at school. Similar effects were found for female engineering students facing stereotypes in male dominated majors. Those female engineering students who underwent belonging intervention had more diverse social networks and statistically higher GPAs than other female engineers.