The Long Road to Job Satisfaction: Can Employees' Youth Experiences Provide a Road Map to Employers?

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Utilizing a 2011 sample of one thousand, four hundred 26-27 year old employees from the National Longitudinal Survey of Youth 97, this study develops and tests a job satisfaction model. The model focuses on the effects of employees' youth experiences as representations of the formation of non-cognitive skills; and ultimately their effects on adult job satisfaction. Findings confirm that early childhood family experiences (family routines, home environment, and parents' religiosity), and adolescent work experiences (pre-high school and high school) carry over and significantly affect adult job satisfaction.

INTRODUCTION

An integral part of business strategic plans is innovative and successful recruitment and retention of qualified employees. Often the primary focus of recruitment of the newest employees is the candidates' educational and technical skills. However organizations additionally need individuals who possess skills that can transform this technical knowledge to achieve both personal and organizational goals. What is needed is the *acknowledgement that young employees come into the job with attitudes, expectations, habits, tolerances, and perspectives, known as non-cognitive skills, that are formed early on in their lives* and that are not necessarily evident in standard education credentials. What if these non-cognitive skills formed through early childhood and adolescence experiences carry over into adulthood to affect adult outcomes such as employee job satisfaction and retention?

It is the contention of this paper that possession of non-cognitive skills significantly contributes to employee job satisfaction. Although skills are formed throughout an individual's lifetime, psychologists and economists have demonstrated that the life stages of early childhood and adolescence are critical and sensitive periods for the formation of non-cognitive skills. The NLSY97 data utilized in this study includes measures of job satisfaction, early childhood family environment and experiences, and adolescent work experiences.

Based upon this, the first primary hypothesis tested within this study is that quality early childhood family environment and experiences will directly and positively affect adult employees' job satisfaction. The second primary hypothesis is that adolescent work experiences will directly and positively affect adult employee job satisfaction; accounting for early childhood experiences and environment. This study further focuses on not only the role but also the measurement of the employee's early experiences and their role in the formation of non-cognitive skills.

Utilizing a 2011 sample of one thousand, four hundred 26-27 year old employees from the National Longitudinal Survey of Youth 97 (U.S. Bureau of Labor Statistics, 2011), this study tests a model of

employee job satisfaction which incorporates employees' youth family and work histories into a traditional business model of employee job satisfaction.

BACKGROUND

Human Development: Skill Formation

Human skills, both cognitive and non-cognitive, are formed throughout the human life cycle over multiple stages. Cognitive skills refer to intelligence: raw intelligence which is inherited; fluid intelligence which is the rate at which a human learns, measured as IQ; and crystalized intelligence which is acquired knowledge, measured by achievement tests. Non-cognitive skills refer to character skills encompassing personality and social skills.

At each stage of the life cycle t, inputs (any existing stock of skills plus any new investment) produce outputs, that is, new skills at the next stage:

$$Skills_{t+1} = f\,(Stock\ of\ Skills_t + Investment_t)$$

Each stage corresponds to a period in the life cycle, such as early childhood, adolescence, or young adulthood and can require different technologies to produce different skills (Cunha & Heckman, 2007; Heckman, 2007). Thus for example, the stock of skills and any investment developed in early childhood lay the foundation for potential skill development in adolescence.

Recent research has established the existence of sensitive periods, those when investment in certain skills is especially productive and critical periods, those when investment in certain skills is essential. The time period from prenatal to age three is a critical period for the development of fluid intelligence (Knudsen, et al., 2006). Cognitive stimulative experiences and a loving environment arising from parental inputs plus the initial stock of inherited raw intelligence create the output of fluid intelligence.

From age three to puberty, both cognitive and non-cognitive skills develop from children's' environment and experiences. It is a sensitive period with great potential for synergy of growth between cognitive and non-cognitive skills. Both crystallized intelligence and non-cognitive skills are malleable during this period. After age 10, cognition is less malleable, but non-cognitive skills remain highly malleable. Each set of skills reinforces the other. In his model of human capabilities, Heckman (2007) notes that although the parent is often assumed to fully control investment in the skills of the child, in reality, as the child matures, he/she gains more control over the investment process; a process of self-productivity. For example, children with greater emotional skills and conscientiousness are more willing and able to absorb knowledge (Duncan, et al., 2007).

Adolescence (12-18 years of age) is a period of great mental plasticity and is a critical period for the development of non-cognitive skills. These skills develop and mature during teenage years and are malleable until late adolescence. This is supported by neuroscience given the slow development and therefore malleability of the prefrontal cortex until early 20's. Adolescence is a period of transition during which children shift their social worlds outward and are particularly responsive to their external environment. Given the stability of non-cognitive skills across situations, adolescent investment (through their environment and experiences) will have strong and persistent effects on these skills (Almlund, et al., 2011). Adolescence can be a time to build new skills and reinforce previous childhood non-cognitive skills, or it can be a period of loss of earlier skills and a failure to reinforce. Both scenarios also have effects on acquired cognitive skills.

In the model of human capabilities, Heckman (2007) and Qong, Lu, and Xiw (2015) describe and test the phenomenon known as dynamic complementarity, which is, skills produced at one stage of the life cycle raise the productivity of investment at a subsequent stage. *It implies that skills produced in early childhood will raise the productivity of later adolescent investment.* For example, the effect of adolescent experiences is stronger for more able children (early childhood investment) (Qong, et al., 2015). This dynamic synergy across periods also implies that investment in adolescence will raise the rate of return to early childhood investment as well. Thus dynamic complementarity and self-productivity across an

individual's life cycle create multiplier effects throughout a person's life. These childhood and adolescent cognitive and non-cognitive skills create a platform of adult skills, which then in turn affect adult choices and outcomes.

The Importance of Non-Cognitive Skills

Thomas Edison wrote "Genius is 1% inspiration and 99% perspiration" (Edison, 1932).

Non-cognitive skills are valued across cultures, religions, and societies. Recognition of skills other than raw intelligence is clearly imbedded in folk wisdom (Heckman & Kautz, 2013). Non-cognitive skills include such skills as perseverance, self-control, trust, attentiveness, self-esteem, self-efficacy, resilience to adversity, conscientiousness, openness to experience, empathy, humility, tolerance of diverse opinions, and ability to engage productively in society; also referred to as character skills.

A change in non-cognitive skills, from lowest to highest, has an effect on behavior and social and economic outcomes comparable to or greater than a corresponding change in cognitive skills. This challenges the "g" theory of human behavior which focuses on the primacy of cognitive skills (Jensen, 1998; Heckman, et al., 2006a). Non-cognitive skills explain the variance in achievement scores above and beyond the variance that IQ explains when both IQ and non-cognitive skills are included in a regression (Herrstein & Murray, 1994).

Heckman, Lochner, and Todd (2006b) argue that non-cognitive skills are a critical part of human capital and that an increase in human capital could be achieved, not only through direct pedagogical means such as formal education, but indirectly as well through *changing attitudes towards work*, *learning*, and *interaction with others*, i.e. *non-cognitive skills*. This corresponds to the growing body of evidence which demonstrates that non-cognitive skills rival IQ in predicting educational attainment, labor market outcomes, health, and criminality (Heckman, et al., 2006a; Qoay, et al., 2015).

Economists such as Heckman, Lochner, Smith, and Taber (1997) and Bowles, Gintis, and Osborne (2001) propose that individual *non-cognitive skills* are the crucial and often missing component of discussions of economic mobility and success. O'Connell and Sheikh (2008) argue that for "risky" youth with challenging family backgrounds (measured as socio-economic status) or poorer cognitive skills, achievement-related attitudes provide "a second chance". Dahl and Lochner (2012) and Morris, Duncan, and Clark-Kauffman (2005) argue that it is the shortfall in adolescent non-cognitive skills and motivations that account for minority college enrollment gaps. This is consistent with the literature on "psychic costs" and may explain why many adolescents who appear to have the potential to financially benefit from schooling do not pursue it (Cunha & Heckman, 2007).

Heckman and Rubinstein (2001) investigate youth recipients of GED degrees and find that although youth GED recipients have the same achievement scores as high school graduates who do not go on to college, they earn less – they earn the wages of high school drop outs. The poor market performance of youth GED recipients is attributed to their low levels of non-cognitive skills. They further argue that employers rapidly learn and in the long run (with ability held constant in their analysis) youth GED recipients earn lower wages, have lower labor force participation, and have higher turnover rates as their adverse non-cognitive skills are revealed.

Early Childhood Family Environment and Experience: Its Role in the Development of Non-Cognitive Skills

Emphasis on school performance and academic achievement, particularly in the U.S., encourages a limited conceptualization of human capability. It assumes that achievement tests capture important life skills and misses important dimensions of human flourishing (Heckman & Kautz, 2013). It fails to recognize the multiplicity of skills and the importance of families and communities in either creating these skills or creating the opportunities to acquire these skills.

Inequality among families in parenting skills and lack of support given to children in school is truly a measure of inequality of skills, both cognitive and non-cognitive. Families do more than provide genes and food. The dynamic nurture/nature interactions begin in the womb.

Every aspect of early human development, from the brain's evolving circuitry, to the child's capacity for empathy, is affected by the environments and experiences encountered from prenatal to early childhood (Shonkoff & Phillips, 2000). Early childhood *family* environments and experiences have been shown to be major predictors of the development of both cognitive and non-cognitive skills. Quality parenting - defined as stimulation, attachment, encouragement, and support - is a true measure of child enrichment. Poor quality parenting is the true measure of poverty (Heckman & Kautz, 2013). Further, disadvantage associated with poor parenting practices and lack of cognitive and non-cognitive stimulation have been shown to be powerful direct predictors of adult failure on a number of social and economic measures (Cunha, et al., 2006). Recent literature on personality and preference formation establishes causal impacts of parental inputs and other environmental factors on cognitive and non-cognitive skill formation.

In addition to early childhood family experiences, adolescent work experiences may contribute to the formation of non-cognitive skills and reinforce earlier childhood family experiences. It will here be hypothesized that each plays a significant and distinct role and that adolescent work experience represents the chance for youth to use non-cognitive skills acquired from early childhood family experiences and to gain additional skills, adding to their existing stock.

Adolescent Work Experience: Its Role in the Development of Non-Cognitive Skills

In his study of American Lives, Clausen (1993) describes "planfully competent adolescents" who exhibit self-confidence, intellectual investment, and dependability and who make choices regarding school, work, and intimate partners that result in more satisfying and successful lives. In more recent research into adolescent behavior, Biglan (2004) documents that risky behaviors are pursued by the same clusters of adolescents. Heckman, Stixrud, and Urzua (2006a) find that latent non-cognitive skills explain all of the risky behaviors and the observed clustering pattern of Biglan (2004).

High school in America (and also middle school to some extent) creates an adolescent society with values distinct from the larger society and also removed from the world of work. Adolescent society has an anti-academic, anti-achievement bias. Following this perception, early research into the effects of adolescent part time work experience focused on attainment of academic success and characterized paid work during teenage years as "pseudo maturity" that would derail the educational process (Greenberger & Steinberg, 1986). School and employment would thus vie for adolescents' time and impose major opportunity costs that draw youth away from school success and achievement (Steinberg & Cauffman, 1995).

Later research finds continuous (stable) part-time employment to have beneficial effects on educational attainment and school engagement (Mortimer & Johnson, 1998); and to decrease criminal and delinquent behavior (Newman, 1999) of adolescents. Longitudinal studies find part-time adolescent employment to be positively associated with high school completion after accounting for family and individual characteristics (Marsh & Kleitman, 2005).

Young people learn through observation, imitation, trial and error, and reiteration; through the force of experience (Halpern, 2009). In absence of school-based vocational education and institutional linkages between school and work, adolescent part-time employment allows for normative expression of vocational exploration and semi-autonomy (Mortimer, 2003). It produces meaningful changes in adolescent work values and contributes to a better understanding of the relative importance of various aspects of work, leading to a more differentiated value system (Skorikov & Vondracek, 1997). The positive effects of part-time work (employability and career achievement) may be the *long term consequences of changes in the young worker's personality* rather than the short term effects of having a better resume. This lays the groundwork for the coupling of post-secondary student and work roles for college students (Hudson & Hurst, 2002).

Many studies have found lasting effects of adolescent work experience on *adult* educational outcomes and labor market outcomes of wages, income, employment, unemployment, labor force participation and labor force attachment, controlling for individual and family background factors (Alon, et al., 2001). For example, focusing attention to the period after adolescence, Staff and Mortimer (2007) investigate the

longer-term effects of adolescent work experience. They explore the effects of both adolescent high school work experience and post-high school work experience on post-secondary educational attainment, controlling for individual and family characteristics. Although they find that post-secondary work experience somewhat mediates the effects of adolescent high school work experience on post-secondary educational attainment, they argue that the balancing of work and school that is learned during high school facilitates the coupling of post-secondary school and work; adolescent part-time work in high school is a *key formative experience that establishes patterns of behavior which persist during succeeding years*.

Also controlling for early family experiences, it will here be hypothesized that youth take *additional* developmental experiences from these adolescent work experiences. Employers then need to look back at this youth experience, not for specific content *but rather as an indicator of the very skills that many of their young employees lack* – perseverance, resilience, maturity, confidence, etc. These skills and resulting patterns of behavior, which may ultimately separate satisfied employees from dissatisfied employees, begin early on and are reinforced throughout the individual's lifetime.

Why Job Satisfaction?

Job satisfaction has long been considered a core indicator of workers' evaluations of their jobs (Hodson, 2001; 2004). As a working concept, it assumes that employees evaluate all aspects of their job situations, consider their alternatives, and through an internal calculus arrive at an overall evaluation of the quality of their jobs. A meta-analysis by Wanous, et al., (1997) concludes that single item scales of job satisfaction (global measures) are acceptable and reliable.

As complex as the working concept above sounds, it boils down to asking employees how they feel about their jobs, i.e. whether they like their job and how much. Younger employees with non-cognitive skills should have the best chance of all young employees to experience a positive work experience. For example, these are young employees who are likely to persevere and have self-control to persist in tasks, goals, and challenges and therefore are more likely to feel accomplishment (self-efficacy); these are young employees who are open to experience and tolerant of diverse opinions and therefore can productively engage with others; co-workers, supervisors, and teammates.

Job satisfaction is a far-reaching reflection of employee behavior and work outcomes. Research provides evidence that (dis)satisfaction with job is consistently and significantly correlated with retention; is a determinant of quits; and impacts intention to leave the workplace, motivation, absenteeism, counterproductive behavior, employee long-term absence from work due to illness, short-term sickness absence, and productivity (Coomber & Barriball, 2007; Cooper, et al., 1996; Bockerman & Ilmakunnas, 2005; Tharenou, 1993; Gattfredson & Holland, 1990; Lund & Villadsen, 2005; Munch-Hansen, et al., 2009).

METHODOLOGY AND DATA

Given the ordinal nature of the dependent variable and the skewed distribution of responses (as mentioned earlier), the measures in Model 1 and Model 2 are analyzed using ordered logistic regressions. The ordered logistic regression model estimates a model chi-square (with *df* equal to the number of predictor variables in the model) that shows the reduction in the log likelihood compared with a model that contains only the intercept. Individual-level logistic regression models are estimated.

The data utilized in this study are drawn from the National Longitudinal Surveys (NLS) which are a set of surveys designed to gather information at multiple points in time on labor market activities and other significant life events of several groups of women and men. The sample utilized here is drawn from one of these surveys, the National Longitudinal Survey of Youth 97. The NLSY97 is designed to document the transition from school to work and into adulthood. It consists of a nationally representative sample of approximately 9,000 youths who were born in the years 1980-1984 and were 12-16 years old as of December 31, 1990. Youth have been interviewed on an annual basis since then (BLS, 2016).

This study utilizes a representative sample of one thousand, four hundred 26-27 year old employees (not including self-employed) from the National Longitudinal Survey of Youth 97 (NLSY97) for the year 2011 (BLS, 2011). Twenty six and twenty seven year olds are chosen for this study for three reasons: First, the focus on one age group facilitates the building of early work profiles. Second, evidence suggests that by the age of 25, females settle into their equilibrium labor force attachment; males even earlier (Alon, et al., 2001). Third, according to neuroscientists, the frontal cortex of the brain, which controls development of non-cognitive skills, is fully developed in humans. The sample data includes information on employee job satisfaction, compensation, job characteristics, work environment characteristics, early childhood family environment and experiences, adolescent middle school and high school work experience, and individual demographics.

DESCRIPTIVE STATISTICS

Table 1 lists the descriptive statistics for all variables utilized in Models 1and 2 of this study. Of the employees' early family experience variables, the family routines index (0-21), 0=no routines, has a mean value of 11.62; the enriched environment index (0-3), 0=no enrichment, has a mean value of 1.66; and the parents' religiosity scale (0-6), 0=not religious, has a mean value of 3.29. As for the early work experience variables, 32% of employees worked "odd jobs" sometime during middle school with a mean value of 72.14 hours worked over the three years (not shown). Twenty seven percent of employees worked "a regular job" sometime during high school (not shown), with a mean value of 510.16 hours worked over the four years. A more detailed explanation of these variables follows in the variable measurement section below.

TABLE 1
DESCRIPTIVE STATISTICS, MODEL 1& 2

Variable	Definition	Mean	Standard Deviation
Independent			
Early Childhood Experiences			
Family Routines	0=No Routines (scores 0-21)	11.62	4.89
Enrich Environ	0=No Enrich (scores 0-3)	1.66	0.67
Parents' Religiosity	0=Not religious (scores 0-6)	3.29	1.52
Adolescent Work Experiences			
Pre-High School	1=Ever Worked	0.32	0.21
High School	Total # Hours Worked	510.16	121.34
Compensation & Benefits			
Pay	Hourly Wage	18.20	12.69
Medical	1=Provided	0.32	0.35
Paid Leave	1=Provided	0.23	0.21
Job & Work Characteristics			
Flex	1=Available	0.37	0.40
Union	1=Union coverage	0.14	0.41
Employer Size	1=Small, up to 49	2.30	0.53
Regular Shift	1=Regular Shift	0.48	0.75
Co-Worker	1=Co-Worker Support	0.78	0.60
Controls			
Ethnicity	1=Hispanic	0.28	0.38
Gender	1=Male	0.48	0.16
Marital	1=Single	0.80	0.48
Health	1=Excellent (scale 1-5)	2.20	1.00
Dependent			
Job Satisfaction	1=Dislike very much	3.96	1.14

In terms of compensation, the mean hourly wage is $18.20; 32% have medical insurance provided; and 23% have paid leave days provided. In terms of job and work environment, 37% have a flex time option; and 48% work a regular day, evening, or night shift. Fourteen percent of these employees are unionized, working on average at a medium-sized establishment (with the delineations of "small", "medium" and "large" firms using the industry standard; up to 49 employees, small; 50-499 employees, medium; and 500 or more, large) with a mean value of 2.30. Seventy eight percent receive some co-worker support.

The sample is nearly evenly split in terms of gender with 48% of sample members male. Twenty eight percent of sample members are Hispanic; 80% single marital status; and most are relatively healthy on a scale of 1-5, 1=excellent, with a mean value of 2.20. On a scale of 1-5, 1=dislike very much, the mean value of the dependent variable job satisfaction is 3.96. Although this variable is skewed upward towards more satisfied, this is a common finding and should not present any difficulty here given the use of ordered logistic analysis.

MODEL 1: VARIABLE MEASUREMENT AND HYPOTHESES

Model 1 incorporates early childhood family environment and experiences variables into a business model of job satisfaction (For more details of this model, see Campione, 2014). Early childhood family variables are represented by: an Index of Family Routines, an Enriching Environment Index, and a scale measure of Parents' Religiosity. Multivariate statistical testing is utilized (n=1400).

Job Satisfaction = f (Family Routines, Enriching Environment, Parents' Religiosity, Pay, Medical Insurance, Paid Leave, Flex Time, Regular Schedule, Small Establishment Size, Union Coverage, Co-Worker Support, demographic controls) (1)

Measuring the Dependent Variable Job Satisfaction

The job satisfaction variable utilized here measures global job satisfaction. Survey respondents are asked: how satisfied are you with your job overall? Response categories include: like very much; like fairly well; think it's OK; dislike somewhat; and dislike very much. As shown in the descriptive statistics section, the categories are re-ordered to facilitate interpretation of the results.

Measuring Early Childhood Family Environment and Experiences

To capture the influence of early childhood family environment and experiences and thus the effects of quality parenting, a *non-traditional formulation* is utilized in Model 1 (and Model 2). Traditionally, the variables parental income and education are utilized in economic models to represent family socio-economic status (Harding, et al., 2004; Morris, et al., 2005). However it is here believed that these traditional representations do not capture the many subtleties of family environment and experiences. *Family influence narrowly defined by these traditional variables misses some of the most important aspects of family life that shape formation of perspectives, tolerances, work ethic, and habits, not solely or even necessarily dependent on socio-economic status.* The NLSY97 dataset provides three measures that utilize youth and parent retrospective information to capture youth-parent relationships and the youth's home life environment (Created and tested by Child Trends for NLSY97; BLS, 2007). There are no missing values for any of these measures in this sample. Each consists of distinct questions that do not overlap and are not repeated in the other and thus the potential problem of multicollinearity is minimized.

Index of Family Routines

Psychologists emphasize both the importance of a sense of belonging to a family unit and the importance of household organization and support as predictors of future youth success (Cunha, et al., 2006). The U. S. Bureau of Labor Statistics reports children living in families with income greater than 200% of the poverty line do not report more family routines than children living in families with incomes less than 50% of the poverty line (BLS, 2007). Thus this index potentially allows for measurement of *quality family time that cuts across parental income levels.* The Index of Family Routines utilized here asks of youth: in a typical week how many days do you eat dinner with your family; get your homework done; and do something fun as a family?

Enriched Environment Index

Psychologists also emphasize the importance of providing children with an enriched home environment and stimulating extracurricular experiences. The U.S. Bureau of Labor Statistics reports children living in families with income greater than 200% of the poverty line are provided a more enriched environment than children living in families with incomes less than 50% of the poverty line (BLS, 2007). Although positively variant with parental income, this index may still allow for more potential variation in effect than traditional socio-economic status measures by allowing for the possibility that lower income families may provide an enriched home environment. The Enriching Environment Index utilized here consists of three questions: In the past month, has your home usually had

a computer? Has your home usually had a dictionary? And in a typical week, do you spend time taking extra classes or lessons such as music, dance, or foreign language?

Parents' Religiosity

Research shows that religious belief systems affect a wide variety of outcomes relevant to family function. Parents' religiosity is related to parental support and control of children and is strongly and negatively associated with youth reported behavior problems (Haskins, et al., 2008; Sinha, et al., 2007). The U.S. Bureau of Labor Statistics reports parents of families with incomes greater than 200% of the poverty level are rated as *less* religious than parents of families with incomes less than 50% of the poverty level (BLS, 2007). Thus parents with lower income levels may add a factor of protection for their children through their religiosity. The scale variable "Parents' Religiosity" utilized here is the sum of responses (true or false; true=1; ranging from 0, not religious to 6, very religious) to six different statements which concern the role and importance of religion in these youths' parents' lives and the home atmosphere within which the youth grew up: I don't need religion to have good values (reverse coded); the Bible/Koran/Torah/religious teachings should be obeyed exactly as written in every situation; I often ask God to help me make decisions; God has nothing to do with what happens to me personally (reverse coded); I pray more than once a day; I regularly attend a worship service.

Hypotheses for Model 1

Hypothesis 1: The number of family routines will positively and significantly affect adult employee job satisfaction.

Hypothesis 2: An enriching environment will positively and significantly affect adult employee job satisfaction.

Hypothesis 3: Parents' religiosity activity will positively and significantly affect adult employee job satisfaction.

MODEL 2: VARIABLE MEASUREMENT AND HYPOTHESES

Model 2 incorporates adolescent work experience variables into a business model of job satisfaction with early childhood variables included. Adolescent work variables are represented by: Pre-high school work experience and High school work experience. Multivariate statistical testing is utilized (n=1400).

Job Satisfaction = f (Pre-High School Work Experience, High School Work Experience, (2)
Family Routines, Enriching Environment, Parents' Religiosity, Pay,
Medical Insurance, Paid Leave, Flex Time, Regular Schedule, Small Establishment Size, Union Coverage, Co-Worker Support, demographic controls)

Measuring Adolescent Work Experience

The literature demonstrates that adolescent work experiences have important effects on economic success outcomes by establishing patterns of behavior early on that carry through to adult years (Model 2). Part-time adolescent work increases the relative value of central aspects of work, the long term consequences of which are changes in the adolescent workers' non-cognitive skills rather than short-term effects of having a better resume.

The NLSY97 dataset provides youth retrospective work experience information. Two work profiles are constructed, pre-high school and high school, for each sample member. To do so, each employee must be matched to past work experience variables. It is then checked whether the employee ever worked across the three-year (middle school) and four-year (high school) periods to construct a variable "whether ever worked". Then each period is checked for the number of hours worked to construct the variable "cumulative number of hours worked" for each of the three-year and the four-year periods.

Pre-High School Early Adolescent Work Experience

The first profile, pre-high school work experience, is defined as work experience within the three years prior to freshman year in high school, essentially capturing work experience during the three years of middle school. This period of early adolescent work experience has largely been absent from the literature, perhaps due to lack of data or perhaps due to the assumption that later high school experience is more directly associated with academic outcomes and adult labor force outcomes. The NLSY97 dataset provides information on the "odd jobs" of pre-high schoolers; paid jobs such as babysitting, pet sitting/walking, house sitting, lawn mowing, snow shoveling, leaf raking, landscaping, tree trimming, wood chopping, yard work, and house cleaning. The variable "whether ever worked' is chosen to represent pre-school work experience.

High School Adolescent Work Experience

The second profile is high school work experience. Here the variable "cumulative number of hours of worked" is chosen to represent high school work experience. Unlike early adolescents in middle school, most working high school adolescents work a "regular" part time job. The variable "cumulative hours worked" is chosen as the measure better able to capture the need to balance school and work, and the potential formation of positive work habits and work values among these adolescents.

Individual Demographics: Individual demographic characteristics included as controls are ethnicity, gender, marital status, and general health.

Hypotheses for Model 2

Hypothesis 1: Having ever worked during pre-high school (middle school) will positively and significantly affect adult employee job satisfaction.

Hypothesis 2: Hours worked in high school will positively and significantly affect adult employee job satisfaction.

RESULTS MODEL 1: EARLY CHILDHOOD FAMILY VARIABLES added to JOB SATISFACTION MODEL

Table 2 presents Model 1 results. Previous significance and levels of significance of the traditional job satisfaction model variables (not discussed) are maintained and the overall model level of significance is enhanced with the addition of the early childhood family variables. The global chi square statistic of Model 1 indicates that this logit regression is highly significant (chi square statistic=101.47; $p<.01$). All three early childhood family variables, the "family routines index", "the enriching environment index", and the "parents' religiosity scale" are found to positively and significantly affect adult job satisfaction, with family routines and parents' religiosity variables highly significant.

The first measure of early childhood family experience, the "family routines index", is highly significant as hypothesized ($b=0.113$; $p<.01$). "Quality" and "advantage" are not tied to material resources in this index. This index measures *use of family time* – activities that do not necessarily require material resources, just time. Thus quality family time experienced as a child carries over and significantly and positively affects adult job satisfaction.

The second measure of early childhood family environment and experience, the "enriching environment index", specifically highlights the *use* of parental resources for child development and is therefore a more informative measure than traditional socio-economic status measures of parental income and education. As hypothesized it is shown here that having an enriching home environment as a child carries over and significantly and positively contributes to adult job satisfaction ($b=0.138$; $p<.10$).

The last early childhood family variable, "*parents' religiosity*" is also highly and positively significant as hypothesized ($b=0.081$; $p<.05$). As stated earlier, parents' religiosity is related to parental support and control of children. The scale addresses the role and importance of religion in these children's parents' lives and the home atmosphere within which the children grew up.

RESULTS MODEL 2: ADOLESCENT WORK EXPERIENCES added to MODEL 1

Table 3 presents Model 2 results. Previous levels of significance of the early family experience variables, as well as the overall model level of significance, are maintained with the addition of the adolescent work experience variables. The global chi square statistic indicates that Model 2 is highly significant (chi square statistic=105.23; p<.01).

TABLE 2
RESULTS MODEL 1: EARLY CHILDHOOD EXPERIENCES

Variable	b_k
Early Childhood Experience	
Fam Routines	0.113***
Enrich Environ	0.138*
Parents' Rel	0.081**
Rate of Pay	0.020*
Medical	0.145
Paid Leave	0.242*
Flex	0.397*
Union	-0.294*
Emp Size	-0.236
Reg Shift	0.260**
Co-Worker	0.299**
Ethnicity	0.223
Gender	-0.022
Marital St	0.302*
Health	0.324***
Global Chi-Square Statistic	101.47***

*p<.10; **p<.05; ***p<.01

TABLE 3
RESULTS MODEL 2: ADOLESCENT WORK EXPERIENCE

Variable	b_k
Adolescent Work Experience	
Pre-HS Ever	0.053**
HS Hours	0.310***
Early Childhood Experience	
Fam Routines	0.035***
Enrich Environ	0.163*
Parents' Rel	0.146**
Rate of Pay	0.012
Medical	0.174
Paid Leave	0.253
Flex	0.411*
Union	-0.344*
Emp Size	-0.246***
Reg Shift	0.302*
Co-Worker	0.345**
Ethnicity	0.202
Gender	-0.088
Marital St	0.287*
Health	0.303***
Global Chi-Square Statistic	105.23***

*p<.10; **p<.05; ***p<.01

The pre-high school work experience variable "whether ever worked" is highly significant and positively affects adult employee job satisfaction as hypothesized (b=0.053; p<.05). The high school work experience variable "total number of hours worked" is positively and highly significant as hypothesized (b=0.310; p<.01). High school work experience then also directly affects adult employee job satisfaction.

Overall, these adolescent experiences carry over to affect adult job satisfaction. Importantly *both* pre-high school and high school work experience are significant. Together both early childhood family and adolescent work experiences directly affect adult employee job satisfaction. Equally important is the finding that adolescent work experiences are highly significant *even after controlling for early family experiences.* Thus it would seem that adolescents take *additional* developmental experiences from these work experiences.

CONCLUSION

One of the major challenges facing companies today is the retention of their talented and productive employees. Part of that retention process is the recruitment of individuals who possess not only the requisite technical qualifications, but also those who in addition possess skills to transform this technical knowledge to achieve both personal and organizational goals.

Overall the findings of this study lend support to the paper's primary contention that youth experiences impact and carry over to directly impact adult employee job satisfaction. Job satisfaction has been linked to many organizational outcomes; retention, motivation, absenteeism, productivity, counterproductive behavior and others. An increased understanding of what impacts job satisfaction is therefore vital to the achievement of both employee and organization goals. Given the evidence presented in this study, *it behooves employers to develop means to identify potential employees who possess these non-cognitive skills*.

It was previously argued here that able and engaged parents fundamentally impact the development of non-cognitive skills during early childhood. Traditional measures of socio-economic status are limited in their ability to capture important aspects of childhood environment and experiences. It was further argued that measures which discern the *quality of home life and family interaction*, such as those utilized in this study, are superior, especially with regards to the development of non-cognitive skills.

Quality parenting -defined as stimulation, attachment, encouragement, and support -is a true measure of child enrichment. The absence of these is the true measure of poverty (Heckman & Kautz, 2013).

Early family experience variables chosen here extend beyond traditional measures of socio-economic status to capture the quality of family interaction and home environment, and thus the use of resources, both material and time. The highly significant measure, family routines, cuts across parental income levels to provide a more robust measure of the effect of early childhood family interactions and insight into the development of non-cognitive skills. Seemingly simple routine interactions as a family, having dinner together or doing something fun as a family, provide strikingly important and complex childhood experiences which strengthen the child's attachment to family. The ability to get homework done at home reveals a supportive nurturing home environment that gives structure and organization to a child's daily life that in turn stimulates and encourages non-cognitive skill development.

The significance of the measure parents' religiosity demonstrates that religious parents can provide a clear statement of values, structure, and stability through their belief of God and the demonstration of those beliefs and values through prayer and worship attendance. Similar to the family routines measure, parents' religiosity entails family interaction and time spent together with each other and with others in a community environment. Given the evidence that higher income families are less religious than lower income families, the significance of parents' religiosity provides additional evidence that standard measures of socio-economic status, parents' income and education, fail to measure important contributors to childhood development of non-cognitive skills.

The enriching environment index is akin to traditional socio-economic measures. Although the enriching environment index is positively correlated with parental income, it provides unique insight beyond traditional measures by highlighting the use, as opposed to just the amount, of material resources. Even with limited monetary resources, parents can and do provide enriching home environments and experiences. Many parents choose to *use* their resources (and sacrifice if resources limited) to provide computers in their home and activities such as music and dance lessons. Often the parent associates these activities with the development of their child's cognitive skills. However the fact that a parent(s) provides this home environment and social interactions (sometimes with sacrifice) will not only teach children valuable non-cognitive skills such as persistence, but allow them to experience these non-cognitive skills in action in their parents' choices.

The finding that all three early childhood family environment and experience variables directly and positively affect adult job satisfaction is consistent with Heckman's human development model findings (Carneiro, et al., 2003; Heckman, 2007) and with recent literature on personality and preference formation (Shonkoff & Phillips, 2000), both of which establish causal impacts of parental inputs and other

environmental factors on cognitive and non-cognitive skill formation. The (dis)advantage associated with (poor) quality parenting practices and (limited) plentiful cognitive and non-cognitive stimulation are powerful predictors of adult (failure) success on a number of social and economic measures, specifically for this study, job satisfaction. It is further significant to note that the *two measures that relate less to material resources and more to time resources and family interaction are found to more significantly affect adult job satisfaction.*

This study's findings demonstrate that adolescent work experience continues the development of non-cognitive skills and in doing so reinforces existing skills developed in early childhood. Adolescence is a period of transition during which children shift their social worlds outward and are particularly responsive to their external environment. Adolescence is both a critical and sensitive for non-cognitive skill formation and reinforcement of earlier childhood skill development. Given the stability of non-cognitive skills across situations, adolescent investment will have strong and persistent effects (Biglan, 2004).

High school in America (and also middle school to some extent) creates an adolescent society with values distinct from the larger society and removed from the world of work. Adolescent society has an anti-academic, anti-achievement bias. However, young people learn through observation, imitation, trial and error, and reiteration; through the force of experience (Halpern, 2007). In absence of school-based vocational education and institutional linkages between school and work, adolescent part-time employment allows for normative expression of vocational exploration and semi-autonomy (Mortimer, 2003). It produces meaningful changes in adolescent work values and contributes to a better understanding of the relative importance of various aspects of work. (Skorikov & Vondracek, 1997). The positive effects of part-time work (employability and career achievement) may be the *long term consequences of changes in the young worker's non-cognitive skills (personality and character)* rather than the short term effects of having a better resume (Hudson & Hurst, 2002).

The results here importantly demonstrate that *both* adolescent pre-high school and high school work experience variables tested in this study significantly affect adult employee job satisfaction. Although work was not intense, the fact that the young adolescent ever worked, is very significant. Its inclusion marks a radical change from previous research that designated only high school work experience as early work experience. Going back even further in time, the seemingly innocuous "odd jobs" take on new importance and are part of the building and reinforcement of adolescents' non-cognitive skills that carry through and impact later adult life.

The positive significant effect of the number of hours of work in high school on adult job satisfaction highlights important skill development; that of learning to balance school and work roles, to assume responsibility, and to generally experience and interact within the work world. Importantly, high school work experience does not reduce the significance of pre-high school work experience; both significantly affect adult job satisfaction.

Heckman and Rubinstein (2001) liken the establishment of the quantitative importance of non-cognitive skills to "dark matter" research in astrophysics. In that spirit, though this study did not identify specific non-cognitive skills, it did attempt to identify and measure experiences that contribute to the development of these skills, building upon the extensive literature which documents the long-lasting effects of early childhood and adolescent experiences on adult outcomes. As employers struggle to effectively recruit and retain productive employees, youth experiences can serve as important additional markers of potential productivity beyond those of traditional educational measures.

IMPLICATIONS

The overarching implication of this research is that U.S. and other global employers need to take partial responsibility for the development and well-being of youth in their societies. The emphasis on physical capital and intellectual property investment has overshadowed the critical need to invest in humans. It is clear from this and other research that youths' early experiences play a critical role in not only their own success but the success of these business organizations as well. The family has always been recognized as the cornerstone of society's well-being, but now it is time for the global business

community to recognize the implications of this for themselves. If families struggle to provide material and time resources to their children, then ultimately down the road, employers cannot legitimately separate themselves from any undesirable outcomes.

What many would consider simple things, eating dinner with your family or doing something fun as a family, are often constrained, and for many families impossible, given work schedules. Doing family chores together or going to a worship service together as a family may have to slide in the face of parents' work requirements. The confidence building and socialization benefits of playing music or participating in sports may be restricted by limited access and community budgetary concerns.

Spirituality and religious beliefs and observation are not tangential to youth and family well-being but positive sustaining forces of protection. All youth should have the opportunity to experience the many benefits from working. Early socialization into the work world cannot happen without active participation by the business world itself. Those defining qualities that make an employee invaluable do not develop and sustain in a vacuum. Reaching out to schools and community organizations with the specific goal in mind of preparing youth for the future work world must come from the very organizations that will be looking for productive and engaged employees.

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