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Work Values, Early Career Difficulties, and the U.S. Economic Recession

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Abstract

We examine how work difficulties in the early career, and the generally deteriorating work conditions associated with the recent U.S. economic recession, shape individuals' work values. Drawing on panel data from the Youth Development Study, we test whether individuals change their work values in response to concerns about satisfying material needs or the features of jobs that they are able to attain. Results indicate that extrinsic values are weakened in the face of unemployment, as well as reduced job security, income, and advancement. These patterns support a reinforcement and accentuation model in which workers adjust their values to emphasize what they actually obtain from the job. Intrinsic values are weakened by working in a job unrelated to one's career plans; they are reinforced by the experience of greater intrinsic rewards and advancement opportunities.

Keywords

Work values; transition to adulthood; the Great Recession

Many young adults in the U.S. experience difficulties finding suitable employment, often experiencing significant "floundering" in the labor market, moving from job to job without improvement in pay or long-term employment prospects. Unemployment, working for low wages or in temporary positions, or working in jobs unrelated to one's career goals are some of the difficulties contemporary young adults have faced in disproportionate numbers, even before the most recent troubles in the economy (Corcoran and Matsudaira 2009; Danziger and Ratner 2010). The U.S. economic recession that began in December 2007 changed the employment and financial situations of millions of Americans, including young adults. Unemployment rose from 5 percent in 2007 to 9.5 percent in 2009 (U.S. Bureau of Labor Statistics 2010). The poverty rate rose 2.6 percentage points between 2007 and 2010 (DeNavas-Walt, Proctor, and Smith 2010). The employment difficulties young adults face, exacerbated by the deteriorating economic conditions of this period, are likely to have had wide-ranging effects on many behavioral and social psychological phenomena, including levels of stress and conflict in committed relationships, mental health, and a wide range of attitudes and orientations.

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In this paper we examine whether early difficulties in the work career, including unemployment, working in jobs unrelated to one's long-term career plans, and changing conditions of work with respect to pay, stability, and intrinsic rewards, shape the way people think about what is important to them in evaluating jobs. Drawing on data from the Youth Development Study, a longitudinal study of adolescents from St. Paul, Minnesota, we examine work values before and during the Great Recession. During this period, the sample aged from their early twenties to their mid-thirties. We contrast two hypothesized change processes in work values, one based on satisfying material need and the other focused on adjusting to emphasize the job features that are actually experienced. While we examine work values over a wider span of time, we give the economic recession particular attention —both because it produced larger proportions of young adults who experienced unemployment and deteriorating work conditions, but also to investigate the possibility that the relationship between these experiences and work values is altered during widespread troubled times.

We begin by considering how work values are conceptualized and the degree to which they demonstrate stability and change from adolescence to adulthood. We then develop two hypotheses for how individuals' work values change: a reinforcement and accentuation hypothesis, and a material need hypothesis. Finally, we develop a set of hypotheses specifying the impact of the Great Recession on work value change before turning to the current study.

WORK VALUES

Most research distinguishes two broad dimensions of work values. Extrinsic values reflect the importance attached to job features that are means to other ends or that provide more or less desirable conditions of work, such as a job's pay or security. Intrinsic values capture the degree of importance attached to the rewarding nature of the work tasks themselves, including opportunities for self expression, learning, or helping others. This two-dimensional structure has been supported by factor analytic techniques in a series of studies spanning forty years (Johnson et al. 2007).

Extrinsic and intrinsic work values are fairly stable, and they become more stable across the early adult years (Johnson and Monserud forthcoming; Mortimer and Lorence 1979). Yet they do change. And in the midst of rising stability during the transition to adulthood, the mean level of importance attached to most job characteristics declines at the group level (Johnson 2001).

Work values have been of interest to social psychologists and sociologists of work primarily because they shape occupational selection and job satisfaction (Johnson and Mortimer 2011; Kalleberg 1977; Lindsay and Knox 1984; Mortimer and Lorence 1979). Historical shifts in work values suggest changing motivations among workers. If pay (or another job characteristic) becomes more important to workers, job choice, turnover and satisfaction may come to depend more on pay. And to the extent that changes in job values occur in response to the conditions of work, as we suggest below, the motivations of workers in different types of jobs can diverge over time, creating and reproducing inequalities. Thus it is important to track work values over time, particularly in economic recessions when many workers' jobs are eliminated or their job conditions change, as well as to understand how work experiences and work values are connected.

REINFORCEMENT AND ACCENTUATION

The dominant perspective on work value change posits that values change in response to work conditions in ways that reflect reinforcement and accentuation processes. In his classic

study of the impacts of self-directed work, Kohn emphasizes the broad power of job conditions to shape work orientations and to generalize to other realms of life: “occupational experiences that facilitate or deter the exercise of self-direction come to permeate men’s views, not only of work and their role in work, but also of the world and of self” (Kohn and Schooler 1983:33). According to this perspective, workers come to value more highly those rewarding work conditions that they experience, while the value placed on other job features is lowered. In other words, being in a high paying job with little autonomy supports the maintenance or growth of extrinsic values, but erodes intrinsic values.

The extant research is supportive of this argument. Even after taking into account that workers try to select jobs with features they value highly, workers also tend to value those rewards they actually obtain in their work (Daehlen 2007; Lindsey and Knox 1984; Mortimer and Lorence 1979). Thus, the values attached to features present in workers' jobs are reinforced and accentuated, whereas those not experienced (or experienced at low levels) are weakened.

This process, of selecting jobs consistent with one’s work values, which are then reinforced or accentuated, is consistent with classical social psychological perspectives on the self-concept. The self-concept is, in part, a motivational system (Owens 2003). Rosenberg (1979) distinguished two self-concept motives: the self-consistency motive and the self-esteem motive. As values are a part of the self-concept (Rosenberg 1979), we can think of them in relation to these two motives. The first motive, self-consistency, is the drive to maintain a stable self-concept, including one’s values and attitudes. Individuals are motivated to behave in ways that affirm and preserve their system of values. The second motive, self-esteem, is the drive to think well of oneself. High self-esteem is viewed as a pleasurable experience, and individuals are motivated to interpret situations, as well as to seek out situations, that protect and enhance their self-esteem.

The tendency to select jobs in accord with one’s values can be seen as illustrative of both the self-consistency and self-esteem motives. The individual behaves in a manner that is consistent with the self-concept, affirming values, sense of competence and self-esteem (“I am a person who values autonomy highly and my choice of work reflects that and demonstrates that I am good enough to obtain that kind of work”). The self-concept is both maintained and enhanced through such a process. Value change arises when there is a mismatch between values and the opportunity for value fulfillment. The worker who values autonomy highly but ends up being micromanaged at work is in an inconsistent and self-esteem threatening situation. Placing great importance on something that one does not have, or cannot be, can create cognitive dissonance, foster strain, and diminish self-esteem.

One response to information potentially threatening to the self-concept is to reorder values to place greater emphasis on those things that enable one to maintain a positive evaluation of oneself. Rosenberg explains:

> Furthermore, since complex societies allow achievement in diverse activities, and since they afford considerable (though not complete) leeway in the selection of self-values, one would expect their members to regard most highly those qualities at which they believe they excel…Thus, the individual strives to excel at that which he values and to value that at which he excels (1979: 75).

Rokeach (1979) makes a similar argument. Reordering of value priorities occurs in light of experience, supporting and enhancing self-esteem. If autonomy is lacking, it becomes less important to the person, who instead comes to value more highly job features that are more readily available (“I am *paid* well at this job”). That way when one evaluates oneself with respect to aspects most important to the self, a favorable view is possible.

This process of adapting to obtained rewards fits the findings of past longitudinal studies of work values, as noted above, but also provides a reasonable explanation for another empirical observation—the diminishing importance attached to work features across the transition from adolescence to adulthood. Adolescents as a group tend to value many types of rewards very highly (Wray-Lake et al. 2011), but average ratings of many potentially rewarding job features tend to fall substantially thereafter (Johnson and Monserud forthcoming; Johnson 2001). Adolescents are unlikely to be able to fulfill their work values, particularly in the early stages of subsequent careers, given the many types of rewards they seek simultaneously. If those adolescents who do not receive high levels of their highly valued work rewards let go of the values attached to those rewards, the average importance of those rewards will fall over time.

If the reinforcement and accentuation model is correct, workers' extrinsic value orientations would weaken when they experience tough times—unemployment, a reduction in pay, or heightened insecurity. Intrinsic values might also deteriorate when workers receive lower levels of intrinsic rewards, which may happen if they must be less "choosy" about the jobs they take.

> *Hypothesis 1*: Deterioration in extrinsic and intrinsic work conditions weakens extrinsic and intrinsic values, respectively; Improvements in extrinsic and intrinsic work conditions heightens extrinsic and intrinsic work values, respectively.

MATERIAL NEED

Despite the observed patterns of reinforcement and accentuation in past studies, it is plausible that employment difficulties and worsening work conditions could affect work values in another way—one in which extrinsic values are heightened and intrinsic values take a back seat. First, consider the work values of adolescents from varying socioeconomic backgrounds. Intrinsic values are stronger, and extrinsic values weaker, among those from more socioeconomically privileged families compared to those from lower socioeconomic status families (Johnson 2002; Johnson and Mortimer 2011; Kohn and Schooler 1969). Second, characteristics of workers seemingly reflective of financial need are associated with stronger extrinsic orientations. Parents, for example, are more extrinsically oriented in their work values than non-parents (Gorman 2000; Loscocco 1989). While this difference results partially from the distinct family formation behaviors of workers with different work values, panel models controlling earlier work values show stronger extrinsic orientations among fathers and single mothers—two groups for whom the extrinsic rewards of work are key to meeting their economic responsibilities to their children (Johnson 2005).[1]

These patterns are consistent with the principles of Maslow's (1954) hierarchy of needs, in that they suggest that when basic material security is established, higher order needs like self-actualization can be considered. Individuals whose lower order needs are met, Maslow argues, underestimate their importance, and may even hold them in contempt. Workers from higher socioeconomic backgrounds or in better paying and more secure jobs could take those rewards for granted and consider intrinsic rewards of great importance both when they lack intrinsically rewarding work and if it is achieved. As Maslow notes, "a greater value is usually placed upon the higher need than upon the lower by those who have been gratified in both" (1954:148). But workers less assured of their material well-being attach more importance to extrinsic rewards like pay and security than do better situated workers, and assign less importance to intrinsic rewards. The relative absence of these extrinsic rewards makes them a high priority, as they represent that which addresses lower order needs.

[1]Interestingly, however, after taking into consideration earlier work values, parenthood is associated with stronger intrinsic orientations as well (Johnson 2005).

Likewise, when workers experience changes in their lives that increase their material needs, the value they place on extrinsic job rewards increases.

Another way of thinking about how social location and everyday life conditions shape values, aspirations and worldviews is through Bourdieu's concept of habitus (1977). Habitus is a system of beliefs, skills, preferences, and behavioral schemata that provide a sense of the world and one's place in it, developed through every day experience in a socially structured environment. The young adult from a lower socioeconomic status family and with low educational attainment occupies a social world in which jobs are principally about supporting self and family. How much a job pays and whether it can be relied on are of most concern. This habitus is one that does not take extrinsic rewards for granted; it is quite different from the habitus of a youth who experiences stable material support and whose social world is concerned with self-actualization at work. While relatively stable, habitus reflects ongoing experience. With unemployment, or even anticipation of job loss, individuals may develop a more insecure habitus in which extrinsic rewards, particularly pay and job security, become more highly valued. For example, the former managers and executives Newman (1988) interviewed to understand downward social mobility expressed how much their job loss shook their sense of security. Work that involved challenge and autonomy did not lose all interest, but their preferences became more strongly anchored in concerns about occupational and economic certainty. As they approached their own adult work lives, the children of displaced workers commonly expressed concerns about economic certainty too. Similar concerns were raised by those experiencing economic loss in the Great Depression (Elder 1999).

Empirical studies of changing work values have focused on varying conditions across workers, including their pay, autonomy, and having interesting and meaningful work, capturing variation in extrinsic and intrinsic rewards, but without focusing on particularly problematic work experiences like unemployment; nor have they been carried out during times in which job conditions deteriorate substantially for more than small fractions of workers. Economic recessions thus provide an opportunity to revisit the ways work values may be heightened or diminished when workers face an absence or withdrawal of valued rewards.

The material needs perspective suggests that when material well-being is threatened, extrinsic work values are heightened and intrinsic work values are weakened.

> *Hypothesis 2*: Deterioration in extrinsic work conditions heightens extrinsic and weakens intrinsic values, respectively; Improvements in extrinsic work conditions weakens extrinsic and heightens intrinsic work values, respectively.

THE GREAT RECESSION

In addition to examining these hypothesized processes generally, we seek to evaluate the Great Recession's impact on work values.[2] Characteristics of the Great Recession, which officially spanned from December of 2007 to June of 2009, included dramatically increasing unemployment, striking decreases in jobs in some sectors, and rising costs of living (Goodman and Mance 2011). These economic changes had far-reaching effects. National unemployment nearly doubled from 5 percent in December of 2007 to 9.5 percent in June of 2009, and it actually did double to 10 percent at its peak in October of 2009 (U.S. Bureau of Labor Statistics 2012). Despite the official end of the recession, unemployment rates remained above 9.5 percent until June of 2010. Utilizing the American Life Panel study,

[2]The U.S. also experienced a recession from March to November 2001 which may have shaped the work values of respondents in our sample, but we cannot evaluate this possibility as no data collection occurred in 2001.

Hurd and Rohwedder (2010) report that more than one in three American households had experienced either unemployment, negative equity in their home, or failure to make a house payment between 2008 and 2009.

The challenges faced by those looking for employment were compounded by the fact that there were fewer new jobs created during this time and those who did have jobs were less likely to leave them (Greenstone and Looney 2010). During the first half of the recession, a little more than half of the jobs lost were in the manufacturing and construction sectors (Goodman and Mance 2011). After a decade of continuous decline, manufacturing experienced a spike in job losses of about 15 percent during the recession, while jobs in construction fell by slightly more than a quarter between April of 2006 and December of 2010 (Goodman and Mance). As the national financial crisis emerged in September of 2008, the financial sector also began to experience large losses of jobs (Goodman and Mance). In the end, the only sectors not drastically impacted by the recession were education, health care, and government (Goodman and Mance).

In this context, a substantial number of people in our study sample lost their jobs. Those who avoided unemployment may have become more concerned about whether their jobs were secure. Other job conditions may generally have eroded as well, as work tasks were reconfigured among remaining employees and those seeking work were in a weaker position to select a job with features they valued highly. These changes in the labor market could shape work values in two possible ways.

First, the recession may simply increase the proportion of people who experience unemployment, employment in jobs unrelated to a long term career plan, or other deteriorating work conditions. In this case, the historical period provides the researcher with additional cases with which to study what otherwise does not occur in great numbers, but the fundamental relationships are the same. Trends in work values in the population may show shifts corresponding to the recession, as more people respond to their changing experiences (negatively or positively depending on which process described in the first two hypotheses operates).

Second, it could alter the nature of the relationship between work conditions and work values itself, but like the relationship between changing work conditions and values in "normal" times, the character of such historical moderation is unclear. Since economic downturns are most threatening to the extrinsic rewards of work, our hypotheses about the effects of the Great Recession focus on extrinsic values. First, with the scope of economic hardship as large as it has been, individual experience of unemployment and other work problems may be interpreted in ways that protect self-esteem without requiring changes in the self-concept. With blame on the economy, Wall Street, globalization, deindustrialization or the like, and with a large number of people experiencing similar loss, perceptions of one’s own competence are less at risk for the worker experiencing unemployment or other work problems. Perhaps people in these circumstances do not need to reorder value priorities to emphasize attained rewards (as the reinforcement and actualization model would suggest).

But an alternative expectation is also plausible. Widespread unemployment, escalating poverty, and home foreclosures could raise the salience of extrinsic rewards. Constant reports in the media about the falling prospects of American workers, and watching the declining fortunes of family members, friends, and neighbors, could accentuate the impacts of deteriorating individual-level work conditions and indications of job insecurity, heightening extrinsic values even more so than in more prosperous times. Because our panel data involve assessments of work values and work experiences for some time before the

recession, but also through it, we can evaluate these potential interactions of macroeconomic and individual-level job conditions.

Hypothesis 3a: The Great Recession shapes intrinsic and extrinsic work values by raising the proportion of people who experience deteriorating work conditions, but does not alter the relationship between work conditions and work values.

Hypothesis 3b: Changing work conditions in the Great Recession have weaker impacts on extrinsic work values than similar changes in non-recession periods.

Hypothesis 3c: Changing work conditions in the Great Recession have stronger impacts on extrinsic work values than similar changes in non-recession periods.

It is relatively rare to be able to examine the impacts of work conditions on values, or other psychological orientations, in different economic environments that could also influence these social psychological processes and outcomes. The sudden and dramatic change in the economy, and the fact that a panel study of work was in the field before and during the Great Recession, provide a strategic opportunity for theory testing and development. Most theories about how work affects values, psychological functioning, efficacy, and similar phenomena are framed as universally applicable (Johnson and Monserud 2010). Our study enables a test of that assumption in the case of work values. Thus, we contribute to the understanding of work values by shifting attention to previously unstudied problematic work outcomes like unemployment and reduced earnings, and by evaluating the impact of a major economic recession on work values and the processes shaping them.

DATA AND MEASURES

Data

We examine change in work values across five time points over a 14 year period, using data from the Youth Development Study (YDS). YDS began with a randomly chosen panel of 1,010 ninth grade students enrolled in St. Paul, Minnesota, public high schools in 1988. Participants (64 percent of those invited) completed questionnaires in their classrooms annually between 1988 and 1991. Those who were not present on either of the two administration days, were no longer attending school, or had moved from the area completed questionnaires by mail. Data were collected by mailed questionnaires every year between 1992–2009 except 1996, 2001, 2006 and 2008. The retention rate through 2009 was 67 percent. In 1988 and 1991, parents were surveyed by mail. In this analysis we draw on data collected in the 1995, 2000, 2002, 2005, and 2009 surveys, the years in which measures of both work values and the work features of interest were included, along with background information from the adolescents and their parents in 1988 and 1991. Since respondents were 21–22 years old in 1995 and 35–36 in 2009, our analysis covers a wide age swath from the transition to adulthood through early adulthood.

The YDS data are representative of ninth graders attending public schools in St. Paul in 1988. As a community sample, it is less generalizable than a nationally-representative one, and yet a comparison of Census data indicates the social and economic characteristics of St. Paul are comparable to national averages (Mortimer 2003). Panel retention has not been associated with numerous personal characteristics and experiences, including achievement, mental health, delinquency, and family economic circumstances and structure (Mortimer 2003). Retention has been lower among males, however, as well as non-Whites and those who had no employed parent at the outset of the study.

Dependent Variables

Work values were measured across waves by respondents' ratings of a list of job features from 1 (not at all important) to 4 (extremely important), including key indicators of intrinsic and extrinsic work rewards (see Figures 1 and 2). Although past studies, including those with YDS data, have most often used these indicators to measure latent constructs representing the work value dimensions, we created scales that could be incorporated into our statistical models (described below). We averaged ratings of good pay, security, advancement opportunities and a job that is regarded highly to create a scale tapping extrinsic orientations (across the five waves, α = .69, .61, .64, .66, and .63).[3] We averaged ratings of decision-making authority, having responsibility, using one's skills and abilities, opportunities to learn, contact with people, and opportunities to help others, creating a scale of intrinsic orientations (α = .82, .78, .78, .79, .81).

Independent Variables

In order to evaluate the hypothesized processes of work value change, we focused on several work features closely tied to the difficulties young adults experience early in their careers, as well as those work conditions most likely affected by the recession. These included reports of unemployment, whether or not respondents were working in jobs they viewed as related to their career goals, and a range of employment conditions that generally improve as young people get established in work, but that can deteriorate, particularly during an economic recession. *Unemployment* experience was reported each wave in month-by-month life history calendars using "not employed and looking for work" as a descriptor. We measured whether respondents experienced any unemployment in the 12-month period prior to each survey administration.[4]

In each wave, respondents also reported on a range of conditions of their current job, or the job they considered their "primary" or "main" job if working more than one. To measure whether respondents' jobs were related to their intended career, we distinguished those who indicated that their job was "not linked to my long-term career objectives" or who reported "I don't know" when asked how their job was related to their future work, from those who indicated that their job would "probably continue as a long term career" or that it provided "skills or knowledge that will prepare me for a career."

The money workers make at their jobs has been the primary indicator of extrinsic rewards in the past, either through hourly pay or earnings over a longer period of time (i.e., biweekly, monthly, or annually). We measure both *hourly pay* and *biweekly earnings* because a job might pay well, but offer too few hours to translate into a good income, or provide a good income through a salaried position that does not compare well on an hourly basis. Respondents may also work more than one job. Hourly pay refers to the respondent's primary or main job if more than one is held; biweekly earnings combines pay from all jobs. We converted both indicators of earnings to constant dollars (2009) and took the natural logarithm. We also tap extrinsic rewards through perceived *job security*, and how much *advancement opportunity* the job provided (on scales from 1 to 4).

Finally, respondents rated their primary job on seven items tapping *intrinsic rewards*, which we combined into a scale by taking the mean (across the five waves, α = .72, .75, .74, .72, and .76).[5] Three items, including the frequencies of feeling bored at work or that time is dragging (reversed), of finding the job interesting enough to do more work than the job

[3]We explored whether dropping any item would increase the alpha coefficients. Only dropping the item on high regard would improve them (across four of the five waves), and only by .01 to .02. We retained the item to be more comparable with past studies.
[4]Models substituting this dichotomous measure with one counting the number of months of unemployment produced similar results.

requires, and of feeling the work is meaningful and important, were rated on five point scales from 1 (never) to 5 (always). For the next three items, respondents were asked how true statements were about their job, with ratings from 1 (not true at all) to 4 (very true): the job provides the chance to learn a lot of new things, a chance to be helpful to others, and it uses one's skills and abilities. A final item captured how frequently respondents had to think of new ways of doing things or solving problems on their jobs, rated from 1 (never) to 5 (almost always).

Control Variables

We control for a set of background factors, including parents' socioeconomic status, gender, and race/ethnicity. The social class differences in work values noted above, with young people from more privileged families placing greater importance on intrinsic job features and less importance on extrinsic job features than those from lower socioeconomic status backgrounds, make it necessary to control social class background, which could drive both values and occupational conditions. Race/ethnicity and gender need to be controlled for similar reasons. Black adolescents attach greater importance to both intrinsic and extrinsic rewards than do whites, controlling for parental socioeconomic status (Johnson 2002), and nonwhites, a more heterogeneous group, attach greater importance to intrinsic rewards than do whites (Johnson and Mortimer 2011). Young women are more intrinsically oriented than are young men, and in recent cohorts they are equally extrinsically oriented as young men (Bridges 1989; Johnson and Mortimer 2011; Marini et al. 1996; Mortimer et al. 1996).

We measured these characteristics in 1988, the ninth grade base year. Socioeconomic status is captured by parents' educational attainment, reported by parents.[6] We represent *parental educational attainment* as a series of dichotomous variables referencing the most highly educated parent, and distinguish three categories: at least a four-year college degree, some postsecondary education, and a high school degree or less. The adolescents reported their *gender* and *race/ethnicity*. With limited racial/ethnic variation in the panel (minorities were not oversampled), we distinguish whites from non-whites.

Cognitive and academic abilities have also been linked to work values in ways that mirror socioeconomic advantage. Adolescents with higher academic ability or perceived academic ability place less emphasis on extrinsic rewards (Anderson 1985; Johnson and Mortimer 2011). Therefore we also control self-perceived ability with *academic self-esteem,* a scale based on adolescents' responses in 1991 (12^{th} grade for most) to three questions asking them to rate their intelligence, reading skills, and school ability compared to others their age on a scale from 1 (far below average) to 5 (far above average) ($\alpha = .74$). Moreover, we control the respondent's educational attainment and whether they were students in each wave. *Educational attainment* was measured by the highest degree earned, which we converted to years of schooling completed (e.g., college degree = 16 years, some college = 14 years, high school diploma = 12 years).

Analytic Strategy

Fixed effects models provide a powerful tool for analyzing individual change across repeated measurements. Their primary advantage is that they control for all enduring characteristics of individuals regardless of whether they are measured (Allison 2005). They model only the within-person variation, allowing estimation of how work values differ for

[5]In creating this scale, we needed to combine items measured on a four-point scale with those measured on a five-point scale. We converted those on four-point scales to five-point scales first, with 1=1, 2=2.33, 3=3.66, and 4=5. Standardizing the items before combining them was rejected as a strategy because it would interfere with observing within-person change from wave to wave.

[6]We also controlled family income in preliminary analyses, but dropped it as it did not have statistically significant effects on either dimension of work values.

people when they are unemployed compared to when they are employed, for example. Their main drawback is that although they control for stable characteristics, they do not allow the estimation of their effects, some of which are of interest and can be measured (e.g., differences in work values by socioeconomic background). Random effects models can estimate the effects of these characteristics, in contrast, but can also produce inaccurate estimates of the effects of the time-varying predictors.

Allison's "hybrid" approach (2005), which we use here, combines elements of fixed effects and random effects models to achieve the advantages of both. In practical terms, the model is a random effects model that includes individual means on time-varying characteristics as additional predictors. Doing so produces within-person coefficients for time-varying predictors as produced in fixed-effects models. These individual means do not have a meaningful interpretation, and so are not included in the tables (available upon request). Their presence, however, is what enables us to estimate the effects of the time varying predictors to gain an understanding of within-individual changes. Importantly, respondents do not need to provide data at every time point to be included in the model. Our initial analyses are based on approximately 3,240 person-years, though that drops to approximately 2,600–2,700 person-years once we evaluate work conditions, as respondents had to be employed in a given wave to have data from that wave included in these latter models.

RESULTS

Descriptive statistics on the study measures appear in Table 1. Consistent with prior research on the YDS participants as well as other samples (Johnson 2001; Johnson 2005), the strength of extrinsic and intrinsic values declined with age, particularly during the participants' early to mid-twenties (1995–2000). The trends for the items making up these scales are shown in Figures 1 and 2. Although the multivariate models we estimate next draw only on data between 1995 and 2009, we include 1991, the high school senior year for most respondents, in these figures to show how the trend is embedded in a longer pattern of change since adolescence.[7]

It is notable that despite a pattern of declining ratings with age across job characteristics, the ratings of job security (a steady job) actually increased slightly (+.06) between the last wave before the recession (2005) and the wave during the recession (2009). It would seem that job security became slightly more important over the four years, when no other job characteristic did. Interestingly, job security is also the most highly rated job characteristic at each time point. The small increase in the rating of job security is most likely a response to the recession rather than an age effect. Ratings of a similar item in the ongoing Monitoring the Future Surveys of 12th graders (and thus with age held constant) likewise showed a notable uptick between the 2008 and 2009 senior class cohorts (author's calculations).

The respondents' aggregate work experiences also changed over time, likely reflecting a combination of aging (career stage) and period effects. Unemployment fluctuated somewhat across these years, though as expected, was at its highest level in 2009 during the recession. Sixteen percent of the retained sample reported at the time of the 2009 data collection that they had experienced unemployment in the past 12 months.[8] The remaining descriptive statistics characterize only those employed at the time of the survey in each wave. The

[7]In addition to the models presented in Tables 2 and 3, we estimated additional models in which the corresponding measure of the work value dimension in 1991 was entered as a time-invariant control (like race). This strategy does not affect the estimates of the effects of work conditions on work values at all. Its effect is limited to the estimates of the control variables. In the case of intrinsic work values, it reduces the coefficient for male to −.04 to −.07* across models and academic self-esteem becomes significant or marginally significant in some models (−.03 to −.05*). In the case of extrinsic work values, the estimates for white and parents' college educated are both reduced slightly, though both remain statistically significant across all models.

proportion working in jobs unrelated to their future work plans declined precipitously between 1995 and 2000 and remained fairly steady thereafter. Still, a quarter of the employed sample was not working in a career-related job at age 35–36. Perceived job security dropped steadily over time. Advancement opportunities improved initially, but then showed little change. Inflation-adjusted earnings, both hourly and biweekly, improved between 1995 and 2005, but then flattened. Intrinsic rewards continued to increase throughout the period.[9]

While we do not have comparable trend data on all of these work characteristics of interest for the U.S population as a whole, the Census Bureau reports a rise in unemployment and decline in median personal income during the recession (DeNavas-Walt et al. 2010) that provides important context for understanding the YDS cohort's experience as they grew older. Also, while their analysis ends with 2002, Fullerton and Wallace (2007) report a decline in perceived job security among U.S. workers since the 1970s, taking variations in unemployment into account.

In Tables 2 and 3 we present a series of fixed effects models using Allison's (2005) "hybrid" approach. Our analyses of extrinsic orientations appear in Table 2. Model 1 serves as a baseline. It confirms that extrinsic orientations were stronger in 1995 and 2000, when respondents were in their twenties, than they were in 2009, when respondents were in their mid thirties. Whites had weaker extrinsic orientations than minorities, as did those who had higher academic self-esteem and whose parents were college educated.[10] This model also includes time-varying measures of educational attainment and student status. Gains in education were associated with stronger extrinsic orientations, and respondents held stronger extrinsic orientations when they were students compared to when they were out of school. We considered the work difficulties and other indicators of work conditions one at a time in Models 2 through 8.

Young adults held weaker orientations toward extrinsic work rewards when unemployed compared to when they were employed (Model 2), but whether they were working in a job related to their long-term career or not made little difference (Model 3). Respondents' extrinsic orientations were stronger when they earned more (Models 4 and 5), when they held jobs they perceived as more secure (Model 6), had better opportunities for advancement (Model 7), and were more intrinsically rewarding (Model 8). This pattern of findings is consistent with reinforcement and accentuation processes, rather than a deficit- or need-driven pattern of change. Instead of heightening the importance attached to extrinsic rewards when unemployed, respondents report that these characteristics become less important. Likewise, it is when respondents have *better* perceived job security, pay, and opportunities to advance that they place more importance on them. That the level of intrinsic rewards is also positively related to extrinsic orientations, a so-called "crossover" effect, is consistent with the findings of some prior studies (Lindsay and Knox 1984; Mortimer et al. 1996). With respect to extrinsic orientations, then, we find more support for Hypothesis 1 (reinforcement and accentuation) than Hypothesis 2 (needs-driven change).

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[8]Unemployment rates are usually calculated for a shorter duration of time. While we report any unemployment over the course of 12 months, The Bureau of Labor Statistics (2012), which estimated a 9.5 percent unemployment rate for 2009, averages monthly estimates of currently not working and having looked for employment in the prior four weeks to calculate an annual rate.

[9]These trends are based on a changing sample size as respondents move in and out of work. We also examined how the work characteristics changed across respondents who were employed at all five time points (N=273). The trends were highly similar, with only one notable difference. Those who were employed at all five time points saw a slight increase in their logged hourly pay between 2005 and 2009 (from 3.10 to 3.13).

[10]Additional analyses found that the gap in extrinsic orientations between whites and non-whites was significantly wider in 2009 than it was initially, in 1995. In contrast, the differences between respondents with college educated parents and those whose parents had a high school degree or less, and those by 12th grade academic self-esteem, were largest in 1995 and grew smaller over time.

We estimate the effects of the significant work conditions together in Model 9. Earnings and the intrinsic rewards scale remain significant predictors, but unemployment, job security and advancement opportunities do not. It is important to note that in this combined model, the effects of unemployment (during the past 12 months) are estimated only for those currently working (at the time of survey administration), as those who are not working have missing values on the other work conditions. Therefore, we estimated an additional model (not shown) to determine whether the effect of unemployment over the past year has its impact through being employed or not at the time of the survey, while deleting the other work conditions. Unemployment remained significantly related to extrinsic values controlling for current employment status.

Model 9, which includes both unemployment and work features, indicates that for those able to obtain jobs, recent unemployment matters because those who have experienced unemployment in the past year have different work conditions than those who have not. It is also important to note that no one measure of work conditions is responsible for wiping out the effects of the others. Models examining work conditions in pairs generally produced statistically significant effects for both work conditions evaluated. Finally, we also estimated a model (not shown) in which we included hourly pay instead of biweekly earnings. Hourly pay did not have a significant effect on extrinsic work values, but otherwise the model was highly similar.

To examine whether the effects of unemployment and other work conditions had different effects during recession years vs. non-recession years, we added interactions between each work condition and the year of data collection. None of these interaction terms were significant, indicating that while more people experienced unemployment and worsening job conditions with the recession, the impacts of these experiences were similar to those experienced during non-recession years. Thus we reject Hypotheses 3b and 3c, finding more support for Hypothesis 3a.

We estimated a parallel set of models for intrinsic orientations, shown in Table 3. The baseline model (Model 1) shows a weakening of intrinsic orientations over time as the panel moved through young adulthood. Young women held stronger intrinsic orientations than young men and nonwhites held stronger intrinsic orientations than whites.[11] Gains in education were associated with stronger intrinsic orientations, though this likely operates through the association between educational attainment and job type, as the effect is no longer significant once the conditions of work are included in the model. Respondents held stronger intrinsic orientations when they were students compared to when they were out of school. Unemployment (Model 2) is not associated with intrinsic orientations, nor are pay (Models 4 and 5) and perceived job security (Model 6). Respondents held weaker intrinsic orientations when they were working in jobs unrelated to their long-term career plans, however (Model 3). When their jobs offered greater opportunities for advancement (Model 7) and more intrinsic rewards (Model 8), their intrinsic values strengthened. The results for intrinsic orientations are therefore also consistent with reinforcement and accentuation processes (Hypothesis 1). The results from Model 9, which includes the three work conditions with statistically significant effects, indicate that the effects of a job's relation to longer-term career plans and its advancement opportunities are due to their mutual association with the level of intrinsic rewards it offers.

Again we examined whether these patterns were similar across the five time points, to determine whether the work-related experiences during the recession altered their effects.

[11]Parents' educational attainment and academic self-esteem were also significantly (positively) related to intrinsic orientations, but the effects were entirely mediated by respondents' own educational attainment.

None of the interaction terms were statistically significant. Thus, with respect to both dimensions of work values, we reject Hypotheses 3b and 3c in favor of Hypothesis 3a, that the effects of work conditions are similar in recession and non-recession periods.

DISCUSSION

In this study we traced the impact of changing employment situations and work conditions during young adulthood on work values, with attention to whether the deteriorating employment opportunities and work conditions during the U.S. economic recession shaped the work values of contemporary young adults. Our research focused on what changes respondents reported in their work and whether they were tied to work values in one of two ways. We examine, on the one hand, whether shifts in work values reflect reinforcement or accentuation processes which heighten the evaluation of received job rewards. Such accentuation would be consistent with much prior theorizing in sociological social psychology, including Kohn and Schooler's (1983) emphasis on generalization and Rosenberg's (1979) analysis of the self as a motivational system. On the other hand, we examine whether value changes reflect the impacts of deprivation, which heighten the evaluation of work conditions or rewards that are threatened or declining. Heightened evaluations of work conditions that are in short supply would be consistent with Bourdieu's (1977) conceptualization of the habitus and Maslow's (1954) hierarchy of needs. We move beyond past research with our focus on especially problematic work conditions (e.g., unemployment) and by examining change in work values through a historical period including the years prior to and through a major recession, in which the rates of work problems were substantially higher.

The main question of interest for us was whether those experiencing tougher times as they made their way in their early careers would become more or less extrinsically oriented (and, if intrinsic rewards were affected, whether intrinsic orientations would strengthen or weaken). Across the young adult years, we observe work value change consistent with reinforcement and accentuation processes (Mortimer and Lorence 1979). Improvements in pay, job security, and advancement opportunities are associated with strengthening extrinsic values, while declines in pay, job security, and advancement opportunities are associated with weakening extrinsic values. The impacts of unemployment, with its total lack of earnings and job security, follow the same pattern. For those employed by the time of the survey, the negative effect of recent prior unemployment on extrinsic values operated through their poorer current job conditions compared to those who had not been unemployed in the past year.

Intrinsic work values were largely unaffected by changes in these extrinsic job conditions, though they were stronger when respondents worked in jobs related to their long-term career plans and when they felt they had better opportunities for advancement. Thus, early difficulty in the labor market in the form of working in jobs unrelated to one’s career and with little room for advancement weakened intrinsic work values. Furthermore, consistent with a substantial body of research, we find that obtaining higher levels of intrinsic rewards on the job reinforces intrinsic values (e.g., Lindsey and Knox 1984; Mortimer and Lorence 1979). Deteriorating levels of intrinsically rewarding job characteristics weaken intrinsic values, while improvements strengthen them.

Work values may indeed change in self-protective ways. Rosenberg (1979) and Rokeach (1979), in writing about values more generally, both argued this perspective. Accentuation and reinforcement processes reduce the discrepancy between work conditions and values; in accord with the consistency motive, self-esteem may be strengthened. Those who avoid unemployment or see improvement in their pay or job security can more safely maintain or

increase the importance they place on extrinsic rewards without risk to their self-esteem. In contrast, workers who lose their jobs, spend time unemployed, watch their earnings fall, or feel their jobs are more precarious than they were in the past are at heightened risk of mental health problems; these could be exacerbated were they to place a great deal of importance on extrinsic job features like making a lot of money and having highly stable jobs. While our focus was on whether work values changed in ways consistent with this argument, future research could examine this mechanism more directly by evaluating whether respondents facing worsening job conditions suffer deteriorating self-esteem if they do not adjust their work values accordingly.

Our findings are inconsistent with the needs-based hypothesis grounded in Maslow's (1954) hierarchy of needs in that diminished material security from lowered extrinsic rewards did not strengthen extrinsic values and weaken intrinsic values. This undermines the validity of a needs-based argument in the context of work and work values. Likewise, while the habitus of workers in different social class positions may differ, workers across the spectrum appear to adjust their values according to what is available to them in their work. As noted above, response to material need by increasing extrinsic values may not occur because it is runs up against the self processes we have emphasized—cognitive dissonance and the increasing recognition that one is falling short of one's values. Perhaps because of this difficulty, it only occurs when the individual is confronted with long-term deleterious circumstances that threaten survival or lifestyle in fundamental ways. Transient difficulties in the early career are also to some extent normative, as young workers move more frequently from job to job, with intermittent bouts of employment, as they attempt to obtain a better fit between work conditions and their own interests, needs, and abilities. Future research could not only evaluate whether changing values in response to short-term deterioration in extrinsic conditions preserves or enhances self-esteem, but also whether long-term unemployment or long-term deterioration of extrinsic work conditions heighten extrinsic values, thereby reducing self-esteem.

In addition, future research could investigate several issues related to reinforcement and accentuation processes that could not be pursued here because of data limitations. For example, unemployment arises for many reasons, ranging from voluntarily quitting to being fired or laid off, to failure to successfully begin work at all. These conditions could moderate the impacts of unemployment on work values. Without knowing the reasons for our respondents' unemployment, we were unable to explore this possibility. In addition, our sample was predominantly white and may not reflect the experiences of minority groups. For example, some have argued that Black adults' greater emphasis on extrinsic orientations, despite controls for familial and current socioeconomic status, reflects a legacy of poorer work conditions and lack of economic security at the group level (Martin and Tuch 1993). Such group differences could affect the malleability of work values to fluctuations across the career. Furthermore, some groups of people were more impacted by the Great Recession than others, including Blacks and Latinos (Mattingly, Smith, and Bean 2011), and thus we would expect a wider impact of job loss and adverse work conditions even if not of a different magnitude.

The ways in which work values changed did not vary by age through the young adult years that we examine. There is no research comparing change in work values during young adulthood with that at later ages or later stages of the career. This is an important issue in the larger body of research on job conditions and psychological functioning (Kohn and Schooler 1983), however, and it would be desirable for future research to address it. Findings to date are mixed, with some features of work shaping older and younger workers similarly (e.g., Schooler and Oates 2001); and others showing larger effects for older (Schooler, Mulatu, and Oates 1999) or younger workers (e.g., Lorence and Mortimer 1985). Thus, it is likely

that distinct social psychological and cognitive dimensions are differentially responsive to job conditions by age.

Beyond the more generalized processes of reinforcement and accentuation, what should we make of the impact of the recession on young adults' work values? As a group, the Youth Development Study respondents do show some degree of extrinsic concern associated with the recession. Specifically, the importance ratings we use to measure extrinsic and intrinsic orientations seem to indicate security is on respondents' minds. Whereas average importance ratings have generally declined since adolescence, and demonstrate a continued slight downward trend between the early and mid-thirties, the importance respondents attached to having a steady job actually increased slightly.

Given that our sample represents a single cohort, it is instructive to compare this pattern with other data that can also speak to how work values may have changed in the Great Recession. Data from the repeated cross-sectional Monitoring the Future surveys of 12th graders indicates a notable rise in the importance ratings of job security, but not other job features, between the senior year classes of 2008 and 2009.[12] With the slight increase in YDS respondents' ratings of job security, and with a flattening in the downward trend in ratings of the other extrinsic job characteristics after the late 20s, extrinsic orientations did not weaken as much as did intrinsic orientations during this formative period of the early occupational career.

The recession also clearly had an impact on the YDS respondents' work lives. A substantial number of Youth Development Study respondents report at least some period of recent unemployment at the 2009 data collection. In the time period addressed in our models, 16 percent of the sample experienced unemployment. Taking more of a calendar view, 14 percent experienced unemployment in 2008 and 12.6 percent did so in the first five months of 2009 alone, until the survey administration (This involves just under 17 percent experiencing unemployment within the total 17 month period). The otherwise rising earnings levels of young adulthood also flattened with the recession. Perceived job security eroded as well, though it had been declining since 1995. Eroding perceptions of job security over the period we study is likely a continuation of national trends evident since the economic restructuring of the 1970s (Fullerton and Wallace 2007). Because those declines are evident in general adult samples, they probably do not reflect an age or career development pattern unique to the early adult years.

The relationships between work values and the work difficulties and conditions young people experience were not substantially different during the recession and during the rest of their young adulthood, however. It seems the recession brought unemployment, lowered job security, and less pay to more people, but the effects of these problems were the same as they were in non-recessionary periods. Most theories about how work affects work values and other social psychological phenomenon are framed in universal terms, but we do not often have dramatically changing economic conditions with which to test whether this is reasonable. A recent study comparing young adults making the transition to adulthood between the late 1970s and early 1990s similarly found only limited historical change in the relationship between work values and occupational experience—in this case examining the influence of adolescent work values on later work outcomes (Johnson and Monserud 2010).

Yet, the reinforcement and accentuation model implies that the lower extrinsic, and to some extent, intrinsic rewards, associated with the Great Recession, weaken extrinsic and intrinsic

[12]There was also a notable uptick between 1990 and 1991, and a smaller one between 2000–2001, also coinciding with U.S. economic recessions, though no change was apparent in the early 1980s.

work values. Because these values guide behavior at work and decision-making in seeking and selecting new jobs, weakened work orientations may have implications for mobility, work effort, and the attainment of future occupational rewards (Johnson and Mortimer 2011; Mortimer 1996). Future analyses should attend to these implications as well as whether economic recovery brings corresponding changes as this perspective would predict.

Research should also attend to the experiences of cohorts newly entering the labor market in good and bad times (Greenstone and Looney 2010; The Pew Research Center 2012). The current panel was in their thirties as the Great Recession began, relatively early in their careers, but also not just starting out. Young people entering the labor market in times of high occupational rewards may be more likely to maintain strong extrinsic and intrinsic work values, which may foster higher work involvement and work effort, as well as attempts to achieve high levels of corresponding occupational rewards. The work values of those entering the labor market in tough times may weaken, producing declines in motivation and apathy that make them less agentic in career development. This may leave a mark on careers even after occupational rewards become more available.

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Biographies

Monica Kirkpatrick Johnson is an associate professor in the department of sociology at Washington State University. Her research focuses on education and work-related processes during adolescence and the transition to adulthood, and particularly the social psychological experience of this life course transition. Her current work examines processes of subjective age identity, and formation and change in ambitions, during this period of the life course.

Rayna Amber Sage is a PhD candidate in the department of sociology at Washington State University. Her dissertation explores the experiences of rural adults in an isolated community where the timber, farming, and mining industries have been replaced by a growing health care sector. She is particularly interested in gender, migration, and the transition to adulthood.

Jeylan T. Mortimer is Professor of Sociology at the University of Minnesota and Principal Investigator of the Youth Development Study. Her current research focuses on the children of the original cohort, specifically, the degree to which parents' prior trajectories through adolescence and the transition to adulthood affect multiple dimensions of child adaptation and well-being. Her recent work has been published in *Social Forces*, the *Journal of Marriage and Family, Social Psychology Quarterly, Society and Mental Health*, and *Demography*. She is co-editor of the *Handbook of the Life Course* (with Michael J. Shanahan, Springer 2003), and *Classic and Contemporary Perspectives in Social Psychology* (with Sharon Preves, Oxford 2011). She received the Cooley-Mead Award from the Social

Psychology Section of the American Sociological Association in 2011 for her career contributions to social psychology.

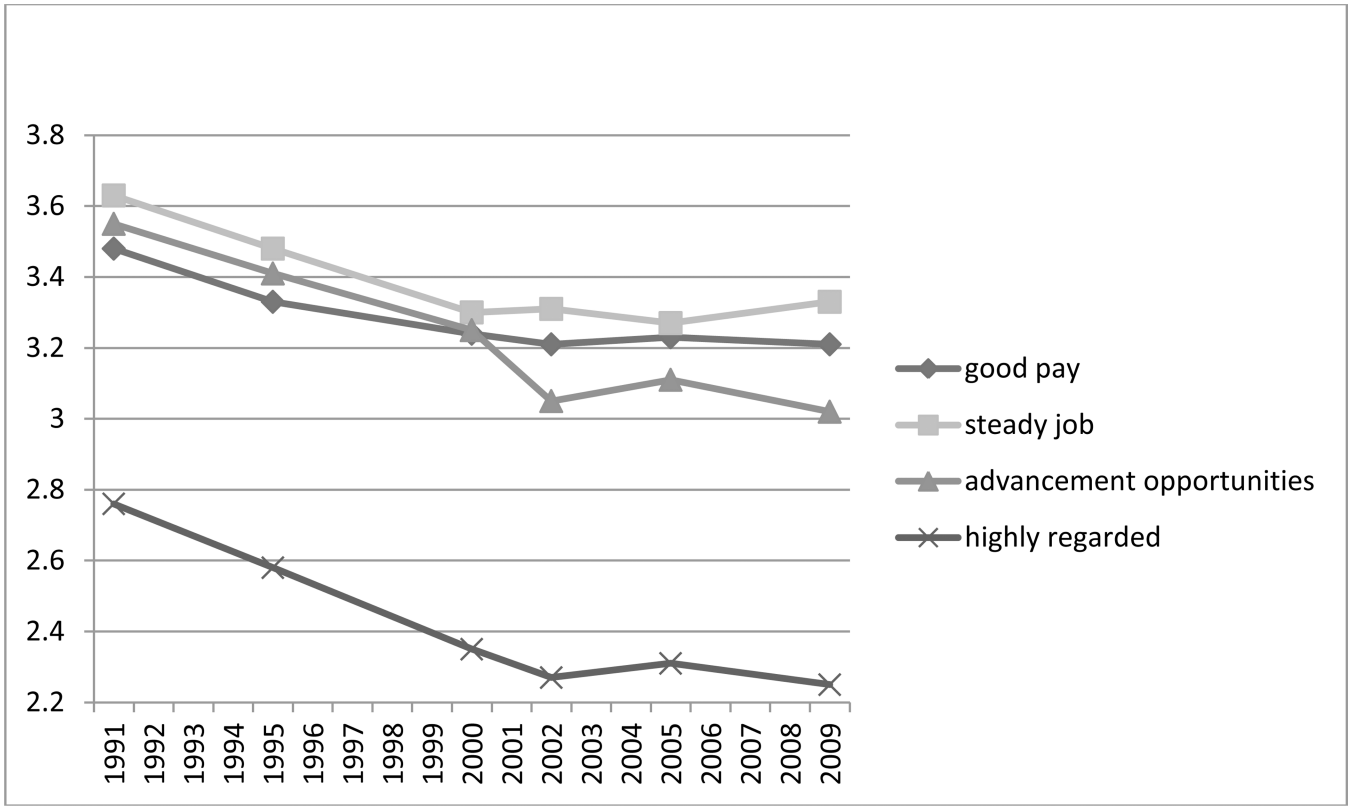

Figure 1.
Extrinsic Work Value Items by Year

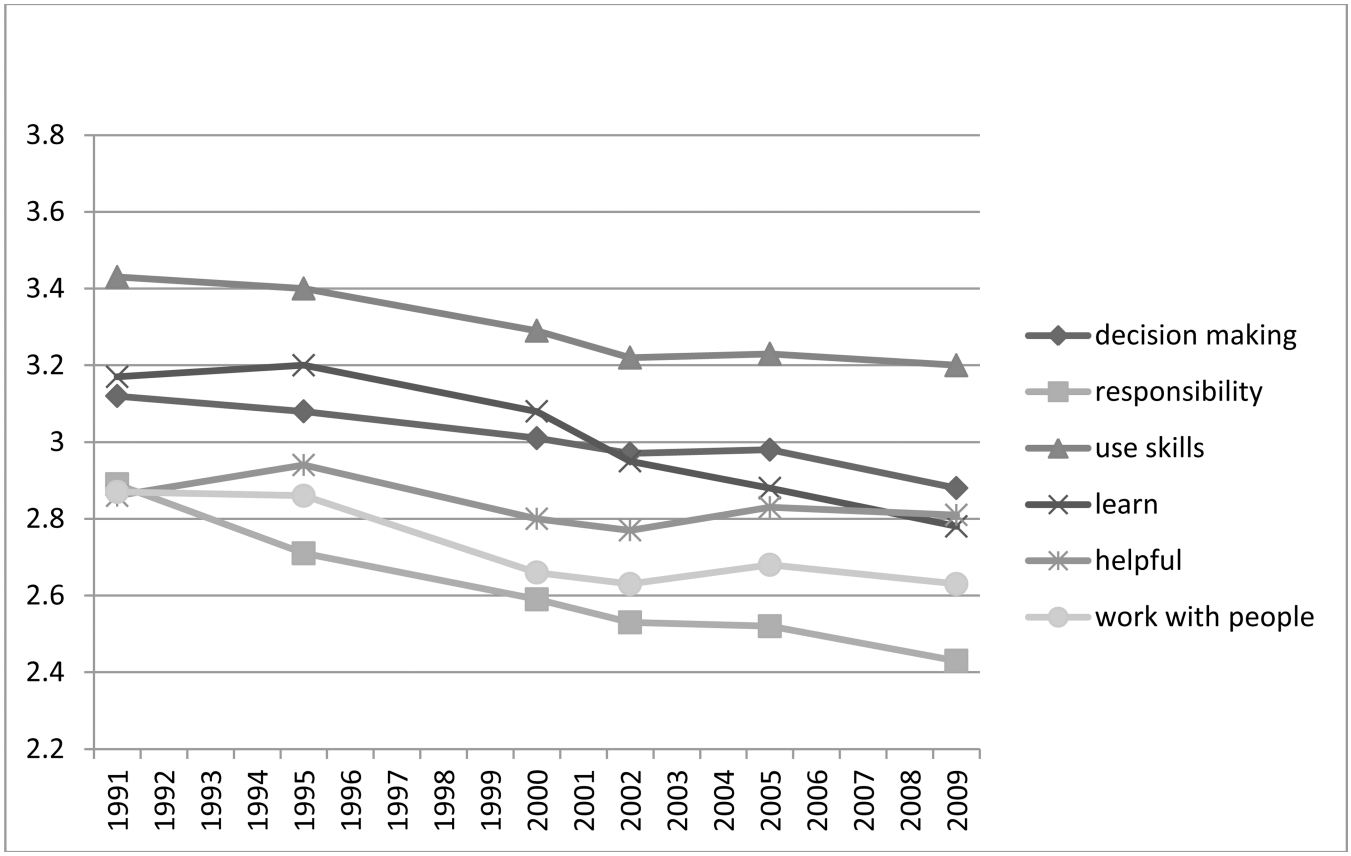

Figure 2.
Intrinsic Work Value Items by Year

Table 1

Percentages or Means and Standard Deviations on Study Variables, Youth Development Study Participants (Born 1973–1974)

Variable	1988/91 Age 14–15	1995 Age 21–22	2000 Age 26–27	2002 Age 28–29	2005 Age 31–32	2009 Age 35–36
Male (1988)	43.49					
White (1988)	77.94					
Parents' college educ (1988)	28.54					
Parents' some college (1988)	32.01					
Academic self-esteem (1991)	3.59 (0.62)					
Extrinsic values		3.20 (0.55)	3.03 (0.53)	2.96 (0.54)	2.98 (0.55)	2.95 (0.54)
Intrinsic values		3.03 (0.59)	2.91 (0.55)	2.85 (0.53)	2.85 (0.55)	2.79 (0.58)
Years of education		13.21 (1.23)	14.02 (1.81)	14.18 (1.88)	14.35 (1.93)	14.50 (2.04)
Student status		53.92	28.67	31.90	20.08	19.40
Unemployment		12.21	9.37	11.37	13.12	15.55
Work is not related to future career		48.34	27.37	27.17	23.59	25.19
Hourly Pay (ln)		2.31 (0.33)	2.81 (0.42)	2.79 (0.44)	3.01 (0.50)	3.01 (0.70)
2 wk earnings (ln)		6.32 (0.77)	7.14 (0.72)	7.26 (0.67)	7.29 (0.75)	7.32 (0.87)
Job security		3.40 (0.92)	3.28 (0.83)	3.17 (0.83)	2.96 (0.85)	2.80 (0.87)
Advancement opportunities		2.74 (1.10)	3.11 (0.93)	3.05 (0.97)	3.07 (0.90)	3.02 (0.92)
Intrinsic job rewards		3.46 (0.72)	3.57 (0.68)	3.66 (0.67)	3.62 (0.64)	3.67 (0.68)
N[a]	837	780	757	718	708	666

[a]N listed is for the work value scales (or those with valid information on work values in at least two later waves for the 1988 column). The sample size varies across items within year, with fewer cases available for all items listed below unemployment, as they are based only on employed respondents at the time of survey administration in that year.

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Table 2

Multivariate Fixed Effects Regressions Predicting Extrinsic Work Values

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
1995 (age 21–22)[a]	0.28*** (0.03)	0.27*** (0.02)	0.27*** (0.03)	0.29*** (0.03)	0.31*** (0.03)	0.24*** (0.03)	0.27*** (0.03)	0.27*** (0.03)	0.28*** (0.03)
2000 (age 26–27) [a]	0.07** (0.02)	0.07*** (0.02)	0.06*** (0.02)	0.07*** (0.02)	0.06* (0.02)	0.05* (0.02)	0.06* (0.02)	0.07* (0.02)	0.04+ (0.02)
2002 (age 28–29) [a]	0.01 (0.02)	0.01 (0.02)	0.00 (0.02)	0.00 (0.02)	0.01 (0.02)	0.02 (0.02)	0.00 (0.02)	0.00 (0.02)	−0.01 (0.02)
2005 (age 31–32) [a]	0.03 (0.02)	0.02 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
Sex (Male = 1)	0.01 (0.03)	0.02 (0.03)	−0.01 (0.03)	−0.02 (0.03)	−0.05 (0.03)	0.01 (0.03)	0.00 (0.03)	0.01 (0.03)	−0.03 (0.03)
Race (White = 1)	−0.17*** (0.04)	−0.18*** (0.04)	−0.19*** (0.04)	−0.22*** (0.04)	−0.20*** (0.04)	−0.21*** (0.04)	−0.19*** (0.04)	−0.18*** (0.04)	−0.21*** (0.04)
Parents college degree	−0.18*** (0.04)	−0.17*** (0.04)	−0.15*** (0.04	−0.14*** (0.04)	−0.14** (0.04)	−0.13** (0.04)	−0.14*** (0.04)	−0.15*** (0.04)	−0.11** (0.04)
Parents some college	−0.07+ (0.04)	−0.07+ (0.04)	−0.06 (0.04)	−0.04 (0.04)	−0.05 (0.04)	−0.06 (0.04)	−0.06 (0.04)	−0.05 (0.04)	−0.05 (0.04)
Academic self esteem	−0.09** (0.03)	−0.09*** (0.03)	−0.09*** (0.03)	−0.10*** (0.03)	−0.10*** (0.03)	−0.10*** (0.03)	−0.08** (0.03)	−0.09*** (0.03)	−0.11*** (0.03)
Years of education	0.02** (0.01)	0.02** (0.01)	0.02* (0.01)	0.02 (0.01)	0.01 (0.01)	0.02* (0.01)	0.02* (0.01)	0.02+ (0.01)	0.01 (0.01)
Student	0.04* (0.02)	0.05* (0.02)	0.04* (0.02)	0.05* (0.02)	0.06** (0.02)	0.05* (0.02)	0.04* (0.02)	0.05* (0.02)	0.06** (0.02)
Unemployment		−0.06* (0.02)							−.03 (.03)
Work not related to career			−0.03 (0.02)						
Hourly pay (ln)				0.05* (0.02)					
2 week earnings (ln)					0.05*** (0.01)				.03* (.02)
Job security						0.03* (0.01)			.02 (.01)
Advancement opportunity							0.03** (0.01)		.02+ (.01)
Intrinsic rewards								0.05** (0.02)	0.04** (0.02)
Constant	3.52*** (0.16)	3.64*** (0.16)	3.82*** (0.17)	3.46*** (0.17)	2.82*** (0.22)	3.33*** (0.18)	3.44*** (0.18)	3.23*** (0.18)	3.23*** (0.18)
N	3243	3240	2709	2628	2606	2701	2718	2725	2537
−2 Res Log Likelihood	4105.4	4093.5	3324.2	3204.0	3157.9	3271.2	3319.6	3326.9	3036.0

[a]Comparison group is 2009 (age 35–36),

*$p < .05$

**$p < .01$

***p < .001

Table 3

Multivariate Fixed Effects Regressions Predicting Intrinsic Work Values

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
1995 (age 21–22)[a]	0.26*** (0.02)	0.26*** (0.02)	0.26*** (0.03)	0.26*** (0.03)	0.26*** (0.03)	0.23*** (0.03)	0.25*** (0.03)	0.26*** (0.03)	0.25*** (0.03)
2000 (age 26–27) [a]	0.13*** (0.02)	0.13*** (0.02)	0.12*** (0.02)	0.12*** (0.02)	0.11*** (0.02)	0.12*** (0.02)	0.12*** (0.02)	0.13*** (0.02)	0.13*** (0.02)
2002 (age 28–29) [a]	0.06* (0.02)	0.05* (0.02)	0.05* (0.02)	0.05+ (0.02)	0.04+ (0.02)	0.04 (0.02)	0.05* (0.02)	0.04+ (0.02)	0.04+ (0.02)
2005 (age 31–32) [a]	0.07** (0.02)	0.07** (0.02)	0.07** (0.02)	0.07** (0.02)	0.06* (0.02)	0.07** (0.02)	0.06** (0.02)	0.07** (0.02)	0.07** (0.02)
Sex (Male = 1)	−0.13*** (0.03)	−0.12*** (0.03)	−0.15*** (0.03)	−0.16*** (0.03)	−0.15*** (0.03)	−0.13*** (0.03)	−0.15*** (0.03)	−0.13*** (0.03)	−0.13*** (0.03)
Race (White = 1)	−0.11** (0.04)	−0.12** (0.04)	−0.11** (0.04)	−0.12** (0.04)	−0.12** (0.04)	−0.13** (0.04)	−0.11** (0.04)	−0.10** (0.04)	−0.09** (0.04)
Parents college degree	0.03 (0.04)	0.03 (0.04)	0.02 (0.04)	0.03 (0.04)	0.01 (0.04)	0.04 (0.04)	0.03 (0.04)	0.03 (0.04)	0.03 (0.04)
Parents some college	0.01 (0.04)	0.01 (0.04)	0.03 (0.04)	0.04 (0.04)	0.02 (0.04)	0.03 (0.04)	0.02 (0.04)	0.04 (0.03)	0.04 (0.03)
Academic self esteem	−0.01 (0.03)	−0.01 (0.03)	0.00 (0.03)	−0.01 (0.03)	0.00 (0.03)	0.00 (0.03)	0.01 (0.03)	0.01 (0.03)	0.01 (0.03)
Years of education	0.02* (0.01)	0.02* (0.01)	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Student	0.05** (0.02)	0.05** (0.02)	0.06** (0.02)	0.07** (0.02)	0.08** (0.03)	0.06** (0.02)	0.06** (0.02)	0.07** (0.02)	0.07** (0.02)
Unemployment		−0.01 (0.02)							
Work not related to career			−0.06** (0.02)						.01 (.02)
Hourly pay (ln)				0.02 (0.02)					
2 week earnings (ln)					0.03+ (0.02)				
Job security						0.01 (0.01)			
Advancement opportunity							0.02* (0.01)		.00 (.01)
Intrinsic rewards								0.13*** (0.02)	0.13*** (0.02)
Constant	2.03*** (0.16)	2.16*** (0.16)	2.26*** (0.18)	1.93*** (0.18)	1.68*** (0.23)	1.68*** (0.18)	1.76*** (0.18)	1.05*** (0.17)	0.82*** (0.20)
N	3243	3240	2709	22628	2606	2701	2718	2725	2699
−2 Res. Log Likelihood	4170.2	4160.7	3435.9	3361.5	3375.5	3400.0	3462.6	3252.9	3236.3

[a]Comparison group is 2009 (age 35–36),

*$p < .05$

**$p < .01$

***p < .001