

Worse Off But Happier?

The Affective Advantages of Entering the Workforce During an Economic Downturn

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## ABSTRACT

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Recently economists have shown that people who graduate during recessions earn less money (e.g., Kahn, 2010) and hold less prestigious jobs (Oyer, 2006) even decades after entering the workforce. This dissertation argues that despite these suboptimal outcomes, these graduates are likely to be happier with their jobs, even long after these economic conditions have changed. Four studies found that people who entered the workforce when the economy was sputtering and jobs were difficult to secure were more satisfied with their jobs than their peers who entered during better economic times, even decades after these early workforce experiences. Study 1 utilized a large cross-sectional national survey of working adults in the United States and found that college graduates who first looked for work during difficult economic times were more satisfied with their jobs well into their careers. Study 2 found that people who graduated from both college and graduate school during times of higher unemployment were happier with their jobs both early in their careers and years later, even when they earned less money. Study 3 replicated this effect in a different country, the United Kingdom, and among a more diverse educational population. Study 3 found that economic conditions at workforce entry predicted life satisfaction as well. Finally, Study 4 explored potential mediators of this effect and suggested that people who entered the workforce during economic downturns were less likely to entertain upward counterfactual thoughts about how they might have done better. This tendency fully mediated the relationship between workforce economic conditions and job satisfaction. While past research on job satisfaction has focused on dispositional and situational antecedents, these

findings suggest that strong experiential factors also may have an enduring effect on how satisfied people are with their jobs.

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## CHAPTER 1

### Introduction

Imagine a young college graduate searching for her first job in 2009. The unemployment rate was at a 26-year high, companies were laying off employees, salaries and benefits were being cut, several major banks had recently failed, and thousands of highly skilled workers were flooding the labor market (Sum, Khatiwada, & Palma, 2010). Finding a job was extremely difficult. There were six job seekers for every job opening (BLS, 2009) and hiring for college graduates had dropped 35 to 40 percent in only a year (NACE, 2009). Even new graduates who did secure work were paid less and received fewer benefits, and more than half of them accepted jobs that did not require a college degree (Sum, Khatiwada, & McLaughlin, 2009).

Now imagine the same college graduate entering the workforce in 1999. The unemployment rate was at a 30-year low, the United States economy was in its ninth straight year of growth (Martel & Kelter, 2000), and the stock market was ballooning. The job market was steadily expanding and many businesses were struggling to find enough workers to fuel their growth (Martel & Kelter, 2000). Job opportunities were plentiful, and many college graduates were choosing between several job offers with generous benefits and salaries (NACE, 1999). It was deemed by many, “the best economy in a generation” (Henwood, 1999).

What, if any, implications do these early workforce experiences have for job outcomes and attitudes? Recently economists have shown that people who enter the workforce during a recession earn less money even decades into their careers (e.g., Beaudry & DiNardo, 1991; Kahn, 2010; Mansour, 2009; Oreopoulos, von Wachter, & Heisz, 2008; Oyer, 2008). One study estimates that when new college graduates look for their first job, each percentage increase in the unemployment rate is accompanied by a 3% to 4% decrease in starting salaries (Kahn, 2010).

The magnitude of these wage differences decreases over time, but salary differentials persist even decades later (e.g. Beaudry & DiNardo, 1991; Kahn, 2010). Graduating from college during a recession may affect the kinds of jobs people accept as well. Those entering the workforce during bad economic times are more likely to enter smaller, lower paying firms and tend to spend the next several years switching jobs in an effort to make up for their suboptimal start (e.g., Mansour, 2009; Oreopoulos, von Wachter, & Heisz, 2008). These challenging beginnings can have compounding negative effects for later career success as well (e.g., Oyer, 2006). For instance, Oyer (2006) found that economists who entered the job market during an economic downturn were less likely to receive prestigious academic jobs, less likely to publish in top tier journals, and less likely to work at top ranked universities later in their careers.

*Can doing better feel worse?*

In this dissertation, I suggest that despite these well-documented financial and career disadvantages, people who graduate in recessions actually will be happier with their jobs, even years after these early workforce experiences. At first glance, there seem to be few reasons why graduating in a recession might confer affective benefits. Recession graduates are more likely to be underemployed, relatively poorly paid, and hold less prestigious positions. Yet decades of research on well-being and satisfaction suggests that how people feel about their outcomes does not always mirror the objective value of these outcomes (e.g., Crosby, 1976; Festinger, 1954; Gilbert & Ebert, 2002; Helson, 1964; Lewin, 1935; Myers & Diener, 1995). Rather satisfaction depends largely on how people make sense of their results and the environment in which these events unfold. Consequently, even when people do objectively worse they sometimes feel subjectively better (Galinsky, Mussweiler, & Medvec, 2002; Galinsky, Seiden, Kim, & Medvec, 2002; Markman et al., 1993; Medvec, Madey, and Gilovich, 1995; Naquin, 2003). For instance,

researchers have found that sometimes people can be happier with lower paying first jobs (Iyengar, Wells, & Schwartz, 2006), lower grades (Medvec & Savitsky, 1997), and worse negotiation outcomes (e.g. Galinsky et al., 2002) depending on the psychological context in which these outcomes are evaluated. As Gilbert and Ebert (2002: 512) put it, “satisfaction is a response not to the properties of outcomes but to the psychological construal of those outcomes.”

In this dissertation I focus on four psychological reasons why people who enter the workforce during economically challenging times might construe their outcomes differently than those who first look for work during times of relative prosperity. In particular, I suggest that early workforce economic conditions may the frequency and nature of people’s counterfactual thoughts, their likelihood of experiencing choice overload, their expectations, and their likelihood of feeling gratitude, all of which are likely to make them feel subjectively better even if they are doing objectively worse. Moreover, I suggest that these early workforce experiences may leave a lasting imprint on job attitudes. In particular, I draw on research on social judgment theory (e.g., Sherif, Sherif, & Nebergall, 1965) and generational imprinting (e.g., Krosnick & Alwin, 1989; Giuliano & Spilimbergo, 2009) to suggest that strong situational factors people encounter in early adulthood may continue to how they evaluate and make sense of their jobs for years to come.

#### *More opportunities, more counterfactuals?*

First looking for work during an economic boom or recession is likely to affect the types of counterfactuals people generate. When people entertain counterfactuals they consider how imagined alternatives might compare to objective reality. For instance, a college freshman might wonder if she would have been happier at a smaller school or one closer to home. A newly minted lawyer might wonder if the job opportunity he passed up in New York would have

promoted him faster or treated him more fairly. The frequency and nature of these simulations how satisfied people are with their outcomes (Kahneman & Miller, 1986; Kahneman & Tversky, 1982; Medvec, Madey, & Gilovich, 1995; Medvec & Savitsky, 1997; Miller & McFarland, 1986; Miller et al., 1990; Naquin, 2003). When people consider ways that things might have turned out better, or entertain upward counterfactuals, they tend to feel less satisfied with what they have (Galinsky et al., 2002; Markman et al., 1993; Medvec, Madey, & Gilovich, 1995; Medvec & Savitsky, 1997). Conversely, when people entertain downward counterfactuals, or consider ways that things might have turned out worse, they typically feel better about their outcomes (e.g., Medvec & Savitsky, 1997; Roese, 1994) and find ways to derive meaning from life events (Kray et al., 2008).

Even when people do objectively better they often feel subjectively worse if they can readily generate upward counterfactuals (Galinsky, Mussweiler, & Medvec, 2002; Galinsky et al., 2002; Markman, Gavanski, Sherman, & McMullen, 1993; Medvec, Madey, & Gilovich, 1995; Medvec & Savitsky, 1997; Roese, 1994). For instance, Medvec and colleagues (1995) found that Olympic silver medalists were less satisfied with their outcomes than bronze medalists even though they clearly performed better. The authors argued that silver medalists felt worse because they agonized over whether a faster stroke or a smaller splash might have earned them a gold medal. This fixation on how they might have done better dampened their satisfaction with what they had achieved. Other studies similarly suggest that when people can easily imagine how they might have done better, they tend to be less satisfied with clearly superior results, including higher grades (Medvec & Savitsky, 1997) and better negotiated deals (Galinsky et al., 2002; Naquin, 2003).

There are several reasons to expect that people may be particularly likely to entertain upward counterfactuals, or better imagined worlds, if they enter the workforce during times of economic prosperity. For one, real or perceived opportunities tend to elicit counterfactuals and evoke regret (e.g., Iyengar & Lepper, 2000; Markman et al, 1993; Naquin, 2003; Roese & Summerville, 2005; Schwartz, 2000). When there are more opportunities, decisions remain cognitively open and the ways one might have improved are creatively limitless (e.g. Roese & Summerville, 2005; Schwartz, 2000). For instance, one study found that negotiators who were given more issues to consider and potentially more opportunities for mutually beneficial integrative agreements were less satisfied with their outcomes even though these outcomes were objectively better (Naquin, 2003). When more issues were introduced, there were multiple ways the negotiation might have progressed. As a result, these negotiators could more readily imagine different scenarios and tended to fixate on how different sequences might have rendered greater rewards. Conversely, when opportunities are scarce and alternatives are less salient, people tend to optimize what they do have rather than dwell on what they do not (e.g., Gilbert & Ebert, 2002; Gilovich, Medvec, & Chen, 1995; Roese & Summerville, 2005).

For those who enter the workforce when the economy is booming, there are presumably more actual or imagined paths to consider (“Should I have taken that teaching job in San Francisco?” “Should I have started by own company?”), and more opportunities for second-guessing and rumination. Much like the negotiator who can more easily imagine different ways that events might have progressed, these graduates are more likely to wonder whether unchosen paths might have yielded greater success. Conversely, recession graduates typically entertain fewer real or imagined job opportunities. Consequently, when they do secure work, they are less

apt to dwell on better possible outcomes and more likely to attend to the positive features of the jobs they hold.

Furthermore, people are particularly likely to generate upward counterfactuals when they have control over their outcomes (Markman, Gavanski, Sherman, & McMullen, 1995; Roese & Olson, 1995). Indeed, upward counterfactuals also can be functionally useful by helping identify avenues for improvement (e.g., Galinsky et al., 2002; Roese & Olsen, 1995; Roese, 1994). In other words, simulating what you might have done differently in the past can promote effective preparation for the future. Since considering alternative courses of action is only beneficial when actors have control over events, people are more likely to generate upward counterfactuals when their actions might have changed their outcomes. Entering the workforce in an economic boom or slump is likely to how much control people feel they have over their job choice. During times of economic prosperity, most college graduates can reasonably consider many paths and the one they ultimately choose is largely self-determined. Consequently, these graduates are more likely to wonder whether things would be better if they had acted differently. However, in a recession many new graduates accept whatever jobs they can find. When they finally do secure work, they are less likely dwell on how they might have behaved differently and less apt to wonder how another choice might have yielded a better outcome.

Similarly, people may be more likely to entertain downward counterfactuals if they enter the workforce during a recession. For one, people tend to generate downward counterfactuals and feel better about their outcomes when they have barely cleared a cutoff point (Medvec & Savitsky, 1997; Medvec, Madey, & Gilovich, 1995). For instance, the study of Olympians showed that while silver medalists entertained upward counterfactuals about how they might have done better, bronze medalists were more apt to consider downward counterfactuals about

how they might have done worse (Medvec, Madey, & Gilovich, 1995). Bronze medalists barely made the cutoff for a medal and thus tended to be relieved to have secured a podium spot at all. Similarly, those who secure jobs when opportunities are limited may be more likely to feel that they just cleared a threshold. When jobs are hard to come by, the likely alternative is continued unemployment, not the possibility of a corner office at a glitzier firm. Thus instead of ruminating over the opportunities they passed up, recession graduates are likely to be relieved to be employed at all and more likely to wonder what life might be like if they were still looking for work.

Moreover, people are more likely to generate downward counterfactuals when outcomes are outside their control, presumably to preserve self-esteem and to help optimize situations (Roese & Olson, 1995). When economic conditions are bad and external forces limit one's options, a job choice is less likely to be seen as outside one's control and consequently downward counterfactual thoughts may help people feel better about where they have ended up.

*Choice: Does greater opportunity undermine satisfaction?*

When the economy is sputtering and companies are dismissing skilled workers, recent college graduates tend to have few opportunities for employment. During a recession, it is harder to get into graduate school (Murray, 2009), harder to find a job, and harder to start a new business. Indeed, by the spring of their senior year of college, only 19.7% of the class of 2009 had secured a job for the following year (NACE, 2009), down from 60% and 70% in previous years.

Initially it seems likely that people who enter the workforce when opportunities are abundant will ultimately be happier with their jobs. After all, the more choices people have, the more likely they are to find a job that matches their interests, abilities, and needs. Yet, a growing



body of research suggests that in many cases people are often happier with their outcomes when they have fewer choices (e.g., Iyengar & Lepper, 2000; Schwartz, 2004). While having more choices can increase the likelihood of getting exactly what people think they want, it can also undermine satisfaction with this outcome.

For one, choosing among many options highlights the opportunity costs associated with a selected path (Brenner, Rottensreich, & Sood, 1999; Schwartz, 2004). For instance, one study found that people were willing to pay more for a magazine subscription or airline ticket when considering it alone rather than with other options (Brenner, Rottensreich, & Sood, 1999). When an alternative was introduced, the downsides of each choice became more salient, the opportunity costs associated with forgoing an option became more apparent, and each option became less attractive. Similarly, a college graduate trying to select her first job in a thriving economy may find that all of her alternatives are less attractive when they are subject to comparison. Consider, for instance, a woman looking for her first job when the economy is thriving. Early on in her search she is offered a job with a modest salary but excellent chances for advancement. She then receives another offer with a better salary but a worse geographic location and then another with appealing co-workers but limited benefits. Each new job offer increases the trade-offs she must make (Schwartz, 2004). No matter which job she selects, she will lose something-- the opportunity to make more money, live in a desirable city, or advance quickly. Whichever job she chooses, she is likely to be less satisfied than if she had considered that job alone.

Conversely, when options are limited and opportunity costs are minimal, people tend to focus on the positive features of their situation (Gilbert & Ebert, 2002; Schwartz, 2004). For instance, when decisions are irreversible and people are stuck with the decision they have made,

the “psychological immune system” helps optimize outcomes and bolster satisfaction (Gilbert & Ebert, 2002). Similarly, someone who chooses among the few jobs available to her during a recession is more likely to attend to the positive features of her job and be happier about where she has ended up.

The availability of opportunities is also likely to whether job seekers look for the very best job or one that is merely good enough, strategies with divergent implications for satisfaction. People tend to take two general approaches to choice-making: maximizing or satisficing (e.g., Simon, 1955, 1956). When maximizing, decision makers thoroughly examine each available choice, weigh all the options carefully, and seek to obtain the very best outcome. When satisficing, they select the first option that satisfies their criteria and stop searching. While maximizers often attain better outcomes, they also tend to feel worse about their results (Iyengar, Wells, & Schwartz, 2006; Schwartz, et al., 2002). For instance, job seekers who strive to find the very best jobs often secure higher paying work but are ultimately less satisfied with the job they chose (Iyengar, Wells, & Schwartz, 2006). Entering the workforce when times are good and opportunities abound is similarly likely to fuel the quest to find the very best job. When the world seems to be teeming with opportunities, people are more likely to seek the very best option and ultimately likely to be less satisfied with whatever job is chosen.

#### *Economic conditions and expectations*

Entering the workforce during an economic downturn may also temper expectations, again bolstering satisfaction. People tend to evaluate their outcomes in reference to their expectations (e.g., Clark, 1997; Major & Testa, 1989; Oliver, Balakrishnan, & Barry, 1994; Shepard & McNulty, 2002). When expectations go unmet, they are typically less satisfied with their jobs and more likely to leave their organizations (e.g., Porter & Steers, 1973; Wanous,

1973; Wanous, Poland, Premack, & Davis, 1992). Yet when organizations successfully manage expectations, expectations decrease and satisfaction and commitment rise (Premack & Wanous, 1985). Looking for a job when jobs are scarce is likely to similarly lower expectations and consequently boost satisfaction with the chosen job. A person who searches for her first job during a thriving economy is likely to expect more from her job than one who searches during difficult economic times. Faced with many alternatives, she is likely to expect to find just the right match, have high hopes for the job she has entered, and ultimately have her expectations go unfulfilled. A job seeker who graduates during a recession, however, is less prone to grandiose expectations of what she will encounter and likely to evaluate her experiences in light of this lower standard.

#### *Economic conditions and gratitude*

Finally, securing a job when jobs are scarce may also elicit feelings of gratitude. People who graduate during recessions often have to scramble to get a job. When they finally secure employment, they are more likely to be grateful to actually have a job and consequently more likely to be satisfied with the job. While there has been little examination of gratitude in organizational contexts, a growing body of evidence suggests that gratitude bolsters life satisfaction and well-being (e.g., McCullough et al., 2002, Watkins et al., 2003; Park, Peterson, & Seligman 2004). Members of the Class of 2009 who managed to secure a job in a very tight labor market, frequently describe themselves as “thankful,” “fortunate,” and “lucky,” despite how difficult their initial labor market experiences have been (Gerdes, 2009). Conversely, those who enter the workforce during times of economic growth and do not have to work as hard to secure employment are more likely to take having a job for granted. After entertaining different

opportunities and forgoing other options, they are likely to feel entitled to good outcomes and ultimately less satisfied with their results (Crosby, 1976; Major & Testa, 1988).

*Do these early work experiences endure?*

If indeed people who graduate in recessions are more satisfied with their jobs, do these attitudes endure? Do people carry these sense making processes and approaches to work with them to subsequent jobs? Or, is this cycle reborn every time a person re-enters the labor force?

There are several reasons to expect that early workforce experiences will be particularly salient and may continue to job satisfaction even years later. For instance, initial job experiences normally occur during late adolescence and early adulthood, a period when lifelong attitudes and preferences tend to form and solidify (Krosnick & Alwin, 1989; Shuman & Scott, 1989; Schindler & Holbrook, 2003). During these “impressionable years” (e.g., Krosnick & Alwin, 1989), young adults begin their initiation into adulthood, a unique encounter with the world that is never repeated (Mannheim, 1952). Attitudes that are formed or changed during this period tend to endure even decades later (e.g., Krosnick & Alwin, 1989; Newcomb et al., 1967). Moreover, challenging economic experiences during these formative years are likely to leave a particularly lasting imprint on later attitudes and beliefs (e.g. Giuliano & Spilimbergo, 2009; Krosnick & Alwin, 1989; Mannheim, 1952). For instance, people who lived through a recession during early adulthood are more likely to support government redistribution and more likely to believe that success comes from luck even decades after they experienced these macroeconomic shocks (Giuliano & Spilimbergo, 2009). Similarly, those who experienced periods of economic volatility during their impressionable years are less likely to participate in the stock market later in their lives and tend to invest more conservatively if they do (Malmendier & Nagel, 2009).

These findings suggest that early encounters with adult life and especially early economic experiences can continue to attitudes and behavior for years to come.

Furthermore, research on how people process and encode information suggests that once people form attitudes, they tend to selectively attend to and interpret events in ways that solidify these attitudes (e.g., Crick & Dodge, 1994; Sherif & Hovland, 1961). For instance, some evidence points to substantial stability in job attitudes across jobs and organizations (Staw & Ross, 1985; Staw, Bell, & Clausen, 1986), presumably because people often perceive and respond to events in ways that confirm their existing attitudes (Motowidlo, 1996; Staw & Cohen-Charash, 2005). This reasoning suggests that people are likely to form general attitudes towards work early in their careers and assimilate subsequent experiences to this standard. Much in the same way that an employee's initial salary acts as an anchor for later salaries, early job attitudes may act as a reference point against which subsequent jobs are compared and assimilated.

#### *Implications for the study of job attitudes*

This dissertation introduces a unique, experiential approach to the study of job attitudes. Past research on job satisfaction has generally focused on either situational or dispositional accounts (e.g., Davis-Blake & Pfeffer, 1989; Staw & Cohen-Charash, 2005), indicating that job satisfaction depends on either immediate environmental conditions such as whether employees are given autonomy or feedback (e.g., Hackman & Oldham, 1980), or more lasting dispositional tendencies such as whether people have positive self-evaluations (e.g., Judge & Bono, 2001). In essence, the situational approach argues that transient environmental variables how people experience their jobs and implies that job satisfaction can be altered by changing work conditions. Conversely, dispositional research suggests that job attitudes are d by relatively enduring personality characteristics and are fairly stable across jobs and organizations (Staw &

Ross, 1985; Staw, Bell, & Clausen, 1986; Judge, Bono, & Locke, 1997). The present work takes a distinct approach to the study of job attitudes by proposing that situational factors may continue to predict job attitudes years later. Thus, an important objective of this work is to suggest that early workforce experiences may leave a lasting imprint on how people perceive, experience, and evaluate their jobs even long after the situational context has changed.

#### *Plan of study*

The relationship between early workforce economic conditions and job satisfaction was explored in one longitudinal and three cross-sectional studies. Study 1 drew on 24 years of data from the General Social Survey (GSS) to examine whether people who graduated from college during challenging economic times were more satisfied with their current jobs despite earning less money. Study 2 utilized a longitudinal dataset, the National Longitudinal Survey of Youth (NLSY79), to assess whether early workforce economic conditions predicted job satisfaction for both college and graduate school cohorts and whether this effect emerged even when recession graduates earned less money. Study 3 examined data from the latest wave of the British Household Panel Survey (BHPS) and found that people from a wide array of educational backgrounds who left school during times of higher unemployment were more satisfied with their jobs and their lives. Study 4 utilized a cross-sectional survey of working adults with graduate degrees to examine whether first looking for work during a recession or an economic boom predicted how likely people were to entertain counterfactual thoughts, experience choice overload, have high expectations for their jobs, and experience gratitude.

## CHAPTER 2

### Study 1

Study 1 utilized survey data from the GSS to evaluate whether the economic conditions present during the year participants graduated from college predicted how satisfied they were with their current jobs. The GSS is a nationwide questionnaire conducted by the National Opinion Research Center and funded by the National Science Foundation. The sample is drawn from a probability sample of non-institutionalized adults and is considered representative of the United States' population (Kalleberg, Knoke, Marsden, & Spaeth, 1996; Singleton & Straits, 2005; Vecchio, 1980). From 1972 until 1993 the GSS was conducted annually (with the exception of 1981 and 1992), and included approximately 1500 respondents. Beginning in 1994, it was conducted biannually and consisted of approximately 3000 to 4500 respondents.

The GSS is one of the most widely used databases in the social sciences (Singleton & Straits, 2005) and has been used in organizational research on job satisfaction (Vecchio, 1980), employee reactions to workplace policies (Grover & Crooker, 1995), and work-family conflict (Dierdorff & Ellington, 2008). A cluster of core questions is included every year as well as rotating in depth modules about social and political attitudes.

#### *Sample*

I compiled all of the GSS data collected from 1975 until 2008. Because many of the questions change during each survey administration, I relied on the core group of demographic and attitudinal questions that participants are asked every year, including year of birth, educational level, and job satisfaction. The sample in Study 1 was limited to college graduates. Although the GSS collects information about birth year and number of years of education, it does not regularly gather information about the year participants obtained their highest degree. For

college graduates, I estimated workforce entry as the year respondents turned 22, the modal age of college graduation in the United States. I did not include people with graduate degrees in this sample because it was not possible to reliably estimate when they earned their graduate degrees based on the information gathered by the GSS. Furthermore, I only included respondents if they entered the workforce during or after 1975 in order to exclude anyone who lived during the Great Depression or World War II or graduated during the Vietnam draft. Indeed, these were such psychologically consequential times that they may override the more subtle economic and political fluctuations that followed.

The resulting sample consisted of 1606 participants. As shown in Table 1, the majority of respondents graduated from college between 1975 and 1985. As shown in Table 2, on average participants were currently 32.89 (SD = 7.15) years old and had been in the workforce slightly over a decade.

### *Measures*

*Unemployment rate at year of workforce entry.* I used the national unemployment rate to measure the economic environment at the time of workforce entry. While other economic measures such as gross domestic product or inflation also are important indicators of economic conditions, the national unemployment rate is arguably the best indicator of the national economic mood and perceived difficulty of finding a job. It is also the indicator that has been used by economists to show that people who graduate in recessions have lower incomes (e.g., Kahn, 2010) and worse career outcomes (e.g., Oyer, 2006).<sup>1</sup>

Because the GSS does not indicate the year that college graduates earned their degree, I estimated that they completed college in the year they turned 22. Using the estimated year of college graduation, I created a variable consisting of the national annual unemployment rate for



the year each respondent entered the workforce. This variable was used as the main predictor in the analyses. During the period examined, the average unemployment rate was 6.22% (SD = 1.42) and fluctuated from a high of 9.7% in 1982 to a low of 4.0% in 2000 (see Table 1).

*Unemployment rate during GSS year.* While I hypothesize that the economic experiences people encounter when they first enter the workforce will leave a lasting imprint on job attitudes, it is also possible that employees are continually updating their level of satisfaction in response to changing economic conditions. If this were true, then prevailing economic conditions rather than economic conditions at the time of workforce entry should be positively related to job satisfaction. To test this possibility, I also created a variable that reflected the national unemployment rate during the year each participant responded to the survey.

*Unemployment rate at the start of current job.* Another possibility is that economic conditions leave a new imprint each time people re-enter the labor market. In 2002 and 2006, the GSS asked working respondents how many years they had been at their current job. Using this information, I calculated the year that respondents began their most recent job and created a variable consisting of the unemployment rate during this particular year. I also considered the possibility that respondents may have been looking for their current job in the year before beginning their most recent job and used the previous year's unemployment rate as an additional predictor. I then examined whether either measure predicted current job satisfaction.

*Job satisfaction.* Two measures of job satisfaction were used. First, I looked solely at the job satisfaction question that is included in every administration of the GSS. This item is: "On the whole, how satisfied are you with the work you do—would you say you are very satisfied, moderately satisfied, a little dissatisfied, very dissatisfied?" This item was reverse coded so that higher scores reflected greater satisfaction and is referred to as "js<sub>1</sub>." While single item measures

are often criticized for having limited reliability, single item measures of job satisfaction are often better predictors of other organizational behaviors than more multi-faceted job satisfaction scales (Nagy, 2002) and do not suffer a substantial loss in reliability (Wanous & Reichers, 1996; Wanous, Reichers, & Hudy, 1997). To further mitigate concerns about using a single-item dependent variable, I re-ran all analyses using a composite measure of job satisfaction for the subset of people who answered an additional job satisfaction question in 2002 and 2006. During those two years, the GSS asked participants: “All in all, how satisfied would you say you are with your job?” with the scale ranging from “very satisfied” (1) to “not at all satisfied” (4). This item was reversed coded and combined with the first job satisfaction item to create a composite measure ( $\alpha = .82$ ) and is referred to as “js<sub>2</sub>.”

#### *Control Variables*

*Income.* Although the GSS collects income information categorically and these categories have changed over time, in the late 1980s the GSS began estimating a comparable measure of income for all participants (Ligon, 1994). Each participant was assigned the median income level in their category and this figure was standardized to 1986 dollars. I took this variable and adjusted it to 2010 dollars.

*Time trend and demographic controls.* I also included control variables that were significantly related to job satisfaction in correlational analyses or that past research suggests are important predictors of job attitudes. Four demographic variables were significantly correlated with job satisfaction: race, marital status, age, and size of current city. I also included a squared age term because past work has found a curvilinear relationship between age and job satisfaction, such that people tend to be most satisfied with their jobs at the beginning and end of their careers

(Clark, Oswald, & Warr, 1996). Gender was also included as a control variable because some research has found that women tend to be happier with their jobs (e.g., Clark, 1997).

I also included several types of dummy variables. First, I created dummy variables for the year the survey was administered to control for time trend effects. Secondly, I created dummy variables for the region where the participant lived at the time the survey was administered using the nine geographical regions identified by the GSS. Finally, I included industry and occupational dummies to rule out the possibility that greater job satisfaction among recession graduates could be explained by differences in the types of industries people enter or the occupations they choose. Industry dummies were based on the sixteen general categories from the 1980 Industry Classification System created by the US Census Bureau. These categories included “Public Administration,” “Finance, Insurance, and Real Estate,” and “Communications” and were available for all participants. Occupational dummies were created using the six major categories identified by Standard Occupational Classification (SOC) system, issued by the Office of Federal Statistical Policy and Standards in 1980. Comparable data using these categorizations were available for all participants. These included “Managerial and Professional Specialty Occupations,” “Technical, Sales, and Administrative Support Occupations,” and “Service Occupations.”

### *Results*

Means, standard deviations, and zero-order correlations for the variables are shown in Table 2. The unemployment rate at the time of workforce entry was positively correlated with job satisfaction ( $r_{js1} = .06, p \leq .01$ ;  $r_{js2} = .17, p \leq .01$ ), such that people who graduated from college during difficult economic times tended to be happier with their jobs.

As shown in Table 3, when the control variables were included, the unemployment rate at the year of workforce entry remained positively predictive of both measures of job satisfaction ( $\beta_{js1} = .07, p \leq .02; \beta_{js2} = .24, p \leq .01$ ).<sup>2</sup>

*Unemployment rate during GSS survey year.* I also tested for two alternative accounts of the relationship between economic conditions and job satisfaction. First, I examined whether prevailing economic conditions predicted current job satisfaction. To test for this possibility, I ran a regression with the same control variables used in Table 3 except for the year dummies which were confounded with annual unemployment rates. Instead of using the unemployment rate at the year of workforce entry as a predictor, I used the unemployment rate during the year the survey was conducted. Prevailing economic conditions were not a significant predictor of either measure of job satisfaction ( $\beta_{js1} = -.04, p = ns; \beta_{js2} = -.02, p = ns$ ). Furthermore, neither the current nor the prevailing unemployment rate moderated the relationship between unemployment rate at the time of workforce entry and job satisfaction.

*Unemployment rate at start of current job.* Another alternative possibility is that economic conditions leave a new imprint each time people reenter the labor market. To test for this possibility, I looked at whether the national unemployment rate during the year respondents began their most recent job predicted current job satisfaction. While information about the number of years respondents were with their current employer was only gathered in 2002 and 2006 and was limited to the same subset of the population that completed the additional job satisfaction item ( $N = 271$ ), the results suggested that the unemployment rate in the year respondents began their current job was not a significant predictor of job satisfaction ( $\beta_{js1} = .02, p = ns; \beta_{js2} = -.01, p = ns$ ). Similarly, the unemployment rate in the year before respondents

began their new job also was not a significant predictor of job satisfaction ( $\beta_{js1} = .06, p = ns$ ;  $\beta_{js2} = .02, p = ns$ ).

*Unemployment and income.* Past research has found that graduating during a recession has both immediate and lasting effects on income (e.g., Beaudry & DiNardo, 1991; Kahn, 2010; Oreopoulos, von Wachter, & Heisz, 2008; Oyer, 2006; Oyer, 2008). In this sample, there was not a significant zero-order correlation between income and the unemployment rate at the time of workforce entry. Furthermore, after controlling for the same variables used in Table 3, I did not find that the unemployment rate at the time of workforce entry significantly predicted current income ( $\beta_{income} = -.00, p = ns$ ). To further examine whether reduced earnings coexisted with positive affective experiences, I ran a series of models that included an increasing number of control variables (see Table 4). In Model 1, I included the control variables that were used by Kahn (2010) and that were available in my dataset. Two variables met these criteria: age and age squared. In Model 2, I included additional demographic controls such as gender and race and in Model 3, I added the dummy variables for year of survey administration, region, occupation, and industry.

As shown in Table 4, controlling for age and age squared (Model 1), there was a significant negative relationship between the unemployment rate at workforce entry and income ( $\beta = -.05, p \leq .05$ ). Importantly, there was also a positive effect for job satisfaction ( $\beta_{js1} = .05, p \leq .05$ ;  $\beta_{js2} = .24, p \leq .01$ ), suggesting that people were actually feeling better about their outcomes even though, at least in financial terms, these outcomes were objectively worse. Once other demographic controls were added in Model 2, the relationship between economic conditions at workforce entry and income became only marginally significant ( $\beta = -.04, p \leq .10$ ). When dummies for survey year, region, industry, and occupation were included, workforce entry

economic conditions were no longer a significant predictor of income ( $\beta = -.00, p = ns$ ). In all three models, economic conditions at workforce entry remained a significant predictor of job satisfaction (JS<sub>1</sub> all  $\beta$ s > .05; JS<sub>2</sub> all  $\beta$ s > .23).<sup>3</sup>

*Selection issues.* I tested for two types of selection concerns that could provide alternative accounts for these results. First I examined whether people who graduated in recessions were more likely to drop out of the workforce and thus less likely to appear in the sample. One possibility is that during a recession the least employable college graduates never secure work and remain unemployed whereas during an economic boom the least employable college graduates are able to find a job. If those least employable people tend to be less satisfied then this could provide an alternative account for why, on average, people who graduate in recessions are happier with their jobs. I tested for this possibility by looking at the average unemployment rate at college graduation for those GSS participants who were not currently employed. In this sample there were extremely few college graduates who were unemployed or temporarily not working ( $N = 79$ ). Furthermore, those who were out of the workforce were not more likely to graduate during a recession. The average unemployment rate at age 22 was no different for the subsample that was currently unemployed ( $M_{unemp22} = 6.80, SD = 1.38$ ) than their counterparts who were employed full-time ( $M_{unemp22} = 6.97, SD = 1.34; t(1683) = 1.10, ns$ ). Those college graduates who reported working part-time and were not included in the analyses also were not more likely to graduate during recessions ( $M_{unemp22} = 6.87; t(1839) = 1.02, ns$ ). Thus, considering how few college graduates in this sample were unemployed or underemployed and given that those who were unemployed were not more likely to be recession graduates, there does not appear to be support for this alternative account.

A second selection concern I considered was whether college graduates who graduated in a recession were more likely to pursue additional education. Since some evidence suggests that those who graduate from college during economic downturns are slightly more likely to go to graduate school (Kahn, 2010), it is possible that there are important differences between cohorts of college graduates who finish school in different economic environments. For instance, perhaps the most gifted graduates enter the workforce during an economic boom but go to graduate school during recessions. Since some evidence suggests that smarter people are sometimes less satisfied with their jobs (Ganzach, 1998), it is possible that cohort differences in Study 1 could account for the results. To test this possibility, I looked at the average unemployment rate at age 22 for those who went to graduate school and those who did not. Indeed, the average unemployment rate at age 22 was slightly higher for those who pursued graduate degrees ( $M_{\text{unemp}22} = 6.79$ ) than those who did not ( $M_{\text{unemp}22} = 6.97$ ), suggesting that people who graduated from college in a recession were slightly more likely to go to graduate school ( $t(2945) = 3.61, p < .01$ ). However, it was not possible to evaluate whether intellectual differences between these populations might explain these results. Thus, Study 1 cannot conclusively rule out the possibility that differences between college graduates who graduated in a recession or an economic boom may account for the relationship between workforce entry economic conditions and job satisfaction. Study 2 was designed to address this shortcoming.

### *Discussion*

Study 1 suggests that the economic conditions people experience when they graduate from college affect job satisfaction years later. Those who graduated when the unemployment rate was relatively high were more satisfied with their current jobs, even though on average they earned less money and were many years removed from these early workforce experiences. While

economic conditions at workforce entry were associated with job satisfaction, prevailing economic circumstances were not similarly predictive. Furthermore, the economic conditions present when people most recently re-entered the labor force also did not predict current job satisfaction. Consistent with the impressionable years hypothesis, the economic conditions present when people first entered the workforce continued to predict how they evaluated and experienced their work years later.



## CHAPTER 3

### Study 2

Study 2 drew on data from the National Longitudinal Survey of Youth (NLSY79), a large longitudinal study that has followed the educational and work histories of 12,686 young adults from adolescence to middle age. Economists have used this dataset to show that college graduates who enter the workforce during recessions suffer long term wage losses (Kahn, 2010). The survey was first conducted in 1979 and participants were interviewed annually until 1994. After 1994, interviews were conducted biannually. Participants ranged from age 14 to 22 when they were first interviewed providing variation in the years they entered the workforce. Importantly, some of them entered the workforce during the economic crisis of 1982 and 1983 when the unemployment rate exceeded 9%, while others entered the workforce during more favorable economic times such as 1979 when the unemployment rate was 6.2%, or 1989 when it dipped to 5.3%. Like the GSS, the NLSY79 includes demographic information as well as information about job attitudes.

Study 2 builds on Study 1 in several ways. For one, the NLSY79 contains more detailed information about year of graduation. This allowed me to examine whether similar effects emerged for people with graduate degrees. Indeed, one limitation of only including college graduates in Study 1 is that economic conditions may which college graduates chose to pursue graduate degrees. If the most capable college graduates go to graduate school in a recession but join the workforce during an economic boom, then it is possible that intellectual differences between these cohorts might account for the relationship between economic conditions at workforce entry and job satisfaction.

Study 2 addressed this concern in two ways. First, the NLSY79 contained a measure of intelligence, allowing me to control for the possibility that intellectual differences between people who graduated in a recession or an economic boom were driving this effect. Secondly, I was able to test whether similar effects emerged for people holding graduate degrees. Since nearly everyone enters the workforce after obtaining a graduate degree and few people opt for additional graduate degrees, it is not likely that there are systematic differences between graduate cohorts entering the workforce during a recession or an economic boom.

In addition, a longitudinal dataset that follows the same people through the middle of their careers enables a better test of the nature of the relationship between the state of the economy at workforce entry and job satisfaction and how this relationship may evolve over time.

### *Methods*

#### *Participants*

The population was divided into two samples: those who earned college degrees and those who earned graduate degrees.

#### *College Sample*

For the college sample, participants were included if they earned their college degree in the year they turned 22, did not subsequently earn a graduate degree, and had valid responses to each of the dependent and control variables. I restricted the sample to those who graduated at age 22 to eliminate people who earned their degree while working full-time or went back to school after several years in the workforce. For people who did not go directly through college, it is difficult to identify a salient moment of workforce entry and determine whether they may have timed their college graduation in light of economic conditions. The resulting sample consisted of 511 people who graduated from college between 1979 and 1986 (see Table 5). During that time,

the unemployment rate ranged from a low of 5.8% in 1979 to a high of 9.7% in 1982. More than half of the sample was female (58.3%) and the majority was white (83.2%). Data were examined for all participants for fifteen years after their college graduation.

### *Graduate Sample*

For the graduate sample, participants were included if they had been in the workforce for at least fifteen years and had earned their graduate degree at or before age 30. People who earned a graduate degree after 30 were likely to have worked for many years before going back to graduate school, making it impossible to identify a salient moment of workforce entry. I also limited the sample to those who earned their graduate degree before 1991 in order to have fifteen years of observations for each participant.<sup>4</sup> The resulting sample included 293 participants who entered the workforce between 1979 and 1991. During that time the unemployment rate ranged from a low of 5.8% in 1979 to a high of 9.7% in 1982. The majority of this sample was white (80.9%) and slightly more than half of the population was male (52.9%).

### *Measures*

*Unemployment rate at year of workforce entry.* From 1988 until 2006, respondents were asked to report their highest educational degree. Using this information, I identified the year that participants received their college degree and the year, if any, that they received their graduate degrees. I used the unemployment rate during the year they received their college or graduate degree as the primary independent variable.

*Job satisfaction.* During each administration of the survey, participants were asked a global job satisfaction question, “How do you feel about the job you have now?” with responses ranging from “like it very much” (1) to “dislike it very much” (4). This item was recoded so that higher scores reflected greater satisfaction.

Using this information, I created variables that consisted of job satisfaction by year of post-education employment. In other words, for a person who graduated from college in 1987, I considered job satisfaction in 1988 to be satisfaction in the first year of employment, job satisfaction in 1989 to be satisfaction in the second year of employment, and so on. Thus job satisfaction at Year 1, Year 2 and beyond depended on the year that the respondent entered the workforce. For each respondent, I compiled job satisfaction scores for fifteen years after they received their degree.

*Income.* During each administration of the survey, participants were asked to report their hourly wage at their primary job. Using the Consumer Price Index, the NLSY79 standardized this number to year 2000 dollars. This adjusted variable has been used to show that people graduating from college during recessions suffer long term wages losses (Kahn, 2010). It was used to control for income in analyses on job satisfaction and used to predict income in income analyses. Income observations that were less than \$4.44 an hour were dropped because adjusted to year 2000 dollars, this was the lowest level that the national minimum wage rate reached during the examined period (1979-2006). Observations of more than \$200 an hour were also dropped, as most of these observations appeared to reflect weekly, monthly or annual income rather than hourly wages.

*Control variables.* As in Study 1, I also controlled for race and sex. The NLSY79 included a three level classification of race: White, Black, and Hispanic. I created two race dummy variables, one for Black and one for Hispanic. For each of these dummy variables, race was recoded so that zero represented all other races and one represented either Black or Hispanic. For gender, zero represented female and one represented male. I also controlled for intelligence which was assessed by the NLSY79 in 1980 using the Armed Forces Qualification

Test. Because these scores were correlated with age, I standardized the raw scores by the year of birth for the entire NLSY79 sample (Kahn, 2010; Ganzach, 1998).

### *Results*

Means, standard deviations, and correlations for the variables are shown in Table 6 for the college sample and Table 7 for the graduate sample.

#### *Multilevel analyses*

I used multilevel modeling to examine whether economic conditions at workforce entry predicted job satisfaction scores over 15 years of analysis. Multilevel modeling enabled me to account for the fact that job satisfaction was affected by both within-person variables (e.g., workforce year, income) as well as between-person variables (e.g., gender, race, and unemployment rate at workforce entry). Additionally, multilevel models allow for different numbers of observations for within person measures such as a job satisfaction and income. Since data were collected over a long period of time and the NLSY79 was not always able to contact every participant, there was a wide range of the number of valid observations among participants.

I tested whether economic conditions at workforce entry predicted job satisfaction using HLM 6 (Raudenbush, Bryk, & Congdon, 2004). I included three within-person predictors: the number of years in the workforce at the time of measurement (workforce year<sub>ij</sub>), the number of years in the workforce squared (workforce year squared<sub>ij</sub>), and income (income<sub>ij</sub>). Workforce year was recoded so that a person's first year in the workforce was denoted as year "0" to facilitate interpretation. I also included four between-person factors: unemployment rate at workforce entry (unemployment<sub>j</sub>), race (represented by dummy variables "Black<sub>j</sub>" and "Hispanic<sub>j</sub>"), gender (represented by dummy variable "male<sub>j</sub>"), and intelligence (IQ<sub>j</sub>). In each of

the HLM models, I centered the continuous variables at level 2 (i.e., unemployment<sub>j</sub> and IQ<sub>j</sub>) around the sample mean of the respective variables to facilitate the interpretation of the model intercept estimates (Raudenbush & Bryk, 2002). The resulting model is shown below:

Level 1:

$$\text{Job Satisfaction}_{ij} = \beta_{0j} + \beta_{1j} (\text{workforce year}_{ij}) + \beta_{2j} (\text{workforce year}^2_{ij}) + \beta_{3j} (\text{income}_{ij}) + e_{ij}$$

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{unemployment}_j) + \gamma_{02} (\text{IQ}_j) + \gamma_{03} (\text{male}_j) + \gamma_{04} (\text{Hispanic}_j) + \gamma_{05} (\text{Black}_j) + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} (\text{unemployment}_j) + \gamma_{12} (\text{IQ}_j) + \gamma_{13} (\text{male}_j) + \gamma_{14} (\text{Hispanic}_j) + \gamma_{15} (\text{Black}_j) + U_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21} (\text{unemployment}_j) + \gamma_{22} (\text{IQ}_j) + \gamma_{23} (\text{male}_j) + \gamma_{24} (\text{Hispanic}_j) + \gamma_{25} (\text{Black}_j) + U_{2j}$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31} (\text{unemployment}_j) + \gamma_{32} (\text{IQ}_j) + \gamma_{33} (\text{male}_j) + \gamma_{34} (\text{Hispanic}_j) + \gamma_{35} (\text{Black}_j) + U_{3j}$$

To examine whether economic conditions at workforce entry also predicted income, I ran the same model using income rather than job satisfaction as the dependent variable and removing income as a control.

### *Multilevel Results*

*Job satisfaction.* Results from the multilevel analyses on job satisfaction for both the college and graduate school sample are shown in Table 8. The initial level intercept ( $\gamma_{00}$ ) represents average satisfaction over 15 years of employment. The years in the workforce intercept ( $\gamma_{10}$ ) reflects the average effect of workforce experience on job satisfaction, the years in the workforce squared intercept ( $\gamma_{20}$ ) reflects the average effect of this squared term, and the income intercept ( $\gamma_{30}$ ) reflects the average effect of income. The additional terms reflect whether person-level predictors moderate the effects of experience, experience squared, and income. Of particular interest is the initial level unemployment parameter ( $\gamma_{01}$ ) which reflects whether economic conditions at workforce entry predict average levels of job satisfaction over 15 years. Indeed, the unemployment at workforce entry was a significant predictor of job satisfaction for both the college ( $\gamma_{01} = .08, p < .01$ ) and graduate school samples ( $\gamma_{01} = .07, p < .01$ ).<sup>5</sup> For the

college sample, the effect of unemployment at workforce entry diminished over time ( $\gamma_{11} = -.017, p < .01$ ), while for graduate students it did not ( $\gamma_{11} = -.01, p = ns$ ).

*Income.* I next examined whether the unemployment rate at workforce entry also predicted income. I re-ran the same model shown in Table 8, removing the salary parameter and using it as the dependent variable. In this model, the unemployment rate at workforce entry was not a significant predictor of income for the college sample ( $\gamma_{01} = -.06, p = ns$ ) or for the graduate sample ( $\gamma_{01} = -.33, p = ns$ ).

To further explore whether heightened job satisfaction may co-exist with lower wages, I re-ran all analyses with the same sample parameters used in studies showing that graduating in a recession reduces earnings. As previously mentioned, Kahn (2010) used a college sample from the NLSY79 to demonstrate that recession graduates earn less. However, she limited her sample to white males, arguing that they were less likely to experience the negative wage consequences associated with child rearing or discrimination. She also did not limit her sample to people who earned their college degrees at age 22. I re-ran the models predicting both job satisfaction and pay using a sample of white males and did not restrict their age of college graduation. The resulting sample consisted of 500 people with college degrees. I also restricted the graduate sample to white males and the resulting sample consisted of 127 people with graduate degrees. As shown in Table 9, white males who graduated from college in a recession earned less money ( $\gamma_{01} = -.87, p < .01$ ) and were also happier with the jobs ( $\gamma_{01} = .07, p < .01$ ). Similarly, white males who earned their graduate degrees in a recession earned somewhat less money ( $\gamma_{01} = -.74, p = .06$ ) and also were more satisfied with their jobs ( $\gamma_{01} = .08, p < .01$ ).

### *Discussion*

Study 2 suggests that the economic conditions people encounter when they enter the workforce affect how satisfied they are with their jobs well into their careers. Those who entered the workforce when the economy was lagging reported being more satisfied with their jobs, even though they also tended to earn less money. Study 2 also built on Study 1 in several ways. For one, Study 2 included both college and graduate school cohorts. Additionally, Study 2 controlled for intelligence. Both of these measures were designed to mitigate the concern that the observed relationship might be explained by differences between people who choose to enter the workforce in economic booms or recessions.

Study 2 also provided evidence for the durability of this effect. Indeed, for the graduate sample the relationship between economic conditions at workforce entry and job satisfaction emerged throughout fifteen years of observations and did not meaningfully weaken over time. For the college sample the effect diminished over time. There are several possible theoretical and methodological reasons for this difference. Methodologically, the graduate sample was smaller and on average entered the workforce later. Since data were collected biannually after 1994, participants were more likely to have missing data in the later years of observation, potentially making it harder to detect these subtle changes. Yet, there may be theoretical reasons for these differences. For instance, people with graduate degrees are likely to be more career-oriented and possibly more sensitive to the implications of early workforce experiences. Graduate school graduates also are typically older, have more financial and familial obligations, and are less likely to feel that they can temporarily opt out of bad economic conditions by going back to school again. Thus, the stakes of their first job market experiences may be higher and therefore the initial economic circumstances they encounter may be more psychologically consequential.



## CHAPTER 4

### Study 3

Study 3 was designed to replicate and extend the findings of Studies 1 and 2 by examining whether similar effects emerged in a different country, with a more educationally diverse population, and extended to life satisfaction as well. Study 3 drew on data from the latest wave of the British Household Panel Survey (BHPS), a large longitudinal study funded by the Economic and Social Research Council. The survey was first conducted in 1991 and consists of a nationally representative sample of households throughout the United Kingdom. The same households are interviewed annually and all adult members are surveyed. Data from the BHPS has been used to show that women are often happier with their jobs (Clark, 1997) and that unemployment is less psychologically destructive to people who live in communities with higher rates of joblessness (Clark & Oswald, 1994). Like the GSS, a cluster of core questions is included every year as well as rotating in depth modules about social and political issues.

Study 3 built on the findings of Studies 1 and 2 in several ways. First, it examined whether these effects emerged in a different country, the United Kingdom. Secondly, it included a detailed measure of life satisfaction, enabling me to examine whether economic conditions similarly affected general attitudes about life as well. Finally, because the BHPS included a question about the last calendar year that participants were enrolled in school full time, I was able to include people with a wider range of educational backgrounds. Consequently, participants in Study 3 consisted of all respondents who had stayed in school through at least age 18.

#### *Sample*

I examined the BHPS data collected in 2008, the latest available wave of data. I restricted the sample to those who had stayed in school until at least age 18 given that people who dropped out of school before this age were likely to have relatively few options regardless of what type of economic conditions they first encountered. As in Study 1, I only included respondents if they entered the workforce during or after 1975. Moreover, participants were only included if they were currently employed.

The resulting sample consisted of 1225 participants. As shown in Table 11, on average respondents left school at age 23.12 ( $SD = 5.06$ ). On average participants were currently 40.22 ( $SD = 9.00$ ) years old and had been in the workforce for nearly twenty years ( $X = 17.34$ ). A slight majority were female (51%) and most were currently married (63%).

### *Measures*

*Unemployment rate at year of workforce entry.* Again, I used the national unemployment rate to measure the economic environment at the time of workforce entry. During the period examined, the average unemployment rate in the United Kingdom was 7.55% ( $SD = 2.38$ ) and fluctuated from a high of 11.6% in 1986 to a low of 4.5% in 1975 (see Table 10).

*Job satisfaction.* Job satisfaction consisted of a single item embedded in a larger life satisfaction scale. The question was...: “On the whole, how satisfied are you with the work you do?” Responses ranged from “not at all satisfied” to “completely satisfied.”

*Life satisfaction.* Life satisfaction consisted of eight items. Participants were asked whether they were satisfied with various aspects of their lives including health, income, and social life. I did not include the item about satisfaction with spouse because it was only asked of participants with significant others and substantially reduced the sample. Cronbach’s alpha was .99.

### *Control Variables*

*Income.* Income consisted of annual labor income. The average income for this sample was £23,792.

*Demographic controls.* As in Study 1, I also controlled for gender, marital status, age, and age squared. Unlike Studies 1 and 2, I also controlled for highest academic degree, which was not necessary in Studies 1 and 2 because of their homogenous educational populations. I did not control for race for logistical reasons. Race was collected only during the year that participants entered the longitudinal panel. Because the method of categorizing race was substantially expanded in the early 2000s, it was impossible to have a consistent race categorization for all participants.

I also included dummy variables for region and industry. First, I created dummy variables for the region where the participant lived at the time the survey was administered based on the thirteen government office regions identified by the British Government. Finally, I included industry dummies and an occupational status control to rule out the possibility that greater job satisfaction among recession graduates could be explained by differences in industry and occupational choices. Industry dummies were based on the same categories used in Study 1. Occupational status was controlled for using a status score based on the 1990 Standard Occupational Classification. Higher scores reflected higher status jobs.

### *Results*

Means, standard deviations, and zero-order correlations for the variables are shown in Table 11. The unemployment rate at the time of workforce entry was positively correlated with

job satisfaction ( $r = .07, p \leq .01$ ) and life satisfaction ( $r = .05, p \leq .05$ ), such that people who left school during difficult economic times reported being happier with their jobs and their lives.

As shown in Table 12, when the control variables were included, the unemployment rate at the year of workforce entry remained positively predictive of both job satisfaction ( $\beta = .09, p \leq .01$ ) and life satisfaction ( $\beta = .09, p \leq .01$ ).

*Unemployment and income.* Again, I examined whether this dataset showed evidence of the long term negative income effects of graduating in a recession. Interestingly, this sample showed a small positive correlation between graduating in more difficult economic times and income ( $r = .06, p \leq .05$ ), which is inconsistent with past research. However, after controlling for the same variables used in Table 12, the relationship between the unemployment rate at the time of workforce entry and income was no longer significant ( $\beta = .03, p = ns$ ). Because of the difficulty assessing race, I was not able to limit the sample to white males. Moreover, limiting the sample to males of all races did not yield the predicted negative income effect ( $\beta = .02, p = ns$ ).

### *Discussion*

Study 3 again demonstrated that people who left school when the economy was sputtering and jobs were difficult to secure were more satisfied with their current jobs and their lives than their counterparts who entered the workforce during more prosperous times. Study 3 built on Studies 1 and 2 in several ways. First, it examined these effects in a different country, the United Kingdom. Secondly, Study 3 consisted of a more educationally diverse sample, suggesting that this effect is not limited to people who are extremely well educated. Finally, Study 3 suggests that in addition to job attitudes, early workforce economic conditions may predict general attitudes about life as well.

## CHAPTER 5

### Study 4

While the first three studies focused primarily on establishing the relationship between early workforce experiences and job satisfaction, Study 4 was designed to examine the psychological mechanisms underlying this effect. In Chapter 1, I argued that people who graduated in economic booms may be more likely to entertain upward counterfactual thoughts about how they could have done better, more likely to experience choice overload, less likely to have grandiose expectations about what they might encounter, and less likely to feel grateful for their jobs, all of which would undermine satisfaction with their current jobs. Study 4 was designed to examine these psychological mediators as well as explore other attitudinal manifestations of early workforce economic experiences.

#### *Participants*

Ninety one working adults (60.4% female, 85.9% white) with graduate degrees participated as voluntary members of an online research panel. As in Study 2, participants were included if they received their degree at or before age 30. On average participants were 42.3 years old ( $SD = 12.15$ ) and held their advanced degrees for 16.7 years ( $SD = 11.9$ ). Participants earned their degrees from 1970 to 2010 and were fairly evenly distributed throughout this time period with no more than six participants graduating in any given year (see Table 13). The majority had master's degrees (75.8%). Other participants reported receiving MBAs (17.6%), PhDs (1.1%), or other types of graduate degrees (6.5%).

#### *Measures*

All items were completed on a seven-point scale ranging from, “strongly disagree” (1) to “strongly agree” (7).

*Job satisfaction.* Job satisfaction was assessed using Brayfield and Rothe's (1951) five item measure. Items included "I feel fairly well satisfied with my present job" and "Most days I am enthusiastic about my work." Cronbach's alpha was .89.

*Organizational Commitment.* Organizational commitment consisted of the three items from the shortened version of the Organizational Commitment Questionnaire (Mowday, Porter, & Steers, 1982). Items included "I am willing to put in a great deal of effort beyond that normally expected in order to help my organization be successful," and "I talk up my organization to my friends as a great organization to work for." Cronbach's alpha was .85.

*Counterfactual thinking.* Upward counterfactuals were assessed using a four item scale designed to measure the frequency of thoughts about how things might have been. The items were drawn from Medvec, Madey, and Gilovich (1995) questions designed to capture differences between counterfactuals among silver and bronze medalists. Items included: "I often think about how I could have done better in my career" and "I often think that there are better jobs out there for me." Cronbach's alpha was .81.

Downward counterfactuals were also drawn from Medvec, Madey, and Gilovich (1995) and included, "I often think about how I could have done worse in the job market," "I compare myself to my peers with worse jobs," and "At least I have a job." Cronbach's alpha was .76.

*Choice.* Choice overload was assessed in two ways. First I examined whether economic conditions predicted whether people took a maximizing approach towards work, a choice making strategy which has been shown to undermine satisfaction (e.g., Iyengar, Wells, & Schwartz, 2006; Schwartz et al., 2002). To assess this possibility, I used Schwartz et al's (2002) 10-item maximizing scale and adjusted several items to reflect work preferences. Items included "No matter how satisfied I am with my job, it's only right for me to be on the lookout for better

opportunities” and “Searching for a job is really difficult. I’m always struggling to pick the best one.” Cronbach’s alpha was .75.

Choice overload was also assessed by gauging perceptions of current opportunities. One possibility is that people who graduate in economic booms are more likely to believe that jobs are easy to come by and thus are more cognizant of the opportunity costs associated with forgoing these real or perceived alternatives. This possibility was assessed by using two items from Allen and Meyer’s (1990) continuance commitment scale that reflected current perceptions of alternatives. These items included: “I feel that I have too few options to consider leaving this organization” and “One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.” Cronbach’s alpha was .70. These items were combined into a composite and reversed so that higher scores reflected greater perceptions of alternatives.

*Expectations.* Expectations were measured in two ways. First participants were asked to what extent their current job had met their expectations. Items measuring met expectations were drawn from Mowday, Porter, and Steers (1982, p. 123). Participants were asked how well their expectations about their supervisor, the kind of work they would be doing, co-workers, physical working conditions, financial rewards, career future, company identification, and their jobs overall have been met. The seven point scale ranged from “expectations have not been met at all” to “expectations have been exceeded.” Cronbach’s alpha was .93.

Additionally, participants were asked about their expectations for future jobs. Specifically, they were asked to imagine that they had to find a new job right now and consider what their expectations might be for the following aspects of their job: their supervisor, the kind of work they would be doing, co-workers, physical working conditions, financial rewards, career future, company identification, and their jobs overall. Cronbach’s alpha was .95.

*Gratitude.* The gratitude measure was drawn from Emmons and McCullough (2003). Participants were asked the extent to which they felt certain emotions about their current job during the past week on a scale from 1 (not at all) to 5 (extremely). The three gratitude items consisted of “grateful,” “thankful,” and “appreciative.” These items were highly related and were combined into a single measure (Cronbach’s alpha was .94).

*Controls.* As in Study 1, I controlled for income, age, age squared, gender, race, and marital status.

#### *Exploratory analyses*

While Study 4 was primarily concerned with evaluating the potential mediators identified in the introduction, I also collected additional measures to examine whether workforce entry experiences affected other attitudes about work, such as how willing people were to leave a job without having another one secured, or whether they generally took a promotion or prevention orientation towards work. Because the sample in Study 4 was small and these relationships could not be explored in other studies, they should be considered very preliminary analyses. However, they can provide suggestive directions for future research on the enduring legacy of early workforce economic conditions.

*Regulatory Focus.* I first examined whether graduating during a recession predicted whether people took a promotion or prevention orientation towards work. Regulatory focus theory (Higgins, 1997, 1998) delineates between two basic motivational systems: promotion and prevention. In a promotion orientation people focus on hopes, aspirations, and accomplishments. In a prevention orientation they focus duties, obligations, and security. Put differently, in a promotion mindset, people “play to win” and in a prevention mindset, they “play to not lose.” I wanted to examine whether entering the workforce in a recession promotes a prevention



orientation towards work, whereas entering in an economic boom fosters a promotion orientation. Those who struggled to secure work and had limited options available to them may typically focus more on keeping their jobs and preventing loss than people who first looked for work during an economic boom. Conversely, people who entered the workforce economically prosperous times may be more focused on promotion, aspirations, and achieving their goals, perhaps believing that they can always do better.

I measured promotion and prevention at work using Neubert et al.'s (2008) Work Regulatory Focus Scale. Items measuring prevention included: "I concentrate on completing my work tasks correctly to increase my job security" and "At work I focus my attention on completing my assigned responsibilities." Cronbach's alpha was .87. Items assessing promotion included "I tend to take risks at work in order to achieve success," and "If I had an opportunity to participate on a high-risk, high-reward project I would definitely take it." Cronbach's alpha was .77

*Continuance and normative commitment.* Study 4 also included measures of the two additional dimensions of organizational commitment. While I focused primarily on affective commitment because like job satisfaction it reflects affect and emotional attachment, I also included measures of Allen and Meyer's (1990) other two forms of organizational commitment: continuance and normative. Continuance commitment represents how bound people feel to an organization based on their beliefs about the economic and social costs they would incur if they left. Allen and Meyer's scale (1990) distinguishes between two kinds of continuance commitment. The first dimension reflects beliefs about the availability of other alternatives (e.g., "I feel I have too few options to consider leaving this organization," Allen & Meyer, 1990). As mentioned earlier, these items were used as the second measure of choice overload. The second

dimension of continuance commitment represents fear of uncertainty (e.g., “I am not afraid of what might happen if I quit my job without having another one lined up). These items were combined with the first dimension and are referred to as continuance commitment in the results and in the tables. Cronbach’s alpha was .74.

The final type of commitment, normative, reflects how obligated people feel to remain with their organizations. An employee may feel obligated to stay because the organization invested substantially in her development or provided considerable resources to her advancement (e.g., “If I got another offer for a better job elsewhere I would not feel it was right to leave my organization”). Thus, she may be committed because she feels indebted to the organization and obliged to repay this debt. Alternatively, she may feel committed because she has been socialized to believe that people should be loyal to their organizations (e.g., “things were better in the days when people stayed with one organization for most of their careers.”). People who entered the workforce during recessions might be more normatively committed for both of these reasons. They may feel more indebted to an organization that hired them during times of economic uncertainty. Presumably it is more costly for organizations to hire during recessions and employees who join during this time may feel more indebted than if they had joined during more prosperous times. It is also possible that entering the workforce in a recession may affect the beliefs people have about how loyal they should be towards their organizations. Certainly anecdotal evidence from the generation that came of age during the Great Depression suggests that this population valued sticking with an employer in both good and bad times (e.g., Putnam, 2000; Rosenberg, 1998).

*Initial workforce experiences.* Study 4 was also used to help elucidate the more specific relationship between economic conditions at the time of workforce entry and job satisfaction. In

particular, I was interested in whether general macroeconomic conditions affected job satisfaction or if more specific initial job market experiences were more influential. In other words, does a person who graduates during a recession and easily finds a job also enjoy the affective advantages of entering the workforce during difficult economic times? Or are the collective experiences of being part of a cohort that enters a stagnant labor market similarly impactful for recession graduates with different job search experiences?

Initial workforce experiences were gauged in two ways. First, participants were asked relatively objective information about their first job searches. These included questions such as “How many months did it take you to find your first full time job- from the time you started looking until you had your first offer?” and, “How many job applications did you submit before you found your first full time job?” as well as “How many job offers did you consider before selecting your first full time job?” (reverse-coded). Cronbach’s alpha was .69.

I also measured subjective first workforce experiences. These included questions such as “Overall, how difficult was it for you to find your first full time job?,” “How frustrating was it for you to find your first full time job?” and “How desperate did you feel while you were still searching for your first full time job?” Cronbach’s alpha was .94.

### *Results*

Means, standard deviations, and zero-order correlations for the variables are shown in Table 14. At a zero-order level, the unemployment rate at the time of workforce entry was positively correlated with job satisfaction ( $r = .31, p < .01$ ) and organizational commitment ( $r =$

.20,  $p < .06$ ). As shown in Table 16, when the control variables were added, the unemployment rate at the year of workforce entry remained positively related to job satisfaction ( $\beta = .31, p < .01$ ) and organizational commitment ( $\beta = .24, p < .05$ ).

### *Mediators*

Next, I examined whether economic conditions at workforce entry were related to the frequency and nature of counterfactual thoughts, choice overload, job expectations, and feelings of gratitude. As shown in Table 16, the unemployment rate at workforce entry was negatively related to the propensity to consider upward counterfactuals ( $r = -.29, p < .01$ ). It was also moderately related to met expectations ( $r = .17, p < .10$ ), such that those who graduated during times of higher unemployment were somewhat more likely to report that their job expectations had been met. However, the unemployment rate at workforce entry was not significantly related to the frequency of downward counterfactual thoughts ( $r = -.03, p = ns$ ), feelings of gratitude ( $r = .08, p = ns$ ), satisficing ( $r = -.00, p = ns$ ), or perceptions of alternatives ( $r = -.09, p = ns$ ). As shown in Table 17, including the control variables the unemployment rate at workforce entry also remained a significant predictor of tendency to consider upward counterfactuals ( $\beta = -.31, p < .01$ ), and a significant predictor of met expectations ( $\beta = .21, p < .05$ ) but was still not a significant predictor of downward counterfactuals ( $\beta = -.06, p = ns$ ), satisficing ( $\beta = -.05, p = ns$ ), perceptions of alternatives ( $\beta = -.10, p = ns$ ), future job expectations ( $\beta = .10, p < .01$ ), or feelings of gratitude ( $\beta = .15, p = ns$ ).

Furthermore, controlling for counterfactual thoughts, the unemployment rate at workforce entry was no longer a significant predictor of job satisfaction ( $\beta = .12, p = ns$ ) or organizational commitment ( $\beta = .08, p = ns$ ) and was significantly reduced for both job satisfaction (Sobel  $z = 2.69, p < .01$ ) and organizational commitment (Sobel  $z = 2.52, p < .05$ ).

Moreover, met expectations partiality mediated the relationship between workforce entry conditions and job satisfaction ( $\beta = .12, p < .05$ ; Sobel  $z = 1.96, p < .05$ ), and fully mediated the relationship between the unemployment rate at workforce entry and organizational commitment ( $\beta = .06, p = ns$ ; Sobel  $z = 1.98, p < .05$ ). Furthermore, both upward counterfactuals ( $\beta = -.28, p < .01$ ) and met expectations ( $\beta = .63, p < .01$ ) remained significant mediators when they were included in the model together suggesting that there was not a common factor that was accounting for both of their roles as mediators. Finally, I examined whether reverse mediation was significant for either of these mediators. If, indeed, reverse mediation was significant, this could suggest that the mediators and the dependent variables are essentially measuring the same thing. However, in neither case was reverse mediation significant (all Sobel  $z$ 's  $< 1.00$ ).

#### *Additional Analyses*

Means, standard deviations, and zero-order correlations for the variables included in the secondary analyses are shown in Table 15. At a zero-order level, there was a moderately positive relationship between the unemployment rate at the time of workforce entry ( $r = .17, p < .10$ ), such that people who graduated during times of higher unemployment reported being more prevention focused at work. However, economic conditions at workforce entry were not significantly correlated with a promotion orientation ( $r = .01, p = ns$ ), continuance commitment ( $r = -.01, p = ns$ ), normative commitment ( $r = .02, p = ns$ ). As shown in Table 17, when the control variables were added, the unemployment rate at the year of workforce entry remained a moderate predictor of prevention orientation ( $\beta = .19, p < .10$ ), but did not become a significant predictor of continuance commitment ( $\beta = -.02, p = ns$ ), normative commitment ( $\beta = .03, p = ns$ ), or promotion orientation ( $\beta = .02, p = ns$ ).

Finally, I examined whether first job experiences were similarly predictive of job attitudes. In other words, is the relationship between early workforce experiences and job attitudes better explained by individual or collective labor market experiences? There was no evidence that people's objective first job market experiences (e.g., how many applications they submitted) predicted how satisfied they were with their jobs ( $r = .03, p = ns$ ) or how committed they were to their organizations ( $r = .08, p = ns$ ). Moreover, subjective job market experiences also did not predict job satisfaction ( $r = .05, p = ns$ ) or organizational commitment ( $r = .10, p = ns$ ). Even after including the control variables, neither objective nor subjective first job experiences significantly predicted job satisfaction or organizational commitment (all  $\beta s < .04, p = ns$ ).

### *Discussion*

Study 4 again demonstrated that the economic conditions people encountered when they first entered the workforce predicted their job attitudes years later. People who graduated in more challenging economic times tended to be more satisfied with their current jobs and more committed to their organizations. Study 4 also identified a psychological mediator of this effect: upward counterfactuals. People who entered the workforce during economic booms were more likely to chronically wonder whether paths not taken might have been better. The propensity to consider upward counterfactuals fully mediated the relationship between the economic conditions at workforce entry and both job satisfaction and organizational commitment, suggesting that one reason recession graduates are happier with their jobs is because they are less likely to be fixated on better possible worlds.

Study 4 also suggested that expectations may mediate the relationship between early workforce experiences and job attitudes. People who graduated during recessions were more

likely to report that their expectations for their current jobs had been met and this tendency partially mediated the relationship between early workforce economic conditions and job satisfaction and fully mediated the relationship between early workforce economic conditions and organizational commitment. However, this construct was somewhat problematic given the nature of the measure and how far removed participants were from their initial workforce experiences. Indeed, expectations were assessed by asking participants the extent to which their expectations about their current job had been met. However, it was impossible to infer whether participants' expectations had been met because their initial expectations had been lower or because they were simply happier with where they ended up. This approach was chosen because many participants were well into their careers ( $X = 16.71$  years) and asking them about their initial job expectations so long after these experiences unfolded seemed unreliable. Future research could better examine this mechanism by measuring expectations at the time of job entry and job satisfaction years later, rather than assessing both at the same time.

Importantly, Study 4 also suggested that specific individual experiences were not similarly predictive of job attitudes. Those who had a relatively easy time securing a job during a recession or a difficult time finding a job during an economic boom tended to be similarly affected by the general economic climate they encountered. In other words, the general zeitgeist of the economic times people encountered seemed to leave a lasting imprint on job attitudes while particular labor market experiences did not. As sociologists have repeatedly noted, external shocks can foster civic engagement and well-being (e.g., Putnam, 2000; Skocpol 1999), perhaps because during difficult times people are more apt to become community oriented and less individually focused. The results of Study 4 suggest that merely entering the workforce during

difficult economic times, regardless of whether one's own experiences were difficult, may leave a lasting imprint on how people think about and experience their work.

Finally, Study 4 pointed to potential avenues for future work. Most notably, Study 4 provided some evidence that people who first looked for work during challenging economic times tend to have a prevention orientation towards work. Indeed, the higher the unemployment rate at the time of workforce entry, the more focused people reported being on their work duties and obligations. As might be expected, these respondents were typically playing not to lose. Interestingly, the predicted negative relationship between workforce entry economic conditions and promotion orientation did not emerge. Moreover, the relationship between early workforce experiences, and perceptions of alternatives, gratitude, and future job expectations, while directionally consistent with the predictions, were not significant. Given the small sample, it is difficult to conclusively eliminate these other potential mediators. Indeed, future research could continue to explore these mediators using larger samples and longitudinal designs.



## CHAPTER 6

### *General Discussion*

While economists have highlighted the long term financial costs of graduating during challenging economic times (e.g., Kahn, 2010, Oyer, 2008), this dissertation suggests there may be an enduring affective advantage. Across four studies, I found that people who entered the workforce when the economy was faltering and jobs were hard to find were happier with their current work than those who first searched for jobs during more prosperous times. Even though recession graduates sometimes earned less money, they still were more satisfied with their jobs even long after these early workforce experiences had passed. Study 4 also pointed to a psychological mediator of this relationship: upward counterfactuals. People who graduated in economic recessions were less likely to question their job choices and career paths and less likely to be fixated on whether they might have done better.

### *Theoretical Implications*

*Job satisfaction.* These results suggest that strong environmental factors may leave a lasting imprint on how people experience and react to their work. Past research has primarily focused on either situational or dispositional antecedents of job satisfaction (e.g., Davis-Blake and Pfeffer, 1989; Staw and Cohen-Charash, 2005), arguing that people are happier at work if they are given autonomy and feedback (e.g., Hackman and Oldham, 1980), or if they are generally well adjusted and positively oriented (Staw, Bell, and Clausen, 1986). This dissertation introduces a distal precursor of job attitudes that is both situational and dispositional. It is situational in that economic conditions early in one's career are transient and outside of individual control. Yet, much like dispositional variables, early workforce experiences appear to leave a lasting imprint on how people perceive, experience, and evaluate future jobs. While most

situational variables are fleeting and can be manipulated by altering the structural components of the job or even moving to a new organization, this one persists across time and situations. Thus, an important contribution of this work is to suggest that situational factors can leave a lasting imprint on how people make sense of and experience their jobs, even long after the situation has changed. In doing so it highlights the importance of incorporating people's prior experiences into our understanding of how they form attitudes about their current work.

These results do not imply, however, that early workforce experiences are deterministic and that there is little that organizations, managers, or employees can do to bolster job attitudes. Rather, it highlights the different habits and sense-making processes that people may adopt depending on whether they secure their first jobs during a recession or time of economic prosperity. In other words, understanding why early workforce experiences job attitudes can help elucidate the perceptual processes and modes of thinking that elevate or undermine these attitudes.

Furthermore, this work does not seek to minimize the difficulties that recession graduates encounter. Indeed, graduating in a recession can be a humbling and demoralizing experience. Many new graduates are forced to move back home, take part-time jobs, or accept jobs that do not require a college degree (e.g., Sum, Khatiwada, & Palma, 2010). However, these findings do suggest that these difficult experiences may confer long term affective benefits. Recent research has shown that some lifetime adversity is actually associated with greater well-being relative to either too much or too little adversity (Seery, Holman, Silver, & Cohen, 2010). For the average well-educated graduate, first looking for work in a recession may pose enough adversity to promote positive subjective evaluations but not so much that it ultimately undermines well-being.

*Generational Imprinting.* These findings also contribute to research on generational imprinting, or the tendency for people to form and solidify their attitudes during late adolescence and early adulthood (e.g., Krosnick & Alwin, 1989; Shuman & Scott, 1989; Schindler & Holbrook, 2003). While past research has demonstrated that political attitudes (Giuliano & Spilimbergo, 2009; Krosnick & Alwin, 1989; Newcomb et al., 1967), economic behavior (e.g., Malmendier & Nagel, 2009), and cultural preferences (e.g., Holbrook & Schindler, 1996) are often solidified during this time, the present studies suggest that economic experiences during these years have similarly lasting consequences for how people think about and react to their jobs. Indeed, the economic environment only appears to leave an enduring imprint on job attitudes when people first enter the job market. Neither prevailing economic conditions nor the conditions present when people took their most recent job similarly affected satisfaction.

*Counterfactual thinking.* Finally, these results contribute to research on counterfactual thinking. While past work has shown that entertaining better imagined worlds undermines satisfaction with negotiation outcomes (Galinsky et al., 2002), grades (Medvec & Savitsky, 1997), and athletic results (Medvec et al., 1995), the present studies suggest that it has implications for job attitudes as well. People who frequently wondered whether they were missing out on better jobs tended to be less satisfied with their existing position. These results also reveal a potential source of these counterfactual thoughts: early workforce economic experiences. While previous research has shown that counterfactual thoughts tend to be prompted when outcomes are within one's control (e.g., Markman et al, 1995), when more choices are available (e.g., Naquin, 2003), or when better results were nearly achieved (Medvec, Madey, & Gilovich, 1995; Medvec & Savitsky, 1997), it has not shown that strong situational experiences can continue to effect counterfactual generation even years after the event has

passed. The present findings suggest that early workforce experiences may continue to how easily people can generate better imagined outcomes.

Upward counterfactuals also might help explain why people who graduate in economic booms continue to enjoy greater financial and career success well into their careers. While generating counterfactuals can undermine satisfaction, it can also highlight corrective courses of action and identify pathways for future success (e.g., Galinsky et al., 2002; Markman, et al., 1993; Roese, 1994). In other words, chronically entertaining better alternatives may improve the likelihood that these alternatives will materialize. Thus, people who graduate in economic booms may maintain their early financial and career advantages by continually focusing on future improvement. While this approach may undermine subjective well-being, it may promote career and financial success.

Interestingly, Study 4 did not find that people who entered the workforce during difficult economic times were more likely to consider downward counterfactuals about how things could have been worse. One possible explanation for this null result is that people typically do not spontaneously generate downward counterfactuals (e.g., Roese & Olson, 1995). While studies have shown that when people consider how things might have turned out worse they typically feel better about their outcomes, most of these studies have prompted participants to consider downward counterfactuals. Some researchers argue that, unprompted, people rarely generate downward counterfactuals on their own (e.g., Roese & Olson, 1995).

#### *Limitations and future directions*

Although three of the studies in this dissertation draw on data from large and highly representative national samples, this research does have some shortcomings that also highlight potential areas for future research. Most importantly, follow up research could continue to

examine the mechanisms underlying this effect. Study 4 suggests that recession graduates are happier because they are less likely to entertain thoughts about better imagined worlds. However, given the small sample, it is difficult to conclusively eliminate the possibility that other psychological mechanisms may help explain this relationship. For instance, entering the workforce during an economic downturn also may temper expectations, diminish the likelihood of experiencing choice overload, and bolster feelings of gratitude. While support for these mediators did not emerge in Study 4, future research could continue to explore them using larger samples and longitudinal designs.

While this dissertation focused on counterfactuals, choice overload, expectations, and gratitude, future research could also explore other psychological mechanisms underlying this effect. For instance, graduating in a recession may also prompt people to rely on more modest social comparisons, feel a diminished sense of entitlement, or temper career ambitions all of which positively affect satisfaction (e.g., Festinger, 1954; Hagerty, 2000; Major & Testa, 1989). A person who searches for her first job in a sputtering economy may be doing relatively poorly in absolute terms but relatively well compared to her peers. Given that subjective evaluations of outcomes are heavily influenced by how well people believe they are doing relative to similar others, recession graduates may feel comparatively well off and thus subjectively better. Conversely, people who entered the workforce during an economic boom may be doing objectively quite well but feel subjectively worse because they believe they are lagging behind their more successful peers. It is also possible that those who graduate during an economic boom are more likely to feel entitled to good outcomes and thus are more likely to be disappointed with what they encounter. Future work could evaluate these and other potential mechanisms.

Moreover, future research could explore different operationalizations of prevailing economic conditions. I used the national unemployment rate because it is a highly visible indicator of economic experiences. More importantly, the national unemployment rate has been consistently measured since 1948. Unemployment rates by race, age, gender, and level of education have only been regularly collected since 1994. However, future studies could consider additional operationalizations of economic conditions. For instance, some economists have focused on regional rather than national economic shocks during early adulthood (e.g., Malmendier & Nagel, 2009) as predictors of subsequent attitudes. While this information was not available in all of the present studies, future could examine whether more proximal economic indicators are more robust predictors of job attitudes. Another approach could be to use the unemployment rate for college graduates, although this information has only been regularly compiled in recent years, or the percentage of college seniors that are employed several months after receiving their degrees.

It is also important to note that in the first three studies the relative magnitude of the relationship between the unemployment rate at workforce entry and job attitudes was quite small. There are several potential explanations for these relatively small effects. First, it is possible that early workforce experiences, while lasting predictors of job attitudes, are generally overridden by more proximal work conditions and experiences. However, it is also possible that given the noise inherent in such large and diverse datasets, that the size of these relationship was underestimated. In Studies 1 and 2, the data was collected over many different years, by many different administrators, and using a relatively insensitive four point scale. Moreover, the participants in the first three studies were from all types of backgrounds, different parts of the country, and occupied a variety of different jobs. In other words, the diversity of these datasets, which

enhanced generalizability, also introduced substantial noise. Indeed, past work has shown that relationship sizes are often considerably smaller in national datasets compared to data gathered in more controlled environments with more homogenous samples (see e.g., Bianchi & Brockner, 2011; Hagerty, 2000). The results of Study 4, which utilized a much more homogenous sample and a more controlled environment, supported this possibility. Indeed, in Study 4, the magnitude of the main effects was substantially larger than in Studies 1, 2, and 3.

This dissertation was primarily concerned with identifying and supporting the idea that early workforce economic conditions can leave a lasting imprint on work attitudes. Future studies could build on this main effect in several ways. For one, future work could examine how early workforce experiences interact with situational variables to affect job attitudes. For instance, perhaps people who graduate during economic booms are more sensitive to some of the well established situational predictors of job attitudes such as whether they are treated fairly or given autonomy and feedback. One possibility is that because boom graduates had more real or perceived opportunities, they may more carefully monitor their employer to ensure that they are receiving the treatment they feel they deserve.

Moreover, future research could examine whether personality or situational variables moderate reactions to early workforce economic experiences. For instance, Study 4 suggested that people who graduate in economic booms are more likely to entertain upward counterfactuals about what might have been. However, it is possible that personality variables such as self-esteem moderate this effect. Specifically, people with low self-esteem may feel undeserving of any job they get and be unlikely to engage in upward counterfactuals no matter what type of economic conditions they encounter. Future studies could explore these possibilities.

*Conclusion*

This dissertation finds that initial workforce experiences can have lasting consequences for how people think about and experience their jobs. People who first looked for work during difficult economic times were more satisfied with their current jobs and less likely to ruminate over paths not taken and opportunities missed, even though in financial terms they sometimes were worse off. Thus, much in the way that dispositional characteristics continue to affect work attitudes across jobs and environments, early workforce experiences appear to leave a similar imprint on how satisfied people are with their jobs.



## FOOTNOTES

<sup>1</sup> Although the regional or state unemployment rate may be a more sensitive measure, the GSS did not collect information about where respondents were living when they first entered the workforce. In addition, regional economic conditions have not been shown to be as robust predictors of financial outcomes as national unemployment rates (Kahn, 2010), presumably because college graduates are fairly mobile and therefore able to escape suboptimal local economic conditions (Wozniak, 2010).

<sup>2</sup> In all four studies, I also looked for evidence of a nonlinear relationship between the unemployment rate and job satisfaction. For instance, it is possible that people who enter the workforce when the unemployment rate is moderately high are happier than those who enter when the unemployment rate is quite low but that this relationship actually reverses when economic conditions become extremely bad. To test for this possibility, I re-ran the models shown in Tables 3, 9, 12, and 16 with the addition of a squared term for unemployment rate at workforce entry. In none of the cases was the squared term significantly related to job satisfaction.

<sup>3</sup> It is important to note that income in Study 1 is estimated and may not be sensitive enough to capture these effects. Traditionally, the GSS has collected income categorically and over time these categories have changed. The GSS began estimating a continuous income measure in the 1980s by assigning participants the median income level in their selected category and adjusting these figures for inflation (Ligon, 1994). Thus, this measure may not be precise enough to capture the relationship between the workforce entry unemployment rate and current income. However, as shown in Table 4, there is some evidence that recession graduates do earn less and are also more satisfied, providing suggestive evidence that increased satisfaction can coexist with reduced earnings.

<sup>4</sup> Only twelve people were eliminated who received a graduate degree before age thirty but did not earn it before 1991. Similar results emerge whether or not these 12 people were included in the analyses.

<sup>5</sup> The results reported here are unstandardized betas. HLM 6 does not produce standardized betas.

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*Table 1: Sample size by year of estimated college graduation, Study 1*

| Year of College Graduation | Unemployment rate | N   |
|----------------------------|-------------------|-----|
| 1975                       | 8.5               | 89  |
| 1976                       | 7.7               | 86  |
| 1977                       | 7.1               | 83  |
| 1978                       | 6.1               | 89  |
| 1979                       | 5.8               | 84  |
| 1980                       | 7.1               | 114 |
| 1981                       | 7.6               | 93  |
| 1982                       | 9.7               | 93  |
| 1983                       | 9.6               | 78  |
| 1984                       | 7.5               | 79  |
| 1985                       | 7.2               | 73  |
| 1986                       | 7.0               | 76  |
| 1987                       | 6.2               | 56  |
| 1988                       | 5.5               | 60  |
| 1989                       | 5.3               | 47  |
| 1990                       | 5.6               | 49  |
| 1991                       | 6.8               | 48  |
| 1992                       | 7.5               | 56  |
| 1993                       | 6.9               | 43  |
| 1994                       | 6.1               | 34  |
| 1995                       | 5.6               | 27  |
| 1996                       | 5.4               | 27  |
| 1997                       | 4.9               | 29  |
| 1998                       | 4.5               | 22  |
| 1999                       | 4.2               | 14  |
| 2000                       | 4.0               | 12  |
| 2001                       | 4.7               | 10  |
| 2002                       | 5.8               | 8   |
| 2003                       | 6.0               | 10  |
| 2004                       | 5.5               | 9   |
| 2005                       | 5.1               | 5   |
| 2006                       | 4.6               | 3   |

Table 2: Means, Standard Deviations, and Zero-Order Correlations

| Variable                             | <i>M</i> | <i>SD</i> | 1     | 2     | 3      | 4      | 5     | 6      | 7      | 8      | 9     |
|--------------------------------------|----------|-----------|-------|-------|--------|--------|-------|--------|--------|--------|-------|
| 1. Workforce entry unemployment rate | 6.97     | 1.34      |       |       |        |        |       |        |        |        |       |
| 2. JS <sub>1</sub> (N=1606)          | 3.33     | 0.74      | .06** |       |        |        |       |        |        |        |       |
| 3. JS <sub>2</sub> (N=271)           | 3.34     | 0.66      | .16** | .93** |        |        |       |        |        |        |       |
| 4. Income                            | \$28,545 | \$25,600  | .04   | .11** | .16**  |        |       |        |        |        |       |
| 5. Age                               | 32.89    | 7.15      | .25** | .07** | .07    | .32**  |       |        |        |        |       |
| 6. Male                              | 0.50     | 0.50      | -.01  | .01   | .06    | .20**  | .02   |        |        |        |       |
| 7. Black                             | 0.10     | 0.30      | .02   | -.03  | -.16** | -.07** | .06*  | -.10** |        |        |       |
| 8. Other race                        | 0.07     | 0.25      | -.05* | -.06* | -.03   | .03    | .06*  | .00    | -.09** |        |       |
| 9. Married                           | 0.48     | 0.50      | .01   | .07** | .12*   | .19**  | .18** | .13**  | -.11** | -.01   |       |
| 10. City size                        | 3.68     | 2.40      | .01   | .06*  | .06    | -.05*  | .00   | .03    | -.11** | -.09** | .11** |

\*  $p < .05$

\*\*  $p < .01$

Notes: The workforce entry unemployment rate reflects the national unemployment rate in the year college graduates turned 22. JS<sub>1</sub> reflects the single item job satisfaction item collected every year. JS<sub>2</sub> reflects a composite satisfaction item comprised of JS<sub>1</sub> and an additional job satisfaction question that was asked in 2002 and 2006. Income is estimated in annual dollars and standardized to 2010 dollars. Male is coded (0 = female, 1 = male), Black is coded (0 = all other races, 1 = Black), other race is coded (0 = Black or White, 1 = Other race), and married is coded (0 = separated, divorced, never married, widowed, 1 = married).

Table 3: Unemployment rate at workforce entry as a predictor of job satisfaction, Study 1

| Predictor variables               | Model 1 <sup>a</sup>        | Model 2 <sup>b</sup>       |
|-----------------------------------|-----------------------------|----------------------------|
|                                   | JS <sub>1</sub><br>N = 1606 | JS <sub>2</sub><br>N = 271 |
|                                   | $\beta$                     | $\beta$                    |
| Workforce entry unemployment rate | 0.07*                       | 0.24**                     |
| Income                            | 0.11**                      | 0.14*                      |
| Age centered                      | -0.02                       | -0.23*                     |
| Age centered squared              | 0.01                        | 0.10                       |
| Male                              | 0.00                        | 0.02                       |
| Black                             | -0.02                       | -0.10                      |
| Other race                        | -0.06*                      | -0.02                      |
| Married                           | 0.03                        | 0.04                       |
| City size                         | 0.05 <sup>†</sup>           | 0.06                       |
| Year dummies (21)                 | Yes                         | Yes                        |
| Regional dummies (9)              | Yes                         | Yes                        |
| Industry dummies (16)             | Yes                         | Yes                        |
| Occupational dummies (6)          | Yes                         | Yes                        |

<sup>a</sup> Overall  $F(60, 1546) = 2.44^{**}$ ;  $R^2 = .09$

<sup>b</sup> Overall  $F(38, 233) = 1.50^*$ ;  $R^2 = .20$

Notes: The workforce entry unemployment rate reflects the national unemployment rate in the year college graduates turned 22. Income was estimated in annual dollars and standardized to 2010 dollars. Male is coded (0 = female, 1 = male), Black is coded (0 = all other races, 1 = Black), Other race is coded (0 = Black or White, 1 = Other race), and Married is coded (0 = separated, divorced, never married, widowed, 1 = married). City size was coded from 1 to 10 and ranged from large city (1) to open country (10). Year dummies were created for each year of the survey's administration. There was a significant effect of survey year on JS<sub>1</sub> in 1977 ( $\beta = .12, p < .05$ ), 1978 ( $\beta = .20, p < .05$ ), 1985 ( $\beta = .26, p < .05$ ), 1998 ( $\beta = .08, p < .05$ ), and 2004 ( $\beta = .07, p < .05$ ). None of the regional dummies had any significant effects on JS<sub>1</sub>. Respondents in the following industries reported lower levels of JS<sub>1</sub>: Agriculture, forestry, and fisheries ( $\beta = -.07, p < .05$ ), manufacturing ( $\beta = -.08, p < .05$ ), transportation ( $\beta = -.10, p < .01$ ), and business and repair services ( $\beta = -.09, p < .05$ ).

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Table 4: Unemployment rate at workforce entry as a predictor of income and job satisfaction , Study 1

| Predictor variables               | Model 1    |                 |                    | Model 2            |                 |                 | Model 3    |                 |                    |
|-----------------------------------|------------|-----------------|--------------------|--------------------|-----------------|-----------------|------------|-----------------|--------------------|
|                                   | Income     | JS <sub>1</sub> | JS <sub>2</sub>    | Income             | JS <sub>1</sub> | JS <sub>2</sub> | Income     | JS <sub>1</sub> | JS <sub>2</sub>    |
| Workforce entry unemployment rate | -0.05*     | 0.05*           | 0.24**             | -0.04 <sup>†</sup> | 0.05*           | 0.23**          | -0.00      | 0.07*           | 0.24**             |
| Age centered                      | 0.35**     | 0.03            | -0.20 <sup>†</sup> | 0.32**             | 0.02            | -0.22*          | 0.30**     | 0.01            | -0.19 <sup>†</sup> |
| Age centered <sup>2</sup>         | -0.04      | 0.02            | 0.15 <sup>†</sup>  | -0.02              | 0.02            | 0.17*           | -0.07*     | 0.00            | 0.09               |
| Male                              |            |                 |                    | 0.17**             | -0.01           | 0.02            | 0.17**     | 0.02            | 0.05               |
| Black                             |            |                 |                    | -0.06**            | -0.03           | -0.14*          | -0.06*     | -0.03           | -0.10              |
| Other race                        |            |                 |                    | -0.00              | -0.06*          | -0.03           | -0.03      | -0.06*          | -0.02              |
| Married                           |            |                 |                    | 0.12**             | 0.06*           | 0.09            | 0.10**     | 0.04            | 0.05               |
| City size                         |            |                 |                    | -0.08**            | 0.05*           | 0.01            | -0.05*     | 0.04            | 0.04               |
| Year dummies (21)                 |            |                 |                    |                    |                 |                 | Yes        | Yes             | Yes                |
| Regional dummies (9)              |            |                 |                    |                    |                 |                 | Yes        | Yes             | Yes                |
| Industry dummies (16)             |            |                 |                    |                    |                 |                 | Yes        | Yes             | Yes                |
| Occupational dummies (6)          |            |                 |                    |                    |                 |                 | Yes        | Yes             | Yes                |
| Constant                          | \$29,439** | 3.31**          | 3.40**             | \$25,197**         | 3.24**          | 3.35**          | \$18,728** | 1.89*           | 3.39**             |
| <i>F</i>                          | 62.54**    | 38.67**         | 7.38**             | 38.67**            | 3.27**          | 2.76**          | 7.38**     | 2.20**          | 1.40 <sup>†</sup>  |
| <i>R</i> <sup>2</sup>             | 0.11       | 0.16            | 0.16               | 0.16               | 0.02            | 0.08            | 0.16       | 0.08            | 0.18               |

*Table 5: Sample size by year of college and graduate school graduation, Study 2*

| Year of College Graduation | Unemployment rate | College Sample<br>N = 511 | Graduate Sample<br>N = 293 |
|----------------------------|-------------------|---------------------------|----------------------------|
| 1979                       | 5.8%              | 66                        | 1                          |
| 1980                       | 7.1%              | 62                        | 3                          |
| 1981                       | 7.6%              | 57                        | 3                          |
| 1982                       | 9.7%              | 71                        | 14                         |
| 1983                       | 9.6%              | 65                        | 16                         |
| 1984                       | 7.5%              | 78                        | 33                         |
| 1985                       | 7.2%              | 48                        | 24                         |
| 1986                       | 7.0%              | 64                        | 36                         |
| 1987                       | 6.2%              | 0                         | 41                         |
| 1988                       | 5.5%              | 0                         | 36                         |
| 1989                       | 5.3%              | 0                         | 41                         |
| 1990                       | 5.6%              | 0                         | 31                         |
| 1991                       | 6.8%              | 0                         | 14                         |

Table 6: Means, Standard Deviations, and Zero-Order Correlations, College sample, Study 2

| Variable                             | <i>M</i> | <i>SD</i> | 1     | 2      | 3                | 4                 | 5    | 6                 |
|--------------------------------------|----------|-----------|-------|--------|------------------|-------------------|------|-------------------|
| 1. Workforce entry unemployment rate | 7.73     | 1.27      |       |        |                  |                   |      |                   |
| 2. Job satisfaction                  | 3.38     | 0.40      | .04   |        |                  |                   |      |                   |
| 3. Pay                               | 12.96    | 6.55      | .11** | .10*   |                  |                   |      |                   |
| 4. IQ                                | 1.16     | 0.70      | .11** | -.06   | .13**            |                   |      |                   |
| 5. Male                              | 0.42     | 0.49      | .0    | .04    | .21**            | .08 <sup>†</sup>  |      |                   |
| 6. Black                             | 0.13     | 0.33      | .04   | -.15** | .01              | -.46**            | -.03 |                   |
| 7. Hispanic                          | 0.04     | 0.20      | -.02  | .04    | .07 <sup>†</sup> | -.08 <sup>†</sup> | .10  | -.08 <sup>†</sup> |

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Notes: The sample includes college graduates who graduated in the year they turned 22 and did not pursue further education. The workforce entry unemployment rate reflects the national unemployment rate in the year respondents turned 22. Job satisfaction was collected annually and for the correlational analyses reported above was averaged over 15 years. Income was reported in hourly increments, standardized by the NLSY79 to year 2000 dollars, and in the table above was averaged over the 15 year time period. IQ was collected by the NLSY79 in 1981 using Sections 2, 3, 4, and 5 of the AFQT. IQ scores were standardized by birth year for the entire NLSY79 sample. Male is coded 0 = female, 1 = male), Black is coded 0 = all other races, 1 = Black), Hispanic is coded 0 = all other races, 1 = Hispanic).

Table 7: Means, Standard Deviations, and Zero-Order Correlations, Graduate sample, Study 2

| Variable                             | <i>M</i> | <i>SD</i> | 1                | 2                  | 3                 | 4                  | 5    | 6                  |
|--------------------------------------|----------|-----------|------------------|--------------------|-------------------|--------------------|------|--------------------|
| 1. Workforce entry unemployment rate | 6.65     | 1.27      |                  |                    |                   |                    |      |                    |
| 2. Job satisfaction                  | 3.45     | 0.39      | .11 <sup>†</sup> |                    |                   |                    |      |                    |
| 3. Pay                               | 18.83    | 12.48     | -.02             | .10 <sup>†</sup>   |                   |                    |      |                    |
| 4. IQ                                | 1.35     | 0.66      | -.07             | -.15 <sup>**</sup> | .18 <sup>**</sup> |                    |      |                    |
| 5. Male                              | 0.53     | 0.50      | .02              | -.03               | .20 <sup>**</sup> | .10 <sup>†</sup>   |      |                    |
| 6. Black                             | 0.09     | 0.31      | -.06             | .06                | .03               | -.38 <sup>**</sup> | -.01 |                    |
| 7. Hispanic                          | 0.10     | 0.30      | -.11             | .07                | -.01              | -.17 <sup>**</sup> | -.03 | -.11 <sup>**</sup> |

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Notes: The sample includes people with graduate degrees who entered the workforce before age 30. The workforce entry unemployment rate reflects the national unemployment rate in the year respondents received their graduate degrees.



Table 8: Multilevel analysis predicting job satisfaction over 15 years for respondents with college and graduate degrees

| Predictor variables                             | College Sample |       |                    | Graduate School Sample |       |                   |
|---|----------------|-------|--------------------|------------------------|-------|-------------------|
|   | Coefficient    | SE    | t                  | Coefficient            | SE    | t                 |
| Initial level, $\beta_0$                        |                |       |                    |                        |       |                   |
| Intercept, $\gamma_{00}$                        | 3.38           | 0.04  | 82.12**            | 3.38                   | 0.06  | 59.27**           |
| Unemployment entry, $\gamma_{01}$               | 0.08           | 0.02  | 3.46**             | 0.07                   | 0.03  | 2.67**            |
| IQ, $\gamma_{02}$                               | -0.08          | 0.05  | -1.72 <sup>†</sup> | -0.04                  | 0.06  | -0.71             |
| Male, $\gamma_{03}$                             | -0.02          | 0.06  | -0.26              | -0.02                  | 0.08  | -0.25             |
| Black $\gamma_{04}$                             | -0.31          | 0.11  | -2.84**            | 0.03                   | 0.14  | 0.21              |
| Hispanic $\gamma_{05}$                          | 0.10           | 0.14  | 0.72               | 0.14                   | 0.11  | 1.22              |
| Years in the workforce, $\beta_1$               |                |       |                    |                        |       |                   |
| Intercept, $\gamma_{10}$                        | -0.00          | 0.01  | -0.14              | 0.00                   | 0.02  | 0.24              |
| Unemployment entry, $\gamma_{11}$               | -0.017         | 0.007 | -2.59**            | -0.01                  | 0.02  | -0.80             |
| IQ, $\gamma_{12}$                               | -0.02          | 0.01  | -1.08              | -0.01                  | 0.02  | -0.59             |
| Male, $\gamma_{13}$                             | 0.01           | 0.02  | 0.57               | -0.01                  | 0.02  | -0.23             |
| Black $\gamma_{14}$                             | -0.00          | 0.00  | -0.29              | -0.01                  | 0.04  | -0.19             |
| Hispanic $\gamma_{15}$                          | -0.03          | 0.03  | -0.98              | 0.00                   | 0.03  | 0.10              |
| Years in the workforce <sup>2</sup> , $\beta_2$ |                |       |                    |                        |       |                   |
| Intercept, $\gamma_{20}$                        | 0.00           | 0.00  | 0.01               | -0.00                  | 0.00  | -0.50             |
| Unemployment entry, $\gamma_{21}$               | 0.001          | 0.00  | 1.78 <sup>†</sup>  | 0.00                   | 0.00  | 0.36              |
| IQ, $\gamma_{22}$                               | 0.00           | 0.00  | 1.23               | 0.00                   | 0.00  | 0.51              |
| Male, $\gamma_{23}$                             | -0.00          | 0.00  | -0.56              | 0.00                   | 0.00  | 0.55              |
| Black $\gamma_{24}$                             | 0.00           | 0.00  | 0.62               | 0.00                   | 0.00  | 0.61              |
| Hispanic $\gamma_{25}$                          | 0.004          | 0.002 | 1.80 <sup>†</sup>  | -0.00                  | 0.00  | -0.22             |
| Salary, $\beta_3$                               |                |       |                    |                        |       |                   |
| Intercept, $\gamma_{30}$                        | 0.004          | 0.001 | 3.14**             | 0.006                  | 0.003 | 1.89 <sup>†</sup> |
| Unemployment entry, $\gamma_{31}$               | 0.00           | 0.00  | 0.80               | -0.00                  | 0.00  | -0.76             |
| IQ, $\gamma_{32}$                               | -0.00          | 0.00  | -0.29              | -0.00                  | 0.02  | -0.57             |
| Male, $\gamma_{33}$                             | 0.00           | 0.00  | 0.12               | -0.00                  | 0.00  | -0.25             |
| Black $\gamma_{34}$                             | 0.00           | 0.00  | -0.29              | -0.00                  | 0.00  | -0.76             |
| Hispanic $\gamma_{35}$                          | -0.01          | 0.01  | -1.11              | -0.00                  | 0.00  | -1.04             |

Notes: The college sample is restricted to college graduates who earned their degree at 22 and did not go on to receive a graduate degree. The graduate sample includes respondents who received their graduate degrees before age 31 and before 1991. Pay is an hourly rate that is standardized to 2000 dollars and limited to observations between \$4.44 and \$200 per hour. Workforce year represents the number of years the participant has been in the workforce. To facilitate interpretation, each respondent's first year in the workforce is coded "0". "Unemployment entry" represents the national unemployment rate during the year the respondent graduated from college or graduate school and was grand mean centered. IQ was assessed in 1980 using the AFQT test and was standardized by year of birth for the entire NLSY sample and then grand mean centered within the college and graduate school samples.

<sup>†</sup>  $p < .10$  \*  $p < .05$  \*\*  $p < .01$

Table 9: Multilevel analysis predicting job satisfaction and pay over 15 years for White males with college and graduate degrees

| Predictor variables                             | College Sample <sup>a</sup><br>N=500 |      |         |       |      |         | Graduate Sample <sup>b</sup><br>N=127 |       |         |         |      |         |
|---|--------------------------------------|------|---------|-------|------|---------|---------------------------------------|-------|---------|---------|------|---------|
|   | Job Satisfaction                     |      |         | Pay   |      |         | Job satisfaction                      |       |         | Pay     |      |         |
|   | B                                    | SE   | t       | B     | SE   | t       | B                                     | SE    | t       | $\beta$ | SE   | t       |
| Initial level, $\beta_0$                        |                                      |      |         |       |      |         |                                       |       |         |         |      |         |
| Intercept, $\gamma_{00}$                        | 3.25                                 | 0.08 | 38.31** | 8.76  | 0.68 | 12.81** | 3.38                                  | 0.06  | 59.62** | 11.52   | 0.61 | 18.99** |
| Unemployment entry, $\gamma_{01}$               | 0.07                                 | 0.03 | 2.80**  | -0.87 | 0.15 | -5.81** | 0.08                                  | 0.04  | 2.16*   | -0.74   | 0.39 | -1.90†  |
| IQ, $\gamma_{02}$                               | 0.01                                 | 0.06 | 0.22    | 0.48  | 0.46 | 1.05    | -0.06                                 | 0.11  | -0.49   | 0.49    | 1.05 | 0.47    |
| Years in the workforce, $\beta_1$               |                                      |      |         |       |      |         |                                       |       |         |         |      |         |
| Intercept, $\gamma_{10}$                        | 0.04                                 | 0.02 | 1.51    | 0.91  | 0.26 | 3.52**  | -0.01                                 | 0.02  | -0.31   | 1.61    | 0.49 | 3.31**  |
| Unemployment entry, $\gamma_{11}$               | -0.01                                | 0.01 | -1.92†  | 0.02  | 0.08 | 0.31    | -0.01                                 | 0.01  | -0.93   | 0.70    | 0.26 | 2.70**  |
| IQ, $\gamma_{12}$                               | -0.01                                | 0.02 | -0.85   | -0.07 | 0.18 | -0.40   | 0.01                                  | 0.04  | 0.22    | 1.34    | 0.65 | 2.03*   |
| Years in the workforce <sup>2</sup> , $\beta_2$ |                                      |      |         |       |      |         |                                       |       |         |         |      |         |
| Intercept, $\gamma_{20}$                        | -0.00                                | 0.03 | -1.57   | 0.00  | 0.02 | 0.18    | 0.00                                  | 0.00  | 0.45    | 0.03    | 0.03 | 1.14    |
| Unemployment entry, $\gamma_{21}$               | 0.00                                 | 0.00 | 1.00    | -0.01 | 0.01 | -1.44   | 0.00                                  | 0.00  | 0.90    | -0.05   | 0.02 | -3.17** |
| IQ, $\gamma_{22}$                               | 0.00                                 | 0.00 | 0.93    | 0.02  | 0.02 | 1.57    | -0.00                                 | 0.00  | -0.29   | -0.00   | 0.05 | -0.01   |
| Salary, $\beta_3$                               |                                      |      |         |       |      |         |                                       |       |         |         |      |         |
| Intercept, $\gamma_{30}$                        | 0.01                                 | 0.00 | 2.62**  |       |      |         | 0.003                                 | 0.002 | 1.85†   |         |      |         |
| Unemployment entry, $\gamma_{31}$               | 0.00                                 | 0.00 | 0.73    |       |      |         | -0.00                                 | 0.00  | -0.03   |         |      |         |
| IQ, $\gamma_{32}$                               | -0.00                                | 0.00 | -1.03   |       |      |         | -0.00                                 | 0.00  | -0.29   |         |      |         |

<sup>a</sup> The college sample is restricted to white males who earned their degree and did not go on to receive a graduate degree.

<sup>b</sup> The graduate sample includes white males who received their graduate degrees before age 31 and before 1991.

Pay is an hourly rate that is standardized to 2000 dollars. Pay observations were included if they fell between \$4.44 and \$200 per hour. Workforce year represents the number of years the participant has been in the workforce and each respondent's first year in the workforce is coded "0". "Unemployment entry" represents the national unemployment rate during the year the respondent graduated from college or graduate school and was grand mean centered. IQ was assessed in 1980 using the AFQT test and was standardized by year of birth for the whole NLSY79 sample and then grand mean centered within the observed populations.

†  $p < .10$  \*  $p < .05$  \*\*  $p < .01$

*Table 10: Sample size by year of estimated college graduation, Study 3*

| Last year of schooling | Unemployment rate | N  |
|------------------------|-------------------|----|
| 1974                   | 3.7               | 21 |
| 1975                   | 4.5               | 25 |
| 1976                   | 5.4               | 19 |
| 1977                   | 5.6               | 25 |
| 1978                   | 5.6               | 27 |
| 1979                   | 5.4               | 36 |
| 1980                   | 6.9               | 28 |
| 1981                   | 9.8               | 26 |
| 1982                   | 10.9              | 42 |
| 1983                   | 11.6              | 37 |
| 1984                   | 11.9              | 37 |
| 1985                   | 11.4              | 34 |
| 1986                   | 11.4              | 47 |
| 1987                   | 10.5              | 42 |
| 1988                   | 8.6               | 38 |
| 1989                   | 7.2               | 49 |
| 1990                   | 7.2               | 36 |
| 1991                   | 8.9               | 44 |
| 1992                   | 10.1              | 54 |
| 1993                   | 10.5              | 42 |
| 1994                   | 9.6               | 57 |
| 1995                   | 8.7               | 44 |
| 1996                   | 8.2               | 61 |
| 1997                   | 7.0               | 54 |
| 1998                   | 6.3               | 62 |
| 1999                   | 6.0               | 54 |
| 2000                   | 5.6               | 35 |
| 2001                   | 5.1               | 26 |
| 2002                   | 5.2               | 30 |
| 2003                   | 5.1               | 28 |
| 2004                   | 4.8               | 25 |
| 2005                   | 4.9               | 15 |
| 2006                   | 5.5               | 13 |
| 2007                   | 5.4               | 9  |
| 2008                   | 5.8               | 4  |

Table 11: Means, Standard Deviations, and Zero-Order Correlations, Study 3

| Variable                             | <i>M</i> | <i>SD</i> | 1      | 2     | 3      | 4      | 5      | 6     | 7      | 8     | 9      |
|--------------------------------------|----------|-----------|--------|-------|--------|--------|--------|-------|--------|-------|--------|
| 1. Workforce entry unemployment rate | 11.90    | 2.34      |        |       |        |        |        |       |        |       |        |
| 2. Job satisfaction                  | 4.23     | 3.55      | .07**  |       |        |        |        |       |        |       |        |
| 3. Life Satisfaction                 | 4.12     | 3.38      | .05*   | .96** |        |        |        |       |        |       |        |
| 4. Income                            | £23,792  | £19,296   | .06*   | .04   | .04    |        |        |       |        |       |        |
| 5. Age                               | 40.22    | 9.00      | .22**  | -.03  | -.03   | .11**  |        |       |        |       |        |
| 6. Male                              | 0.49     | 0.50      | .05    | .02   | .01    | .27**  | .03    |       |        |       |        |
| 7. White                             | 0.04     | 0.19      | -.17** | .00   | .02    | -.06*  | -.22*  | -.00  |        |       |        |
| 8. Highest education                 | 2.43     | 2.66      | -.07*  | .06*  | .05    | .12**  | -.09** | .15** | .06**  |       |        |
| 9. Married                           | 0.63     | 0.48      | .13**  | -.07* | -.09** | .06*   | .18**  | .02   | -.19** | -.03  |        |
| 10. Occ. prestige                    | 287.57   | 238.45    | -.06*  | .16** | .18**  | -.09** | -.09** | .03   | .09**  | .08** | -.15** |

\*  $p < .05$

\*\*  $p < .01$

Notes: The workforce entry unemployment rate reflects the national unemployment rate in the year college graduates turned 22. JS<sub>1</sub> reflects the single item job satisfaction item collected every year. JS<sub>2</sub> reflects a composite satisfaction item comprised of JS<sub>1</sub> and an additional job satisfaction question that was asked in 2002 and 2006. Income is estimated in annual dollars and standardized to 2010 dollars. Male is coded (0 = female, 1 = male), Black is coded (0 = all other races, 1 = Black), other race is coded (0 = Black or White, 1 = Other race), and married is coded (0 = separated, divorced, never married, widowed, 1 = married).

Table 12: Unemployment rate at workforce entry as a predictor of job satisfaction, Study 3

| Predictor variables               | Model 1 <sup>a</sup> | Model 2 <sup>b</sup> |
|-----------------------------------|----------------------|----------------------|
|                                   | Job Satisfaction     | Life Satisfaction    |
|                                   | $\beta$              | $\beta$              |
| Workforce entry unemployment rate | 0.09**               | 0.09**               |
| Income                            | 0.04                 | 0.04                 |
| Age centered                      | -0.05                | -0.05                |
| Age centered squared              | -0.01                | -0.01                |
| Male                              | -0.03                | -0.03                |
| White                             | -0.03                | -0.03                |
| Highest Degree                    | 0.10**               | 0.10**               |
| Married                           | -0.03                | -0.03                |
| Occupational prestige             | -0.07*               | -0.07*               |
| Regional dummies (12)             | Yes                  | Yes                  |
| Industry dummies (9)              | Yes                  | Yes                  |

<sup>a</sup> Overall  $F(30, 1195) = 5.89^{**}$ ;  $R^2 = .13$

<sup>b</sup> Overall  $F(38, 233) = 6.45^{**}$ ;  $R^2 = .14$

Table 13: Sample size by year of graduate school graduation, Study 4

| Year of Graduation | Unemployment rate | N |
|--------------------|-------------------|---|
| 1970               | 4.9               | 2 |
| 1971               | 5.9               | 1 |
| 1972               | 5.6               | 1 |
| 1973               | 4.9               | 3 |
| 1974               | 5.6               | 2 |
| 1975               | 8.5               | 0 |
| 1976               | 7.7               | 4 |
| 1977               | 7.1               | 0 |
| 1978               | 6.1               | 1 |
| 1979               | 5.8               | 2 |
| 1980               | 7.1               | 1 |
| 1981               | 7.6               | 0 |
| 1982               | 9.7               | 4 |
| 1983               | 9.6               | 2 |
| 1984               | 7.5               | 1 |
| 1985               | 7.2               | 3 |
| 1986               | 7.0               | 2 |
| 1987               | 6.2               | 2 |
| 1988               | 5.5               | 1 |
| 1989               | 5.3               | 3 |
| 1990               | 5.6               | 3 |
| 1991               | 6.8               | 6 |
| 1992               | 7.5               | 1 |
| 1993               | 6.9               | 1 |
| 1994               | 6.1               | 3 |
| 1995               | 5.6               | 3 |
| 1996               | 5.4               | 1 |
| 1997               | 4.9               | 1 |
| 1998               | 4.5               | 0 |
| 1999               | 4.2               | 4 |
| 2000               | 4.0               | 5 |
| 2001               | 4.7               | 2 |

|      |     |   |
|------|-----|---|
| 2002 | 5.8 | 3 |
| 2003 | 6.0 | 2 |
| 2004 | 5.5 | 3 |
| 2005 | 5.1 | 4 |
| 2006 | 4.6 | 2 |
| 2007 | 4.6 | 2 |
| 2008 | 5.8 | 3 |
| 2009 | 9.3 | 5 |
| 2010 | 9.6 | 5 |

Table 14: Means, Standard Deviations, and Zero-Order Correlations, Study 4

| Variable                             | <i>M</i> | <i>SD</i> | 1                | 2      | 3      | 4      | 5      | 6     | 7      | 8      | 9     | 10    | 11                | 12   | 13                | 14   | 15   | 16   | 17  |
|--------------------------------------|----------|-----------|------------------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------------------|------|-------------------|------|------|------|-----|
| 1. Workforce entry unemployment rate | 6.32     | 1.70      | N/A              |        |        |        |        |       |        |        |       |       |                   |      |                   |      |      |      |     |
| 2. Job satisfaction                  | 3.43     | 0.68      | .31**            | (.89)  |        |        |        |       |        |        |       |       |                   |      |                   |      |      |      |     |
| 3. Organizational commitment         | 5.10     | 1.43      | .20 <sup>†</sup> | .80**  | (.85)  |        |        |       |        |        |       |       |                   |      |                   |      |      |      |     |
| 4. Upward Counterfactuals            | 3.75     | 1.32      | -.29**           | -.59** | -.42** | (.81)  |        |       |        |        |       |       |                   |      |                   |      |      |      |     |
| 5. Satisficing                       | 4.07     | 0.95      | -.03             | -.05   | .13    | .51**  | (.75)  |       |        |        |       |       |                   |      |                   |      |      |      |     |
| 6. Alternatives                      | 5.01     | 1.52      | -.09             | -.31** | -.26** | .24*   | -.11   | (.70) |        |        |       |       |                   |      |                   |      |      |      |     |
| 7. Gratitude                         | 3.66     | 1.05      | .08              | .62**  | .72**  | -.38** | .10    | -.11  | (.94)  |        |       |       |                   |      |                   |      |      |      |     |
| 8. Expectations                      | 5.03     | 1.31      | .17 <sup>†</sup> | .74**  | .82**  | -.51** | .10    | -.25* | .79**  | (.93)  |       |       |                   |      |                   |      |      |      |     |
| 9. Future Expectations               | 5.60     | 1.12      | .13              | .38**  | .41**  | -.14   | .16    | -.10  | .36**  | .37**  | (.95) |       |                   |      |                   |      |      |      |     |
| 10. Pay                              | \$78,060 | \$53,462  | -.05             | .01    | .05    | -.00   | .25**  | -.21* | .12    | .12    | .02   | N/A   |                   |      |                   |      |      |      |     |
| 11. Age                              | 42.30    | 12.15     | -.03             | -.09   | -.24*  | -.08   | -.29** | .12   | -.29** | -.28** | -.20* | .14   | N/A               |      |                   |      |      |      |     |
| 12. Male                             | 0.09     | 0.29      | .06              | -.02   | .02    | .27**  | .37**  | -.07  | -.16   | -.09   | -.11  | .26*  | .14               | N/A  |                   |      |      |      |     |
| 13. Black                            | 0.02     | 0.15      | .11              | .06    | .01    | -.11   | .08    | -.08  | .12    | .10    | .02   | -.13  | -.18 <sup>†</sup> | -.12 | N/A               |      |      |      |     |
| 14. Asian                            | 0.52     | 0.50      | -.05             | -.02   | .11    | .13    | .15    | -.14  | .00    | .02    | -.05  | .07   | -.19 <sup>†</sup> | .15  | -.05              | N/A  |      |      |     |
| 15. Other race                       | 0.01     | 0.50      | -.13             | -.06   | -.06   | -.04   | -.15   | -.04  | -.13   | -.04   | -.06  | -.02  | -.04              | -.08 | -.02              | -.04 | N/A  |      |     |
| 16. Married                          | 0.63     | 0.49      | -.22*            | -.01   | .04    | -.05   | -.05   | -.03  | .20    | .07    | -.19  | .28** | .25*              | -.03 | -.04              | -.02 | -.14 | N/A  |     |
| 17. Years post degree                | 16.71    | 11.96     | .00              | -.03   | -.21*  | -.11   | -.26** | .09   | -.24*  | -.25*  | -.22* | .15   | .97**             | .12  | -.19 <sup>†</sup> | -.17 | -.05 | .24* | N/A |



Table 15: Means, Standard Deviations, and Zero-Order Correlations, Exploratory Analyses, Study 4

| Variable                                 | <i>M</i> | <i>SD</i> | 1                | 2                 | 3     | 4                | 5     | 6     | 7     | 8     | 9     |
|--|----------|-----------|------------------|-------------------|-------|------------------|-------|-------|-------|-------|-------|
| 1. Workforce entry unemployment rate     | 6.32     | 1.70      | N/A              |                   |       |                  |       |       |       |       |       |
| 2. Job satisfaction                      | 3.43     | 0.68      | .31**            | (.89)             |       |                  |       |       |       |       |       |
| 3. Organizational commitment             | 5.10     | 1.43      | .20 <sup>†</sup> | .80**             | (.85) |                  |       |       |       |       |       |
| 4. Continuance commitment                | 5.03     | 1.23      | -.01             | -.17 <sup>†</sup> | -.16  | (.74)            |       |       |       |       |       |
| 5. Normative commitment                  | 4.05     | 1.19      | .02              | .38**             | .48** | -.04             | (.74) |       |       |       |       |
| 6. RFQ- Promotion                        | 3.37     | 0.88      | .01              | .27**             | .35** | -.05             | .19   | (.77) |       |       |       |
| 7. RFQ- Prevention                       | 4.27     | 0.65      | .17 <sup>†</sup> | .41**             | .41** | .20 <sup>†</sup> | .29** | .26*  | (.87) |       |       |
| 8. First workforce experiences-objective | 2.79     | 1.30      | -.04             | .03               | .08   | .06              | -.02  | -.02  | .21*  | (.69) |       |
| 9. First workforce experiences-emotional | 3.03     | 1.85      | -.01             | .05               | .10   | .12              | -.03  | -.06  | .12   | .69** | (.94) |

Table 16: Unemployment rate at workforce entry as a predictor of job satisfaction and organizational commitment, Study 4

| Predictor variables               | Job Satisfaction     |                      |                      | Organizational Commitment |                      |                      |
|-----------------------------------|----------------------|----------------------|----------------------|---------------------------|----------------------|----------------------|
|                                   | Model 1 <sup>a</sup> | Model 2 <sup>b</sup> | Model 3 <sup>c</sup> | Model 4 <sup>d</sup>      | Model 5 <sup>e</sup> | Model 6 <sup>f</sup> |
|                                   | $\beta$              | $\beta$              | $\beta$              | $\beta$                   | $\beta$              | $\beta$              |
| Workforce entry unemployment rate | 0.34**               | 0.13                 | 0.17*                | 0.24*                     | 0.08                 | 0.07                 |
| Income                            | 0.05                 | -0.02                | -0.11                | 0.06                      | -0.01                | -0.11                |
| Age centered                      | 0.41                 | -0.13                | 0.16 <sup>†</sup>    | 0.46                      | 0.78                 | 0.02                 |
| Age centered squared              | -0.51                | -0.13                | -0.04                | -0.73                     | -1.10                | -0.07                |
| Male                              | -0.02                | 0.17 <sup>†</sup>    | 0.05                 | 0.02                      | 0.18 <sup>†</sup>    | 0.10                 |
| Black                             | 0.01                 | -0.02                | -0.02                | -0.04                     | -0.07                | -0.07                |
| Asian                             | -0.02                | 0.01                 | -0.01                | 0.60                      | 0.09                 | 0.08                 |
| Other race                        | -0.02                | -0.07                | -0.07                | -0.02                     | -0.06                | -0.01                |
| Married                           | 0.05                 | -0.01                | -0.04                | 0.12                      | 0.07                 | 0.01                 |
| Upward Counterfactuals            |                      | -0.63**              |                      |                           | -0.50**              |                      |
| Expectations                      |                      |                      | 0.77**               |                           |                      | 0.82**               |

<sup>a</sup> Overall  $F(9, 82) = 1.21$ ;  $R^2 = .12$

<sup>b</sup> Overall  $F(10, 81) = 5.92$ ;  $R^2 = .42$

<sup>c</sup> Overall  $F(10, 81) = 12.45$ ;  $R^2 = .61$

<sup>d</sup> Overall  $F(9, 82) = 1.28$ ;  $R^2 = .14$

<sup>e</sup> Overall  $F(10, 81) = 4.04$ ;  $R^2 = .33$

<sup>f</sup> Overall  $F(10, 81) = 18.28$ ;  $R^2 = .69$

Notes: The workforce entry unemployment rate reflects the national unemployment rate in the year respondents received their graduate degrees. Male is coded (0 = female, 1 = male), Black is coded (0 = all other races, 1 = Black), Other race is coded (0 = Black, White, Asian, 1 = Other race), and Married is coded (0 = separated, divorced, never married, widowed, 1 = married).

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Table 17: Unemployment rate at workforce entry as a predictor of counterfactual thinking, choice, and gratitude, Study 4

| Dependent variables               | Upward Counterfactuals <sup>a</sup> | Met Expectations <sup>b</sup> | Future job Expectations <sup>c</sup> | Choice 1: Satisficing <sup>d</sup> | Choice 2: Alternatives <sup>e</sup> | Gratitude <sup>f</sup> |
|-----------------------------------|-------------------------------------|-------------------------------|--------------------------------------|------------------------------------|-------------------------------------|------------------------|
|                                   | $\beta$                             | $\beta$                       | $\beta$                              | $\beta$                            | $\beta$                             | $\beta$                |
| Workforce entry unemployment rate | -0.31**                             | 0.21*                         | 0.10                                 | -0.05                              | -0.10                               | 0.15                   |
| Income                            | -0.08                               | 0.20 <sup>†</sup>             | 0.12                                 | 0.18 <sup>†</sup>                  | -0.24*                              | 0.13                   |
| Age centered                      | 0.24                                | -0.31**                       | -0.16                                | -0.32**                            | 0.17                                | -0.30**                |
| Age centered squared              | -0.07                               | -0.04                         | -0.07                                | -0.10                              | -0.13                               | -0.19 <sup>†</sup>     |
| Male                              | 0.29**                              | -0.09                         | -0.12                                | 0.42**                             | -0.01                               | -0.13                  |
| Black                             | -0.07                               | 0.04                          | -0.03                                | 0.11                               | -0.06                               | 0.07                   |
| Asian                             | 0.06                                | -0.02                         | -0.07                                | 0.04                               | -0.12                               | -0.03                  |
| Other race                        | -0.08                               | -0.02                         | -0.09                                | -0.18 <sup>†</sup>                 | -0.07                               | -0.12                  |
| Married                           | -0.10                               | 0.12                          | -0.20 <sup>†</sup>                   | -0.06                              | -0.07                               | 0.21 <sup>†</sup>      |
| Constant                          | 5.44                                | 3.60                          | 5.50                                 | 3.83                               | 6.46                                | 2.93                   |

<sup>a</sup> Overall  $F(10, 81) = 2.26^*$ ;  $R^2 = .22$

<sup>b</sup> Overall  $F(10, 81) = 4.38^{**}$ ;  $R^2 = .35$

<sup>c</sup> Overall  $F(10, 81) = 1.15$ ;  $R^2 = .11$

<sup>d</sup> Overall  $F(10, 81) = 5.24$ ;  $R^2 = .37$

<sup>e</sup> Overall  $F(10, 81) = 1.07$ ;  $R^2 = .11$

<sup>f</sup> Overall  $F(10, 81) = 3.07^{**}$ ;  $R^2 = .25$

*Table 18: Exploratory analyses, unemployment rate at workforce entry as a predictor of continuance and normative commitment, promotion and prevention, Study 4*

| Dependent variables               | Continuance commitment <sup>a</sup> | Normative commitment <sup>b</sup> | RFQ- Promotion <sup>c</sup> | RFQ- Prevention <sup>d</sup> |
|-----------------------------------|-------------------------------------|-----------------------------------|-----------------------------|------------------------------|
|                                   | $\beta$                             | $\beta$                           | $\beta$                     | $\beta$                      |
| Workforce entry unemployment rate | -0.02                               | 0.03                              | 0.02                        | 0.19 <sup>†</sup>            |
| Income                            | -0.13                               | 0.00                              | 0.00                        | -0.03                        |
| Age centered                      | -0.02                               | -0.08                             | -0.20                       | -0.03                        |
| Age centered squared              | -0.08                               | 0.09                              | -0.07                       | -0.20 <sup>†</sup>           |
| Male                              | -0.18                               | -0.11                             | 0.18                        | -0.13                        |
| Black                             | -0.03                               | 0.09                              | 0.06                        | -0.05                        |
| Asian                             | -0.15                               | 0.00                              | 0.09                        | -0.17                        |
| Other race                        | -0.09                               | 0.02                              | 0.00                        | -0.07                        |
| Married                           | -0.03                               | 0.18                              | 0.05                        | -0.08                        |
| Constant                          | 5.73                                | 3.60                              | 3.15                        | 4.15                         |

<sup>a</sup> Overall  $F(9, 82) = 0.97$ ;  $R^2 = .10$

<sup>b</sup> Overall  $F(9, 82) = 0.54$ ;  $R^2 = .06$

<sup>c</sup> Overall  $F(9, 82) = 0.92$ ;  $R^2 = .09$

<sup>d</sup> Overall  $F(9, 82) = 1.35$ ;  $R^2 = .13$

*Table 19: First job experiences as a predictor of job satisfaction and organizational commitment, Study 4*

| Predictor variables                | Job satisfaction <sup>a</sup> | Organizational commitment <sup>b</sup> | Job satisfaction <sup>c</sup> | Organizational commitment <sup>d</sup> |
|------------------------------------|-------------------------------|--|-------------------------------|--|
|                                    | $\beta$                       | $\beta$                                | $\beta$                       | $\beta$                                |
| First job experiences (objective)  | .03                           | .02                                    |                               |  |
| First job experiences (subjective) |                               |  | .02                           | .03                                    |
| Income                             | .06                           | .06                                    | .06                           | .06                                    |
| Age centered                       | -.10                          | -.25*                                  | -.09                          | -.24                                   |
| Age centered squared               | -.01                          | -.06                                   | -.01                          | -.06                                   |
| Male                               | -.01                          | .03                                    | -.01                          | .04                                    |
| Black                              | .04                           | -.02                                   | .04                           | -.03                                   |
| Asian                              | -.04                          | .05                                    | -.04                          | .05                                    |
| Other race                         | -.07                          | -.05                                   | -.07                          | -.05                                   |
| Married                            | -.02                          | .06                                    | -.02                          | .06                                    |
| Constant                           | 4.97                          | 4.84                                   | 4.94                          | 4.81                                   |

<sup>a</sup> Overall  $F(9, 82) = 0.17$ ;  $R^2 = .02$

<sup>b</sup> Overall  $F(9, 82) = 0.82$ ;  $R^2 = .08$

<sup>c</sup> Overall  $F(9, 82) = 0.17$ ;  $R^2 = .02$

<sup>d</sup> Overall  $F(9, 82) = 0.83$ ;  $R^2 = .02$

Figure 1: Upward counterfactuals as a mediator of the relationship between the economic conditions at workforce entry and job satisfaction

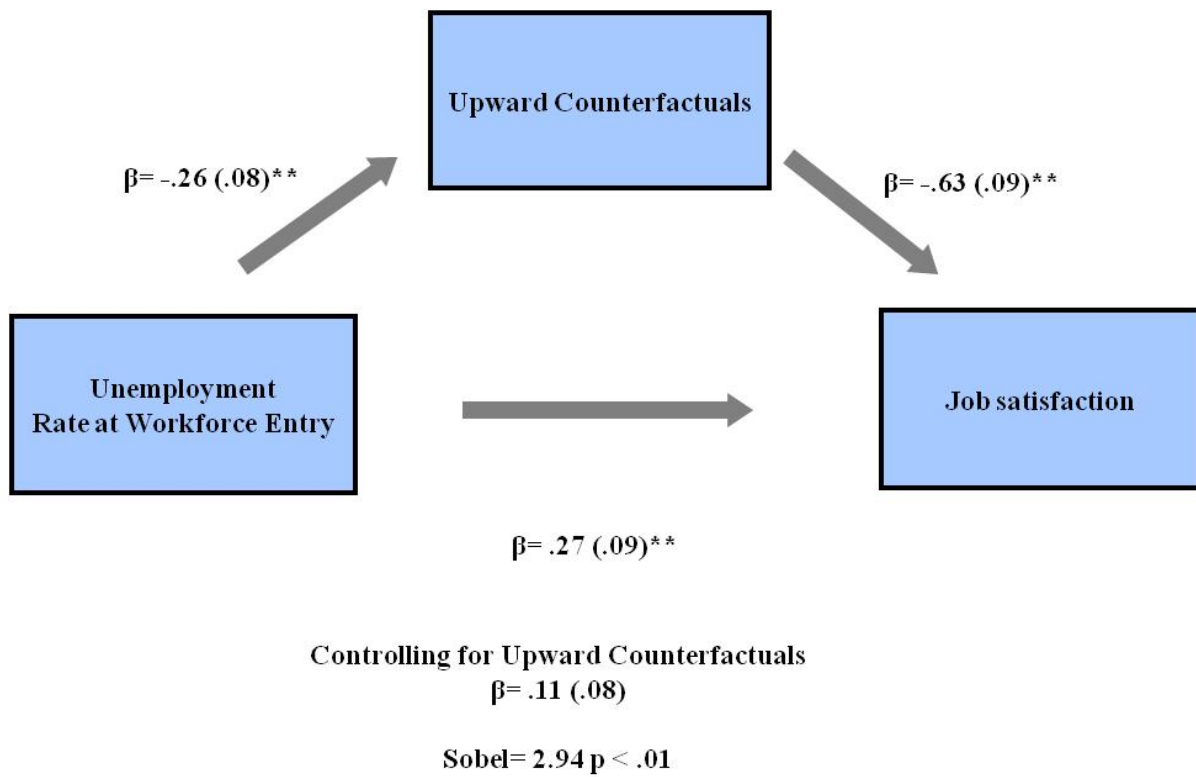


Figure 2: Upward counterfactuals as a mediator of the relationship between the economic conditions at workforce entry and organizational commitment

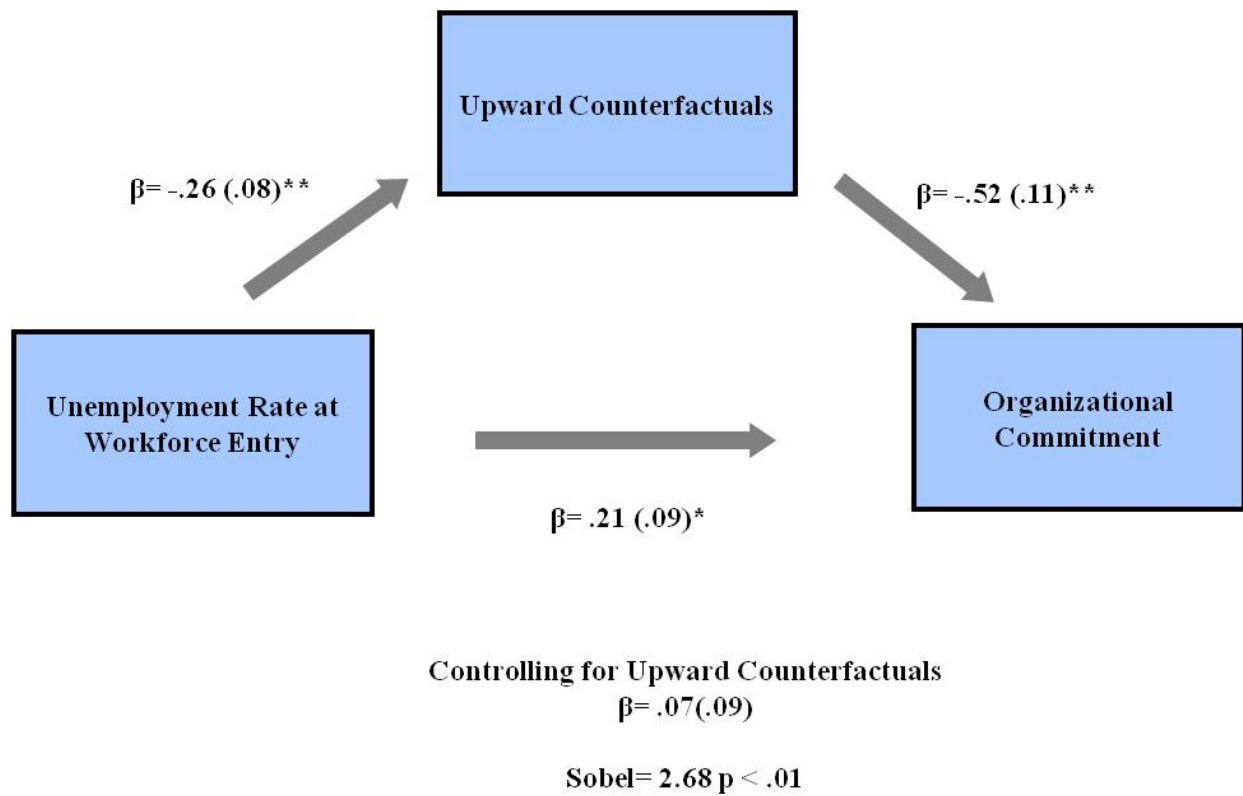


Figure 3: Expectations as a mediator of the relationship between the economic conditions at workforce entry and job satisfaction

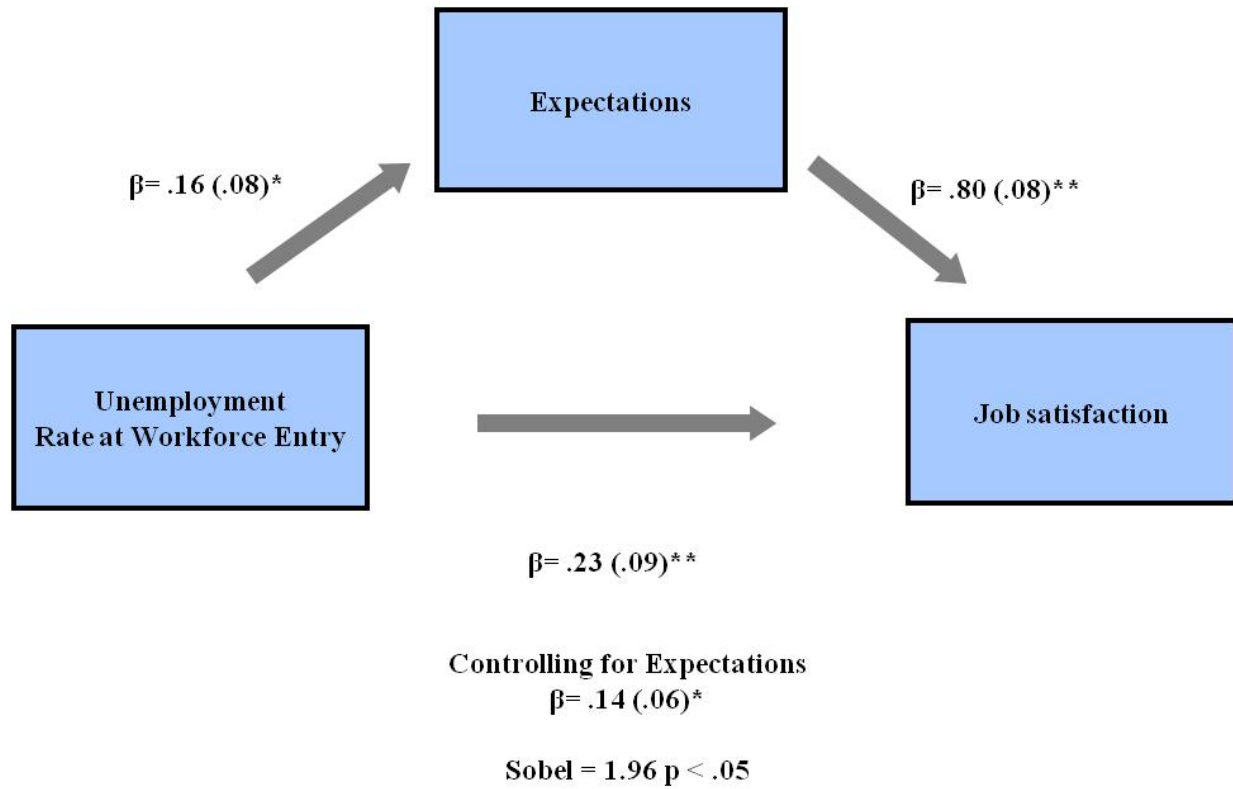




Figure 4: Expectations as a mediator of the relationship between the economic conditions at workforce entry and organizational commitment

