

EFFECTS OF JOB INSECURITY AND CONSIDERATION OF THE FUTURE CONSEQUENCES
ON QUALITY AND QUANTITY OF JOB PERFORMANCE

By

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Abstract

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The present research examines the effects of job insecurity and consideration of the future consequences (CFC) as well as the interaction between the two, and their effect on quality and quantity of job performance. In order to examine these relationships, an experimental study was conducted. Participants were recruited in work sessions that were either high or low job insecurity conditions. Their task was to enter challenging text and they had two 10-minute sessions to do so. Quality was assessed as number of errors and number of words skipped. Quantity was assessed as number of words entered. Manipulation was introduced after the first session in the experimental group. Results indicated that job insecurity did not influence any aspects of participants' performance. However, participants' orientation on CFC was related to quantity and quality. Low CFC participants entered significantly more words in comparison to high CFC participants. Analysis of the relationship between the CFC and two quality indicators yielded to less clear results. That is, trend observed indicated that participants high in CFC actually tended to make more errors and skip more words than their low CFC counterparts.

Exploration of the interaction between the job insecurity and the CFC yielded inconsistent results. However, overall trend indicated that high CFCs exhibit lower number of

errors and skip less words from Session 1 to 2. These results are implicated by inadequate sample size. Low CFCs seemed to be unaffected by the job insecurity condition entirely.

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INTRODUCTION

“It’s official. This is the worst year ever for layoffs in the U.S. financial-services industry – and there’s still more than two months to go.” (Business Week Online, 2007)

The problem of job insecurity is discussed in hundreds of news articles each year. It is almost impossible to glance through the daily newspaper without noticing titles such as this one, or reading about the reports of companies going through mergers, outsourcings, or contemplating closure.

Since the 1980s, it has become evident that the focus of organizations is changing. There are a multitude of external factors that contribute to this change. A rapid shift from manufacturing to service industry, increasing global competition, and new technologies are all coercing companies into re-thinking their business strategies (Sverke & Hellgren, 2002; Howard, 1995). Most of those necessary adaptations attempt to make companies “leaner” through either increasing the gains or lowering the costs with the latter being viewed as less challenging to achieve (Cascio, 1998; Sverke & Hellgren, 2002). For many companies, the most efficient way of cutting the costs and increasing the profits is by conducting organizational restructuring and downsizing the workforce. In 2006, the Bureau of Labor Statistics (BLS) reported 4,689 extended mass layoff events. Those events affected a total of 894,739 employees, an increase from 884,661 employees the previous year. Given today’s volatile economic conditions, it can be safe to assume that those organizational changes are strategies that will not soon disappear. A constant exposure to layoffs and outsourcing events may make workers perceive that their jobs are not as stable as they once thought (Ashford, Lee, & Bobko, 1989).

The purpose of the current study is to examine the effects of some of those major changes, more specifically, the effect of layoffs and job insecurity on workers’ performance. It is

crucial to address the fact that those restructuring changes do not by default trigger the feelings of job insecurity. However, it is commonly acknowledged that those processes are frequent precursors of downsizing. Job insecurity can be defined as a fear of involuntarily losing one's job or job-related tasks (Greenhalgh & Rosenblatt, 1984). Therefore, if an employee wishes to keep his or her job but an organization needs to downsize, it can be assumed that the worker will experience the feelings of job insecurity.

Of course, individuals differ in how they perceive various organizational restructuring procedures and not all of them view those actions as automatic threats to their jobs. Kinnunen, Mauno, Nätti, & Happonen (1999) suggest that in addition to this external component (changing organizational conditions), individual characteristics such as occupation, age, and gender contribute to one of the ways that one approaches this external situation. On the other end of the spectrum are the personality factors such as pessimistic life orientation, external locus of control, or negative affectivity.

While not a sole contributor to job insecurity, it seems to be a consensus that layoffs are capable of putting enough strain on an individual to alter their behavior, attitudes, and health (Näswall, 2004; Ashford, Lee, & Bobko, 1984; Sverke & Hellgren, 2002; Sverke, Hellgren, & Näswall, 2002; Kinnunen et al., 1999; Probst, Stewart, Gruys,, & Tierney, 2007). The current research explored the feelings of job insecurity through manipulation of organizational layoffs as a type of organizational restructuring.

While numerous studies have documented the adverse effects of perceptions of job insecurity on employee attitudes, physical health, mental well-being, and turnover intentions (see Sverke, Hellgren, and Näswall, 2002 for a recent meta-analysis) less consensus has been reached about how job insecurity affects job performance. This study seeks to address this gap in the

literature by assessing the effects of job insecurity on quality and quantity aspects of performance. In addition, the role of personality, specifically orientation towards future consequences, was investigated to explore its potential moderating effect on the relationship between the job insecurity and job performance.

A Review of Job Insecurity Research

Job insecurity can be defined in terms of “threats to the job itself, importance of the total job, threats to valued job features, and feelings of powerlessness to counteract these threats” (Greenhalgh & Rosenblatt, 1984). Overall, as a fear of involuntary loss, this anticipation of a potentially very stressful situation may cause employees to worry about their future financial situations, the loss of social interaction, and disruption to the general everyday routine – all of which are associated with a stable employment (De Witte, 1999; Levi, 1999; Lazarus & Folkman, 1984; Näswall, 2004; Jahoda, 1982).

It has been argued that job insecurity presents one of the greatest stressors that an employee can face (Ironson, 1992), and that it may be as, or even more stressful than the job loss itself (Dekker & Schaufeli, 1995, Latack & Dozier, 1986). While the actual loss of one’s job provides a closure and ability to move on, insecurity is ongoing (Jacobson, 1991). Constantly fearing the stability of future employment puts a tremendous amount of stress on an employee, as it does not provide for an adequate opportunity to take action and reduce that level of stress. This tension in turn, carries a myriad of negative psychological, behavioral, and health consequences that affect both the employees and the organization (Näswall, 2004; Spector, 2000).

First, psychological reactions manifest themselves in the form of attitudes towards the company or a particular situation. There is evidence indicating that job insecurity is related to less satisfaction with one’s work, less trust of management, and less organizational commitment.

Furthermore, behavioral responses refer to actions that employees take as a response to stressful conditions (Näswall, 2004). Heightened job insecurity has been linked to lower behavioral safety compliance, higher injury and accident rates (Probst & Brubaker, 2001), less attachment to the organization, and higher likelihood of leaving a company (Sverke et al., 2002). Last, from a physical outcome perspective, studies also show that job insecurity affects employees' general health through different "somatic stress reactions" or bodily responses to stressors. That is, job insecurity has been linked to higher blood pressure, higher risk of cardiac diseases, and higher rate of overall physical illnesses (Ferrie, 2001; Heaney, Israel, & House, 1994; Näswall, 2004; Sverke & Hellgren, 2003). In addition, employees who are undergoing substantial stress associated with job insecurity exhibit lower mental well-being (Ashford, Lee, & Bobko, 1989; De Witte, 1999; Heaney, Israel, & House, 1994; Näswall, 2004; Hellgren, Sverke, & Isaksson, 1999; Roskies & Louis-Guerin, 1990).

In summary, employees experiencing stressful levels of job insecurity might decide to distance themselves from the situation either by leaving (i.e. quitting) or by adjusting their attitudes and/or behavior. Those workers who are more skilled and more experienced may be more likely to leave, costing the company the true talent (See Näswall, 2004 for a review). Those who hold no such leverage might engage in number of undesirable behaviors such as a higher rate of absenteeism or poor safety practices (Probst and Brubaker, 2001). Greenhalgh and Sutton (1991, as cited in Näswall, 2004) suggest that these workers' reactions to companies' measures can quickly escalate into a powerful feedback loop which, if not stopped, can severely harm an organization. Therefore, job insecurity is not only a problem of an individual worker, but is also a significant problem that an organization as a whole needs to address (Fox & Staw, 1979; Greenhalgh, 1979).

Job Insecurity and Performance

While research assessing the effects of job insecurity on factors such as employee's work attitudes, job involvement, commitment, and trust have been quite consistent (Sverke et al., 2002), findings with respect to the relationships between job insecurity and performance have yielded less consistent results. Some studies indicate that there is a relationship between the two, while others suggest differently. Sverke et al., (2002) have conducted a meta-analysis looking at various aspects of job insecurity. Although they found no significant correlation between job insecurity and performance, many studies have found support for a negative relationship (Amabile & Conti, 1999; Armstrong-Strassen, 2005; Davy, Kinicki, Kilroy, & Scheck, 1988; Jalajas & Bommer, 1996) indicating that performance can suffer when employees are under a threat of job insecurity. Abramis (1994) even observed an inverted-U correlation where the employees exhibited worst performance when the job insecurity is either very low or very high. Moderate levels of insecurity resulted in peak performance.

There are many potential reasons for the existence of this discrepancy between performance and job insecurity. One of the most notable reasons however, is the lack of consistency regarding the way in which performance has been operationalized and measured in prior studies (Probst et al., 2007; Sverke et al., 2002).

It has been argued that there are many sub-areas of performance. For example, one can argue that lateness, absence, turnover, and creativity can all act as performance indicators in addition to directly job-related tasks (Harrison, Newman, & Roth, 2006). Other indicators may focus on examining the aspects of performance quality or quantity (Probst, 2002). Different performance indicators may not always be positively correlated with each other; in fact, research has found that certain aspects of performance tend to decline as others improve such as the safety

– productivity tradeoff (Probst, 2002), for example. As a result, unless it is strictly specified what kind of performance one is trying to explore and compare the different research findings using similar operationalizations of the performance construct, it is rather challenging to reach a true consensus regarding the relationship between job insecurity and performance. The challenge in reaching this consensus is a difficult one due to the incongruence in specifying the kind of performance being studied.

Furthermore, results in the literature are conflicting because of the lack of experimentally measured performance. That is, data in most studies comes from field settings and as such, typically lack measures that objectively record the employees' performance. For example, some studies have used the employee's self-evaluations (Robinson, 1996; Yousef, 1998), while others have used supervisory appraisals (Ashford et al., 1989; Stepina & Perrewé, 1991). Overall, both of the commonly utilized methods are very subjective and they completely rely on evaluators' perceptions, making them vulnerable to loss of objectivity. Considering these inconsistent findings and methodological limitations, it can be hypothesized that there is a relationship between insecurity and performance, but that it is expressed differently across the diverse types of performance and situations.

Probst (2002) conducted a study that addresses some of those limitations by defining performance in terms of quality and quantity, and directly measuring those two factors in a manipulated, laboratory setting. The participants were asked to partake in creating paint-by-number drawings for children's rooms. Quality was operationalized in terms of drawing within the lines, use of correct colors, and amount of paint applied. Quantity was measured simply by counting the number of works completed. Therefore, in this study, performance was not treated as a unidimensional, general construct, but was divided into two distinct aspects of one construct,

each objectively measured through its own assessments. The results demonstrated a causal relationship between the job insecurity and performance, indicating that when job insecurity is high, productivity (quantity) increased, but the quality of work decreased.

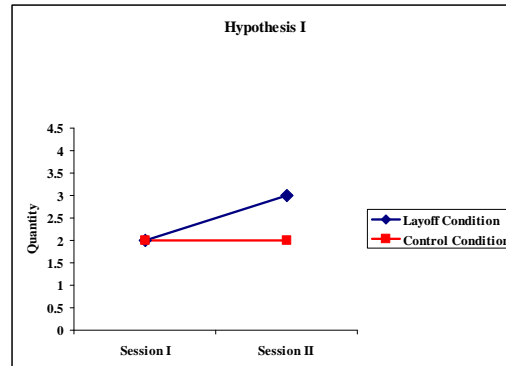
Furthermore, the theory addressing the relationship between the job insecurity and multiple aspects of performance suggests that individuals have only limited ability to deal with various competing demands at work (Kanfer & Ackerman, 1989; Probst, 2002). During the normal day-to-day functioning, it can be expected that workers balance the attention to their tasks equally. However, once an additional stressor, job insecurity is introduced, the level of attention that would normally be given to work-related tasks, is now given to worrying about the consequences that may come (e.g., Sverke et al., 2002). This may then result in underperforming on certain aspects of performance. There is evidence that suggests that varying demands compete for an employee's attention and one can often suffer at the other's expense (Jenssens, Brett, & Smith, 1995). For example, safety and creativity have been shown to be neglected while production is increased (Probst, 2002; Probst et al., 2007).

Therefore, because there is evidence that suggests that under the conditions of job insecurity, one aspect of performance may improve upon the expense of the other, the current study suggests that quantity will increase upon the expense of quality. Exhibiting higher output (i.e., quantity) is more visible and often produces more tangible results than producing quality output. It can be argued that if participants are placed in a situation that cues job insecurity, the quantity will increase as they try to make themselves more visible. Likewise, because of the competing demands model suggestion, quality might decrease.

Therefore, based on the results obtained by Probst (2002), the following replication hypothesis was generated:

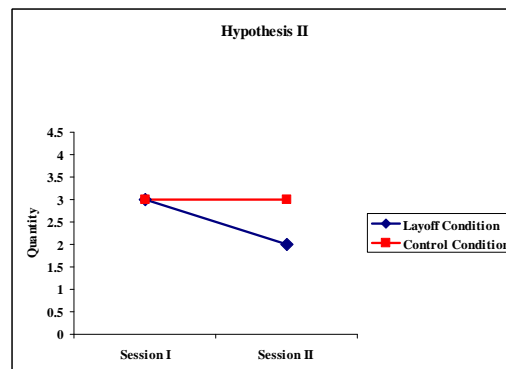
Hypothesis 1: Participants under the threat of a layoff will exhibit higher levels of quantity compared to the individuals in control condition.

Figure 1: Hypothesis 1; Job Insecurity and Quantity of Performance



Hypothesis 2: Participants under the threat of a layoff will produce lower quality products compared to the individuals in a control condition.

Figure 2: Hypothesis 2; Job Insecurity and Quality of Performance



Although the time x layoff condition effects described above are expected, it is also important to keep in mind that job insecurity is essentially a subjective phenomenon, i.e., a function of both objective situations and individual's subjective characteristics (Sverke & Hellgren, 2002; Greenhalgh & Rosenblatt, 1984; Hartley et al., 1991). As such, research focusing purely on external factors and behavioral results will help explain exactly how the

workers interpret the surrounding conditions (Sverke & Hellgren, 2002). Consequently, although it is expected that in general employees will exhibit higher output but lower quality in response to job insecurity, it is also expected that not all the individuals will exhibit this same pattern of performance. The remainder of this section focuses on the personality characteristic “*consideration of future consequences*” to formulate a hypotheses regarding variability in individual interpretations of and reactions to job insecurity.

Consideration of Future Consequences (CFC)

The quest for measuring an individual’s temporal orientation has a long history. Even more challenging have been the efforts to measure the extent to which an individual takes into account potential future consequences when engaging in decision making processes regarding current behaviors. As a temporal dilemma, CFC refers to the degree to which the individuals differ when assessing the immediate versus distant consequences of their present actions (Strathman, Gleicher, Boninger, & Edwards, 1994¹). That is, which do individuals perceive as more important and salient: the outcomes that will be visible now, or those occurring in the distant future?

Strathman et al. (1994), who were the first to approach this future time orientation as an important discernable personality differentiator, developed one of the most widely used time orientation assessments. This CFC scale places individuals on a spectrum from low to high CFC orientation. Individuals scoring higher on this measure tend to weigh the future outcomes of their current actions more heavily than the immediate outcomes. Likewise, individuals who score

¹ It has been suggested that the current CFC scale (Strathman et al., 1994) is a two-factor scale; CFC Immediate and CFC Future (Petrocelli, 2003; Joireman et al., 2006). Factor analysis was conducted within the scope of the current study and it was determined that the results were mostly driven by CFC Immediate factor. However, for the purposes of the current thesis, general CFC scale will be used.

lower on the CFC attach more importance to their present actions, i.e., the immediate and tangible results of actions.

Following the development of the CFC scale, multiple studies attested to construct's versatility and efficacy. The concept has been applied in diverse settings and proven to be related to a number of different behaviors. For example, individuals who are high in CFC show better academic performance (Peters, Joireman, & Ridgway, 2005), report less aggressive behavior and sensation seeking (Joireman, Anderson, & Strathman, 2003), are more likely to exhibit environmentally conscious behaviors (Joireman, Van Lange, & Van Vugt, 2004), and are more likely to partake in preventative health screenings (Orbell & Hagger, 2006).

Until now, only two studies explored the function of CFC in the workplace environment. Joireman, Daniels, George-Falvy, and Kamdar (2006) and Joireman, Kamdar, Daniels, and Duel (2006) examined its role in predicting the likelihood of involvement in organizational citizenship behavior. Although the two studies do not examine the issue of actual work performance but instead look at additional, non-required behavior, they are important as they raise significant issues. First, they illustrate how individuals who are high in CFC are more likely to be involved in organizational citizenship behaviors (OCBs) only when there are certain future consequences involved, but there is no difference between the high and low CFC individuals when they believe they have no future in an organization. Joireman et al., (2006) manipulated the temporal orientation through creating a short-term time horizon environment where the participants were informed that as a result of family issues, they had accepted another job and would move in three months (short-term time horizon). Likewise, in the long-term time horizon, the participants were given no specific information about their future with the company. Therefore, in this application of CFC to the organizational setting, the study focused on set time horizon (short- and long-

term), and created the perception that the employees were in control (i.e. accepted a new position), which does not mimic the future insecurity during the layoffs. Therefore, this study leaves an open question of how the individuals would react if they truly did not know whether or not they had a future with an organization.

The current research was therefore, the first to explore whether the way that individuals perceive the importance of their future actions influences their performance at work under conditions where the future outcomes, i.e., voluntarily retaining one's job, are not certain.

CFC: Measurement Issues

It has recently been brought to the attention of CFC researchers that the CFC scale (Strathman et al., 1994) might actually not be a single-dimensional construct as previously thought. Although Strathman et al. (1994) have themselves conducted a factor analysis in order to assess the scale's structure; the results did not indicate anything other than a single construct. Petrocelli (2003) however, was first to conduct a further confirmatory factor analysis that employed a much larger participant sample ($N=664$). The results obtained indicated the presence of two separate sub-factors; one indicated a concern for the immediate and the other one for future outcomes. Joireman, Balliet, Sprott, & Spangenberg (in press) replicated the analysis and obtained similar results.

These two reports are important as they bring to question the stability of a widely-used CFC scale. In addition however, they raise the point that if an individual is concerned with immediate outcomes, it does not necessarily mean that he or she is not concerned with future outcomes, which is the underlying assumption held for a 12-item CFC scale (Joireman et al., Petrocelli, 2003).

Therefore, the current study considered those results and explored the influence of both CFC sub-factors. A confirmatory factor analysis was conducted to replicate the previous two studies (Joireman et al., Petrocelli, 2003), and the relationship and effect of sub-scales (concern with immediate and future outcomes) was explored at this point.

Consideration of Future Consequences and Performance

The goal of the current study sought to examine the main effect of CFC on quality and quantity, and to analyze its moderating role on the relationship between job insecurity and performance. Therefore, the first step was investigating the sole role of the CFC personality construct on general job performance. Findings published until now pave a way to the theoretical ground that suggests that this effect might indeed be plausible.

CFC has been associated with many factors including academic performance, pro-environmental behavior, and exhibition of organizational citizenship behavior. Looking more closely in each of the examples, they appear to have an underlying theme. Mostly all of them involve future outcomes. For instance, individuals might perceive that spending a weekend studying yields higher benefits later, although it might be more appealing to instead take a trip now. Taking public transit now has more benefits to the environment in the future, although it may be more inconvenient to get around on an everyday basis. Therefore, in order for one to engage in any of those behaviors, one must be willing to make certain sacrifices now in order to reap the benefits later. It can be speculated that this pattern of thinking is more representative of an individual who has a high CFC orientation.

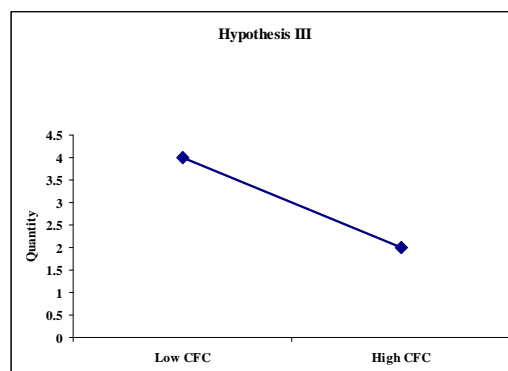
In further examining the CFC and its role in the work setting, this study not only looks at the general performance, but it dissects this performance into two components - quality and

quantity. The argument here is that predicting the individuals' qualitative and quantitative performance can be differentiated based on their consideration of future consequences.

Focus on quantity yields a direct observation of the pieces produced or tasks completed. Focusing on quality however, will not always yield those present immediate outcomes and often it might sometimes take a considerable time until those outcomes become evident. Consider an individual who is high in CFC. He might not choose to focus on quantity, even though it would yield the immediate outcomes. Instead, he might choose to focus on quality. This might mean earning recognition by his team, securing a good reputation, or receiving less negative feedback from his supervisor. Those are all generally positive outcomes that occur later. Now consider an individual who is low in CFC. Those individuals might not be concerned with what will happen in the future because they generally prefer to engage in current actions, and deal with issues and problems as they arise. Therefore, they might prefer to engage in focusing on production instead -- a behavior that satisfies their "immediate outcome" need. This leads to following hypothesis:

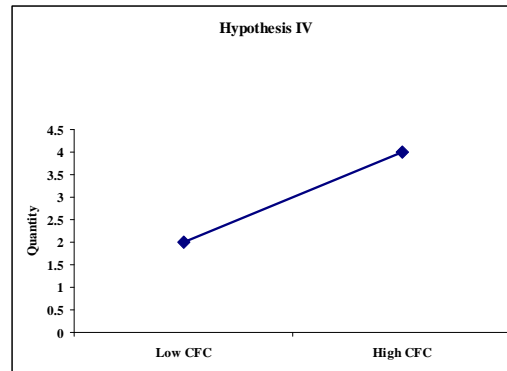
Hypothesis 3: Participants who are low in CFC will exhibit higher levels of performance quantity compared to the individuals who are high in CFC.

Figure 3: Hypothesis 3; CFC and Quantity



Hypothesis 4: Participants who are high in CFC will produce work that is of higher quality compared to the individuals who are low in CFC.

Figure 4: Hypothesis 4; CFC and Quality



CFC as a Moderator between Job Insecurity and Performance

As noted above, while both job insecurity and CFC are expected to have their independent influence on job performance, CFC is also expected to moderate the extent and manner in which job insecurity affects performance. Therefore, because the concept of CFC refers to individual differences in the salience of future outcomes, one can predict that CFC might play a role in exacerbating or attenuating the effects of such uncertainty.

First, it is crucial to note that throughout the current hypotheses and methods sections, the focus is on individuals who believe that their performance at work truly matters. This research assumes companies do not lay off their workers entirely at random. After controlling for common layoff factors such as tenure, status, or branch within an organization, it is reasonable to assume that employees will think that their performance is relevant. Unless an employee wants to leave, or is truly not concerned, this assumption is expected to apply.

Though informative, all of the prior studies exploring CFC involve certain actions and deal primarily with set temporal points (now/soon or in the future). Possible implications of CFC when the future is insecure and an employee does not have direct say in the decision process have not yet been explored. Therefore, how do individuals who are willing to put considerable

effort into their work now, in order to obtain benefits later, behave if they do not know whether they will actually be able to reap those benefits later on?

If the individuals high in CFC have a stable job with consistent tasks and responsibilities, they might not have a strong necessity to engage in thinking about the future consequences of their actions, as long as they reasonably maintain the same level of performance. Therefore, when there is no job insecurity, it can be expected that the individuals who are high and low on CFC might actually not differ in their performance as much as they would if the future was made salient.

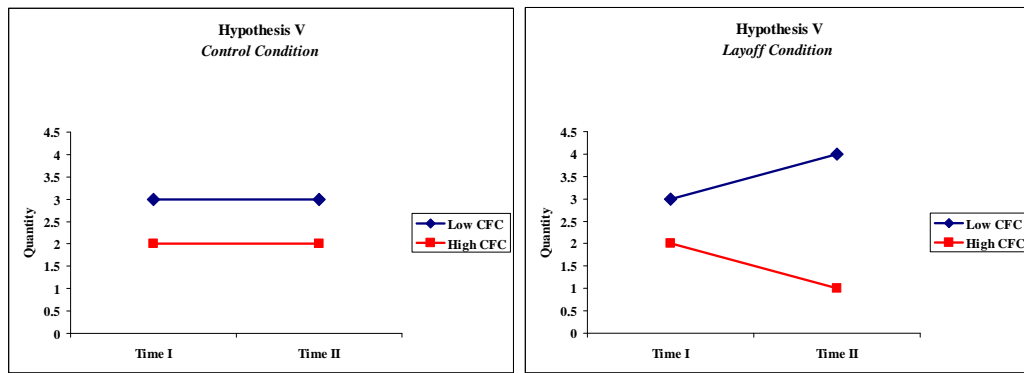
However, the scenario and the thought process might be different for individuals working in a company just announcing layoffs due to budget cuts for example. Those individuals may experience increased levels of stress and may start contemplating who may be vulnerable to layoffs. Those employees may feel like they need to do *something*, and alter their performance *somehow* in order to improve their chances of retaining their jobs. As a result, in order to satisfy their need to “do something” to deal with the insecurity, some might focus on those salient production outputs that are tangible. After all, that strategy yields immediate results, is quite visible, and may portray them as “productive”. Other employees on the other hand, might opt for improving quality instead. This strategy might not present immediate results, but might give them assurance that in future, there will be more chance for them to stand out through their commitment to quality work. This plan of action is expected to be more representative of the individuals scoring high on CFC.

Under conditions of high job insecurity however, employees might spend much more time thinking about the future than they would otherwise. Because individuals who are high in CFC exhibit this thinking pattern regularly, they might have a slight advantage over the low CFC

individuals. As such, they might be more invested into focusing on the quality aspect of performance even when the future is uncertain. Therefore:

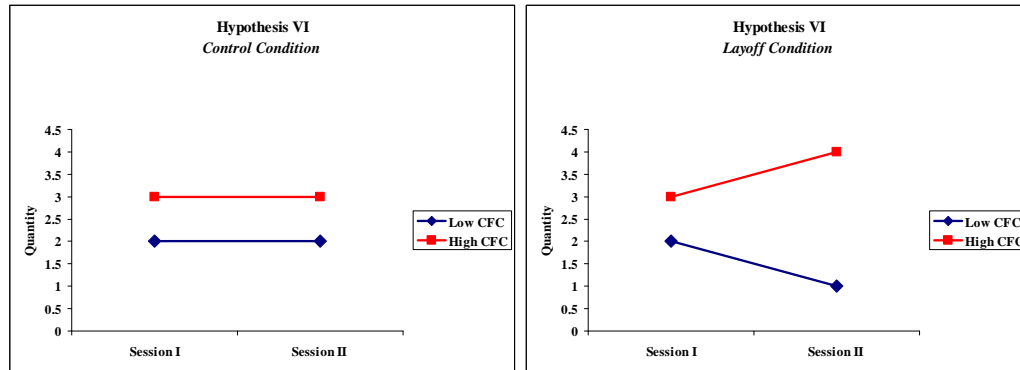
Hypothesis 5: Under the threat of layoffs, high CFC participants will exhibit lower quantity and low CFC participants will exhibit higher quantity, compared to their baseline performance at Session I and the control condition.

Figure 5: Hypothesis 5; CFC, and Quantity across the Conditions



Hypothesis 6: Under the threat of layoffs, high CFC participants will produce higher quality products and low CFC participants will produce lower quality products compared to their baseline performance at Time I and the control condition.

Figure 6: Hypothesis 6; CFC, and Quality across the Conditions



As the relationship between job insecurity and CFC is still currently unexplored, it is possible to speculate a plausible alternative to Hypotheses 5 and 6 and observe a different effect. Therefore, individuals high on CFC already perceive future consequences as salient; they think about the long term results regularly. These employees generally believe that they need to attend to concerns now rather than leaving them until the later time; they are willing to make sacrifices in order to get better outcomes later, and they are willing to practice certain behaviors even though their outcomes might not be entirely visible for years (Strathman et al., 1994). Therefore, it is reasonable to expect that those individuals who are avidly focused towards the future, will also persist when placed under the conditions of job insecurity. Because they put considerable effort into their daily actions, it is unlikely that those individuals would suddenly ignore the possibility of the benefit in the future and deteriorate in their performance.

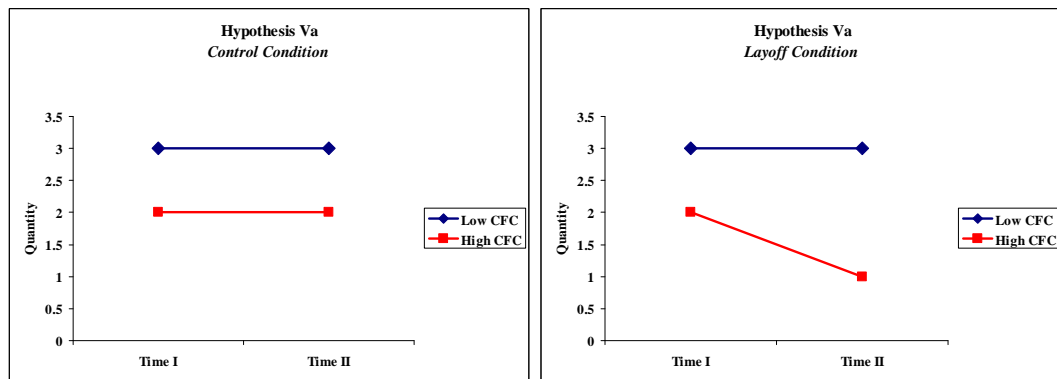
However, individuals who generally have a low consideration of the future consequences by definition do not put too much thought into weighing future outcomes, and might simply not be overly concerned with the future. In terms of performance and perception of the future, they might not exhibit any difference between everyday conditions and the conditions of job insecurity. That is, their philosophy might generally be to deal with future problems as they arise (CFC Scale, Strathman et al., 1994). Those individuals might simply choose not to adjust their behavior. Instead, they may continue working as usual and if they lose their jobs, they will deal

with unemployment when it actually happens. If they do not lose their jobs however, they would perceive they have wasted considerable time worrying instead of focusing on more immediate issues.

Thus, it can be argued that those who are high in CFC might be in general more affected by exposure to insecure conditions. Therefore, this leads to the following hypothesis:

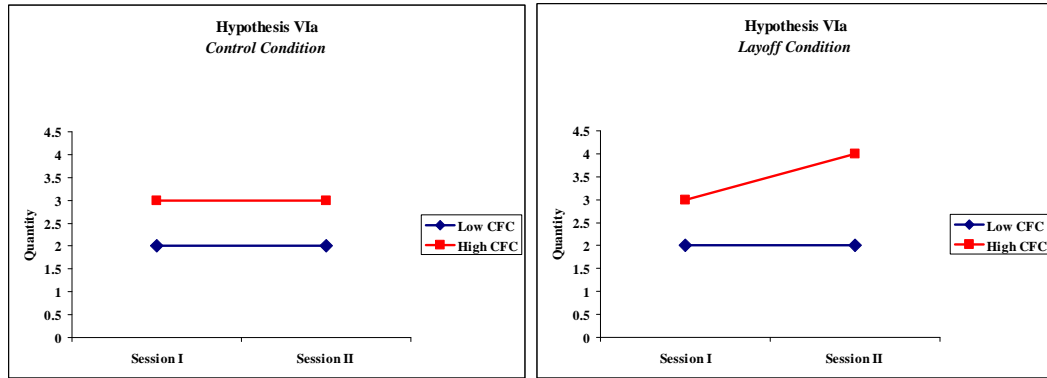
Alternative Hypothesis 5a: The participants high in CFC under the threat of a layoff will exhibit lower quantity in comparison to the control condition as well as their Time I performance in the layoff condition. The individuals low in CFC will not be affected by a layoff threat.

Figure 7: Hypothesis 5a; CFC, and Performance Quantity across the Conditions



Alternative Hypothesis 6a: Under the threat of layoffs, the participants high in CFC will perform work that is of higher quality compared to the control condition as well as Time I of a layoff condition. Individuals low in CFC will not be affected by a layoff threat.

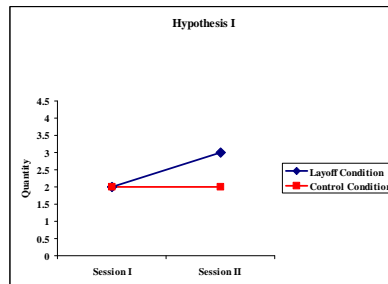
Figure 8: Hypothesis 6a; CFC, and Performance Quality across the Conditions



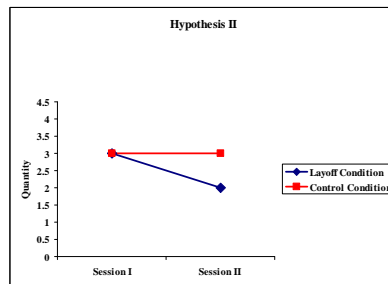
Summary of the Hypotheses

To summarize, the current research explored the following hypotheses:

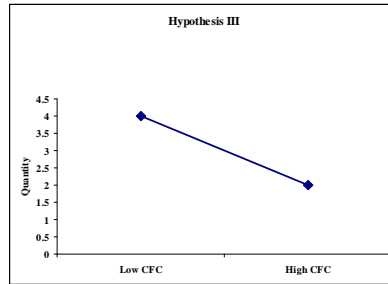
Hypothesis 1: Participants under the threat of a layoff will exhibit higher levels of performance quantity compared to the individuals in control condition.



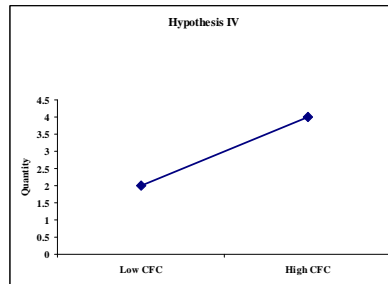
Hypothesis 2: Participants under the threat of a layoff will produce lower quality products compared to the individuals in a control condition.



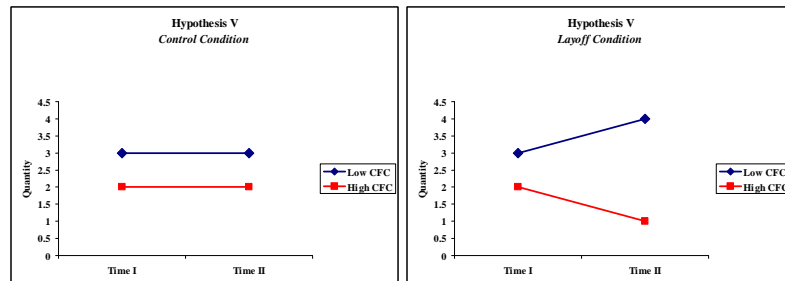
Hypothesis 3: Participants who are low in CFC will exhibit higher levels of performance quantity compared to the individuals who are high in CFC.



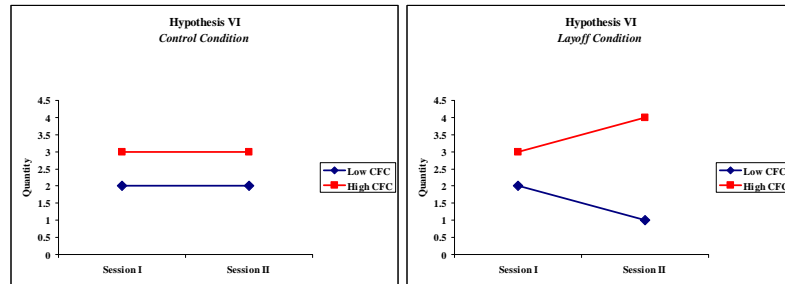
Hypothesis 4: Participants who are high in CFC will produce work that is of higher quality compared to the individuals who are low in CFC.



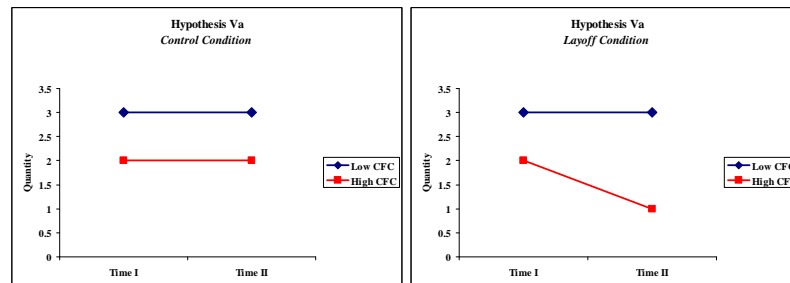
Hypothesis 5: Under the threat of layoffs, high CFC participants will exhibit lower quantity and low CFC participants will exhibit higher quantity, comparing to their respective baseline results during Time I and the control condition.



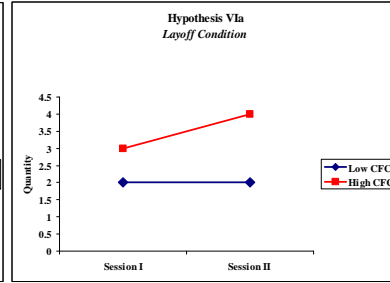
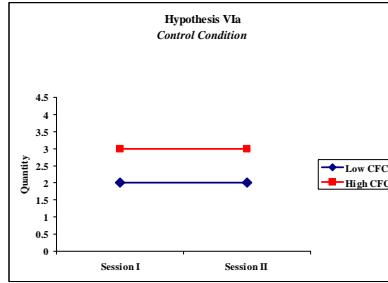
Hypothesis 6: Under the threat of layoffs, high CFC participants will produce higher quality products and low CFC participants will produce lower quality products in comparison to their respective baseline results during Time I and the control condition.



Alternative Hypothesis 5a: The participants high in CFC under the threat of a layoff will exhibit lower quantity in comparison to control condition as well as their Time I performance in layoff condition. The individuals low in CFC will not be affected by a layoff threat.



Alternative Hypothesis 6a: Under the threat of layoffs, the participants high in CFC will perform work that is of higher quality comparing to the control condition as well as Time I of a layoff condition. Individuals low in CFC will not be affected by a layoff threat.



METHODS

Research Design

The research design of the current experiment is as follows: 2 (Within subjects: Session 1 and Session 2) X 2 (Between subjects: layoff and control condition) X Covariate (CFC).

Participants

105 students from Washington State University Vancouver participated in the current study (mean age = 25.94). For an exchange for their participation, they received an either class credit for an Introduction to Psychology course, or an extra credit. Seventy-six percent of the participants were female which is not representative of the general university gender distribution. Fifty-five participants registered for four sessions that were randomly determined to receive a job insecurity manipulation. The other fifty participants registered for one of the three sessions that was determined to be a control group. Majority of the participants were Juniors ($N = 40$) and Seniors ($N = 43$) though all academic years were represented. Seventy-five participants indicated that they are currently employed. Number of years the participants worked ranged from 0 to 36, $M = 8.09$, $SD = 7.55$, with half of the participants having worked for less than five years.

Procedure

In order to test the research hypotheses, I adapted the experimental procedure and manipulation used by Probst (2002). Upon entering the laboratory, participants were seated at computer workstations. Participants were asked not to turn on the screen or open any materials before instructed to do so. After completing the informed consent forms, participants completed a battery of measures assessing demographic information, as well as the CFC scale. In addition, two other personality scales, brief need for closure (NFC), (Houghton & Grewal, 2000; Webster

& Kruglanski, 1994) and brief version of Big 5 personality measures scale (Gosling, Rentfrow, & Swann, 2003) served as distracters in order to attenuate the possibility of hypothesis guessing.

Upon completion of the initial battery, their tasks and duties for the experimental part of the study were explained. Participants were told that they would be assuming the role of a full-time research assistant working for a large survey research and development organization and that they would be processing international fellowship applications. The participants' task was to enter the application material (from the hardcopy applications) for the international fellowship position into a Word document. They would have 10 minutes to enter three pages. The materials were designed such that the data entry task was challenging. For example, the material had many foreign names, codes with a mix of letters, numbers, symbols, phone numbers, and addresses (see Appendix). Therefore, in order to complete the tasks successfully, the participants needed to concentrate. Both experimental and control groups had exactly the same material and pages were in the exactly the same order.

Each workstation had two envelopes containing the data entry material (i.e., the fellowship applications) for each 10-minute session. Two Word windows were open on the participants' screens. In order to preserve participant anonymity, randomly-generated three-digit codes were used to connect their survey responses to their task performance. Thus, participants wrote their code on all of the surveys and questionnaires that they were given throughout the experiment. Participants were told that they had 10 minutes to enter as much of the fellowship application materials as possible into Word during the 10-minute session and to perform to the best of their ability.

As an incentive to encourage participants to work to the best of their ability, students were told that there was currently a real position opening in the Psychology Department working

on a similar data-entry project and that they could be selected for this actual data-entry position as research assistants based on their performance in the current session. The project was described as having a very flexible work schedule and paying \$10 per hour. They were told that they would be selected based on their overall performance from their current session. As an additional incentive, one-third of all the participants in each session would be randomly chosen to receive \$5 in cash at the end of the experiment.

After it was ensured that everybody understood the conditions correctly, they were instructed to turn on the monitors and open one of the Word windows. They were asked to save the open window under their randomly assigned three-digit code. Research assistants ensured that everybody followed this task correctly. Once this step was complete and once everybody had their Word files ready to go, the participants opened their top folder that contained the data entry material for the first timed session and they were asked to start working. Once the 10 minutes lapsed, the participants were asked to stop working, close the files with their materials, and click the save function, and finally close the Word window.

Following the first 10-minute session, participants were given a brief one-page survey asking them to report their opinions of the process, perceptions of their job security, and whether they were focusing more on quality or quantity during the previous task. (Details regarding these measures are presented in the Measures section below.)

After the brief survey was completed, the experimental manipulation was introduced. Specifically, participants in the layoff condition were informed that the opportunity to be considered for a data entry position through the Psychology department and the opportunity to win \$5 in cash at the end of the experiment would only be made available to individuals who performed in the top 50% of the next session. Additionally, they were told that the rest of the

participants (i.e., the bottom performing 50%) would be laid off and would not be eligible for any prizes or additional compensation other than their class credit. It was emphasized that the remaining participants would as a result have a better chance of winning one of the \$5 cash prizes and being eventually selected for the data-entry position with the Psychology Department.

The control group was merely reminded that that they had one more 10-minute session, after which there would be the drawing for \$5 prizes. They were not informed about the potential layoff at all. Therefore, in this condition, participants perceived that everybody had an equal chance of winning those \$5 prizes. It is important to note that the number of available cash prizes was predetermined based on the group size so that one-third of the participants in each session received a prize. This was done to keep the probability of winning a prize constant across the sessions. However, in the experimental condition, with the projected departure of half of the participants, subjects could expect a higher likelihood of receiving a cash prize after the 2nd session.

It is also important to note that “performance” was not defined for participants. Although participants were encouraged to perform to the best of their ability, it was up to the participants to determine which aspect of performance (quality, quantity, or both) they would focus on. Participants were informed that they will be judged on all aspects of performance, accuracy and speed. This approach was deliberately chosen in order to allow for participants’ personalities and CFC orientation to influence how they would determine which is more important. It was expected (as described in the hypotheses) that participants’ CFC orientation would influence this decision-making process under conditions of job uncertainty.

Once the participants understood the terms and possible prizes, they proceeded to work on the second 10-minute session. The format was identical to the first one; participants were told

to open the second folder with three pages of new data entry material, and asked to open and save a new Word document window. Upon the completion of this second session, participants completed a survey containing mostly the survey questions administered after the first session. In addition, they were asked to indicate the confidence that they would be selected to receive the data entry job, whether they focused on quality or quantity, their opinions of the process, their job security, and the likelihood that they would receive one of the cash prizes. They were also asked to indicate how much effort they had invested into each of the sessions; this served as a self-evaluative and subjective measure of their performance.

Upon completion of the second survey, participants were told that the study had concluded and were debriefed. It was explained to the participants that there were actually no layoffs and there are no opportunities for a data-entry position in the Psychology Department. However, everybody remained eligible for winning the cash prizes, and one-third of the participants in each session were randomly chosen to receive \$5 in cash. Further, participants were debriefed on the true purpose of the experiment.

Measures

In order to test the central hypotheses of the study, the following measures were utilized.

Performance quality. Two different measures were used to assess the quality of participants' performance; error count and number of words skipped. Error count was assessed by the number of letters and wrong punctuation that were incorrectly inputted into the Word document during each session. An automatic document comparison function in Word was used in order to obtain the exact number of errors and to count the number of words skipped. Thus, the participants' "error count" and "words skipped" were recorded as two separate measures of quality. Because the two variables were not significantly correlated with each other ($r = .10$, $p =$

.35; $r = .13$, $p = .22$ for Sessions 1 and 2 respectively), the variables were treated as separate indicators of quality and therefore separate analyses on the DVs were performed.

Performance quantity. Quantity was measured by the total number of words inputted regardless of whether they were inputted correctly or not. This was counted with the Word Count function.

Consideration of future consequences. One of the independent variables was the consideration of future consequences. Therefore, a 12-item scale developed by Strathman et al., (1994) was used to measure this personality characteristic. The participants were presented with a set of items addressing certain behaviors, such as “*Often I engage in a particular behavior in order to achieve outcomes that may not result for many years*” or “*My convenience is a big factor in the decisions I make or the actions I take*” and asked to indicate whether or not each statement is characteristic of them, and indicate that response on a 1 (*extremely uncharacteristic*) to 7 (*extremely characteristic*) scale. Responses were scored such that higher numbers reflect greater consideration of future consequences. The alphas for the general CFC scale are reported to range between .80 and .85 (Joireman et al.). The coefficient alpha for the current sample was .79.

Manipulation check measures. In addition to personality scales, perception of job insecurity and other manipulation checks were assessed. Two questions were developed in order to check the effectiveness of manipulation of job insecurity. Perception of manipulation effectiveness was evaluated with questions: “*I was worried whether I would perform well enough to be recommended for the data entry position*” and “*I feel confident that I could be retained as a data entry assistant for DEC Project*”. In addition, the surveys administered after each session contained many of the same items in order to draw comparisons in perceptions and

behavior over time. As noted earlier, participants were also asked to indicate which aspect of performance they focused on (quality or quantity). Finally, they were asked about whether the study mimics the real feelings experienced in job insecurity condition. The remainder of the items were filler questions designed to distract the participants from the purpose of the experiment.

RESULTS

Preliminary Analyses

Group Equivalence Testing. Initial analyses were conducted in order to make sure that there was no difference in participants' performance between the control and experimental during the baseline session. Likewise, it was necessary to ensure that there were no significant differences between the data collection sessions within each condition. The same responses between the control and experimental group would indicate that the random assignment of sessions was indeed effective, and that there are no significant performance differences that would impede the accurate assessment of the hypotheses.

An independent samples t-test was performed in order to assess any initial differences in participants' ability levels between the control and the experimental group. Means of the two groups were compared based on the number of word count, number of errors, and number of words skipped during the Session 1. These analyses revealed that participants in the experimental condition had a slightly higher word count ($M = 165.27$, $SD = 45.58$) than participants in the control condition ($M = 154.97$, $SD = 41.03$). However, this difference did not reach statistical significance, $t(98) = -1.19$, *ns*. The analysis also found no significant difference in the number of errors between the participants in two groups, $t(98) = .13$, *ns*. Finally, there was also no difference between the groups based on the number of words they have skipped, $t(93) = 0.10$, *ns*.

Because multiple sessions were required to achieve a large enough sample size for the control and experimental conditions, and because the groups sometimes varied in size, the next step was to ensure that participants between sessions within each condition perceived same level of manipulation. A one-way ANOVA was therefore conducted to ensure that sessions within each condition were indeed equivalent with respect to the manipulation strength; desire to win the cash prize, motivation to secure the fictitious data-entry position in the Psychology Department, level of involvement, perceptions of job security, and confidence of being retained as research assistants. The analyses revealed that there are no differences between the sessions of control group on any of the mentioned indicators. In regards to the experimental condition, only one potentially problematic difference emerged. Though not statistically significant, one-way ANOVA indicated there is difference between the groups in their confidence level. Post-hoc test revealed that difference between groups 3 and 7 was the strongest. Based on their reported confidence in retaining their job ($M = 5.57, SD = 1.08$), participants in Group 3 were less influenced by the manipulation than participants in Group 7 ($M = 4.00, SD = 2.03$). However, this difference was not statistically significant, $t(27) = 2.56, p = .06$. Finally, there were no differences between these groups on other manipulation check measures (e.g., level of worry).

Effectiveness of the Manipulation. To assess how realistic the participants' perception of the experiment was, they were asked to answer a question "*I found the experiment to mimic the real feelings of job insecurity*", Mean response was 4.39, ($SD = 1.67$). A t-test was performed to evaluate this perception between the two groups. Participants in the experimental group ($M = 4.36, SD = 1.52$) did not perceive the study to mimic the job insecurity any differently than the participants in the control group ($M = 4.42, SD = 1.83$), $t(103) = .17, p = .86$.

Two other questions were used to assess the extent to which individuals perceived the future potential of their jobs; “*I was worried whether I would perform well enough to be recommended for the data entry position*” and “*I feel confident that I could be retained as a data entry assistant for DEC project*”. Both of those questions were asked after each 10-minute sessions. First, a one-way within-subjects ANOVA was conducted to examine whether the experimental group participation (between-subjects factor) had an effect on the changes in participants’ worry levels from Session 1 to 2 (within-subjects factor). Although the level of worry increased in both groups from Session 1 to 2, this increase was not significant, $\Lambda = 1.00$, $F(1, 103) = .03$, $p = .86$. There was also no difference in perceived worry about their jobs after the manipulation between the participants in the experimental ($M = 3.92$, $SD = 1.91$) and the participants in the control group ($M = 3.38$, $SD = 1.94$), $t(103) = -1.45$, $p = .15$

Second, a one-way within-subjects ANOVA was conducted to examine the change in perception of confidence across the two sessions (within-subjects factor) within each group (a between-subjects factor). There was no main effect of the sessions, $\Lambda = .97$, $F(1, 103) = 2.65$, $p = .11$ and there was no two-way interaction, $\Lambda = .995$, $F(1, 103) = .57$, $p = .45$.

Furthermore, a t-test was conducted to assess participants’ care for the incentives in the study. Though it did not reach the significance level set, participants in the experimental condition ($M = 4.20$, $SD = 1.97$) indicated that they cared more about the possibility of a mentioned job comparing to the participants in control group ($M = 3.46$, $SD = 2.00$), $t(103) = -1.90$, $p = .06$.

Tests of Hypotheses

Hypothesis 1: Participants under the threat of a layoff will exhibit higher levels of performance quantity compared to the individuals in control condition.

One-way within-subjects ANOVA was conducted in order to examine the overall effect of two conditions on the number of words across the two time sessions. Number of words entered significantly increased from Session 1 to Session 2 for both groups, $\Lambda = .60$, $F(1, 93) = 59.75$, $p < .01$, simply indicating an improved performance. However, the analysis revealed no interaction between the effect of sessions and the group, $\Lambda = .99$, $F(1, 93) = .48$, $p = .49$, indicating that that job insecurity manipulation bared no effect on participants' performance. Therefore, the Hypothesis 1 was not supported.

Hypothesis 2: Participants under the threat of a layoff will produce lower quality products compared to the individuals in a control condition.

Because quality was operationalized by two different indicators, different analyses were conducted with number of errors and number of words skipped as separate within-subjects factors. First, a one-way within-subjects ANOVA was conducted to examine the effects of two experimental conditions on participants' number of errors. There was a slight decline in participants' quality from first session to the next as indicated by the number of errors. However, this decline did not reach the significance level, $\Lambda = .96$, $F(1, 93) = 3.38$, $p = .07$. Furthermore, the experimental group did not deteriorate significantly more in comparison to the control group, $\Lambda = .99$, $F(1, 93) = .32$, $p = .57$.

Second, a one-way within-subjects ANOVA was examined with the number of words skipped as a within-subjects factor. There was no significant change in number of words skipped from Session 1 to Session 2, $\Lambda = .99$, $F(1, 93) = .39$, $p = .53$, and no significant interaction

between the groups and the sessions, $\Lambda = .99$, $F(1, 93) = .86$, $p = .86$. Therefore, the Hypothesis 2 was not supported.

Hypothesis 3: Participants who are low in CFC will exhibit higher levels of performance quantity compared to the individuals who are high in CFC.

Because at this point of analysis discussion, the focus is on the general effect of CFC on performance rather than looking at the effects of insecurity manipulation, initially only the results from the Session 1 were included in the analyses. A regression was conducted to explore the nature of the relationship between the CFC and word count for the Session 1. Analysis of variance revealed a significant negative relationship between the two, $F(1, 95) = 4.01$, $p = .05$, indicating that the individuals who score lower on CFC will have a higher word count and vice versa. Therefore, the Hypothesis 3 is supported.

Hypothesis 4: Participants who are high in CFC will produce work that is of higher quality compared to the individuals who are low in CFC.

A linear regression was conducted in order to explore the predictive ability of CFC on each of the quality measures. First, there was a slight, though not significant trend in predictive ability of the CFC on the number of errors during the Session 1, $F(1, 95) = 2.19$, $p = .14$, $B = .15$. Second, CFC was significantly predictive of number of words skipped during the Session 1, $F(1, 95) = 4.54$, $p = .04$, $B = .21$. The direction of the relationship was positive and as such, consistent with the direction observed with the number of errors, the other quality indicator. Therefore, the higher the participants score on CFC, the more words they tended to skip and more errors they tended to make. The results obtained are not consistent with the Hypothesis 4 and the direction observed is opposite of the direction predicted.

A set of one-way within-subjects ANCOVAs was next conducted to examine whether CFC orientation had an influence on participants' performance from Session 1 to 2. CFC was entered as a covariate and three separate analyses were conducted using word count, number of errors, and number of words skipped as a within-subject factor.

First, when considering the word count as a within-subjects factor, no significant interaction between the two sessions and the CFC was observed, $\Lambda = .99$, $F(1, 90) = .21$, $p = .65$. Second, there was a marginal interaction between the two sessions and CFC, $\Lambda = .96$, $F(1, 90) = 3.53$, $p = .06$ in respect to the number of errors. Finally, an interaction between the CFC and number of words skipped was notable, but not significant, $\Lambda = .98$, $F(1, 90) = 2.06$, $p = .15$.

As recommended by Aiken and West (1990), the CFC variable was divided based on participants' CFC score respective to the standard deviation in order to get a better understanding of the interactions. Analyses involving CFC and quality of performance were repeated using only those individuals who scored high or low on CFC. Two separate one-way within-subjects ANCOVAs were conducted and the CFC variable (separated into high and low CFCs) was entered as between-subjects factor. First, number of errors was entered as a within-subjects factor (Figure 9). Number of words skipped was analyzed next (Figure 10). This approach was used to visually represent the interactions throughout the remainder of the thesis.

Figure 9: CFC and the Number of Errors across the Sessions

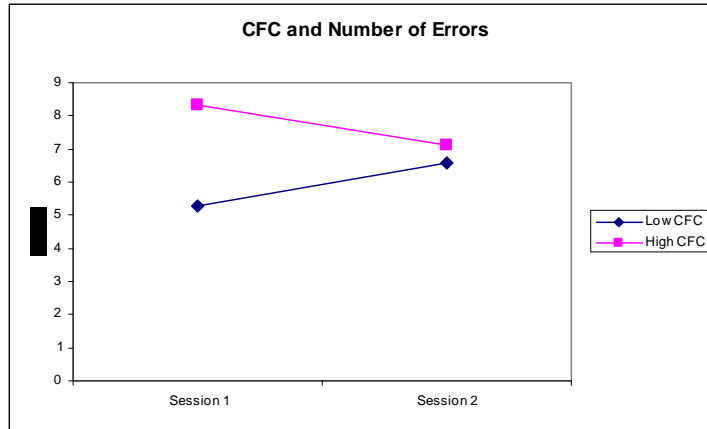
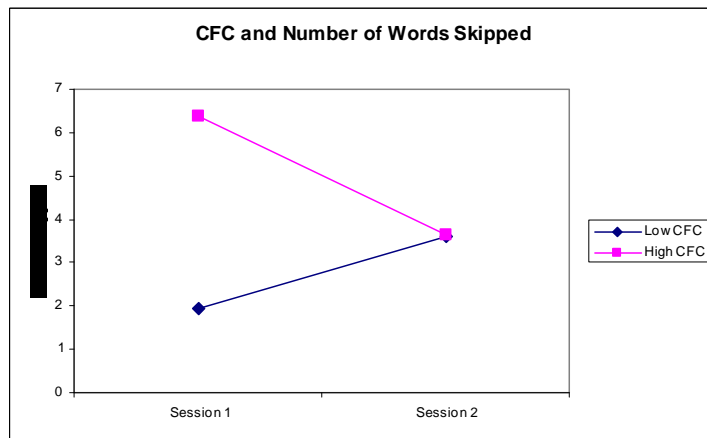


Figure 10: CFC and Number of Words Skipped across the Sessions



The trend in change performance from Session 1 to 2 was consistent across the quality indicators. In order to explore whether this relationship is moderated by the threat of job insecurity, the following analyses were conducted.

Hypothesis 5: Under the threat of layoffs, high CFC participants will exhibit lower quantity and low CFC participants will exhibit higher quantity, compared to their respective baseline results during Session I and the control condition.

A one-way within-subjects ANCOVA was conducted to test the Hypothesis 5. CFC was entered as a covariate and participant's group (experimental or control group assignment) was

entered as a between-subject factor. The number of words input during each of the session was the within-subjects factor. A three-way interaction between the sessions, groups, and CFC was not significant, $\Lambda = .99$, $F(1, 88) = .61$, $p = .44$. Therefore, the Hypotheses 5 and 5a were not supported.

Hypothesis 6: Under the threat of layoffs, high CFC participants will produce higher quality products and low CFC participants will produce lower quality products in comparison to their respective baseline results during Session I and the control condition.

Two separate one-way within-subjects ANCOVAs were conducted to examine this relationship. First, an analysis was conducted examining the number of errors as a within-subjects factor. CFC was entered as a covariate and experimental condition (layoff vs. control) were entered as a between-subjects factor. The results revealed a significant interaction between the two sessions, experimental condition, and CFC; $\Lambda = .92$, $F(1, 88) = 7.28$, $p < .01$.

In order to get a more direct view into the interaction, a one-way between-subjects ANCOVA was conducted with the separated CFC variable (high and low CFC participants) as a covariate and group as a between subjects factor (Aikin & West, 1990). This procedure was conducted with first the number of errors (Figure 11) and then with the number of words skipped as separate within-subjects factors (Figure 12).

Figure 11: CFC and Number of Errors between the Conditions

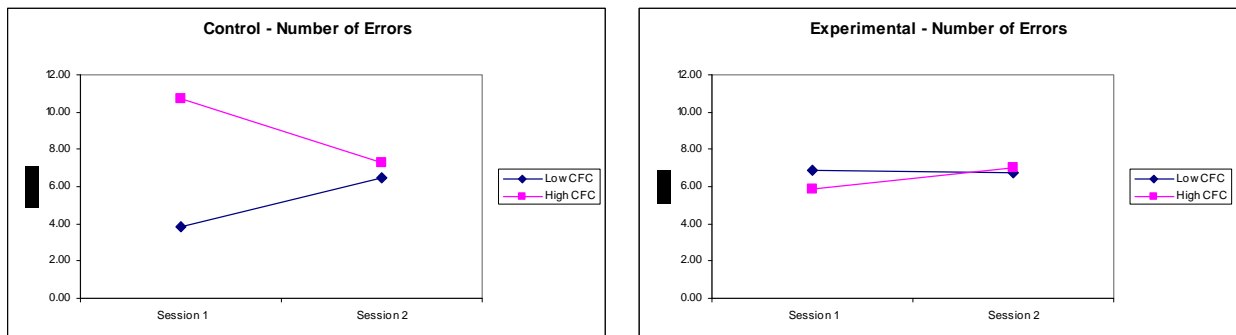
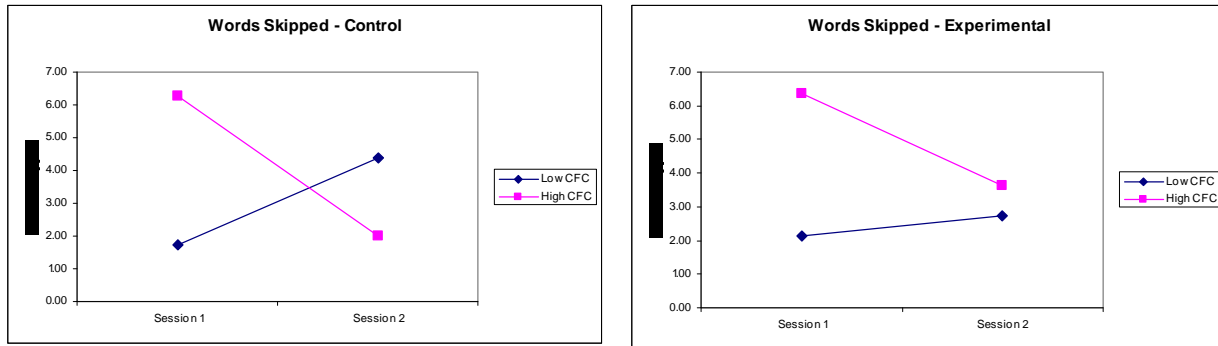


Figure 12: CFC, and Words Skipped between the Conditions



Follow-up Analyses – Job Insecurity Manipulation

Because the job insecurity manipulation in the current study was not as effective and the participants generally did not differ in their perception of job stability, an analysis was ran that included only those participants who indicated that they felt that their job was less secure as a result of the layoff manipulation. Therefore, the analyses involving job insecurity were repeated using only those responses gathered after the layoff manipulation where the participants indicated above 4 on the question “*I was worried whether I would perform well enough to be recommended for the data entry position*”. Responses for those individuals who were affected by the manipulation were then compared to all of the participants in the control group. However, doing so did not reveal any significant results and the results obtained through this approach will not be further discussed.

Additional CFC Exploratory Analyses

A next set of analyses was conducted in order to determine whether certain variables act as mediators or moderators to the relationship between the CFC and performance. First, a set of correlations was conducted between the CFC, each aspect of performance, and each of the potential mediators (Table 1). These speculated potential mediators were reports of whether the

participants cared about the fictitious job, whether they cared about the raffle and \$5 that would be obtained should the participants win, and whether if offered, would the participants consider taking the job.

No significant correlations were observed between the three variables and quality indicators (number of errors and number of words skipped). However, all of the variables showed a significant positive correlation with the word count, a quantity indicator.

Table 1
Descriptive Statistics and Intercorrelations of Dependent Variables

Dependent variable	Mean	SD	1	2	3	4	5	6	7
1 CFC	5.08	0.69	–	-0.06	-0.20 *	-0.12	0.15	0.21 *	-0.20 *
2 Care about the job	3.85	2.01		–	0.34 **	0.70 **	0.11	-0.01	0.25 *
3 Care about the raffle	3.10	1.95			–	0.21 *	0.08	-0.13	0.20 *
4 Consider accepting the job	4.82	2.14				–	-0.01	-0.08	0.39 **
5 Number of errors	5.80	4.37					–	0.09	0.02
6 Number of words skipped	3.46	6.27						–	-0.11
7 Word count	160.23	43.50							–

* Correlation is significant at the $p < .05$ level

** Correlation is significant at the $p < .01$ level

Mediation. Level of care for the raffle prizes and the fictitious job might influence the relationship between the CFC and performance as the participants who have no interest in those factors might perform differently than those who do. An approach suggested by Baron and Kenny (1986) was used to develop regression equations for establishing a mediating role of certain variables. First, the individual relationships between the predictor (CFC) and the three criteria of interest (number of errors, number of words skipped, and word count) were examined. The subsequent regression equation analyzed the nature of the relationship between the CFC and the three speculated mediators (care for the job, raffle, and consideration of the job) individually. The final step included the combined effects of the CFC and each of the mediators on the three dependent variables. The effects observed in the final step were used as references as to whether

the three variables were indeed the mediators. If CFC was significant in the initial regression, and after the introduction of the mediator it was no longer significant, this would indicate that a particular variable indeed mediates the effects of CFC on performance.

As evident from the results summarized in Table 2, CFC was a significant predictor of number of words skipped. In addition, CFC was also predictive of each of the proposed mediators (care for job, raffle, and consideration). However, once their respective pairs (predictor and mediator) were jointly added into their respective equations, only the care for the raffle seemed to mediate the relationship between the CFC and number of words skipped.

Word count was analyzed next. CFC was a significant predictor of both the criterion (word count) and the three speculated mediators. However, mediation was observed only with a care for the raffle and consideration for the job variables.

Moderation. A set of regression analyses were performed to examine whether care for the job, raffle prize, and likelihood to consider accepting the job if offered moderated the relationship between the CFC and performance. That is, does the strength and direction of the relationship vary depending on whether the participants actually want or care about the fictitious job. Likewise, does the relationship vary based on the extent to which the participants value the raffle prize. To test these questions, an approach for conducting moderation analyses recommended by Baron and Kenny (1986) was used. Therefore, in addition to all of the analyses performed to assess the mediating properties of the three variables, an additional step was included and another regression equation was calculated. This last equation added a mathematical product of standardized CFC score and a respective moderating variable. Therefore, the following set of regression equations was analyzed; predictive ability of CFC on each of the performance indicators (number of errors, number of words skipped, and number of

words), predictive ability of the moderator, and an interaction of individual moderators and CFC. An indication that a variable acts as a moderator would be an observation of a significant interaction between the predictor and the moderator (Baron & Kenny, 1986). As evident in the Table 3, no such significant interaction was observed. Therefore, it can be concluded that the care for the job, care for the raffle prize, and intention to consider the job do not act as moderators between the CFC and any of the performance indicators.

Table 2

Mediated Multiple Regression Analysis Results

Predictor	Mediator	Criterion	Predictor → mediator			Predictor → criterion			Predictor + mediator → criterion				Model
			β	R ²	F(1, 98)	β	R ²	F(1, 95)	β	β cfc	R ²	F(1, 94)	
CFC	Care for the job	Number of errors	-0.05	0.00	0.32	0.15	0.02	2.20	0.10	0.15	0.03	1.07	
CFC	Care for the raffle	Number of errors	-0.20 *	0.04	4.28 *	0.15	0.02	2.20	0.11	0.17	0.03	1.19	
CFC	Consideration of the job	Number of errors	-0.12	0.02	1.49	0.02	0.02	2.20	0.01	0.15	0.02	0.01	
CFC	Care for the job	Number of words skipped	-0.05	0.00	0.32	0.21 *	0.05	4.54 *	-0.01	0.21 *	0.05	0.01	
CFC	Care for the raffle	Number of words skipped	-0.20 *	0.04	4.28 *	0.21 *	0.05	4.54 *	-0.09	0.20	0.05	0.78	F
CFC	Consideration of the job	Number of words skipped	-0.12	0.02	1.49	0.21 *	0.05	4.54 *	-0.05	0.21 *	0.05	0.25	
CFC	Care for the job	Word count	-0.05	0.00	0.32	-0.20 *	0.04	4.01 *	0.26 **	-0.19 *	0.11	7.42 **	
CFC	Care for the raffle	Word count	-0.20 *	0.04	4.28 *	-0.20 *	0.04	4.01 *	0.20 *	-0.16	0.08	3.99 *	F
CFC	Consideration of the job	Word count	-0.12	0.02	1.49	-0.20 *	0.04	4.01 *	0.37 **	-0.16	0.18	15.99 **	F

Note. F = fully mediated model.

* $p < .05$. ** $p < .01$

Table 3

Moderated Multiple Regression Analysis Results

Predictor	Moderator	Criterion	Predictor + moderator + predictor*moderator → criterion					Model
			β	β cfc	β int	R ²	F(1, 93)	
CFC	Care for the job	Number of errors	0.09	0.16	0.08	0.04	0.60	
CFC	Care for the raffle	Number of errors	0.10	0.18	-0.03	0.04	0.07	
CFC	Consideration of the job	Number of errors	0.01	0.16	0.05	0.03	0.29	
CFC	Care for the job	Number of words skipped	-0.03	0.22 *	0.15	0.07	2.04	
CFC	Care for the raffle	Number of words skipped	-0.08	0.19	0.04	0.05	0.15	
CFC	Consideration of the job	Number of words skipped	-0.05	0.23 *	0.12	0.06	1.54	
CFC	Care for the job	Word count	0.27 **	-0.19 *	-0.01	0.11	0.01	
CFC	Care for the raffle	Word count	0.19	-0.15	-0.05	0.08	0.21	
CFC	Consideration of the job	Word count	0.37 **	-0.15	0.05	0.18	0.27	

Note. F = fully moderated model.

* $p < .05$. ** $p < .01$

DISCUSSION

In summary, the current study tested six hypotheses and examined the individual effects of job insecurity, CFC, and the interaction between the two on quality and quantity of job performance. The hypotheses addressing the effect of job insecurity on quality and quantity of job performance were not supported. Therefore, job insecurity was not found to be a significant predictor of performance. Next, relationship between the performance and CFC was examined. It was found that individuals low in CFC tend to exhibit consistently higher productivity comparing to individuals high in CFC, a finding that was consistent with one of the hypotheses. However, no statistically significant differences were found in regards to the quality aspect. Finally, an interaction between job insecurity and CFC was examined. CFC did not moderate the relationship between the job insecurity and CFC, observing that the low CFCs had higher output comparing to high CFCs regardless of the condition. When quality was examined, it was observed that low CFCs were not affected by the job insecurity manipulation. This held true for both indicators of quality, words skipped and the number of errors. However, results for high CFCs were inconclusive. Job insecurity did not seem to affect their performance when operationalized as number of words skipped, therefore, not supporting the hypothesis that job insecurity condition and CFC influence the quality. When using the number of errors as an indicator, results showed a reverse trend among high CFCs between the groups. Therefore, high CFCs showed decreased number of errors from Session 1 to 2 in the control condition, but a high increase from Session 1 to 2 in the experimental condition.

Main Effect of Job Insecurity Analyses

The goal of the first set of hypotheses of the current study attempted to replicate the results obtained by Probst (2002). First, it was hypothesized that when under the threat of job insecurity, quantity of participants' work will increase in comparison to their baseline condition and control group. The results however, showed no indication that individuals differed in their productivity when under the threat of job insecurity. Both control and experimental groups showed an increased word count from one session to the next, which was simply evidence of a learning effect as participants became more familiar with the tasks. However, job insecurity did not moderate this relationship. Therefore, the Hypothesis 1 was not supported in this study and the results obtained by Probst (2002) were not replicated.

Hypothesis 2 stated that under the threat of job insecurity, participants' quality will decrease. Throughout the study, quality was operationalized with two separate indicators: a number of errors made and a number of words skipped. The analyses indicated that both experimental and control groups exhibited slightly higher number of errors from Session 1 to Session 2. Although not statistically significant, the form of the interaction follows theoretical expectations. For both measures of quality, the experimental group appeared to be more affected by the layoff manipulation compared to the control group. At baseline, their number of errors was lower, but increased at higher rates after the layoff manipulation.

It is crucial to note a couple of plausible reasons for why the two the expected results were not obtained. The current study and its hypotheses relied on establishing an effective job insecurity manipulation in the experimental condition. The evidence from the analyses lead one to reason that the results obtained might not be due to the actual lack of effect itself, but rather due to inadequate manipulation. Although the experimental design aimed for creating a discrepancy in perception of the participants' security of their jobs between the control and

experimental group, this discrepancy did not occur. Without observing that the participants in different groups experienced different job insecurity, it is difficult to rely on the current results as proofs of lack of effect between insecurity and job performance.

Because the majority of the participants were unaffected by the manipulation, subsequent analyses were conducted using only those participants for whom the manipulation seemed to be effective. As noted earlier, however, these analyses did not reveal any significantly different effects. It is important to note, however, that this approach does have potential limitations. Eliminating a subset of the individuals in attempt to find any group differences left the available sample rather small ($N = 57$). As such, it was difficult to properly interpret the results and look more closely into effects involving job insecurity. Establishing any relationship from such small effective sample in this case would present itself to be potentially problematic, especially if the relationship between the targeted variables was not quite strong and a bigger sample size was needed to detect it. However, this is something that only subsequent analyses with larger sample and stronger manipulation might be able to answer.

As replicating Probst (2002) study and establishing a relationship between the job insecurity and performance was a one of the focus points in the current study, it would be beneficial to do further data collection with a couple of modifications in order to truly examine the job insecurity effects. The current study did not properly establish the feeling of job insecurity. Job insecurity is by definition a fear of losing one's job. The limitation of the study is that although the participants were told that they are assuming a role of a "real research assistant", this connection might have been ambiguous due to the introduction of the fictitious "real job" with the Psychology department. Therefore, it would be beneficial to pilot the study with a design that includes either one or the other; either simply go on with a simulation and try

to maximize its effects, or increase the focus on the “real job” and make a clear connection. If the simulation design were chosen, it would be advisable to link all of the rewards to that job within the experiment and to completely eliminate any “external simulation” rewards, such as a promise of the real data entry job. Likewise, if the real job option is chosen, participants can be led to believe that they already have the job and there is a potential for the being laid off. Of course, both options would require further consideration and pilot testing in order to make a study within practical and ethical lines. Creating a stronger manipulation should be designed regardless of the approach. For example, the study should either include stronger monetary incentives or other strong benefits so the participants truly want to stay “employed”.

Consideration of Future Consequences and Performance

The main effect of the CFC construct on performance was next explored.

Overall, low CFCs were more likely to be confident to be retained as an assistant, were more satisfied with their overall performance, and had less trouble with entering the data.

First, participants were asked to indicate to what extent they focused on quality, and to what extent did they focus on quantity of their performance. There was no relationship observed between the CFC orientation and the two variables. This suggests that participants on different levels of their CFC orientation do not attach different importance to quality and quantity. Most participants tended to focus more on quality than quantity across both groups. However, CFC orientation did not influence their perceptions.

Next, CFC was examined in respect to its relationship with word count, a quantity indicator. Because the goal was to explore general effect of CFC, the responses from Session 1 were examined first. The regression results suggested a negative relationship between the CFC

and the quantity. That is, the individuals high in CFC entered fewer words than the individuals who were low in CFC. This finding was in the direction predicted and as such is consistent with the hypothesis that low CFCs will exhibit higher quantity in comparison to individuals low in CFC.

The relationship between quality and CFC orientation was examined next. Because quality was operationalized through two variables, the number of errors and the number of words skipped, separate analyses were conducted on. The relationship between CFC and the number of errors and words skipped individually was in the same, positive direction, meaning that higher one is in CFC, the more errors they will make and more words they will skip in general. However, the trend observed was not of the same strength for number of errors and words skipped. CFC and the number of words skipped reached the significance level, while the relationship between CFC and the number of errors did not. This observation is inconsistent with the stated hypothesis. Moreover, it was hypothesized that high CFCs will make less errors and skip fewer words in comparison to participants low in CFC so the current finding might seem counterintuitive.

Although the results obtained are unexpected, there are potential explanations as to why was this relationship found. First, the theory behind the reasons expecting a negative relationship might have been flawed. The current study is in rather experimental stages of exploring this particular relationship and as such, there were a limited number of studies paving a path towards establishing this relationship.

Joireman et al., (2006) suggested that high CFC orientation does not inherently yield positive behaviors, and that high CFCs only outperform the low CFCs when the desired outcome is something that they care about and something that actually yields to significant and personally

beneficial future outcomes. Therefore, it is important to consider that it might not actually be that high CFCs in general perform work that is of poorer quality, but that the incentives in this study simply did not allow for a creation of an environment and outcomes which high CFCs would view as beneficial. That is, participants were asked to indicate how much they cared about their performance, potential job with the psychology department, and prizes. In addition, they were asked to indicate to what extent they got involved with the experiment. There was no significant correlation between the variables and the participants' orientation on CFC. The only significant relationship was observed between the CFC and the extent to which the participants cared about the raffle prize. However, this relationship was in negative direction, therefore indicating that participants high in CFC care less about the raffle possibility. Raffle opportunity was an immediate, not long term outcome of their actions, something they were to receive upon the conclusion of the experiment. Job opportunity was arguably future outcome of their participation, and high and low CFCs did not differ in their desire to participate if selected. As participants high in CFC did not care much about the raffle prize and there was no difference between high and low CFC participants on the attitude toward the job, it is evident that the experimental design did not properly allow for an environment that high CFC participants would care about. As a result, participants who are high in CFC exhibited overall poor performance. Therefore, under the assumption that this was the case in the current study, it can be argued that the results obtained are consistent with the reasons suggested by Joireman et al., (2006).

It is crucial to separate the design of the experimental rewards from the personal rewards obtained while performing the study. The question of the current study was not how would the participants perform based on their CFC orientation given either future or immediate external rewards, but rather how would they intrinsically perceive their own performance. Therefore, is

performing quality work perceived as something that would yield future-oriented outcome? Likewise, is quantity perceived with immediate-oriented outcome? Therefore, it is possible that the current study unintentionally ignores the possibility that high CFCs will not view the scenario as one that yields the long-term responses.

A set of exploratory analyses were conducted in order to determine whether there are any variables that might mediate and/or moderate the relationship between the CFC and the three aspects of performance. Three variables were therefore selected for further regression analyses; care for being selected for a fictitious job, care for the possibility for the raffle prize, and consideration of accepting the fictitious job, if offered. None of the variables were showed to affect the relationship between the CFC and number of errors made. Care for the raffle prize mediate the relationship between the CFC and number of words skipped, and between the CFC and the word count. Higher CFC participants cared less for the raffle prize, exhibited poorer quality (i.e., skipped more words) and lower quantity. Consideration of the accepting the fictitious job mediated a relationship between the CFC and word count. Therefore, participants who were high in CFC were less likely to consider the job, and exhibited lower word count. None of the variables was shown to act as a moderator.

Furthermore, upon careful examination of the main effect of the CFC on quality during only Session 1, one-way within-subjects analyses were conducted and looked at CFC's moderating role in participants' change from Session 1 to Session 2. High CFCs were not consistently outperformed by their low CFC counterparts in terms of quality. Although this trend was evident during the first session, there was a notable change in quality from Session 1 to 2. That is, high CFCs decreased their number of errors and skipped fewer words from one session to the next, therefore indicating an improved quality. On the other hand, participants low in CFC

exhibited higher numbers of errors and skipped more words from Session 1 to Session 2, therefore indicating decreased quality. These effects were not statistically significant at $p = .05$, but the trend is consistent between the two indicators of quality and relatively close to the statistical cutoff point.

In order to keep the confounding influences at minimum and still be able to assess the influence of job insecurity, the control and experimental group in the current study were identical in all the aspects except the possibility of the reward. That is, both control and experimental groups employed those cues in varying strengths in order to adjust and assess the job insecurity component. Therefore, this change from Session 1 to Session 2 might have not been evident if the participants were not exposed to any reward, job insecurity, or performance appraisal cues. From the design employed and from the results obtained, it is difficult to properly evaluate was the reason for high CFCs to improve and low CFCs to regress in their performance from Session 1 to 2 one of the cues in regards to job insecurity, potential prizes, or a combination. On the other hand, perhaps high CFCs take the first session as a “test run” and take what they have learned and apply it to the next one, while low CFCs focus on the first session and then focus less on subsequent sessions. Therefore, the current setup only allows for an observation that there is a trend in the relationship between the CFC and quality, but more further studies are necessary in order to examine this trend.

In order to examine the effect of CFC on performance, a subsequent study can be conducted that completely eliminates any job insecurity or reward cues. Such a study would allow to more clearly determine whether there is a relationship between the CFC and performance, and whether the participants’ inherent orientation on CFC guides them to perform better on one or the other.

Another subsequent study should focus on exploring this relationship but under the varying rewards. For example, if the participants who are high in CFC tend to perform much better when the rewards are consistent with their values (e.g., the work performed now will bare results in the future) but perform worse when the rewards are immediate, this would be consistent with the conclusion reached by Joireman et al., (2006). In addition, the results obtained in the current study would be replicated and it could be concluded that the high CFC participants will only perform better when the rewards are in the future, but when rewards are not consistent with their preferences, those participants will actually perform worse.

CFC and Job Insecurity

Upon examining the individual, main effects of job insecurity and CFC, their moderating role on quality and quantity was examined. The results obtained in relation to quantity were discouraging, revealing no significant interaction between the two independent variables. Participants low in CFCs continually outperformed the participants high in CFC, regardless of the session or the experimental condition. Therefore, the hypothesis that individuals low in CFC will have higher productivity when faced with the conditions of job insecurity was not supported.

The interaction was then examined in respect to the quality which was assessed and analyzed with the number of errors and words skipped as separate indicators. It was hypothesized that the participants who are low in CFC will increase in the number of errors and number of words skipped when faced with a threat of job insecurity.

First, a number of errors through two sessions were examined as a within-subject factor. However, although significant results were obtained, the direction was opposite from the one predicted. The performance of the participants who were low in CFC remained relatively

unchanged from Session 1 to 2. The pattern for the participants high in CFC however, was conflicting depending on the quality indicator used. When looking at the number of errors, participants in the experimental group slightly increased in number of errors made, while the participants in the control group slightly decreased in their number of errors. However, when looking at the number of words skipped as a quality indicator, a different pattern emerged. Throughout both conditions, participants high in CFC improved in their performance, while those low in CFC remained relatively the same.

However, there are a couple of important considerations that need to be addressed. Among the participants low in CFC, their responses between the two conditions seemed to differ in Session 1, which served as a baseline group. This finding is concerning and presents an implication for adequately assessing the nature of the interaction. Because Session 1 is the baseline group, there are no theoretical reasons for why the two groups would differ as they were exposed to exactly the same stimuli. Furthermore, random assignment was employed and groups were tested for any initial differences. Therefore, the difference evident in their performance in this case can be attributed to discrepancies in performance on baseline conditions. A similar issue was noticed when examining the performance of participants high in CFC. Here the control group made more errors in comparison to the experimental group during the baseline condition and their performance in the Session 2 remained mostly the same.

The next set of analyses was conducted using the variable words skipped as an indicator of quality. An established general trend seemed to be that during the Session 1, regardless of the condition, high CFCs skipped more words than those low in CFC. However, this trend slightly reversed during the Session 2, but only for the control group, where high CFCs skipped fewer

words during the Session 1. The gap was smaller in the experimental group, but participants scoring low on CFC still skipped fewer words.

When two indicators of quality were compared to each other, interesting results emerged. Within the control condition, the direction was the same – difference was larger during the Session 1, where low CFCs exhibited higher quality work than high CFCs, but this gap shrunk during the Session 2. This was especially evident for the words skipped variable so that high CFCs improved and performed better than low CFCs who worsened in their performance. In the experimental condition, the direction of quality was unchanged for low CFCs. However, high CFCs increased their number of errors while decreasing the number of words skipped. Because the two variables are indicators of the same construct, it is surprising that they are occurring in opposite directions. It is also interesting that this effect is only held for the experimental group.

From the results obtained, it is difficult to determine with certainty which one out of the two is a “true” indicator of quality and which one should be relied upon when making further inferences about the relationship. The results of the present research suggest that words skipped might be a slightly more stable one due to it yielding equivalent results during the baseline condition between the groups. In addition, the regression results indicated that there is a stronger relationship between the CFC and the number of words skipped than to the number of errors.

Overall Interaction Discussion

The performance quality of participants high in CFC slightly fluctuated from Session 1 to Session 2 for both groups. At first glance, it is difficult to conclude how much of this fluctuation is truly due to participants’ CFC orientation or job insecurity, and how much is due to the initial variability in participants’ level that was not canceled out through randomization and a larger

sample. However, one trend seems to be emerging; participants high in CFC exhibited more fluctuation in quality of their performance between the two sessions for both conditions. Participants low in CFC however, seem to show much less variability in their scores from one session to the next. This trend is especially evident in the experimental condition where the low CFCs seem to be almost entirely unaffected by the experimental manipulation introduced after the Session 1. This observation is partially consistent with the Hypothesis 5b and 6b, the alternative to Hypotheses 5 and 6. What differentiated the Alternative Hypotheses 5 and 6 from the original ones was the prediction of performance exhibited by participants scoring low in CFC. That is, the original ones predicted that while under the threat of job insecurity, high CFCs decrease their quantitative output, low CFCs will increase (Hypothesis 5) and while high CFCs increase the quality of their work, low CFCs will decrease (Hypothesis 6). Alternative hypotheses made same prediction in regards to the high CFC participants, but predicted that participants low in CFC will be entirely unaffected by the job insecurity condition. This pattern was observed during the experimental condition; participants who scored low in CFC did not show significant change in their performance before and after the manipulation. Therefore, this particular aspect of the hypothesis seems to be supported. However, the results are inconclusive in regards to the control condition where low CFCs exhibited more variability than during the experimental condition.

Therefore, due to this partial variability, it is necessary to proceed to interpretation of the obtained results with caution. The results just described in regards to the interaction between the CFC and moderating effect on job insecurity are based on a rather small sample. In addition, that initial sample showed certain discrepancies among the groups during the baseline condition which indicates that the groups might not have been quite equivalent and as such, not entirely

suitable for making any definite conclusions. However, because they do provide information about a potential trend, it is worth mentioning its implications and proceed with an exploration of the phenomenon.

In order to obtain more reliable and consistent results, a replication of the current study would be beneficial. First, a larger sample is necessary. A random assignment in this study was not entirely effective; certain differences remained between the groups and those differences intricated an observation of observing a clear relationship. Therefore, a larger sample might allow for a more effective distribution of those differences and more consistent results. Furthermore, described suggestions to implement the changes in regards to more effective job insecurity apply here as well. Due to current study's ineffective manipulation, it was impossible to establish a true relationship between the effect of CFC and job insecurity on participants' performance. Once the way to properly manipulate the job insecurity within the context of the interest of the current study has been established, the influence of CFC should also be examined.

Theoretical and Practical Implications

Despite some inconclusive results, the current study raises some important theoretical implications. Many recent research studies have recognized the importance and implications of factors associated with studying job insecurity and performance. In the light of conducting the research projects in the field, it is possible to look past the importance of establishing a causal relationship. In addition, job insecurity is a major phenomenon that is associated with numerous factors. Present research attempts to address the lack of consistent evidence on effect of job insecurity and performance (Sverke et al., 2002), and approaches the issue by focusing on two specific subsets of performance; quality and quantity. Furthermore, the current study raises an

issue of proper operationalization of performance constructs. That is, even when operationalizing a construct so that the system addresses different aspects of performance, it is possible that those measures will differ and even yield conflicting results. For example, the present study obtained different results between the two quality indicators. This seemed to be especially evident when examining the personality factors in relationship performance.

In addition, this study advances the research done on CFC, explores it in conjunction to job insecurity, and aids in setting ground for future research in establishing a more concrete relationship between the CFC and performance.

In regards to practical implications, the trends observed in the present study are in agreement with previous work by Probst (2002) that looked at the causal relationship between the job insecurity and productivity. However, the relationship observed in the present study, although it was in the theoretically expected direction, was not statistically significant. Due to lack of statistical significance in this specific relationship as manifested through this study, concrete implications cannot be made. However, the trends observed in the current study and the evidence on this relationship suggests that if a company is instituting layoffs and if their employees feel threatened, it can be expected that the quality of their employees' work will suffer.

In addition, the present study implies that there is a relationship between the individual's orientation on CFC and that this might be an important construct when predicting an employee's productivity. That is, individuals who prefer to see immediate outcomes of their current actions might exhibit higher outcomes in their day-to-day tasks. This finding can be beneficial to the organizations in two settings. During the initial hiring procedures, a production-focused

organization can pre-screen the individuals who tend to be low on CFC. In addition, this finding has potential to be useful in creating incentives for performance.

Strengths, Limitations, and Directions for Future Research

There are some notable strengths to the current study. First, it contributes to the CFC literature, as it is one of the first to examine the connection between the CFC and job performance while under the threat of layoffs. In this aspect, the study was exploratory in nature, but it without doubt raised some important questions and set grounds for future research in this area.

CFC is an important personality construct and consequences of job insecurity are a prevalent and rising concern. Therefore, this study brought more attention to these two issues, and called for further exploration. Although the results of the current study were not entirely consistent across all the variables, it does not mean that subsequent research on job insecurity and CFC will be fruitless. Perhaps the two constructs can be explored in relation to job attitudes, job satisfaction, turnover intentions, or safety behavior.

In addition, the design was experimental in nature and as such, it limited the effects of some clear confounding variables such as career or industry self-selection on performance. That is, recognizing the possibility that certain industries might attract high or low CFC individuals, the current study was able to control for those extraneous variables. Furthermore, the design adapted from Probst (2002) employs two work sessions, each with the same tasks. It can be argued that this design prevented making erroneous assessments of participants' performance and CFC's influence on any of those sessions individually. That is, there were differences observed between the Session 1 and 2 even in the control condition. This suggested that there

might be some other underlying factors that influence the difference in performance of high and low participants.

Finally, participants were placed in a setting where they were all exposed to the same cues and objective measures of performance were able to be gathered. Quality and quantity were clearly operationalized and utilized three completely distinct and objective measures to assess individuals' performance. Strictly objective performance is something that is underrepresented in the job insecurity field literature. A number of research studies exploring performance often relies on subjective measures, such as supervisors' reports or self-appraisal. (Robinson, 1996; Yousef, 1998; Ashford et al., 1989; Stepina & Perrewe, 1991). The current study addressed those limitations and used strictly observable and quantifiable records of participants' performance. As such, this approach makes the results less influenced opinions and it allows for a direct comparison.

However, there are also certain limitations to this study and those need to be addressed. First, there are certain limitations as a cause of the sample used. A vast majority of the participants were females, which is also not representative of the general population nor students at the university. Furthermore, although the random assignment was employed, it is possible that there were some unintentional and accidental discrepancies between the groups. For example, there were differences observed during the baseline condition between both high and low CFC participants.

Aside from sampling, a significant limitation of this study is perhaps the ineffective manipulation of the job insecurity. Because of the weakness of this manipulation, the research project could not properly answer the question of whether or not job insecurity truly influences the quality or quantity of job performance. Although the effects were in the predicted direction,

meaning that the individuals under the threat of job insecurity produced output that was of lower quality and higher quantity, this effect was not statistically significant. The lack of proper manipulation also impeded more exhaustive and fruitful exploration of the effects that the participants' CFC orientation has on the quality and quantity of their performance when facing the threats of job insecurity.

There are a few reasons why the manipulation may have been limited. First is the question of the proper cash incentive used for compensation in the studies. Although the method of payment was thoroughly explained (contingent upon the each group), the amount of payment might have not been enough to get the participants motivated. A second possibility concerns the perception of the reality of a promised possible data entry job. Coincidentally for the time period when the research was being conducted, Psychology students received an announcement that some professors were actually looking for real data entry assistants. This is information that was introduced after the research had already started, and it was brought to researchers' attention during the experiments. Unfortunately, there is no record of how many students were actually aware of this fact and how they performed. However, this possibility and the announcement are definitely factors that might have quite plausibly and unintentionally aided in creating this particular study to be perceived as much more realistic. Some participants might have not believed that there would be a data entry job in the Psychology department or that they had a chance to be selected for it. Equally likely is the possibility that some participants simply guessed that their responses would not actually be tracked (although this was explained as well) and reasoned that the experiment was not actually being conducted in collaboration with the Psychology faculty looking for assistants.

A third limitation is arguably the task itself. Many university students are quite adept at typing. Although the challenge imposed upon students was more difficult than typing papers, it is still possible that the real individual differences might have not been manifested entirely. On the other hand, many jobs require the workers to perform tasks at which they are well practiced. It is plausible that employing the words entry task might be equated to performance that would be exhibited should the data be collected in the field.

The last limitation acknowledges the problems encountered with sampling. Although the groups were randomly assigned to be either in control or experimental conditions (and therefore theoretically should have been equivalent); there were some slight baseline differences in their performance as well as attitudes towards the experiment as a whole. For example, participants in the experimental group cared more about the possibility of the job than the participants in the control group, even before the manipulation was introduced. In addition, the low CFC participants in the experimental condition performed better than low CFC participants in the first session control condition even though those two groups should be the same if random assignment is at work. The same scenario was observed for the individuals who are high in CFC, where in the control group they performed worse than in the experimental group during the first 10 minute session. (Recall the first session had identical experimental setup for both groups and no manipulation was introduced at that point.)

Although the results of the current study were not entirely consistent with the originally predicted hypotheses, they nonetheless suggested that some of these effects might be more clearly seen if the manipulation were stronger or if the experiment had greater power. Therefore, the current experiment provides grounds for many future explorations.

It is recommended that one of the first future projects be to replicate the study. However, a different design and stronger manipulation approach should be used. In addition, the promised possible reward should be made to be perceived as more desirable. A last recommendation for a replication of this study would be to use a bigger sample.

Furthermore, the relationship between CFC and quality and quantity performance aspects should be examined in a more pure form, without any reward, incentive, or job insecurity cues. Naturally, no experiment will yield ultimate and definite answers, but eliminating any extraneous stimuli might allow for exploration of a main effect of CFC. Therefore, another condition or simply a separate study could be added to the replication process.

The current study was conducted to simply explore whether there is a general effect of job insecurity and CFC on quality and quantity of job performance. Given that there appears to be some relationship between CFC and performance, it would be beneficial to explore how this relationship might manifest itself in the field. That is, actual workers might respond rather differently to their own job demands. Preliminary data suggests that this may be the case. In a recent study, Graso, Probst, and Estrada (2008) found that consideration of future safety consequences (CFSC) was related to a variety of safety performance measures. In that study, high CFSC employees were more safety conscious than their low CFSC counterparts.

Third, in order to complement the current laboratory study, it would also be interesting to examine whether different occupations have individuals who are high and low on CFC. If the results found that occupations that involve immediate outcomes (where significant portion of one's day is focused on "getting through") employ workers who are low in CFC, it would complement the laboratory study hypothesis. Furthermore, it would be interesting to explore temporal effects in relation to the effects observed in this study. For example, do individuals

simply adjust to their tasks no matter whether those involve immediate or future outcomes, regardless of their CFC level? In other words, is there a point at which an individual's CFC level becomes irrelevant and the type of task becomes more important? Alternatively, it might be plausible to argue that individuals high or low in CFC might be more successful or satisfied in the lines of work that yield temporal outcomes that are preferred by that particular orientation. In addition, it would be interesting to examine this effect in the actual workplace. Although it is possible that many other confounding factors can interfere with trying to extract the real relationship, it would be interesting to see how actual workers perform, especially in production and manufacturing lines of work.

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APPENDIX

Demographic and Personality Questionnaire

CODE: _____

Demographical Information:

Gender:

Male

Female

Age: _____

Year in college (*please mark one*):

- Freshman
- Sophomore
- Junior
- Senior
- Graduate
- Non-degree seeking

Are you currently employed?

Yes

No

Number of years you have worked: _____ years

Instructions for the participant:

For each of the statements below, please indicate whether or not the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please fill-in a "1" on the answer sheet; if the statement is extremely characteristic of you (very much like you) please fill-in a "7" on the answer sheet. And, of course, use the numbers in the middle if you fall between the extremes. Please keep the following scale in mind as you rate each of the statements below.

Extremely Uncharacteristic	1	2	3	4	5	6	7	Extremely Characteristic
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- _____ 1. I consider how things might be in the future, and try to influence those things with my day to day behavior.
- _____ 2. I see myself as extraverted, enthusiastic.
- _____ 3. Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.
- _____ 4. I see myself as sympathetic, warm.
- _____ 5. I enjoy having a clear and structured mode of life.
- _____ 6. I only act to satisfy immediate concerns, figuring the future will take care of itself.
- _____ 7. I see myself as critical, quarrelsome.
- _____ 8. I feel uncomfortable when someone's meaning or intention is unclear to me.
- _____ 9. My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions.
- _____ 10. I find that a well-ordered life with regular hours suits my temperament.
- _____ 11. My convenience is a big factor in the decisions I make or the actions I take.
- _____ 12. I see myself as open to new experiences, complex.
- _____ 13. I like to have friends who are unpredictable.
- _____ 14. I see myself as dependable, self-disciplined.
- _____ 15. I am willing to sacrifice my immediate happiness or well-being in order to

achieve future outcomes.

- _____ 16. I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.
- _____ 17. I think it is more important to perform a behavior with important distant consequences than a behavior with less-important immediate consequences.
- _____ 18. I see myself as reserved, quiet.
- _____ 19. I dislike questions that could be answered in many different ways.
- _____ 20. I see myself as conventional, uncreative.
- _____ 21. I see myself as calm, emotionally stable.
- _____ 22. I usually make important decisions quickly and confidently.
- _____ 23. I don't like to go into a situation without knowing what I can expect from it.
- _____ 24. Since my day to day work has specific outcomes, it is more important to me than behavior that has distant outcomes.
- _____ 25. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level.
- _____ 26. I see myself as disorganized, careless.
- _____ 27. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time.
- _____ 28. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date.
- _____ 29. I don't like situations that are uncertain.
- _____ 30. I see myself as anxious, easily upset.
- _____ 31. I feel irritated when one person disagrees with what everyone else in a group believes.
- _____ 32. When faced with a problem, I usually see the one best solution very quickly.

Data entry material – Session 1

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Education: Jyvaskylan Yliopisto / University of Jyvaskyla
Bachelor of Science, 1992 – 1996
Management Information Systems (MIS)
University of Massachusetts Amherst
MS in Finance, 1996 – 1999
Last Three Jobs Held MICrosun Audiovisual Inc., (1998 – 2001)
Tampere, Finland
RWF I Systems Analyst Team, Job code equiv. *3Kf2
Pacific International Bank, (2001 – 2005)
Saitama, Japan
Financial Analyst, Job code equiv. *54pRk
GM&CPA Consultants, (2005 – Present)
Baton Rouge, Louisiana
Financial Systems Counselor, Job code equiv. *wR93
Professional Certifications: Microsoft MCSE, MCP, MCDST, MOUS, SBS 2003
CompTIA A+, CompTIA Network + (or N +), CompTIA Security (or S
+), Cisco CCNA, Cisco CCNP, Firewall Specialist, VPN Specialist
Professional Associations: Association of Finance and Insurance Professionals (AFIP), (2001 –
Present)
International Society of Professional Finance Associates (ISPFA), (2002
– 2005)
Hobbies: Reading, wildlife photography, fishing
Awards and Honors: Volunteer of the year 2004, Big Brother Big Sister
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 Intermediate – German
 Basic Conversational - Spanish

Education: Universita di Bologna / University of Bologna, Italy
 Bachelor of Science, 1977 - 1981
 English, Journalism
 Libera Universita di Bolzano / Free University of Bozen-Bolzano
 M.S. in Applied English, Journalism, 1991 – 1993

Last Three Jobs Held Fiocchi Munizioni, (1982 – 1990)
 Trieste, Italy
 Company Release Coordinator, Job code equiv. *ikkR3
 Campagnolo, (1995 – 2000)
 Agrigento, Italy
 Public Relations Specialist, Job code equiv. *wXr4
 Sallvatore Ferragamo, (2000 – Present)
 Pordenone, Italy
 Financial Systems Counselor, Job code equiv. *u5v9

Professional Certifications: Microsoft Excel, Technical Writing Specialist TCA

Professional Associations: Association of Broadcast Professionals (ABP), (199 – Present)

Hobbies: Traveling, scuba diving, running

Awards and Honors: Most outstanding employee of the year, 2004, Sallvatore Ferragamo

References: Calogero Mancini, Fiocchi Munizioni
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 Intermediate – German
 Basic Conversational – Spanish, French

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 Bachelor of Science in Nursing, 1988 - 1995
 Vrije Universiteit Brussel, Faculteit Geneeskunde en Farmacie
 Pediatric Nursing Specialty, 1995 - 1999

Last Three Jobs Held Universitat Dusseldorf: Medizinische Fakultat, (1999 – 2002)
 Dusseldorf, Germany
 Head Nursing Resident, Job code equiv. *Md45K1
 University of Washington, School of Medicine, (2002 – Present)
 Seattle, Washington
 TRI Nurse, Job code equiv. *Mw18Hv
 N/A

Professional Associations: American Board of Pediatrics (ABP), (2000 – Present)
 American Board of Internal Medicine (ABIM), (2001 – Present)
 International Federation of Nursing Students' Associations (1996 – 2000)

Hobbies: Synchronized swimming, quilting

Awards and Honors: Outstanding Volunteer - Nurses Without Borders

References: Broderick Madchennamen, Faculteit Geneeskunde en Farmacie
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Management Information Systems (MIS)
Guru Gobind Singh Indraprastha University (GGSIPU)
M.S. in Finance, 1996 – 1999
University of San Francisco
C.I.P. in Finance Information Systems, 1999 - 2000
Last Three Jobs Held Eicher Motors
Delhi, India
RWF I Systems Analyst Team, Job code equiv. *3Kf2
Dabur*India Limited
Delhi, India
Systems Analyst, Job code equiv. *54pRk
McEcher&CO
Chicago, Illinois
Track Accounting Systems Counselor, Job code equiv. *wR93
Professional Certifications: Certified Financial Planner (CFP.r.), Certified Financial Analyst
(CFA*), Certified Fund Specialist (CFS), Certified Public Accountant
and Personal Financial Specialist (CPA and PFS)
Professional Associations: China Computer Federation Database Technical Committee (CCF
DBTC)
Information Society Technologies Committee Chair (IST)
Hobbies: Reading, wildlife photography, fishing
Awards and Honors: Volunteer of the year 2004, Big Brother Big Sister
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 Economics and Business Valuation (E&BV)
 Instituto Tecnologico de Estudios Superiores de Occidente
 MS in Finance, 2003 – 2005
 Last Three Jobs Held Klipsch Audio Technologies Inc., (2005 – 2006)
 Heidelberg, Germany
 CQNI Valuation Specialist, Job code equiv. *3Zy7
 Cascade Williamson Bank of the Red Seas, (2006 – 2007)
 Point o' Sand, Little Cayman
 Financial Analyst, Job code equiv. *58kqw
 Matsumoto Takayma & Naikai, (2007 – Present)
 Amanohashidate, Japan
 Projection verification technician, Job code equiv. *Ki&8k
 Professional Certifications: Chartered Financial Analyst (CFA), CompTIA Network + (or N +),
 Information Systems Analyst (ISA)
 Professional Associations: Institute for Certification of Computing Professionals Chair (ICCP)
 Computer Forensics Association (CFA)
 Hobbies: Sailing, Stock Trading, Poker
 Awards and Honors: Economic Analyst of the Year, International Economics &
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 Bachelor of Science, 1995-1999
 Physics, Computer Science (B.S.)

 Khabarovsk school of aeronautics
 MS in aeronautics programming, 1999-2003

 Last Three Jobs Held Cyberdyne Systems Inc., (2004 – 2005)
 Los Angeles California
 Aeronautics systems programmer, Job code equiv. *AH7Q

 Peoples bank of the UM, (2006 – 2007)
 Chelyabinsk
 Financial code technician, Job code equiv. *58kztr

 Petropavlosk & Associates, (2007 – Present)
 Kiev, Russia
 Data collection expert, Job code equiv. &#a7R

 Professional Certifications: Engineering Management Certifications Fundamentals (EMCFtm)
 Engineering Management Certifications Professionals (EMCPTma)
 Oracle Master Trainer (b837kP)

 Professional Associations: Society for Information Management (2001 – Present)
 International Society of Professional Engineers (ISPE), (2002 – 2005)

 Hobbies: Hiking, mountaineering, swimming

 Awards and Honors: Novelty Engineer of the Year, 1998
 Distinguished Scholar ISPP (&IEHB), 2007

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The following survey was given to participants after the Session 1:

CODE: _____

Please circle the most appropriate response:

I found the tasks to be easy to understand.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I knew exactly what was expected of me.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I found the tasks to be challenging.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

If selected, I would consider participating in the Data Entry Conversion (DEC) Project.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I think that 10\$/hour is a reasonable rate for helping with a few data entry sessions.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I am satisfied with my overall performance.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

As I completed my data entry tasks, I focused primarily on maintaining a low error rate.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I was worried whether I would perform well enough to be recommended for the data entry position.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about the possibility of a raffle prize.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I feel confident that I could be retained as a data entry assistant for DEC Project.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I felt rushed during this session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I got quite involved in the last session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about the possibility of a data entry job.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

When completing the surveys, I focused mostly on inputting as much material as the time allowed.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about my performance in this session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I had trouble entering the data quickly.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

***The following material was given to participants after the Session 1:**

Experimental Group Compensation Handout

Psychology Department Data Entry Conversion (DEC Project)

Professors need help transcribing their old paper-based data into a computer format. They have agreed to collaborate with our experiment and rely on our recommendations of the candidates.

Benefits of your participation:

- The project requires a lot of work, therefore, many assistants are needed
- You can register for as many data entry sessions as you wish
- You will receive your payment after each session
- \$10 per each one-hour session

Today's Experiment Performance Appraisal Method

Using an automated Word function, your performance will be evaluated on the number of words you have entered and on the accuracy of your performance. Those two aspects of your performance will have equal weight – they will be coded and averaged into a single performance score. In the end, we will compile a general sheet of individuals interested and qualified for the data entry job.

Top 50% of the research assistants today will receive:

1. A raffle opportunity to win *X number (1/3)* of \$5 cash prizes.
2. Our recommendation for further participation in an actual data entry job with the Psychology Department professors
 - a. *If selected for the data entry project, you will enter your information through a secure remote web link so we will only be provided with a list of all 50% performers from all the sessions. That way your anonymity is preserved.*

Bottom 50% of the research assistants today will be laid off. Their services will no longer be needed and they will not be eligible for any additional compensation.

Control Group Compensation Handout

Psychology Department Data Entry Conversion (DEC Project)

Professors need help transcribing their old paper-based data into a computer format. They have agreed to collaborate with our experiment and rely on our recommendations of the candidates.

Benefits of your participation:

- The project requires a lot of work, therefore, many assistants are needed
- You can register for as many data entry sessions as you wish
- You will receive your payment after each session
- \$10 per each one-hour session

Today's Experiment Performance Appraisal Method

Using an automated Word function, your performance will be evaluated on the number of words you have entered and on the accuracy of your performance. Those two aspects of your performance will have equal weight – they will be coded and averaged into a single performance score that we will use to evaluate your work. In the end, we will compile a general sheet of individuals interested and qualified for the data entry job.

For your participation as research assistants today, you will receive:

1. A raffle opportunity to win *X number* (1/3) of \$5 cash prizes.
2. Our recommendation for further participation in an actual data entry job with the Psychology Department professors
 - a. *If selected for the data entry project, you will enter your information through a secure remote web link so we will only be provided with a list of all 50% performers from all the sessions. That way your anonymity is preserved.*

***The following survey was administered after the Session 2.**

Please answer the following questions in regards to the latest 10-minute session:

I feel confident that I could be retained as a data entry assistant for DEC Project.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I got quite involved in the last session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

In the last session, I had trouble entering the data quickly.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

When transcribing my data during the last session, I was satisfied with the accuracy of my work.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I was worried whether I would perform well enough to be recommended for the data entry position.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about the possibility of a data entry job.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

When completing the surveys, I focused mostly on inputting as much material as the time allowed.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

As I completed my data entry tasks, I focused primarily on maintaining a low error rate.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about my performance in the last session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I felt rushed during this session.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I am satisfied with my overall performance.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I cared about the possibility of a raffle prize.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

*** Please answer the following question in regards to your overall experience today:**

I wish I had put more effort in the amount of information I was able to enter.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I wish I had put more effort in lowering the error rate of my work.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I felt that the incentives offered in the study were satisfactory.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

I found the study to mimic the real feelings of job insecurity.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

DEBRIEFING FORM

Thank you very much for participating in this experiment. We know that your time is very valuable and we appreciate your help.

The current study is focused on answering the question of whether job insecurity and certain personality variables influence the quality and quantity of job performance. That is, we are particularly interested in a trait known as consideration of future consequences (CFC). Your responses to surveys that you have been given and the actual task performance have all been tied to one another with your employee code. Therefore, those will be analyzed to see whether the individuals with different personality traits (namely CFC) approached performance on their tasks differently; that is, whether they choose to focus more on quality or quantity based on those traits. Furthermore, you were assigned to one of two groups; high or low job security. After the first task, participants in the low job security condition were informed that there was a chance that their services would no longer be needed, and therefore might not be eligible for future employment consideration and monetary compensation. The participants in the control condition were not told about potential layoffs and were instructed to continue their work through both sessions. Therefore, deception was necessary. Because job insecurity is impossible to manipulate in the field setting, this scenario was developed in order to mimic the real world setting as much as possible. Unfortunately, there are no opportunities for the mentioned data entry job. There will however be a drawing for \$5 cash prizes for which all of the participants today will be eligible.

Although the experiment was designed to minimize any potential discomfort and lower deception levels, there is a possibility that for some of you, this experience caused discomfort. If this is the case and if this experiment evoked some personal experiences or emotions, please do not hesitate to contact (360) 546 - 9446 to schedule an appointment with an on-campus counselor. The university provides five visits per academic year for personal counseling. Off-campus counseling is available by referral only; referral forms are available from Jessica Nelson, Assistant Director of Student Development, VMMC 24. If you have further questions that were not addressed in this debrief, please do not hesitate to ask.

Finally, please do not tell others what you did at our experiment today and what was expected of you. We rely on our participants to provide us with their unique responses and we need your help in this process.

Once again, thank you for your time and help.

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