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The effect of perceived control on intention to quit: Does it generalize to the Chinese sample?

Ming-Feng Michelle Yu

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THE EFFECT OF PERCEIVED CONTROL ON INTENTION TO QUIT: DOES IT GENERALIZE TO THE CHINESE SAMPLE?

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology: Industrial/Organizational

by
Ming-Feng Michelle Yu

June 1996
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[Redacted]
ABSTRACT

Stress is inevitable in the workplace and it can lead to the intention to leave an organization. An organization can reduce intention to quit by providing its employees control of some aspects of their work. This study examined the effect of perceived control on intention to quit in a simulated work situation. It also investigated the potential cultural differences between Chinese and American undergraduate students and the possible gender differences between male and female undergraduate students of the perceived control-intention to quit relationship. Results indicated that the American perceived control group experienced a higher level of control and a lower level of intention to quit than the American no perceived control group, the Chinese perceived control group, and the Chinese no perceived control group, as expected. An additional ANOVA showed that the American no perceived control group experienced a lower level of control as compared to the other three groups, but did not experience a higher level of intention to quit than the other three groups as predicted. The Chinese of both groups expressed a higher level of intention to quit than the American no perceived control group. Furthermore, results from a two-way ANOVA revealed an interaction effect between gender and ethnic groups. The Chinese male participants expressed a higher level of intention to quit than the Chinese female
participants and the American female participants expressed a slightly higher level of intention to quit than the American male participants. In addition, the Chinese students in this sample did not exhibit a higher need of achievement than the American students as found in previous studies. These findings are attributed to several factors, such as sample specificity, a confound in reward allocation, and possible language barrier.
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INTRODUCTION

Stress is inevitable in the workplace. It plagues workers at all organizational levels. There are many ways an organization can intervene to decrease work stress. Burke (1993) suggested five methods of organizational-level interventions to reduce occupational stress: goal-setting, participative decision-making, autonomy, person-environment fit, and support group. The common theme of these methods is to increase the employees' perceptions of control, a variable of interest in this study. Specifically, this study will examine the effect of perceived control on intention to quit in a simulated work environment. This study will also investigate the potential cultural differences between Chinese and American undergraduate students and the possible gender differences between male and female undergraduate students of the perceived control-intention to quit relationship.

Work Stress, Perceived Control, and Intention to Quit

Cooper (1986) proposed a model of stress at work that enables an organization to understand the influence of stress on physical, emotional, and behavioral outcomes. According to the model, work stressors, such as time pressure, role ambiguity, work overload, and thwarted ambition can influence an individual's level of anxiety and tolerance for ambiguity which can result in job dissatisfaction and depression. These symptoms of
occupational ill-health can then lead to employee withdrawal responses, such as absenteeism and turnover.

When faced with increased work stress, an employee may engage in withdrawal or "flight" responses, such as absenteeism, tardiness, intention to quit, and turnover (Dwyer & Ganster, 1991). Absenteeism, tardiness, and intention to quit are less permanent flight reactions; in contrast, turnover is a permanent flight reaction. Though there are different forms of organizational flight, the forms are interrelated (Beehr & Gupta, 1978). For example, intention to quit has been found to positively correlate with absenteeism ($r = .17$), tardiness ($r = .21$), and turnover ($r = .23$). Because flight reactions are costly for organizations, it is important for them to understand and detect the causes of employee withdrawal in order to prevent a flight behavior from occurring. It is beyond the scope of this study to examine all the causes of each withdrawal behavior; therefore, this study will use intention to quit as an outcome variable.

The survival of an organization is dependent upon the contribution of every individual in the organization, thus employee commitment is vital. Simply, an organization cannot afford to have "fleeing" employees. McKenna, Oritt, and Wolff (1981) indicated that the level of perceived work stress highly influenced an employee's intention to leave the organization. However, though stress is inevitable in
the workplace, an organization can reduce flight responses by providing its employees control of some aspects of their work. Spector (1986) conducted a meta-analysis of studies relating to perceived control and employee outcome variables. The results revealed that a high level of perceived control is related to a high level of job satisfaction, commitment, involvement, performance and motivation, and a low level of physical symptoms, emotional distress, role stress, absenteeism, intent to quit, and turnover. Parker (1993) performed a study that tested the relationship of perceived control over decision-making and an employee's intention to quit. Parker found that perceived control over decision-making is inversely related to intention to quit.

So why is perceived control a successful moderating variable between work stress and intention to quit? Karasek (1979) developed and tested the job decision latitude model that explains the role of perceived control as the mediator in the work stress-intention to quit relationship. He defined job decision latitude as "the working individual's potential control over his tasks and his conduct during the work day (pp.289-290)." The model proposed that a worker's well-being is determined by the interaction of job demands (or work stress) and latitude (or perceived control of the job). Specifically, the model predicted that when job demands and perceived control of
the job are simultaneously high, termed an active job, an employee perceives the demands as a source of challenge rather than a source of mental and physical stress. However, when job demands are high and perceived control of the job are low, termed a passive job, an employee demonstrates lower overall activity and poorer general problem-solving ability. In a passive job, the job demands are perceived as a source of mental and physical stress. The "unhealthy" demands lead to poor mental health symptoms such as trouble awakening in the morning, depression, nervousness, anxiety, and disturbed sleep. In turn, these symptoms induce organizational problems, such as employee withdrawal. Dwyer and Ganster (1991) tested Karasek's model on 115 full-time plant workers and found support for the model. Particularly, they indicated that high work demands and low perceived control of the job lead to higher tardiness and days lost to sickness. The high number of sick days suggested that unhealthy job demands do indeed lead to health-related outcomes which generate organizational problems such as employee withdrawal, a relationship that was predicted by both Cooper's model of stress and Karasek's job decision latitude model. Though intention to quit was not a measure of employee withdrawal in Dwyer & Ganster's study, it is speculated that the hypotheses of the Karasek's job decision latitude model should be generalizable to intention to quit since the
forms of flight reactions are interrelated (Beehr & Gupta, 1978).

Cross-cultural Differences

Previous studies have found the linkage between perceived control and intention to quit in a stressful situation, but there is no existing study that has confirmed the negative relationship between perceived control and intention to quit in a cross-cultural sample. Thus, this study intends to study the potential interactive relationship of cultural background and level of perceived control on intention to quit in a simulated work setting, with Chinese and American undergraduate students as the sample of interest. Because other factors may be important to predicting intention to quit in this sample, other variables are described as followed: impulse expression, persistence, and achievement motivation.

Impulse Expression

Sue and Kirk (1972) examined the personality traits of Chinese-American students. They administered the Omnibus Personality Inventory to all the new entering freshman at the University of California, Berkeley. The results indicated that the Chinese-American students were more obedient and conforming to authority, more inhibited, and less likely to express their impulses than the American students. Those with good impulse control might be less
likely to respond impetuously to a stressful work situation by expressing an intention to quit.

Persistence

Triandis, Bontempo, Leung, and Hui (1990) examined the cultural values of the American and Chinese college students by presenting them a list of 35 values. The students were asked to discuss each value with the group (which consisted of three people from the same culture) for 60 seconds. Results indicated that the American college students ranked "to be well-adjusted, in harmony, with my environment, in good relationship with others" as the most important value. On the other hand, the Chinese college students ranked persistence or perseverance as the most important value. Of significance to this study, it would seem reasonable to suggest that those who value high persistence or perseverance might be less likely to express an intention to quit.

Need of Achievement

Abbott (1970) contrasted the CPI profiles of the Chinese, Chinese American, and American samples. He found that the mean scores of the Chinese and the Chinese Americans were very similar on the Achievement via Conformance (Ac) and Achievement via Independence (Ai), but were higher than the American sample. The results indicated that the Chinese and Chinese Americans had a higher need of achievement than the Americans. Individuals
with a high need of achievement have been found to be more persistent and to perform better on tasks than individuals with a low need of achievement (Atkinson & Raynor, 1974). Complementing the previous findings on persistence, it is speculated that those with a high need of achievement and greater persistence on tasks might be less likely to express intention to quit.

Thus, due to the lesser impulse expression, more perseverance on tasks, and higher need of achievement, the Chinese participants are expected to be less likely to express intention to quit on a task than the comparable American participants.

Gender Differences within American and Chinese Samples

Chiu (1990) compared the scores on the Edwards Personal Preference Schedule of Chinese college students with American college students. The results indicated that the American and Chinese men scored significantly higher on Dominance and Autonomy than the American and Chinese women. The men of both groups were more likely to resist restrictions and to influence or direct others by authority or force (Murray, 1953) than the women of both groups. It is speculated that those with high dominance and autonomy would be more likely to express intention to quit in a low control situation. They might attempt to control the situation, but if the situation is restrictive
and does not allow them control, they may choose to withdraw from the situation.

HYPOTHESES

The purpose of this study is to empirically investigate the potential cultural differences between the Chinese and American undergraduate students on the effects of perceived control (and the lack there of) to expressed intention to quit. Specifically, this study is interested in exploring whether having a perception of control in a simulated work situation would result in a lower level of Chinese or American undergraduate students' expressed intention to quit. Based on the previous findings that a high level of perceived control is related to a low level of intent to turnover in the American sample (Spector, 1986; Parker, 1993) and that the Chinese are less likely to express their impulses (Sue and Kirk, 1972), more persistence (Triandis, 1990), and have a higher need for achievement than Americans (Abbott, 1970), it is hypothesized that:

Hypothesis 1a: American students in the perceived control condition will report a higher level of control and a lower level of intention to quit relative to the American students in the no perceived control group and the Chinese students in both conditions.
Hypothesis 1b: In the same situation, American students in the no perceived control condition will report a lower level of control and the higher level of intention to quit relative to American students in the perceived control group and the Chinese students in both conditions.

This study also investigated for possible gender differences on the reported level of intention to quit. Specifically, this study explored whether male or female undergraduate students of either culture would report higher levels of intention to quit in a simulated work situation. Based on previous findings that American and Chinese men have scored significantly higher on dominance and autonomy than American and Chinese women (Chiu, 1990), it is expected that:

Hypothesis 2: Male students of both cultures will report a higher level of intention to quit in a given situation than female students of both cultures.

Last, this study examines the potential cultural differences between the Chinese and American undergraduate students on the need for achievement in a clearly defined and controlled environment. Specifically, the study is interested in investigating whether the Chinese students in
this sample will have a stronger need for achievement than the American students (Abbott, 1970). It is predicted that:

*Hypothesis 3:* The Chinese students will score higher on the Ac scale (Achievement Motivation via Conformance Scale of the CPI), thus characterizing a higher need for achievement, than the American students.

**METHOD**

**Participants**

Based on Cohen's power table (Cohen, 1992), 64 participants were required (16 participants in each group) to obtain a power of .80, an effect size of .25 (medium), and an alpha of .05.

A total of 89 undergraduate students from Business, Psychology, and other majors (e.g. Language Program, Liberal Studies, Social Sciences, Communication, and Food and Nutrition) participated in the study. There were 17 Chinese participants in the perceived control condition, 16 Chinese participants in the no perceived control condition, 22 American participants in the perceived control condition, and 34 American participants in the no perceived control condition. All of the Chinese participants were International Students who had resided in the United States less than five years and had Taiwan (n=31) or Hong Kong
(n=2) as their permanent countries of residence. Of the 33 Chinese participants, 23 participants chose to come to the United States, while 9 participants were encouraged by family or relatives to come to the United States. The median number of years the Chinese participants had been in the United States at the time of the study was 1.5 year. All American participants were of European descent and were considered to be second-generation Americans (i.e. the participants and their parents were born in the United States). There were 60 female participants (with 22 Chinese females and 38 American females) and 29 male participants (with 11 Chinese males and 18 American males). The ratio between males and females in this sample was 2:1, as compared to the campus' ratio of 1.5:1 (statistics obtained from the Institutional Research, Fall 1995). The age range was 19 to 47, and there was no significant age difference between the Chinese (mean age = 25.79) and American participants (mean age = 28.07).

Participation in the study was voluntary. Some students received extra credit points for their classes as an incentive for participation in the study. Not all of the students who participated received extra credit because some professors did not include the option of earning bonus points via participation in Psychology experiments in their course syllabus. Approximately 96% of the American participants received extra credit points for their
classes; only 7% of the Chinese participants received extra credit points for their classes. Due to the dispersion of the Chinese undergraduate students in various business classes and the difficulty of obtaining extra credit points for those classes, Chinese participants were recruited from the Chinese Student Association, an on-campus organization for Chinese students. A monetary contribution ($200) to be made to the club was offered to the Chinese Student Association to encourage 60 Chinese students to participate.

**Instruments**

*Screening Instrument.* Because of the need to screen for ethnicity, a 15-item survey was developed to screen participants for their eligibility. The survey contained questions, such as "How many years have you lived in your permanent country of residence?" "How many years have you been in the United States?" to screen Chinese participants, questions, such as "Were you born in America?" "Was your father born in the United States?" "Were your grandparents born in Europe?" to screen American participants, and questions such as "What is your ethnicity?" to screen participants from the general population (see Appendix A).

*Instruction Sheet.* Two versions of the instruction sheet were created for the perceived control and the no perceived control conditions. With the exception of the manipulation, the instruction sheets were identical. They
contained a list of task instructions, that included:
1) copying names and addresses of students, 2) filing students' information sheets according to departments, 3) separating and delivering professors' mail, and 4) looking for journal references and completing the missing information. In the no perceived control condition, the information sheet was explicit in setting time limits and order for the performance of each task. In the perceived control condition, the information sheet allowed participants the flexibility to do tasks in any order as long as the overall time limit was met (see Appendix B).

Demographic Survey. A survey identical to the screening instrument was developed to reconfirm the participants' eligibility. Additional questions, such as age, gender, and major in college of the participants, were added to obtain general information (see Appendix C1).

Perceived Control-Intention to Quit-Perceived Stress (PC-IQ-PS) Survey. A 23-item survey was developed to measure the participants' perceived level of control, level of intention to quit, and level of stress (see Appendix C2). Results from a principal-axis factors extraction with varimax rotation indicated that the items loaded on each of the expected factors: perceived control, intention to quit, and perceived stress (see Table 1). Results from Cronbach's Alpha reliability analyses revealed that the intention to quit (α=.93), perceived control (α=.89), and
perceived stress (α=.74) scales were reliable measures for this sample.

Achievement Motivation Measure. The California Psychological Inventory Achievement Motivation via Conformance scale (Gough, 1986) was used to measure the achievement motivation orientation of Chinese and American participants (see Appendix C3). Higher scores on the scale suggest ambition, capability, and the capacity to do well in clearly defined and controlled environments. Lower scores on the scale suggest distractibility, undependability, and resistance to rules or any kind of strict control. Results from a Cronbach's Alpha indicated that the reliability of the Achievement Motivation via Conformance scale for this sample was .76.

Procedures

Pilot Study. A pilot study was performed to determine a reasonable workload and to assess if any modifications in procedures and survey items were necessary.

Fourteen participants were recruited from an undergraduate Psychology class and the Chinese Student Association. The American participants (n=7) were prescreened at the time of recruitment, and the Chinese participants (n=7) were prescreened immediately before the experiment. Participants were randomly assigned to one of the two groups: perceived control and no perceived control group. Then, they were instructed to role play themselves
as college students applying for the student assistant position. They were also told that whether they obtained the position or not depended on how well they performed the tasks and whether they could finish all the assigned tasks in 30 minutes. (Time limit was included to elicit mild work stress). After the brief orientation, the participants were asked to perform the tasks, such as copying students' names and addresses, filing information sheets, looking for journal references, and sorting mail, listed in the instruction sheet. These tasks required them to retrieve materials from two different rooms that were approximately 80 feet apart and to deliver specified mail to a mail room on a different floor. The participants were given thirty minutes to complete all the assigned tasks. Following the exercises, the participants were requested to fill out the survey that contained the perceived control, intention to quit, and perceived stress scales.

Both the perceived control and the no perceived control group had the same amount of workload and time allowed to complete all the tasks. However, to provide the participants in the perceived control group with the perception of control, they were permitted to group and perform similar tasks together, to proceed with the tasks any way they wanted, and to decide the length of time they spent on each task as long as they finished all the tasks in thirty minutes. On the other hand, the participants in
the no perceived control group were required to strictly follow the assigned tasks list and the time limit provided on the instruction sheet. For example, the participants in the no perceived control group were required to make two separate trips to the mail room because according the task list they had to complete another task first. It was the intention of the study for the participants in the no perceived control to experience more stress due to the lack of control to efficiently perform the tasks in a short time limit than the participants in the perceived control group. The perceived control group experienced only one work stressor, time limit.

Main Study. The procedures and survey items of the main study were slightly changed from the pilot study. The duration of the experiment was shortened from 30 minutes to 15 minutes, because of the anticipated difficulty in obtaining participants for a longer experiment. A reminder of time remaining at an interval of five minutes was also added to the experiment. The time reminder was included to serve as a mild stress due to time pressure throughout the experiment. Furthermore, the participants in the main study looked for four journal references rather than ten journal references and they retrieved materials from different corners of an experimental room rather than two different rooms. These changes were done to accommodate the shortened time limit. In addition, the participants
were required to perform one task at a time rather than a group of tasks at one time. That is, instead of looking for all the journal references all at once as was done in the pilot study, the no perceived control participants in the actual study were required to find two journal references before proceeding with other tasks, then return to look for another two journal references when they had completed two other tasks. Requiring individual tasks was done to strengthen the manipulation so the perceived control condition could experience greater control because they had the flexibility to group similar individual tasks together. In contrast, the no perceived control group had to complete tasks in the order presented in the instruction sheet.

Besides the changes in the procedures, three survey items were removed. Questions like "I had control over how quickly or slowly I worked," "I had control over how much work I got done" were eliminated from the PC-IQ-PS survey because they were inadequate to detect the level of control differences between the perceived control and the no perceived control group.

Participants were recruited from undergraduate Business classes, undergraduate Psychology classes, and the Chinese Student Association. Students who were interested in the study were requested to write their names and phone number on the sign-up sheet and to answer the pre-screening
instrument. If a student met the ethnic criteria of the study, he/she received a call from the researcher the night before the experiment to inform and remind him or her of the appointment. Because many Chinese participants were recruited through the Chinese Student Association and not through classes where the participants could complete the paper-and-pencil prescreening instruments, many Chinese participants were screened (using the prescreening instrument) via telephone. Aside from the changes discussed above, the procedures of the actual study were the same as the pilot study.

RESULTS

Hypotheses Analyses

Hypothesis 1a was supported. Results from an one-way ANOVA contrast analyses indicated that there were significant differences between the American perceived control group and the other three groups on the level of perceived control \(F(3,86)=44.85, p<.001\) and expressed intention to quit \(F(3,86)=18.19, p<.001\). The American perceived control group experienced a higher level of perceived control and a lower level of intention to quit as compared to the other three groups (see Figure 1 and 2).

Hypothesis 1b was partially supported. Results from an one-way ANOVA contrast analyses showed that there were significant differences between the American no perceived control group and the other three groups in the level of
perceived control \[ F(3, 86) = 44.85, p < .001 \] and expressed intention to quit \[ F(3, 86) = 18.19, p < .001 \]. Though the results indicated that the American no perceived control group was significantly different from the other three groups on perceived control and intention to quit, the American no perceived control group did not express a higher level of intention to quit as expected. The Chinese of both groups expressed a higher level of intention to quit than the American no perceived control group (see Figure 1 and 2).

Hypothesis 2 was partly supported. A two-way ANOVA on intention to quit by gender and ethnic groups was executed. Results indicated that there is an interaction effect between gender and ethnic groups, \( F(1, 86) = 5.30, p = .02 \). The Chinese males expressed a higher level of intention to quit than the Chinese females. On the other hand, the American females expressed a slightly higher level of intention to quit than the American males (see Figure 2).

Hypothesis 3 was not supported. Results from an independent samples t-test did not reveal a significant difference between the Chinese and American participants in the need of achievement, \( t(39.36) = 1.43, \text{n.s.} \). However, if the three outliers (two highest scores and one lowest score from the Chinese sample--three standard deviations away from the mean) were removed from the analysis, there was a significant difference between the Chinese and American
participants on the need of achievement, \( t(59.48) = 2.69, \ p = .01 \). Specifically, the American participants had a higher need of achievement than the Chinese participants (see Table 2).

Post-Hoc Analyses

Correlational analyses were executed to determine the relationships of perceived control, perceived stress, intention to quit, and achievement motivation. Results indicated that perceived control was negatively correlated to perceived stress \( (r = -.25, \ p = .02) \), that achievement motivation with the outliers removed was negatively correlated to intention to quit \( (r = -.23, \ p = .04) \), and that perceived stress was positively correlated to intention to quit \( (r = .34, \ p = .001) \). Overall, perceived control was not significantly negatively correlated to intention to quit as expected. However, when perceived control was correlated to intention to quit by sample, there was a trend towards a significant negative correlation of the relationship for both samples.

One-way ANOVA analyses were carried out to detect possible group mean differences. Results showed a significant difference in the level of perceived control between the Chinese students who came to the United States for education because of family and relatives and those who came because they chose to be here, \( F(2,30) = 4.36, \ p = .02 \). Specifically, the Chinese students who chose to be here had
a lower level of perceived control of the tasks than the Chinese students who came here because of family and relatives. Furthermore, results revealed a trend toward a significant difference in the intention to quit between the Psychology, Business, and other major students like Communication, Language Program, Liberal Studies, Social Sciences, Computer Information System, Human Services, Social Work, Food and Nutrition, Health Science, and Nursing, \( F(2,84)=2.57, p=.08 \). The students from other majors expressed a higher level of intention to quit on a given task than the Psychology and Business students.

An independent Samples t-test was executed to contrast potential gender differences on achievement motivation with outliers removed. There was a significant gender difference on achievement motivation, \( t(59.38)=-3.19, p=.002 \). Female participants had a higher need for achievement than male participants. Nonetheless, a similar analysis with the outliers included presented a different finding. There would not have been a significant gender difference on achievement motivation if the outliers were included in the analysis.

A standard multiple regression was performed between intention to quit as the dependent variable and perceived control and perceived stress as independent variables. \( R \) for regression (\( R=.34 \)) was significantly different from zero, \( F(2,86)=5.61, p=.005 \). However, only perceived
stress contributed significantly to the prediction of intention to quit. Both perceived control and perceived stress accounted for 11.5% of the variability in intention to quit.

Another standard multiple regression was performed between intention to quit as the dependent variable and perceived control, perceived stress, and achievement motivation without the outliers as independent variables. \( R \) for regression (\( R = .40 \)) was significantly different from zero, \( F(3, 81) = 5.04, p = .003 \). Perceived stress and achievement motivation without the outliers contributed significantly to the prediction of intention to quit. The three independent variables accounted for 15.7% of the variability in intention to quit. Achievement motivation would not have contributed significantly to the prediction of intention to quit if the outliers were included.

**DISCUSSION**

This study confirmed several relationships found in previous studies. Perceived stress is positively correlated to intention to quit (Dwyer & Ganster, 1991; Cooper, 1986) and perceived control is negatively correlated to perceived stress (Spector, 1986). However, the study failed to find an expected significant negative relationship between perceived control and intention to quit (McKenna, Oritt, & Wolff, 1981; Parker, 1993). Furthermore, comparison of the means between the perceived
control condition and the no perceived control condition on intention to quit did not reveal a significant difference. The lack of a significant difference between the two conditions on intention to quit may be attributed to the small sample size. It may be attributed to the ethnic group differences as well. When the relationship was analyzed by the individual ethnic group, there was a tendency for the American no perceived control group to express higher level of intention to quit than the American perceived control group. The Chinese participants of both groups expressed an equivalent level of intention to quit.

This study also confirmed most of its proposed hypotheses. The study found that the American perceived control group did experience a higher level of perceived control and a lower level of intention to quit than the other three groups. On the other hand, the study found that the American no perceived control group did experience a lower level of perceived control but did not experience a higher level of intention to quit than the other three groups. The Chinese participants of both groups experienced a higher level of intention to quit than the American no perceived control group. This finding came as a surprise because it contradicted previous research findings that Chinese are less likely to express impulses (Sue & Kirk, 1972), more persistent in tasks (Triandis, et al., 1990), and have a higher need of achievement than the
Americans (Abbott, 1970). The unexpected results of intention to quit may be attributed to several factors, such as sample specificity, confound in reward allocation, and possible language barriers. Due to the suspicion (from the observations of the participants' behavior at the experiment and conversations with faculty members who have worked with Chinese students) that the Chinese undergraduate students in this sample might have a lower need for distinguished achievement than the general Chinese undergraduate students who have been found to have an extraordinary education success (Sue and Nolan, 1985), the author decided to conduct a follow-up, structured phone interview. Six short questions were prepared and asked of each participant (see Appendix D). Eight Chinese participants were randomly selected from among the 33 Chinese participants and were asked if they would be willing to discuss the experiment with the researcher. All agreed.

Most of the post-study participants came to the United States for education because they believed it would be easier to obtain an advanced education (e.g. a bachelor's degree) in the United States because of a less stringent admission criteria. In the United States, a TOEFL score of 500 is the only additional criteria for international students to be enrolled in an university. However, in both Taiwan and Hong Kong, every high school student has to take
a college entrance exam. The college entrance exam is composed of tests in every subject area that is important to the field of interest. For example, if one is interested in applying for medical school, one would have to take tests of biology, chemistry, physics, calculus, and anatomy. It takes approximately one week for the students to complete all necessary tests. Even if one passes all the tests and obtains good scores on all of them, it is not guaranteed that the student would be accepted to the major or school desired. A seat in an university is dependent upon one's entrance exam score in relation to other students. Therefore, perhaps the fact that six out of eight participants chose the United States over Taiwan or Hong Kong for higher education because of less stringent admission requirements at American universities might reflect a lower need for distinguished achievement of Chinese undergraduate students in this sample. In other words, these Chinese participants might not be as motivated or determined to be the best in their group, in their class, or in their school, as they are expected to be by their family and society.

Furthermore, when asked for the reasons they chose this university over other universities, the common explanations were lower TOEFL score requirements than other universities, their belief that they could obtain a degree faster under a quarter system than under a semester system,
and having friends or siblings at the university. The immediate goal of these participants might not be to achieve academic excellence, but to fulfill swiftly all the requirements and obtain a baccalaureate degree. However, this does not imply that the students are not doing well in their classes nor that they are not good students. Instead, it might indicate that the Chinese undergraduate students in this sample place less emphasis on achievement goals and accent practical goals.

In addition, when the Chinese participants were inquired in the post-experiment survey about whether they expected to complete all the tasks in 15 minutes as they were told in the experiment, all the participants replied "no". The prevailing attitude was that "we will just do whatever we can" rather than "we have to finish all the tasks in 15 minutes as we were told". This apathetic attitude could have affected the unanticipated outcome of the study. As Cooper (1986) discussed in the stress model that a thwarted ambition can lead to a high turnover tendency, the Chinese participants in this sample did not intend to put forth maximal effort to attain the required goal (to perform well on the assigned tasks and to complete the tasks in 15 minutes), resulting in a high desire to leave the experiment or intent to quit the experiment.

The lack of significant difference between the Chinese and the American participants on achievement motivation may
also be attributable to sample specificity. Contrary to the previous finding (Abbott, 1970) that Chinese have a higher need for achievement than America
Chinese participants might have been more committed to the tasks if they had been individually rewarded rather than collectively rewarded. On the other hand, the American participants were individually rewarded with extra credit points for their classes. It is speculated that extra credit points served as the individual incentive for the American participants to be committed to the tasks, which in turn led to their willingness to put forth the effort to attain the goal of doing well in the assigned tasks and complete all the assigned tasks in 15 minutes.

One more potential explanation for the unanticipated finding is the language barrier. Based on the author's observation, the performance score of the Chinese participants would have been lower than the American participants if it had been recorded. Overall, the Chinese participants spent more time reading and trying to understand the instruction sheet, accomplished fewer tasks in 15 minutes, asked more questions during the experiment, and made more complaints about unclear instructions than did the American participants. Despite the author's attempt to verify the clarity of instructions before and after the pilot study, the Chinese participants still apparently had difficulty understanding the instructions. Before the main experiment, the author asked two international students to read the materials and surveys and comment on the difficulty level. Both students stated
that they could understand the materials and surveys. Thus, it was somewhat surprising to find many of the Chinese students struggling over the tasks. However, when asked how well the participants understood the instructions and questions of the study in the PC-IQ-PS survey, the Chinese and American participants reported an equivalent level of understanding.

A weak research design might also be a plausible explanation to the unexpected phenomenon. However, the results from the PC-IQ-PS survey suggested that the manipulation of the study worked. In other words, the American NPC group did experience the lowest level of perceived control, the American PC did experience the highest level of perceived control, and the Chinese PC and NPC groups were in between the two American groups on perception of control as expected. Furthermore, the confirmation of previous findings, that perceived control was negatively correlated to perceived stress and that perceived control was positively correlated to intention to quit, was also a good indicator that the manipulation of the study worked.

The study also found that a significant gender difference on intention to quit for the Chinese sample and a tendency for a significant gender difference on intention to quit for the American sample. The first finding showed that the Chinese male participants expressed a higher level
of intention to quit than the Chinese female participants. This finding supported the previous assumption of this study that since the Chinese male participants scored higher on the dominance and autonomy dimension of the Edwards Personality Preference Scale (Chiu, 1990), the Chinese male participants were expected to express a higher level of intention to quit than the Chinese female participants. The second finding revealed that the American female participants had a tendency to express a higher level of intention to quit than the American male participants. This finding did not support the previous assumption of this study that since the American male participants scored higher on the dominance and autonomy dimension of the Edwards Personality Preference Scale (Chiu, 1990), the American male participants were expected to express a higher level of intention to quit than the American female participants. The incongruence to previous research findings may suggest that the assumption is not generalizable to the American sample. One possible explanation for the American female participants' greater likelihood to quit may be related to traditional women's roles. Women in America may have an option to walk away from an aversive situation, such as a stressful job, because they are often not required to be the main financial provider in the family. Though it is also a norm in the Chinese society that women's roles are at home and
that they have an option to leave from a stressful job, male dominance maybe a more salient characteristic in the Chinese society. Furthermore, it is speculated that the Chinese students in this sample might be different from the Chinese norm in Taiwan. The female Chinese students in this sample might experience more control over situations than the female students in Taiwan and the male Chinese students in this sample might experience less control over situations than the male students in Taiwan due to the emphasis of gender equality in the American society. The Chinese male students were considered to be the dominant group in Chinese society, thus were given privileges that were not given to the female students. However, since such special treatment is not typically available to the Chinese male students in the United States, they might have a greater difficulty adjusting to the new environment. The "culture shock" might increase their frustration level to tolerate new and ambiguous situations. This might then increase the probability of the Chinese male students in this sample to express intention to quit when exposed to a situation in which they were told what to do.

Moreover, the study found that the Chinese students who came to the United States for education because of family and relatives had a higher level of perceived control of the assigned tasks than the Chinese students who came to the United States because they chose to be here.
The difference in perception of control in the experiment may reflect a general difference in the perception of control among the Chinese participants. It is speculated that the Chinese participants who came here due to the influence of family and relatives perceived higher control of the experimental procedures because family support provides them with a sense of security to venture and try out things in the new environment. They do not have to be concerned with trying to prove themselves by not making mistakes. They might feel in control of the environment because they can choose to what they want and still have the family support their decisions. On the other hand, the Chinese participants who chose to be here might have to repeatedly prove to themselves and their families that they have made the right decision to be here. Thus, they may be less likely to explore and try out new tasks. They might feel less in control of the environment because they are given less freedom to consider alternatives. They are here for a baccalaureate degree and their families expect them to complete that goal and move on.

In summary, the findings and conclusions of this study maybe sample specific. Future research is needed to replicate this study with a different and larger sample of Chinese students in the United States and with a better control for reward allocation.
Appendix A. The Screening Instrument

These following questions are for determining whether you will participate in this study. Please circle or write in the answer that best describes you. Please also write in your name so we can contact you through your class if you are eligible. To ensure confidentiality, we will return the top portion of this sheet to you after we have contacted you.

Name: __________________________

Class you are attending (e.g. MGMT 495): ______________________

3. What is your ethnicity?
   Chinese    White American    Other: __________

   If you circled Chinese, please proceed to question 4.
   If you circled White American, please proceed to question 9.
   If you circled Other, please turn in the form to the researcher.

Answer these questions only if you circled Chinese in question 3.

4. What is your permanent country of residence?
   China    Hong Kong    Singapore    Taiwan

5. Other than to visit or for vacation, have you lived in America longer than six months before? Yes No

6. How many years have you live in your permanent country of residence? __________

7. How many years have you been in the United States? __________

8. Were you staying in your country of residence before you came to United States? Yes No

8b. If no, were you staying in a Chinese-speaking country? Yes No

Answer these questions only if you circled White American in question 3

9. Were you born in America? Yes No

9b. If no, how many years have you been in America? __________

10. Was your father born in the United States? Yes No

11. Was your mother born in the United States? Yes No

12. Were your grandparents born in the United States? Yes No

12b. If no, were your parents born in Europe? Yes No
Appendix B. The Information Sheet
(No Perceived Control Condition)

MEMORANDUM

TO: Student Assistants
FROM: Professor Smith
RE: Things to do

Dear Student Assistants,

Here is a list of things to be done in 15 minutes. Please read and follow the instructions very carefully, for these are very important tasks. It is vital that you follow the schedule and time limit exactly. Thank you so much for your help.

Tasks

1. Copy the names and addresses of Finance students on the provided sheet.
   Location of Resources/Time Limit: The information and needed sheet are found in Corner 4. (2 Minutes)

2. File the information sheet of Scott Cativo, Jonathan Kim, and Ruben Pong according to their departments of interest.
   Location of Resources/Time Limit: The info sheet are in the black folder at Corner 2. (1 Minute)

3. Look for these articles and fill in the missing information.
   Location of Resources/Time Limit:

4. Separate Matt Riggs' mail from the pile.
   Location of Resources/Time Limit: Mail is located in Corner 1. (1 Minute)

5. Deliver Matt Riggs' mail to his mailbox.
   Location of Resources/Time Limit: Mailbox is located in JB-214. (2 Minutes)

6. Copy the names and addresses of Management students on the provided sheet.
   Location of Resources/Time Limit: The information and needed sheet are found in Corner 4. (2 Minutes)

7. Separate Jan Kottke's mail from the pile.
   Location of Resources/Time Limit: Mail is located in Corner 1. (1 Minute)

8. Deliver Jan Kottke's mail to her mailbox.
   Location of Resources/Time Limit: Mailbox is located in JB-214. (2 Minutes)

9. Look for these articles and fill in the missing information:
   Location of Resources/Time Limit:
TO: Student Assistants  
FROM: Professor Smith  
RE: Things to do

Dear Graduate Assistants, 

Here is a list of things to be done in 15 minutes. You can pick the order of the assigned tasks. That is, you can group similar tasks and perform them together (e.g. sorting mail, copying names, and looking for journals). Thank you so much for your help.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Location of Resources/Time Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Copy the names and addresses of Finance students on the provided sheet.</td>
<td>The information and needed sheet are found in Corner 4.</td>
</tr>
<tr>
<td>2. File the information sheet of Scott Cativo, Jonathan Kim, and Ruben Pong according to their departments of interest.</td>
<td>The info sheet are in the black folder at Corner 2.</td>
</tr>
<tr>
<td>3. Look for these articles and fill in the missing information.</td>
<td>The journals are in Corner 3.1.</td>
</tr>
<tr>
<td>4. Separate Matt Riggs' mail from the pile.</td>
<td>Mail is located in Corner 1.</td>
</tr>
<tr>
<td>5. Deliver Matt Riggs' mail to his mailbox.</td>
<td>Mailbox is located in JB-214.</td>
</tr>
<tr>
<td>6. Copy the names and addresses of Management students on the provided sheet.</td>
<td>The information and needed sheet are found in Corner 4.</td>
</tr>
<tr>
<td>7. Separate Jan Kottke's mail from the pile.</td>
<td>Mail is located in Corner 1.</td>
</tr>
<tr>
<td>8. Deliver Jan Kottke's mail to her mailbox.</td>
<td>Mailbox is located in JB-214.</td>
</tr>
<tr>
<td>9. Look for these articles and fill in the missing information.</td>
<td>The journals are found in Corner 3.1.</td>
</tr>
</tbody>
</table>
Appendix C1: The Demographic Survey

All surveys will be analyzed together to ensure confidentiality. No survey will be singled out. It is the intention of the study to analyze group results, rather than individual result. Answers to these questions will in no way be detrimental to your bonus points. Please write or circle in the answer that best describes you.

1. What is your gender? Male     Female

2b. What is your age? ______________

2c. What is your major at CSUSB? ____________________

3. What is your ethnicity? Chinese     White American
   Other: ____________________
   If you circled White American, please proceed to question 9.
   If you circled Other, please turn in the form to the researcher.
   Answer these questions only if you circled Chinese in question 3.

4. What is your permanent country of residence?
   China     Hong Kong     Singapore     Taiwan

5. Have you lived in America at any previous time for longer than six months? Yes     No

6. How many years have you live in your permanent country of residence? ______________

7. How many years have you been in the United States? ______________

8. Were you staying in your country of residence before you came to United States? Yes     No
   8b. If no, were you staying in a Chinese-speaking country? Yes     No
   8c. If yes, were you in China? Yes     No
   8d. Who wanted you to come to the United States? Family or Relatives Company Friends You Other________________
   Answer these questions only if you circled White American in question 3

9. Were you born in America? Yes     No
   9b. If no, how many years have you been in America? ______________

10. Was your father born in the United States? Yes     No

11. Was your mother born in the United States? Yes     No

12. Were your grandparents born in the United States? Yes     No
   12b. If no, were your grandparents born in Europe? Yes     No

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Appendix C2: The PC-IQ-PS Survey

Below are statements which describe the tasks you just did. Please read each statement carefully and indicate the extent to which each is an accurate or inaccurate description of the tasks by writing a number to the left of each item. We are not searching for a right or wrong answer. We are interested in obtaining your opinion about the selection test, so please answer each item based on how you TRULY feel.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I thought that these tasks were an accurate representation of student assistant tasks.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>I felt pressured when I was filing the information sheets.</td>
<td></td>
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<tr>
<td>3.</td>
<td>I considered quitting before completing the filing task.</td>
<td></td>
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</tr>
<tr>
<td>4.</td>
<td>I felt pressured when I was copying the names and addresses.</td>
<td></td>
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<tr>
<td>5.</td>
<td>I considered quitting before completing the copying task.</td>
<td></td>
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<tr>
<td>6.</td>
<td>I felt pressured when I was sorting the mail.</td>
<td></td>
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<tr>
<td>7.</td>
<td>I considered quitting before completing the sorting mail task.</td>
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<tr>
<td>8.</td>
<td>I felt pressured when I was searching for journal articles.</td>
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<tr>
<td>9.</td>
<td>I considered quitting before completing the searching task.</td>
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<tr>
<td>10.</td>
<td>I had the freedom to decide how to do my work.</td>
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<tr>
<td>11.</td>
<td>I had control over the methods I used in completing my task.</td>
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<tr>
<td>12.</td>
<td>I had the freedom to group similar tasks and perform them together.</td>
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<td></td>
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</tr>
<tr>
<td>13.</td>
<td>I had the freedom to decide which tasks to do first.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14.</td>
<td>I had control over how much time I spent on a given task.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15.</td>
<td>I had control over how quickly or slowly I worked.</td>
<td></td>
<td></td>
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<tr>
<td>16.</td>
<td>Overall, I had the freedom to do the job as I liked.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17.</td>
<td>I thought of quitting before completing all of the tasks because of time pressure.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18.</td>
<td>I thought of quitting before completing all of the tasks because of work overload.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19.</td>
<td>I thought of quitting before completing all of the tasks because these were boring jobs.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20.</td>
<td>I thought of quitting before completing all of the tasks because the instructions were not clear.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>21.</td>
<td>I thought of quitting before completing all of the tasks because I did not have control over how I did my job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>In general, I was stressed with my role as a graduate assistant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>I understood the instructions and questions of the study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

37
Appendix C3: The CPI Achievement Motivation Scale

Below are series of statements. Read each one, decide how you feel about it, and circle Agree if you agree with the statement, or feel it is true about you. If you disagree with a statement, or feel that it is not true about you, please circle Disagree.

1. I have a very strong desire to be a success in the world.
2. I have had very peculiar and strange experiences.
3. When I was going to school I played hooky, or skipped school quite often.
4. I think I would like the work of a school teacher.
5. When someone does me a wrong I feel I should pay that person back if I can, just for the principle of the thing.
6. I liked school.
7. I would disapprove of anyone's drinking to the point of intoxication, or getting drunk, at a party.
8. I cannot keep my mind on one thing.
9. I set high standards for myself and I feel others should do the same.
10. I believe we are made better by the trials and hardships of life.
11. Planning one's activities in advance is very likely to take most of the fun out of life.
12. I was a slow learner in school.
13. There is something wrong with a person who can't take orders without getting angry or resentful.
14. I have a tendency to give up easily when I meet difficult problems.
15. I certainly feel useless at times.
16. I am never happy unless I am roaming or traveling about.
17. My parents often disapproved of my friends.
18. In school I always looked far ahead in planning what courses to take.
19. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
20. My parents have generally let me make my own decisions.
21. In school my marks for conduct were quite regularly bad.
22. I like to keep people guessing what I'm going to do next.
23. In school I was sometimes sent to the principal because I had misbehaved.
| Agree Disagree | 24. I like to read about history. |
| Agree Disagree | 25. I am so touchy on some subjects that I can't talk about them. |
| Agree Disagree | 26. The future is too uncertain for a person to make serious plans. |
| Agree Disagree | 27. I like to talk before groups of people. |
| Agree Disagree | 28. I am often bothered by useless thoughts which keep running through my mind. |
| Agree Disagree | 29. I like to plan out my activities in advance. |
| Agree Disagree | 30. I must admit I find it very hard to work under strict rules and regulations. |
| Agree Disagree | 31. I like large, noisy parties. |
| Agree Disagree | 32. I often lose my temper. |
| Agree Disagree | 33. I would be very unhappy if I was not successful at something I had seriously started to do. |
| Agree Disagree | 34. I think I would like to belong to a motorcycle club. |
| Agree Disagree | 35. I used to like it very much when one of my papers was read to the class in school. |
| Agree Disagree | 36. I don't seem to care what happens to me. |
| Agree Disagree | 37. I never cared much for school. |
| Agree Disagree | 38. I always try to do at least a little better than what is expected of me. |

Please briefly describe what you thought of the study. What did you think the study was about?
Appendix D. The Post Experiment Survey

1. Why did you participate in the study?

<table>
<thead>
<tr>
<th>Reason</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a favor to Dr. Khan or Dr. Lin or me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To raise money for the club</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Someone told me to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For extra credit</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I choose to participate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Have you participated in an experiment before?

<table>
<thead>
<tr>
<th>Response</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, how many?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. How seriously did you take the experiment? Did you intend to complete all the assigned tasks? 1—I did not care 10—I tried my best

<table>
<thead>
<tr>
<th>Scale</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
</table>

4. Why did you choose to come to the United States for education rather than staying in Taiwan?

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
</table>

5. Why did you choose Cal. State, San Bernardino over other schools? Was 500 TOEFL score requirement part of the reason?

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
</table>

6. Have you ever had any working experience before?

<table>
<thead>
<tr>
<th>Yes/No</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Factor 1</td>
<td>Factor 2</td>
<td>Factor 3</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Quitting due to boring tasks</td>
<td>.893</td>
<td>.014</td>
<td>.028</td>
<td></td>
</tr>
<tr>
<td>Quitting due to work overload</td>
<td>.858</td>
<td>.020</td>
<td>.072</td>
<td></td>
</tr>
<tr>
<td>Quitting due to lack of control</td>
<td>.835</td>
<td>-.180</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Quitting the copying task</td>
<td>.794</td>
<td>.054</td>
<td>.155</td>
<td></td>
</tr>
<tr>
<td>Quitting due to unclear instructions</td>
<td>.786</td>
<td>-.078</td>
<td>.068</td>
<td></td>
</tr>
<tr>
<td>Quitting the filing task</td>
<td>.768</td>
<td>-.006</td>
<td>.321</td>
<td></td>
</tr>
<tr>
<td>Quitting due to time pressure</td>
<td>.760</td>
<td>.011</td>
<td>.321</td>
<td></td>
</tr>
<tr>
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<td>Tasks good representation of role</td>
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<td>.145</td>
<td>.013</td>
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<td>Understood the instructions</td>
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<td>.229</td>
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<tr>
<td>Control over how to do my work</td>
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<td>Overall control over how to do task</td>
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<td>Control over time spent for task</td>
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<td>.022</td>
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<td>Control over speed of work</td>
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<td>Stress over copying task</td>
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Eigenvalue 6.99 3.60 1.54
Percentage of Variance 30.40 15.70 6.70
Cronbach's Alpha  .93,  .89,  .74
Cases 9 7 5

Question 1 and 23 were not included because they loaded differently from the rest of the items.
Table 2

Mean Achievement Motivation Scores with and without Outliers for the American and Chinese Participants

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<th>Ach with Outliers</th>
<th>Ach without Outliers</th>
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<td>M</td>
<td>SD</td>
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<td>Chinese</td>
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<td>10.12</td>
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Figure 1. A Comparison of Scores on Intention to Quit by Experimental Conditions and Ethnic Groups.
Figure 2. A Comparison of Scores on Perceived Control by Experimental Conditions and Ethnic Groups.

![Boxplot showing perceived control scores for different experimental conditions and ethnic groups.](image-url)
Figure 3. A Comparison of Scores on Intention to Quit by Gender and Ethnic Groups.
BIBLIOGRAPHY


