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Compensation choices : the interaction between locus of control and motivation

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COMPENSATION CHOICES: THE INTERACTION
BETWEEN LOCUS OF CONTROL AND MOTIVATION

A Thesis

Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Marilyn Ann McGraw

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ABSTRACT

COMPENSATION CHOICES: THE INTERACTION BETWEEN LOCUS OF CONTROL AND MOTIVATION

by Marilyn Ann McGraw

This experiment examined whether an individual's locus of control, external or internal, correlated to the manner in which they chose to be compensated for participation in an experiment. Two conditions were presented, monetary compensation (extrinsic motivator) and a skill inventory said to enhance personal growth (intrinsic motivator). As hypothesized, it was found that internals chose the skill inventory while externals chose the monetary compensation when given a choice. Additionally, it was hypothesized that internals would show greater satisfaction when they were given the opportunity to choose their compensation, while externals would show greater satisfaction when compensation was chosen for them. A 2 x 2 ANOVA showed significant interaction effects between locus of control and satisfaction resulting from choice or no choice. However, results were contrary to the second hypothesis.

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**Compensation Choices: The Interaction
Between Locus of Control and Motivation**

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Running head: INTERACTION OF LOCUS OF CONTROL AND MOTIVATION

Footnotes

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Abstract

This experiment examined whether an individual's locus of control, external or internal, correlated to the manner in which they chose to be compensated for participation in an experiment. Two conditions were presented, monetary compensation (extrinsic motivator) and a skill inventory said to enhance personal growth (intrinsic motivator). As hypothesized, it was found that internals chose the skill inventory while externals chose the monetary compensation when given a choice. Additionally, it was hypothesized that internals would show greater satisfaction when they were given the opportunity to choose their compensation, while externals would show greater satisfaction when compensation was chosen for them. A 2 x 2 ANOVA showed significant interaction effects between locus of control and satisfaction resulting from choice or no choice. However, results were contrary to the second hypothesis.

Compensation Choices: The Interaction

Between Locus of Control and Motivation

The importance of understanding what motivates individuals cannot be overstated. Because of this, there have been many experiments conducted to examine what motivates individuals, many contrasting intrinsic (internal) to extrinsic (external) motivation. Intrinsically motivated behaviors are performed out of interest and thus, require no “reward” other than the spontaneous experience of interest and enjoyment that accompanies them. In contrast, extrinsically motivated behaviors are instrumental, performed for the external rewards or consequences that accrue from their performance (Deci, 1992).

In a 1971 experiment studying the effects of externally mediated rewards on intrinsic motivation, Deci found that when money was used as an external reward, intrinsic motivation tended to decrease. This experiment also showed that participants tended to do better on a task when they were motivated by intrinsic factors rather than extrinsic. Further, Deci observed that when a participant began a task with only intrinsic motivation, but was then also given extrinsic motivation, the participant’s motivation decreased rather than improved.

It has also been observed by Deci (1971) that positive feedback tends to strengthen perceived competence and thus enhances intrinsic motivation, whereas critical, negative feedback tends to diminish perceived competence and thus decreases intrinsic

motivation. A field study conducted by Deci and his colleagues compared children exposed to a more controlling teacher with those whose teacher promoted autonomous learning. Those students whose teacher used controlling techniques developed an extrinsic motivational orientation within six weeks of interaction with their teacher. Moreover, the extrinsic children reported perceptions of lower competence, decreased mastery strivings, and reduced intrinsic academic interest relative to their intrinsically motivated counterparts (Deci, Nezlek, & Sheinman, 1981).

In an attempt to examine the relation between children's motivational orientation and their attributions for achievement outcome Boggiano, Barrett, Main, and Katz (1985) studied mastery-motivation in children. They observed that the more extrinsic the child, the greater the tendency to see powerful others or unknown factors as responsible for achievement outcome. Conversely, the more intrinsic the child, the more internal factors were believed to be responsible for these outcomes. This observation corresponded with the idea that internal children, like internal adults, attribute their achievement outcomes to their own behavior while external children attribute their achievement outcomes to external factors.

In an attempt to examine if monetary rewards have the power to alter an individual's motivational level, Wicker, Brown, Wiehe, and Shim (1990) observed that participants were better motivated by intrinsic factors than extrinsic factors. In their experiment, they observed that a participant's performance on a task was a direct result of

the participant's intrinsic motivation for that task rather than other tasks presented. This was the case even when participants were paid to perform the less interesting task.

It appears from the research conducted thus far, participants (whether they be adults or children) will perform better at a task, as well as exhibit higher levels of motivation, when their motivation is intrinsic rather than extrinsic. Wicker, Brown, Wiehe, and Shim (1990) observed that participants could be paid to perform a task which did not hold intrinsic motivation. However, when this was the case, performance was not as high as had they performed the task because they were intrinsically motivated to do so.

In a study entitled "Evaluation of Intrinsic and Extrinsic Motivation Interventions With a Self-Help Smoking Cessation Program," Curry, Wagner, and Grothaus (1991) observed similar results as Wicker, Brown, Wiehe, and Shim in that an extrinsically-oriented financial incentive increased the use of self-help materials among participants. However, it was also associated with no increase in cessation rates among program users and with higher relapse rates among those who did manage to quit when compared with those who received only an intrinsically-oriented self-help manual. As a result, the financial incentive (extrinsic motivator) had no effect on long-term cessation rates. Again, as with Wicker, Brown, Wiehe, and Shim, success rates (performance) of participants with an extrinsic motivation were not as high as those participants who possessed an intrinsic motivation.

The intrinsically-oriented personalized feedback increased use of the materials and was associated with higher rates of smoking cessation 3 months after distribution of the materials in both users and nonusers of the program. In other words, intrinsic and extrinsic interventions, alone and in combination, significantly increased the use of program materials, whereas the intrinsic intervention alone was associated with significantly higher rates of continuous abstinence. In summary, the extrinsic motivator enticed participants initially but did not result in long term success, whereas the participants with intrinsic motivation did better over the long term. On a related note, Deci and Ryan (1985) observed that although extrinsic motivators, such as strong incentives, offer immediate gains, they are often detrimental to the long-term outcome by undermining intrinsic motivation.

To summarize the aforementioned studies, intrinsically motivated behaviors are performed out of interest while extrinsically motivated behaviors are performed for external rewards (Deci, 1992). It has been observed that intrinsic factors motivate better than extrinsic ones and that extrinsic incentives, when given, can reduce intrinsic motivation that was previously there (Deci, 1971). Wicker, Brown, Wiehe, and Shim (1990) observed the same outcomes as Deci and further observed that even if participants were paid to perform a less interesting task, their performance was highest when they were intrinsically motivated to perform.

In a 1981 study, Deci, Nezlek, and Sheinman observed that positive feedback strengthened intrinsic motivation while critical feedback decreased it. On a general note, work by Boggiano, Barrett, Main, and Katz (1985) observed that extrinsic children saw powerful others as responsible for achievement outcomes while intrinsic children believed internal factors were responsible for their achievement outcomes.

As observed by Deci and Ryan (1985), extrinsic motivators offer immediate gains however, they are often detrimental to long-term outcome by undermining intrinsic motivation. Curry, Wagner, and Grothaus (1991) also observed this phenomenon when they ran a self-help smoking cessation program. The results of their study showed that intrinsic and extrinsic interventions (alone and in combination) increased the use of program materials for a short period of time, whereas the intrinsic intervention lead to higher rates of continuous abstinence.

Locus of Control

While the question of what motivates individuals is an important one; as well as one that has been widely examined, additional personality variables have received attention as well; one of which is an individual's locus of control. This personality variable may be defined as:

...the extent to which persons perceive contingency relationships between their actions and their outcomes. Persons who believe that they have some control over their destinies are called "internals"; that is, they believe that at least some control resides within themselves. "Externals"

on the other hand, believe that their outcomes are determined by agents or factors extrinsic to themselves, for example, by fate, luck, chance, powerful others or the unpredictable (MacDonald, 1976, p. 169).

In an attempt to examine how this phenomenon relates to an organizational setting, the work of Gul, Tsui, and Mia (1994) was reviewed. They hypothesized that there is a relationship between locus of control and task difficulty within the confines of an organizational setting, such that these two variables interact to affect employees' attitudes, causing internals to have more positive attitudes than externals when task difficulty is high. As hypothesized, they observed that when task difficulty was low, there was little difference between the two groups. However, when task difficulty was high, externals exhibited more negative attitudes than internals. The researchers surmised that because internals believe in their own actions rather than luck or fate, they are more likely to adopt a positive attitude toward their job when faced with a difficult situation.

While it is important to examine working professional's attitudes, of equal importance are the attitudes of college students. This is due to the fact that college students are the next generation of organizational employees. This important group's attitudes were studied by Koestner and Zuckerman (1994) by comparing causality orientations theory (Deci & Ryan, 1985) and social-cognitive theory (Dweck & Leggett, 1988). They explained that causality orientations theory distinguishes among three classes of behavior: autonomous (related to confident and effective approach toward achievement, predictive of an internal locus of control), control-determined (related to an

internally controlling self-regulation), and impersonal (related to feelings of helplessness, predictive of an external locus of control). Social-cognitive theory describes individuals who focus upon “learning goals” in an achievement setting as interested in mastering the task and improving their abilities (intrinsically motivated), while individuals with “performance goals” are interested in proving that they are competent and view success at an activity as a means to an end (extrinsically motivated).

Based upon the two theories, Koestner and Zuckerman hypothesized and confirmed, by using a chi square statistical analysis, that the autonomy orientation was associated with the learning goal orientation and high confidence in intelligence; the controlled orientation was associated with a performance goal orientation and high confidence in intelligence; and the impersonal orientation was associated with a performance goal orientation and low confidence in intelligence.

An examination of the above mentioned study appears to demonstrate that autonomy (internal locus of control) is a valuable resource for coping with difficulties or setbacks and, therefore, individuals with an autonomy orientation possess a higher chance for success than do individuals with an impersonal orientation (external locus of control). While additional research is needed, the work of Koestner and Zuckerman provokes the question of whether there is a connection between an individuals’ locus of control and their confidence level. This would indicate that internals possess higher levels of confidence in their abilities and therefore possess stronger feelings of controllability than

externals. This in turn, may cause internals to take a more active role in controlling their lives than those individuals with an external orientation.

To summarize the work discussed on the subject of locus of control, MacDonald (1976) explains that individuals who believe they have some control over their lives are called internals, whereas individuals who believe outcomes are determined by luck or fate are called externals. Gul, Tsui, and Mia (1994) applied this principle to an organizational setting to show that internals and externals differ in how they deal with task difficulty. As expected, when task difficulty was high, externals exhibited more negative attitudes than internals.

Differences between internals and externals were also observed at the college level as evidenced in the work of Koestner and Zuckerman (1994). Their work observed that college students with an internal locus of control have a higher chance for success than those students with an external orientation. This may be due to the fact that internals feel a higher level of control than externals which leads them to take a more active role in the outcomes of their lives.

Current Study

Much research has been conducted on how locus of control and an individual's motivation pertain to other issues but, as can be seen by the above studies, the possible connection between locus of control and intrinsic/extrinsic motivation has not been widely addressed. It is generally accepted that an intrinsic-orientation is more productive

than an extrinsic-orientation because it allows individuals to take an active part in determining the outcomes of their lives. Further, internal motivation, more than external motivation, fosters stronger and more long term success rates in individuals. Using this information as well as previous research studies as a foundation, the current experiment was conducted to examine whether or not an individual's locus of control correlates to what motivates them to participate in an experiment.

This experiment sought to address two questions. First, once individuals were determined to be internal or external in orientation, would they maintain that pattern in the choice they made about compensation? In essence, was an internal locus of control individual going to choose intrinsic rewards and was an external locus of control individual going to choose extrinsic rewards? It was hypothesized that participants who showed themselves to have an internal locus of control would tend to choose an intrinsically rewarding compensator (skill inventory), while those participants who showed themselves to have an extrinsic locus of control would tend to choose the extrinsically rewarding compensator (monetary incentive).

The second question asked, would those participants who showed themselves to have an internal locus of control and participants who showed themselves to have an external locus of control differ in their satisfaction levels when they were given (or not given) the opportunity to choose their own compensation condition? It was hypothesized that those participants who showed themselves to have an internal locus of control would

show higher levels of satisfaction when they were given the opportunity to choose their own compensation, while those participants who showed themselves to have an external locus of control would show higher levels of satisfaction when they had their compensation chosen for them.

These issues are relevant because college students are continuously participating in experiments and the knowledge as to the most effective manner in which to motivate them can be most helpful for future researchers. In addition, college students of today are organizational employees of tomorrow and it is important that employers know what types of compensation their employees prefer as a means of motivating them towards productivity. Organizations have long known that an employee's positive attitude is closely related to increased productivity, increased commitment to the organization, and lowers turnover rates as well as employee absenteeism. This is evidenced in the fact that many organizations have developed job enrichment programs as well as organizational development programs.

As an example of the relationship between college students' and organizational employees' attitudes, it was observed by Luzzo (1995) that students with an internal career locus of control tended to display more mature attitudes toward career decision making than did students with an external career locus of control. This once again alludes to the fact that there is a relationship between what can be observed in college students and what can be expected from organizational employees. It is the intent of this

experiment that the information discovered regarding an individual's locus of control and compensation choices will be applied to the individual's preference of compensation within a work setting.

Method

Participants

The experiment consisted of 112 participants, 54 male (48.2%) and 58 female (51.8%) undergraduate college students. The age of participants ranged from 16 to 41 years of age, with the mean age being 20. The majority were single (93.8%) as well as in their freshman year of college (60.4%). Forty-four of the participants were Caucasian (39.6%), followed by 19 reporting themselves as Asian (17.1%), and 14 as Hispanic (12.6%) (see Table 1 for complete information on participant characteristics). Because the experiment addressed the most effective manner in which to motivate college students to participate in experiments, only college students were invited to participate in this experiment. Participants were given credit toward their required tasks in their introductory psychology course. This was done in an attempt to motivate the participants to increase their knowledge regarding how psychological experiments are performed, and to compensate them for their participation. The experiment maintained confidentiality by coding all materials by numerical means, thus allowing the participants to be identified only by this code.

Table 1

Participant Characteristics

Frequencies			
Marital Status		Ethnic Background	
Single	93.8%	Caucasian	39.6%
Living With Partner	2.7%	African American	5.4%
Married	2.7%	Hispanic	12.6%
Divorced	.9%	Asian	17.1%
		Vietnamese	8.1%
		Filipino	3.6%
		Other	13.5%
Year in School		Locus of Control	
High School Senior	1.8%	Internal	50.0%
Freshman	60.4%	External	50.0%
Sophomore	13.5%		
Junior	9.9%		
Senior	12.6%		
Post B.A. or B.S.	1.8%		

Materials

Rotter's Internal-External Locus of Control Scale (1966) was used to measure each participant's locus of control while The Bennett Mechanical Comprehension Test (1940) was used as a distraction device so that participants would not ascertain what issues the experiment was addressing. A satisfaction scale, demographic sheet, and compensation form developed by the experimenter were also given to participants. Finally, half of the participants were read a scenario which was also developed by the experimenter.

Rotter's scale consists of 29 paired statements, and uses a forced-choice format; six pairs are filler statements. One internal statement is paired with one external statement. One point is given for each external statement selected. Scores can range from 0 (most internal) to 23 (most external). Rotter (1966) obtained several estimates of internal reliability ranging from .65 to .79.

The Bennett Mechanical Comprehension Test consists of 60 multiple choice items. Each item consists of two or three visual examples of a particular mechanical principle. The participant is asked to read each item's question, look at the visual examples, and choose the best answer. The participant's score equals the number of correct items minus one-half the number of wrong items. Bennett (1940) obtained internal reliability of .87 with a standard error of 3.7 points. For this experiment, only the first 20 items of Bennett's test were used.

The satisfaction scale (see appendix A) consisted of five questions designed to measure each participant's level of satisfaction with the experiment. It was developed by the experimenter and used a Likert response format to record participant's satisfaction levels. The response range was numerical with anchors of one to five, one representing low satisfaction and five representing high satisfaction. Each participant's level of satisfaction was measured by combining their responses on the five questions from the satisfaction scale into one score and using that mean score to show their overall satisfaction level. The higher each participants' overall mean score, the higher their satisfaction with the experiment. See Table 2 for the results of the pooled within groups correlation matrix of satisfaction scale questions. The internal reliability of the satisfaction scale was found to be .74.

The demographic sheet (see appendix B) developed by the experimenter consisted of questions pertaining to: Age, Sex, Marital Status, Education Level, Major in College, Current Occupation, and Income. The experiment utilized two types of compensation forms (see appendix C), one for each condition. The first compensation form gave participants the opportunity to choose which compensation they would prefer for their participation in the experiment (monetary compensation of \$5.00, or the skill inventory). The scenario (see appendix D) read to the participants who were given a choice regarding their compensation gave them the opportunity to accept monetary compensation for their participation in the experiment or to accept the skill inventory said to enhance personal

Table 2

Pooled Within Groups Correlation Matrix of Satisfaction Scale Items

	Sat 1	Sat 2	Sat 3	Sat 4	Sat 5
Sat 1	1				
Sat 2	.0646	1			
Sat 3	.2696*	.4969**	1		
Sat 4	.2149	.6925**	.5716**	1	
Sat 5	.2839*	.3214**	.3454**	.4176**	1

1 - Tailed Significance: * - .01 ** - .001

growth, and allow the experimenter to retain the money for expenses related to the experiment. The second compensation form (no choice) simply stated which compensation the participant would receive.

Procedure

There were two separate testing conditions. The No Choice condition required the participants to complete Rotter's Internal-External Locus of Control Scale, then complete The Bennett Mechanical Comprehension Test. The participants were next given the compensation form which stated which type of compensation they would receive for their participation in the experiment. After receiving the compensation form, participants were asked to complete the satisfaction form and the demographic sheet.

The Choice condition was similar to the No Choice condition except that between The Bennett Mechanical Comprehension Test and the satisfaction scale, the experimenter read a short scenario to the participants allowing them the opportunity to choose to be monetarily compensated for their participation or to instead receive the skill inventory and allow the experimenter to retain the money for expenses related to the experiment. After the participants noted their selection on the compensation form, they were asked to complete the satisfaction form and the demographic sheet.

Results

The goal of this analysis was to determine whether an individual's locus of control was related to the manner in which they chose to be compensated for their

participation in an experiment. This analysis also focused on whether individuals' locus of control affected their satisfaction level when they were given an opportunity to choose their compensation or were not given an opportunity to choose their compensation.

It was hypothesized that participants who showed themselves to have an internal locus of control would choose the skill inventory and those participants who showed themselves to have an external locus of control would choose the monetary incentive. It was further hypothesized that participants who were internals would show greater levels of satisfaction when they were given the opportunity to choose their own compensation and externals would show greater satisfaction when they had their compensation chosen for them by the experimenter.

Descriptive statistics are reviewed in Table 3. The mean score of participants on the locus of control scale was 10.62 while the mean score on the mechanical comprehension test was 17.04. In terms of the participants' locus of control, of the 112 individuals, 56 were shown to be internal in orientation and 56 were shown to be external.

To test whether or not internals and externals would differ in the type of compensation they would choose, when given the opportunity, a chi square statistical analysis was utilized. Locus of control was considered to be the independent variable and

Table 3

Descriptive Statistics

Means and (Standard Deviations)	
Score on Locus of Control Scale	10.62 (4.23)
Score on Mechanical Comprehension Test	17.04 (2.49)

type of compensation chosen was considered to be the dependent variable. Table 4 shows that 30.8% of internals chose the monetary compensation and 69.2% chose the skill inventory. Conversely, 62.5% of externals chose the monetary compensation and 37.5% chose the skill inventory. The results of the Pearson chi square were significant [$\chi^2 (1) = 5.06, p < .05$]. These results showed that internal and external individuals did in fact differ in the type of compensation they chose when given the opportunity to make a choice for themselves.

In order to test the second hypothesis as to whether there was a difference in satisfaction levels between internals and externals who were given an opportunity to choose their own compensation and those who were not, an 2×2 analysis of variance (ANOVA) was utilized. Each participant's satisfaction level was considered to be the dependent variable while their locus of control, which was dichotomized into internal and external scoring groups, and whether they were given a choice or no choice were considered to be independent variables.

An examination of Table 5 shows that internals who were given an opportunity to choose their own compensation exhibited a mean satisfaction level of 3.91, while internals who had their compensation chosen for them by the experimenter, exhibited a mean satisfaction level of 3.98. Conversely, externals who were given an opportunity to choose their own compensation exhibited a mean satisfaction level of 4.01, and externals who had their compensation chosen for them exhibited a mean satisfaction level of 3.59.

Table 4

Percentage of Participants By Locus of Control Choosing Monetary (Extrinsic) and Skill Inventory (Intrinsic) Compensators

Type of Compensation Choice				
Locus of Control	Monetary (Extrinsic)	Skill Inventory (Intrinsic)		
Internal	8 30.80%	18 69.20%	=	26 100%
External	15 62.50%	9 37.50%	=	24 100%
Total	23	27		

Table 5

Mean Satisfaction Levels by Locus of Control

	Locus of Control	
	Internal	External
Given a Choice to Chose Compensation	M=3.91 N=(26)	M=4.01 N=(24)
Compensation Chosen by Experimenter	M=3.98 N=(30)	M=3.59 N=(32)

M = Mean Satisfaction Level N = Number of Participants

As is reported in Table 6, the interaction effect between locus of control and Choice or No Choice was significant ($F(1,111) = 4.472, p < .05$). However, this result was contrary to the second hypothesis. This finding is evidenced in the fact that the main effect of locus of control and Choice or No Choice on satisfaction level was not significant ($F(1,108) = 2.18, p > .05$).

Discussion

The hypothesis that internals would choose an intrinsically satisfying compensation for their participation (skill inventory), and that externals would choose an extrinsically satisfying compensation (monetary) was shown to be supported by the data. These results coincide with the explanation offered by Deci (1992) which stated that intrinsically motivated behaviors are performed out of interest and extrinsically motivated behaviors are performed for the consequences that result from their performance thereby, leading internals to choose an intrinsically rewarding compensation while leading externals to require an extrinsically rewarding compensator, such as money, for their participation.

The second hypothesis, which stated that internals would show greater satisfaction when allowed to choose their own compensation and that externals would show greater satisfaction when their compensation was chosen for them, was not clearly supported by the data. While the interaction effects were significant, they showed results contrary to what was hypothesized. Internals actually failed to show a discernible

Table 6

Interaction Effects of Choice or No Choice and Locus of Control on Satisfaction Level

Source of Variation	Sum of Squares	DF	Mean Square	F	Signif of F
Compensation Choice or No Choice	.792	1	.792	2.162	.144
Locus of Control	.798	1	.798	2.179	.143
Compensation Choice or No Choice X Locus of Control	1.638	1	1.638	4.472	.037
Error	39.564	108	.366		
Total	42.851	111	.386		

difference between the Choice and No Choice conditions, while externals showed slightly higher levels of satisfaction when they were given an opportunity to choose their own compensation.

A possible explanation for this occurrence may be that when internals were not given a choice they were, more often than not, given the skill inventory (which was shown to be more pleasing to internals in the results of hypothesis one) and therefore, showed almost equal satisfaction rates between the two conditions. Conversely, the external group may have received, more often than not, the skill inventory when they were not given a choice. This would have most likely skewed the results, showing lower levels of satisfaction among externals who had their compensation chosen for them.

Another factor to take into consideration is that externals may in fact value choice but simply feel that they do not possess the power to make strong choices in their lives. If this is the case, their satisfaction scores would reflect the results found in this experiment. The implications of this experiment seem to point to the fact that individuals with an internal locus of control, do differ from those with an external locus of control regarding the type of compensation they prefer. However, there appear to be unanswered questions as to the relationship between each group's choice (or lack of choice) and their satisfaction levels. Various other factors may have affected participants' levels of satisfaction, such as their performance on the locus of control scale and the mechanical comprehension test. Additionally, it is possible that while the satisfaction scale questions

exhibited acceptable internal consistency, these items may not have been capable of fully measuring the construct of interest, namely participants' satisfaction regarding their being allowed to choose or not to choose their compensation. If future research is to be conducted in this area, it appears that a re-examination of the satisfaction scale would be in order.

One of the strengths of the experiment's methodology was that it used a concise means in which to allow participants to choose which compensation they prefer when given the opportunity to pick their own compensation. This resulted in a clear showing of how internal and external locus of control individuals differ and helped to support hypothesis one that there was in fact a difference between these participants.

An area of interest not examined by this experiment was the possible difference between males and females as it relates to locus of control. It would be interesting to examine whether the results observed by Nunn (1994), that an individual's demographic characteristics can be used to show a correlation with their locus of control orientation, would be supported or not. Nunn examined differences in adult learner's locus of control by contrasting differences in age and gender. The current experiment consisted mainly of a younger group of participants, and as noted by Nunn (1994), younger participants (age 17-24) tend to be more external than older participants (age 31-40). This may account for the higher rate of external locus of control participants than was expected to be found in a college population. Nunn also observed that females were significantly more external

than males. No information on this particular demographic characteristic was examined in the current experiment. Finally, it would be interesting to note if internals' and externals' percentages fluctuate somewhat if the experiment is conducted earlier in the semester. This experiment was conducted in the last few weeks and leads to motivational questions regarding the participants' individual levels of motivation.

Differences between participants of various ethnic backgrounds should also be examined in an attempt to confirm or reject results found by Park and Harrison in their 1995 experiment where it was observed that Asian-Americans and Caucasian-Americans differ in their locus of control orientation. They observed that Asian-Americans (as a group) showed lower perceived control, which in turn caused Asian-Americans to shy away from careers which require "intense social interaction" in favor of those which promote "solitary endeavors," and that "possible difficulties with the English language or a poor understanding of mainstream or host culture norms could undermine the Asian-American's sense of interpersonal control, which in turn could discourage interest in work that requires a sense of control over social situations" (Park & Harrison, 1995 p. 1186).

To reiterate points made earlier, the issues examined in this experiment have very real implications for organizations. Because college students of today are organizational employees of tomorrow, the information learned from this experiment's sample can be utilized by various organization's administrators as they determine how to best motivate

their employees. The connection between productivity and motivation is an important one that must be given attention if modern organizations are to be successful. This experiment offers insight into how this may be done by taking into consideration an individual's locus of control. As has been shown, by determining employees' locus of control, an organization can offer the best incentives thereby, increasing productivity. That's not only good business practice, but is also important for improving individual employee's working conditions.

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APPENDICES

Appendix A

SATISFACTION SCALE

HOW SATISFIED ARE YOU WITH YOUR PERFORMANCE ON THE TWO TESTS GIVEN?

COMPLETELY DISSATISFIED			NEUTRAL		COMPLETELY SATISFIED
1	2	3	4	5	

HOW INTERESTING DID YOU FIND THIS EXPERIMENT?

NOT INTERESTING			NEUTRAL		VERY INTERESTING
1	2	3	4	5	

WHAT IS THE LIKELIHOOD THAT YOU WOULD RECOMMEND THIS EXPERIMENT TO OTHERS?

NOT LIKELY			NEUTRAL		VERY LIKELY
1	2	3	4	5	

TO WHAT EXTENT DID YOU ENJOY PARTICIPATING IN THIS EXPERIMENT?

VERY LITTLE			NEUTRAL		VERY MUCH
1	2	3	4	5	

HOW SATISFIED ARE YOU WITH THE COMPENSATION YOU RECEIVED FOR YOUR PARTICIPATION IN THIS EXPERIMENT?

COMPLETELY DISSATISFIED			NEUTRAL		COMPLETELY SATISFIED
1	2	3	4	5	

Appendix B

These questions are about you and help us to interpret the results. Your answers are confidential.

DEMOGRAPHICS

AGE _____

MARITAL STATUS

GENDER

_____ MALE

_____ FEMALE

_____ SINGLE

_____ LIVING WITH PARTNER

_____ MARRIED

_____ SEPARATED

_____ DIVORCED

ETHNIC BACKGROUND

_____ CAUCASIAN

_____ AFRICAN AMERICAN

_____ HISPANIC

_____ ASIAN

_____ VIETNAMESE

_____ OTHER _____

_____ WIDOWED

YEAR IN SCHOOL

_____ FRESHMAN

_____ SOPHOMORE

_____ JUNIOR

_____ SENIOR

_____ POST B.A. OR B.S.

_____ POST M.A. OR M.S.

WHAT IS YOUR MAJOR IN COLLEGE _____

WHAT IS YOUR CURRENT LEVEL OF EMPLOYMENT

_____ FULL TIME

_____ PART TIME

_____ NOT EMPLOYED

INCOME BEFORE TAXES

_____ LESS THAN \$9,999

_____ \$20,000 - \$29,999

_____ \$40,000 - \$49,999

_____ \$10,000 - \$19,999

_____ \$30,000 - \$39,999

_____ MORE THAN \$50,000

Appendix C

COMPENSATION TYPE

YOUR COMPENSATION FOR PARTICIPATING IN THIS EXPERIMENT IS

COMPENSATION CHOICE FORM

WHICH COMPENSATION DO YOU CHOOSE TO RECEIVE FOR YOUR PARTICIPATION IN THIS
EXPERIMENT?

_____ MONETARY COMPENSATION OF \$5.00

_____ SKILL INVENTORY

Appendix D

Scenario to be read to participants in the choice condition prior to their completing the compensation form.

You have just been handed a form which allows you to choose how you are to be compensated for your participation in this experiment. Along with this form, you have also been given a demographic sheet and a satisfaction form to complete. I would like to explain your compensation choices before you make your decision. We have available to us, funds to monetarily compensate you for your participation in this experiment. The amount of this compensation is \$5.00. However, you may choose to allow us to keep these funds and instead, use them to pay for experiment related expenses. If you decide to allow us to retain the funds, you will be compensated with a profile of your performance on the skill inventory which is designed to enhance your personal growth. Please make your decision now and after you have done so, please complete the satisfaction form and demographic sheet. After you have completed the forms, please turn them over and wait for further instructions. Are there any questions?