

**An Experimental Investigation of Select Executive Remunerative Factors in the
“Pay-For-Performance” Paradigm**

Arron Scott Fleming

Dissertation submitted to the faculty of Virginia Polytechnic Institute and State
University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
General Business
With a Major in Accounting

Reza Barkhi, Chairman
Danny K. Axsom
Robert M. Brown
John A. Brozovsky
John J. Maher

December 7, 2005
Blacksburg, Virginia

Keywords: Executive Compensation, Performance, Compensation Committee, Board of
Directors

Copyright 2005, Arron Scott Fleming

An Experimental Investigation of Select Executive Remunerative Factors in the “Pay-For-Performance” Paradigm

Arron Scott Fleming

(ABSTRACT)

This dissertation presents the results of three experimental research studies investigating factors within the executive compensation process and the effects these factors have on the pay-for-performance paradigm. The first study examines the influence of individual anchoring and the effects of private versus public decisions upon compensation awards by subjects role-playing as either an outside CEO or a non-CEO director. Research results show that subjects anchor to personal pay levels, CEO subjects shield the focal CEO from declining compensation when performance is below average, and that this phenomenon is mitigated when the individual director-subject decision is deemed to be made public. The shielding of compensation is consistent with Social Comparison Theory in that the CEO-subjects identify to and protect the CEO by limiting negative compensation awards of the CEO, and thus, representing an agency cost.

The second study examines affect as an influencing factor on individual decision makers in the compensation setting process. Results are consistent with Prospect Theory in that, in the absence of a tangible payoff, personal affect is the outcome monitored and used by individuals in the decision process in the determination of a gain or loss. Using personal pay and personal performance as anchors for subjects role-playing as directors

on the compensation committee, results indicate that subjects make decisions to maximize (minimize) positive (negative) affect in compensation awards to the focal CEO. The findings suggest that although individual anchors may interact and add to the complexity of the decision process, the outcomes are consistent with Prospect Theory.

The third study examines group decision making as compared to individual decisions when making compensation awards. Results show that in a committee of individuals where a majority of beliefs is present, group polarization occurs and the compensation results are exaggerated as compared to the individual beliefs. The findings also suggest, though, that the appointment of a leader as chair of the committee, either in the majority or minority view, has a moderating effect on the group outcome. These results highlight the potential for agency costs in the group decision process that may be found in the executive compensation-setting environment.

Overall, these results add to the knowledge of factors affecting executive compensation. These studies provide evidence that individual anchors, individual performance, individual affect, and the group decision process may add to agency costs and be contributing factors in the imperfection of the pay-for-performance paradigm.

Dedication

I would first like to thank God for providing me with the strength required to undertake this task, the perseverance to complete it, and the wisdom to ask for help along the way.

This dissertation is dedicated to my wife, Julie. Without her love, patience, and support throughout this process, this dissertation and my doctorate would not be possible.

My family has been especially supportive over the years. I would like to thank my parents, Larry and Mary Ann Fleming, and Alan and Lin Sturdevant; my sisters, Allison and Laura; my parents-in-law, Jim and Mary Anne Seckel, my sibling-in-laws David and Lauren Seckel, and my grandmothers, Freda Fleming and Martha Lucas. Your support for me and your understanding of the time commitment in this process has not gone unnoticed.

Friends that I would like to thank include Derek and Allison Andrews, Craig Buell, Scott and Susie Fortner, Jack and Cheryl Leonard, Misty Simonton, Sean Sullivan, and a special remembrance for my close friend, Joe Steffl. Care packages, visits, and encouraging phone calls provided me with the strength and emotional support necessary for the completion of my degree.

Lastly, there are those who have inspired me through the years through both their words and work ethic. My departed grandfather Ray Lucas taught me to enjoy work for the sake of work, and, that doing something done right doesn't always mean it looks pretty. Two friends and coaches, Mick Price and Jerry Bradley, taught me the meaning of the word "tenacity", which was an invaluable lesson in this pursuit.

Acknowledgements

I would like to acknowledge my dissertation committee members Danny Axsom, Robert Brown, John Brozovsky, and Jack Maher. I would like to extend special thanks to Reza Barkhi (chairman) for his continued help, advice, and support while I have been a student. I would also like to acknowledge Steve Sheetz and Kim Moreno for their support, feedback, and comments, and the assistance of Phyllis Neece, Arnita Perfater, and Anna Hawthorne over the years.

I would like to thank and acknowledge Dieter Schaupp for his assistance in obtaining subjects for this research, and Ann Pushkin and Ade Neidermeyer for both their past and present guidance in pursuing the doctorate degree.

I would like to acknowledge the support from my fellow Ph. D. students Chris Allport, Duane Brandon, Lemuria Carter, Aaron Crabtree, Gerald DeBusk, Bill Kerler, and Christian Schaupp. Over the course of several years we have become good friends and colleagues.

Lastly, I would like to acknowledge Drs. Brown and Leininger who arranged and provided financial support in the way of scholarships, fellowships, and awards. Thank you and the patrons of the John E. Peterson Jr. and Mary Jane Peterson Fellowship in Accounting, the Pauline Corn Graduate Teaching Award, the J.R. Johnson Memorial Accounting Scholarship, and the Joseph R. Jenkins Scholarship in Accounting.

TABLE OF CONTENTS

DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS.....	vi
LIST OF FIGURES.....	viii
LIST OF TABLES	ix
CHAPTER 1: Introduction	1
References.....	7
CHAPTER 2: An Experiment of Group Association, Firm Performance, and Decision Dissemination Influences on Compensation	8
2.1 Introduction	8
2.2 Hypothesis Development.....	13
2.3 Methods	17
2.3.1 Sample	17
2.3.2 Variables	18
2.3.3 Procedures	19
2.4 Results	20
2.5 Conclusion	26
Appendices	28
2-A: Corporate Governance Overview	28
2-B: Demographic Questionnaire	29
2-C: Sample Vignette	31
2-D: Post-Experimental Survey	32
References.....	33
CHAPTER 3: An Experiment on the “Pay-For-Performance” Standard in Executive Compensation: Affect as an Influencing Factor on Decision Makers	36
3.1 Introduction.....	36
3.2 Related Literature	39
3.2.1 Executive Compensation	39
3.2.2 Risky Decision Making	40
3.2.3 Affective Reactions	42
3.3 Methods	47
3.3.1 Participants.....	47
3.3.2 Overview of Experiment	48
3.3.3 Decision Scenarios.....	49
3.4 Results	52
3.5 Conclusion	61
Appendices.....	65
3-A: Corporate Governance Overview	65

3-B: Sample Vignette	66
References	67
CHAPTER 4: Group Decision Making and Leadership: An Experimental Examination in an Executive Compensation Scenario	70
4.1 Introduction	70
4.2 Related Literature and Hypothesis Development	75
4.2.1 Executive Compensation	75
4.2.2 Group Formation and Decision Making	76
4.2.3 Corporate Governance Committees as Groups	81
4.2.4 Leadership In Groups	83
4.3 Methods	86
4.3.1 Subjects	86
4.3.2 Research Overview	86
4.3.3 Variables	87
4.3.4 Procedures	89
4.4 Results.....	90
4.5 Conclusion	97
Appendices.....	100
4-A: Corporate Governance Overview	100
4-B: Instructions and Demographic Questionnaire.....	101
4-C: Individual Vignettes/Cases	103
4-D: Post Case Questionnaire – Individuals	107
4-E: Post Case Questionnaire – Individuals in Teams	108
References	114
CHAPTER 5: Conclusions and Suggestions for Future Research	117
5.1 Summary and Conclusions	117
5.2 Suggestions for Future Research	119
References	121
VITA	122

LIST OF FIGURES

Figure 1-1: Pay-For-Performance Model	1
Figure 2-1: Model of Factor Association to Compensation	13
Figure 2-2: Compensation Award by Subject Type	21
Figure 2-3: Compensation Award by Performance Realm	22
Figure 2-4: Compensation Award by Subject Type and Performance Realm	22
Figure 2-5: CEO director-subject Compensation Award by Decision Type	25
Figure 3-1: Expected Value Function Curve Following Prospect Theory: Single Anchor	43
Figure 3-2: Expected Value Function Curve Following Prospect Theory: Two Anchors	47
Figure 3-3: Graphed Compensation Award Results	60
Figure 4-1: Group Decision Escalation Model	81
Figure 4-2: Leadership Impact within Group Model	85
Figure 4-3: Individual versus Group	92
Figure 4-4: Group Means by Attempt and Performance	95
Figure 4-5: Group Means by Lead Type and Performance.....	96

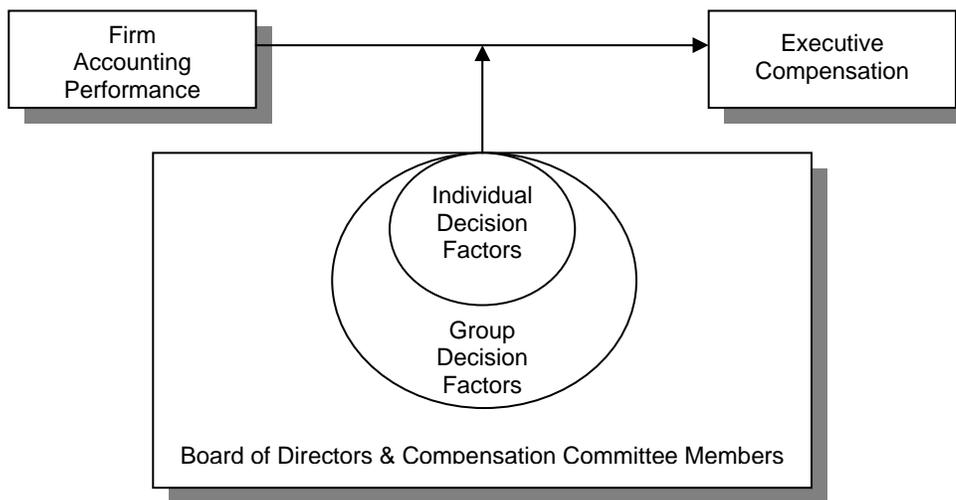
LIST OF TABLES

Table 2-1: Subject Descriptives	18
Table 2-2: 2x2x2 ANOVA Table – Tests of Between-Subjects Effects – Director Type by Firm Performance by Decision	21
Table 2-3: Cell Descriptives	23
Table 2-4: 2x2 ANOVA Table – Tests of Between-Subjects Effects – Director Type by Decision.....	24
Table 2-5: One-way ANOVA Table – Decision – Public versus Private.....	25
Table 3-1: Sample Overview	49
Table 3-2: Number of Subjects by Case, Compensation Anchor Levels, and Growth Anchor Levels.....	52
Table 3-3: ANOVA and Coefficients Tables	54
Table 3-4: T-Test Means Comparisons	55
Table 3-5: ANOVA and Coefficients Tables for Interaction Analyses.....	58
Table 3-6: Mean Responses and Standard Deviations by Case and Compensation Anchor Levels	61
Table 4-1: Individual Observations by Role and Performance Levels	90
Table 4-2: Individual versus Group Means T-Test.....	91
Table 4-3: Test of Effects in Group Compensation Awards (QwertG).....	94
Table 4-4: Group Means T-Test by Performance and Attempt	95
Table 4-5: Group Means T-Test by Performance and Director Type.....	97

Chapter 1. Introduction

This dissertation experimentally explores select factors in the decision process that may affect the pay-for-performance paradigm in executive compensation. Certain factors are examined on an individual decision making basis, while other factors are examined in a group decision making scenario. Briefly stated, these factors are (1) the effects of social comparison and information anchoring on individuals awarding executive compensation, (2) the effect of affect on the decision process by individuals awarding executive compensation and the extent to which these decisions follow outcomes predicted by Prospect Theory, (3) the effect of group decision making over individual decision making, and (4) the effect of non-peer leadership in group decision making. Each factor is examined in an experimental setting to gain a further understanding of the social and psychological effects potentially present in the executive compensation “pay-for-performance” paradigm. Figure 1-1 illustrates a general model of the phenomena examined in this dissertation.

Figure 1-1. Pay-For-Performance Model



In recent years, rising levels of executive compensation have concerned investors and given rise to increasing attention in the financial press and accounting literature (e.g., Lublin, *The Wall Street Journal*, 2/25/2005; Anonymous, *The Economist*, 12/21/2004; Perel, 2003; Sheikholeslami, 2001). One compensation concept that receives repeated attention is pay-for-performance. The idea is that executive compensation increases when firm performance increases and, *ceteris paribus*, decreases when firm performance decreases. Research has shown, though, that *pay* and *performance* do not always move in parallel and may be moderated or mediated by other factors such as board composition, board leadership structure, and firm size (e.g., Iyengar, 2003; Adut et al., 2003; Tosi et al., 2000). As a result, researchers suggest exploring alternative factors and variables (Tosi et al., 2000) as determinants of CEO compensation to gain further insight. This dissertation examines factors that center around the decision makers and effects of anchoring, affect, group polarization and decision exaggeration.

In order to study the pay-for-performance paradigm in executive compensation, it is first necessary to identify the group, the individuals, and the general process by which an executive receives compensation. In modern capital markets, publicly traded companies utilize a *board of directors* to provide guidance and oversight of the management employees of the company. The board of directors provides guidance and oversight to management and acts as the key body for representing shareholders and investors. This board may be comprised of outside directors, such as CEOs from other non-competing companies, retired government workers or politicians, academicians, and other professionals; and inside directors such as vice-presidents, the president, and the

chief executive officer. Members of the board of directors then often form subcommittees in which to govern the corporation. One such subcommittee, the *compensation committee*, has the responsibility for reviewing firm performance and awarding appropriate compensation to the executives.

The compensation committee contains only outside directors¹ and does not contain any inside directors. That is, the compensation committee does not have as a member the CEO or anyone who works for the CEO. This helps to avoid direct conflicts of interest in the compensation setting process. The compensation committee, though, may have peers of the CEO, or board members who are also CEOs. It is this peer committee, or mostly peer committee, that reviews the accounting performance of the firm and determines the executive compensation. This research examines factors that potentially affect the individuals of this group, and as a whole, in an effort to gain a better understanding of the compensation setting process.

Chapter 2 contains research that experimentally examines factor 1, the effects of social comparison and information anchoring on individuals awarding compensation at varying accounting performance levels. This research examines the outcomes in a process where an individual making a compensation award decision has a personal anchor, which is their own compensation, and a degree of social comparability to the target. Additionally, this research examines private versus public decision making.

Research shows when firm performance declines, executive compensation does not always move in tandem (Dechow et al., 1994; Gaver and Gaver, 1998; Duru et al., 2002; Adut et al., 2003). The pay-for-performance model may hold when firm performance is good, but not fair as well when performance is substandard or in a loss-

¹ SEC rule 303A.

mode. The compensation committee in effect is protecting or *shielding* a CEO from a downward compensation shift under certain declining performance circumstances (Adut et al., 2003; Dechow et al., 1994).

In this research, 176 subjects are role-playing as either an outside CEO director or a non-CEO director on the compensation committee. The accounting performance of the focal firm is either above or below the indicated industry average, and, additionally, the subjects are told either their compensation award decision will remain private or will be made public. The results are consistent with social comparison theory in that subjects anchor and CEO director-subjects shield the CEO when performance is below average. However, results also indicate that under the condition of public decision dissemination, the shielding effect is mitigated.

Chapter 3 contains research that experimentally examines factor 2, the effect of affect on the decision process by individuals awarding executive compensation and the extent to which these decisions follow outcomes predicted by Prospect Theory. Using personal pay and personal performance as anchors for 307 subjects role-playing as directors on the compensation committee, findings indicate that subjects do not strictly base compensation on accounting performance but are influenced by personal anchors. These anchors, which elicit either positive or negative affect, influence the decision makers. In the absence of a tangible payoff, subjects make the decision to maximize positive affect or minimize negative affect. Findings indicate that individual compensation awards are consistent with Prospect Theory (Kahneman and Tversky, 1979) in that the decision makers tend to be risk averse in a gain context and risk seeking

in a loss context. The research suggests that multiple anchors interact, add to the complexity of the decision, but may follow a pattern consistent with Prospect Theory.

Chapter 4 experimentally examines factor 3, the effect of group decision making over individual decision making; chapter 4 also examines factor 4, the effect of non-peer leadership in group decision making. In an experiment with 98 subjects role-playing as either an outside CEO director or a non-CEO director on the compensation committee, subjects were provided with personal pay anchors and a certain level of firm performance. Non-CEO director-subjects had a personal pay anchor lower than the CEO director-subjects. Subjects individually determined the compensation award of the focal CEO. Subjects were formed into groups, with approximately three to four members, with roughly a 3-to-1 ratio of CEO to non-CEO director subjects. This creates a group with a majority and thus a minority membership. After appointing a committee chair, the group then determined the focal CEO's compensation. Results indicate that group polarization occurs leading to exaggerated compensation awards as compared to individual awards. The polarization is in the direction of the majority membership. Results also indicate, though, that the appointment of a leader creates an interaction effect with the performance level. This indicates that leadership type, either majority or minority, has a moderating effect on the committee decision.

Overall, these results add to the body of knowledge of factors affecting the executive compensation process. These studies provide evidence that individual anchors, individual performance, individual affect, and the group decision process may add to agency costs and be contributing factors in the imperfection of the pay-for-performance paradigm.

The remainder of this dissertation is organized as follows. Chapters 2 through 4 report the findings of each of the three studies. Each chapter includes an introduction, a presentation of prior literature, a description of the study's research method, a presentation of the results, and a discussion of the study's implications, limitations, and suggestions for future research. Chapter 5 summarizes the findings and contributions of the dissertation, as well as suggestions for future research on this topic.

References

- Adut, D., Cready, W. H., & Lopez, T. J. (2003). Restructuring Charges and CEO Cash Compensation: A Reexamination. *Accounting Review*, 78(1), 169-192.
- Anonamous. (2004, December 11). Leaders: Running out of options; Pay for performance. *Economist*, 373, 10.
- Dechow, P. M., Huson, M. R., & Sloan, R. G. (1994). The Effect of Restructuring Charges on Executives' Cash Compensation. *The Accounting Review*, 69(1), 138-156.
- Duru, A., Iyengar, R. J., & Thevaranjan, A. (2002). The Shielding of CEO compensation from the effects of strategic expenditures. *Contemporary Accounting Research*, 19(2), 175-193.
- Gaver, J. J., & Gaver, K. M. (1998). The relation between nonrecurring accounting transactions and CEO cash compensation. *Accounting Review*, 73(2), 235-253.
- Iyengar, R. J. (2003). Executive Compensation in Perennially Loss-making Firms. *Finance India*, 17(1), 199-214.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-292.
- Lublin, J. S. (2005, February 25). CEO Bonuses Rose 46.4% at 100 Big Firms in 2004. *Wall Street Journal*, p. A1.
- Perel, M. (2003). An Ethical Perspective on CEO Compensation. *Journal of Business Ethics*, 48(4), 381-391.
- Sheikholeslami, M. (2001). EVA, MVA, and CEO Compensation. *American Business Review*, 19(1), 13-17.
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339.

Chapter 2: An Experiment of Group Association, Firm Performance, and Decision Dissemination Influences on Compensation

2.1 Introduction

The board of directors provides guidance and oversight to management and acts as the key body for representing shareholders and investors. Proper oversight or governance by a board is a cornerstone element to our capital markets. This governance is often conducted within sub-committees of the board, such as the compensation committee. The task of determining the compensation of the CEO falls to this committee and it represents a significant fiduciary duty to the board, shareholders, and investors alike. One of the nation's largest pension funds expressed the significance of this committee and the compensation process as "*a critically important and highly visible responsibility of the board of directors of a corporation. In a real sense, it represents a window through which the effectiveness of the board may be viewed*" (TIAA-CREF, 2002). Our primary research interest is in compensation committee ineffectiveness, where the decision-making outcome may not be in the best interest of the board or shareholders.

We build from associative findings of compensation shielding by the compensation committee for unfavorably performing CEOs (Dechow et al., 1994; Gaver and Gaver, 1998; Duru et al., 2002; and Adut et al., 2003). *Shielding* occurs when the compensation committee minimizes reductions in executive compensation in the face of reduced firm performance. The compensation committee effectively limits the downward exposure of compensation to the executive in times of reduced performance. In this study, we test whether subjects role-playing as CEO directors on the compensation committee shield or protect the pay level of the chief executive officer when firm

performance is below the industry average. Further, we test to see if potential publicity of CEO director's decisions mitigate this shielding effect. Our experimental findings provide evidence for shielding by showing CEO director-subjects award greater compensation than non-CEO director-subjects when firm performance is below the industry average. Additionally, we find potential publicity surrounding individual decisions by CEO director-subjects reduces the shielding effect. In conducting this research, we expand the causal understanding of the influence of connections to peer groups within individual decision-making. This extends the current body of literature in that it examines individual decision factors found within the executive compensation setting process through an experimental methodology.

Motivation for continued compensation research stems from the relative importance of the topic in the business, investment, and political community. Disclosures regarding executive pay, such as the NYSE chief executive's pay package of roughly \$140 million and subsequent resignation in 2003, highlight the repercussions and agency costs of governance process breakdowns. While the primary media focus was on the magnitude of compensation, much less attention was applied to the board of directors and the make-up of the compensation committee that awarded such a package. In the NYSE case, most of the committee members have titles of president, CEO, or chairman. Given the excessive CEO pay package and a lack of linkage to pay and firm performance, political and social pressures appear to have forced a change in the governance and compensation setting structure of the NYSE. The direct result is a change in board of

director and compensation committee membership, and a return of excess awarded compensation.²

The potential cause of the high pay package may be attributed to the nature and composition of compensation committee within the board of directors where alliances and interactions may compromise rational decision-making (Perel, 2003). The board of directors and the compensation committee is often comprised of CEOs of other companies, academicians, retired military or government officials, and professional directors. It is the coterie of CEO directors within the compensation committee that may affect the compensation setting process, thus representing an agency problem in managerial incentives between the owner's of the firm and those in control of the firm (Fama, 1980). Our research attempts to experimentally determine if CEO directors look out for their own, particularly when firm performance is below average.

Agency problems, where management elevates their personal interests over the interests of the shareholders (Fama, 1980), result in various form of agency costs within an organization. CEO compensation setting processes are no exception, and mechanisms or structures that unnecessarily elevate CEO compensation are agency costs. In this area of concern, researchers have examined the board using inside or outside director categorization (O'Reilly et al., 1988; Daily et al., 1998; Newman and Mozes, 1999; Bhagat and Black, 2002). Additionally, though, a contributing factor relating to CEO compensation may be the number of outside directors who are also CEOs. Nell Minow, editor of the Corporate Library, indicates that "*the best predictor of CEO overpay is the number of CEOs on a compensation committee*" (Burns, 2003, WSJ:R6). While the boardroom is comprised of inside management such as the domicile CEO and outside

² Kelly et al., *The Wall Street Journal* (11/19/2003).

directors, it is the outside director who is also a CEO that identifies most with the domicile CEO. This identification or social comparison to another individual or group (Festinger, 1954) forms the basis for agency costs within the compensation setting process. The objective of this study is to experimentally examine the aspect of social comparison as an agency cost. This is accomplished by studying subjects role-playing as CEO directors in the compensation setting process.

Ideally, the compensation committee considers firm performance when setting CEO compensation, but this may not always be the case. While the Wall Street Journal / Mercer Human Resource Consulting 2002 CEO Compensation Survey and Trends notes a pronounced positive relationship between CEO annual pay and performance for 2001 and 2002, the Economic Research Institute found executive compensation grew faster than firm revenues in 2002³. This occurred during a time when stock prices continued to decline, suggesting that compensation and performance does not always run in parallel.

As the information and details of compensation packages become public, the compensation to performance incongruity has led shareholders to more closely scrutinize the CEO compensation award decision of the boards and file resolutions with the SEC. According to the Investor Responsibility Research Center, shareholder resolutions filed with the SEC in 2003 aimed at curbing CEO compensation have risen 200% over the previous year – General Electric’s CEO Jeff Immelt was subjected to twenty-six compensation related resolutions (Ulick, 2003b). Even CEOs who meet or exceed expectations, such as Jeff Immelt’s predecessor Jack Welch, face investor criticism when pay and retirement packages become public. Welch returned significant portions of his

³ Cash compensation increases of 5.9% versus revenue increases of 0.89% in 2002. Ulick, J. (2003, March 25).

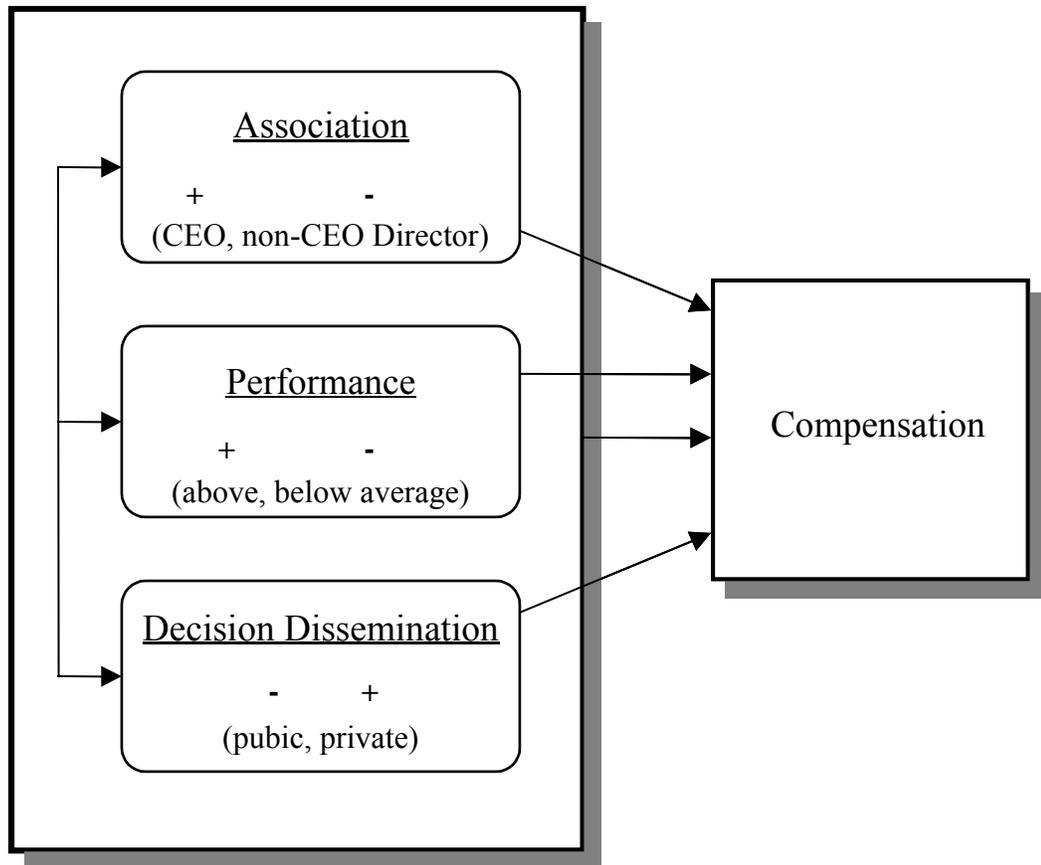
post-employment compensation perquisites (\$2.5 million/year) when details of the retirement package became public during divorce proceedings in 2002 (Naughton, 2002). Publicity regarding excessive compensation carries negative consequences for both CEOs and directors. In the case of NYSE, not only was excess compensation returned, but the CEO was ousted along with certain board members supporting the pay package. Taken together, this suggests that public scrutiny of pay packages may be increasing and may have an impact on compensation awards.

We conjecture that CEO peers on the compensation committee positively affect CEO pay. Further, we conjecture that publicity of excessive pay negatively affects CEO pay. It is the interplay of the number of CEO members on the compensation committee and the publicity of their decision of the pay package that is the focus of this study.

In this paper we report the results of a 2 x 2 x 2 between-subjects experimental study. The three factors as illustrated in Figure 2-1 are: group association of director type (CEO director-subjects versus non-CEO director-subjects), firm performance (above or below industry average), and compensation decision dissemination (public or private).

Figure 2-1.

Model of Factor Association to Compensation



The remaining paper is organized as follows: Section 2 provides a brief literature review, develops the hypotheses, and explains the model; Section 3 explains the methodology; Section 4 presents the results; and Section 5 discusses the implications, limitations, and direction for future research.

2.2 Hypotheses Development

As a proxy for shareholders and acting on their behalf, the board of directors monitors, hires, fires, and guides the direction of the professional managers within the

firm. The compensation committee, a sub-group to the board, determines the compensation of the CEO. The significance of executive compensation is emphasized in the following statement: *“The governance of the executive compensation process is a critically important and highly visible responsibility of the board of directors of a corporation. In a real sense, it represents a window through which the effectiveness of the board may be viewed”* (TIAA-CREF, 2002).

Although the board is purported to represent the shareholders, agency problems with the CEO can become an issue. Top management may elect expropriation of wealth as opposed to competition once having gained control of a board (Fama, 1980). Overt agency problems are manifest through financial fraud, large perquisites, and excessive compensation, but we cannot discount the possibility of agency problems through a more subtle control by the CEO over the board or compensation committee via peer ascendancy. While the board of directors represents the shareholders, CEO directors more closely resemble the CEO from a social and professional standpoint. This peer association can create an effect similar to control or influence consistent with the representatives in the group.

Research on groups has given attention to the natural formation of groups, uniformity within groups, and a normalization of behavior (Greenberg et al., 1997; Baumeister and Leary, 1995; Festinger, 1950). Similar observations appear in business contexts. Corporations are hierarchical while the board of directors is a collegial group working towards consensus (Bainbridge, 2002). In choosing an outside successor, the board tends to pick someone demographically similar to their own profiles (Zajac and Westphal, 1996), and the compensation committee is influenced by the demographic

similarities to the CEO (Young and Buchholtz, 2002). Social capital (social status and network ties) of the CEO is associated to higher compensation (Belliveau et al., 1996) as is the compensation level of the outside director on the compensation committee (O'Reilly et al., 1988). These results can be explained by Social Comparison Theory. The theory suggests that individuals make comparisons to those they perceive as similar and associate with those having similar characteristics (Festinger, 1954). Examples of associations include status, position, and wealth. Hence, CEO directors associate more with the CEO, thus their compensation award decision is likely to be biased and positively influenced. We hypothesize that subjects role-playing as a CEO director will award greater pay than subjects role-playing as non-CEO directors when evaluating a CEO and awarding compensation. We suggest the following hypothesis:

H1: *CEO director-subjects will award greater compensation than non-CEO director-subjects.*

From prior research we expect compensation to be positively associated to firm performance⁴ (Sloan,1993; Natarajan, 1996; Gaver and Gaver, 1998; Duru and Iyengar, 1999; Tosi et al., 2000; Sheikholeslami, 2001; Lambert and Larcker, 1987). In the absence of all other factors, we expect performance to be positively associated with pay. Hence, we present the following hypothesis:

H2: *Director-subjects will award greater compensation when firm performance is above industry average as compared to below industry average.*

⁴ Iyengar (2003) finds higher compensation levels for perennially loss-making firms with negative retained earnings. Given the uniqueness of their sample, we feel the results do not apply to the general population in regards to performance to pay association. Firms within the sample may represent companies willing to hire and compensate executives at higher levels for potential turnaround performance.

Previous archival research has also shown that the makeup of the compensation committee mediates the pay to performance ratio for under-performing firms. That is, CEOs of firms that are poor or unfavorable performers may have their compensation levels or package protected by the compensation committee (Dechow et al., 1994; Gaver and Gaver, 1998; Duru et al., 2002; Adut et al., 2003). Further, director type affects the extent of such compensation shielding (Newman and Mozes, 1999). We conjecture the CEO director, a more closely associated member of the coterie, exacerbates this protection or shielding of CEO compensation. Through this social comparison or group association, the CEO director-subject will award greater compensation than the non-CEO director-subject when performance is below average. We propose the following hypothesis:

H3: *CEO director-subjects will award greater compensation than non-CEO director-subjects when performance is below the industry average.*

In addition to group association and firm performance, we study the impact of individual decision dissemination. Research has shown decisions of groups involve greater levels of risk-taking than individuals and can exacerbate or escalate decision trends (e.g., Stoner, 1961; Argote et al., 1986; Whyte, 1993). Given the CEO director-subject is a member of a group or coterie within the compensation committee, the publication of the decision makes salient the individuality of the subject and breaks the mental association to the group. Without individual decision publicity, individual decision makers may be prone to the more risk-taking attitude of a group. If the individual decision is public, though, then the dynamics of the group association and

decision escalation is less likely to materialize. Therefore, the publicity of the individual decision can mitigate the compensation shielding effects of the group and lessen the agency costs. Specifically, we hypothesize that the CEO director-subject will award lower levels of compensation when the individual subject's decision is noted to be made public as compared to being kept private. Hence, we present the following hypothesis:

H4: *When performance is below the industry average, CEO director-subjects will award lower compensation when the individual decision is noted to be made public as compared to being kept private.*

2.3 Research Method

2.3.1 Sample

We conducted this research at a large American university. We used subjects enrolled in the second of two principle of accounting courses. A total of 115 men and 61 women participated in the study. Subjects were on average 20.4 years old (SD = 1.3) with an average of 0.7 years (SD = 1.3) of full-time work experience (see table 1). The subjects were primarily first and second year undergraduate students enrolled in the college of business. Although the use of student subjects in behavioral accounting research is not unusual, we acknowledge that it is not ideal but may be a practical solution given limited accessibility to CEO and board of director subjects. Following Sedor and Kadous (2004), student subjects are appropriate since this study employs theories centered on characteristics not dependent on the professional population (Peecher and Solomon, 2001; Libby et al., 2002). Evidence in student surrogate studies examining attitudes show there is a divergence between students and other subjects,

while in studies examining decision making, considerable similarities exist (Ashton and Kramer, 1980). Since our experiment is centered on decision-making and the subjects were immersed in their roles⁵, we believe the results obtained from using student subjects provide strong internal validity and reasonable external validity as applied to decision makers composing boards of directors in general. While it may be argued that undergraduate subjects are unlikely surrogates for CEO directors, it may also be argued that given the pragmatic distance of reality from such subject to such population, any evidence obtained in such a weak manipulation indicates the presence of a stronger bona fide effect.

	<u>Mean</u>	<u>SD</u>
Age	20.4	1.3
Full-time work experience	0.7	1.3
	<u>Males</u>	<u>Females</u>
Gender	115	61

2.3.2 Variables

The dependent measure in our study is compensation. To reduce potential subject anchoring confounds and biases we elected not to use dollars but rather a non-bounded artificial currency we labeled as “Qwert”. This follows from accounting and economic

⁵ We believe the students were fully immersed in their roles and confirm this through post-experimental questions on scenario role and group association. All subjects correctly answered the question of role (CEO director versus non-CEO director). Additionally, from post-experimental survey questions asking subjects to rate their association to a particular group (CEO, non-CEO, and board of director groups) where 1 is weak and 10 is strong, we find that CEO director-subjects significantly associated to the CEO group (mean = 8.75; $F = 158.969$; $p < 0.001$); non-CEO director-subjects significantly associated to the non-CEO group (mean = 8.20; $F = 149.765$; $p < 0.001$); and both CEO and non-CEO director-subjects associated similarly to the board of directors (CEO mean = 7.69; non-CEO mean = 7.29; $F = 1.495$; $p = 0.223$).

literature where researchers in lieu of directly employing dollars use points (e.g., Kachelmeier and Shehata, 1997) or other artificial denominations (e.g., Friedman, 1967; Forsythe et al., 1982; Plott and Sunder, 1982; Forsythe and Lundholm, 1990). Independent variables include director type, performance, and decision dissemination. Within each vignette subjects were assigned to the role as a CEO director or non-CEO director on the compensation committee. The performance of the subject firm was either above or below the industry average. This was indicated primarily in two ways: (1) it was shown numerically as a comparative growth rate and through earnings per share data, and (2) through a verbal statement stating the company's operating margins and net income levels were above or below the industry average. Lastly, within each vignette, the compensation decision for each director was noted as either a private and confidential decision or one that would be made public.

2.3.3 Procedures

Student subjects were given a one-page overview on corporate governance (Appendix 2-A). The subjects were asked to participate in an in-class experiment for the following week. Participation was voluntary and those who chose to participate received either extra-credit or a waiver of one homework grade, equal to three points out of five hundred and fifty total points for the class. Subjects were given a pre-numbered cover sheet and demographic questionnaire (Appendix 2-B) to complete. After signing the cover sheet we collected and gave them to the instructor for credit purposes. Subjects at this point were tracked only via the pre-numbered forms.

The pre-numbered demographic forms were collected and the subjects were introduced to an individual who played the role of the CEO. The subjects were given an overview of the experiment and told that they were role-playing as compensation committee members of the board of directors and would determine the compensation of the CEO who was being evaluated. The subjects were told that roughly half were role-playing as CEO directors from other companies, one-quarter were role-playing as retired public servants, and one-quarter were role-playing as academicians. Subjects were then given name tags with their title as either CEOs of fictitious companies (randomized three-letter abbreviated names), or the titles of either retired senator or business school dean.

A pre-numbered vignette (see sample in Appendix 2-C) was given to each subject. This is a 2 x 2 x 2 study with subjects assigned to one of eight variations. Within each vignette is information describing the compensation committee and their role, their compensation in their own profession, the accounting performance of the fictitious CEO's company as compared to the industry average, and the industry average compensation level. Additionally, each subject was informed within the vignette whether or not their compensation decision is to be kept private and confidential or made public. From this information the subject determined the compensation of the fictitious CEO.

Upon completion of the task the vignettes were collected and pre-numbered post-experimental surveys were distributed (Appendix 2-D), completed, and collected.

2.4 Experimental Results

A 2 x 2 x 2 (director x performance x decision) ANOVA is presented in Table 2-2. Overall results indicate significant main effects for *director type* and *performance*

(*decision* was not significant), no significant two-way interactions, but a significant three-way interaction.

Table 2-2. 2 x 2 x 2 ANOVA Table – Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2865.52(a)	7	409.36	8.23	.000
Intercept	796452.61	1	796452.61	16010.49	.000
director ^a	373.90	1	373.90	7.52	.007
perform ^b	2112.18	1	2112.18	42.46	.000
decision ^c	1.94	1	1.94	.04	.844
director * perform	40.16	1	40.16	.81	.370
director * decision	.79	1	.79	.02	.900
perform * decision	6.93	1	6.93	.14	.709
director * perform * decision	238.24	1	238.24	4.79	.030
Error	8307.53	167	49.75		
Total	870522.04	175			
Corrected Total	11173.04	174			

R Squared = .256 (Adjusted R Squared = .225)

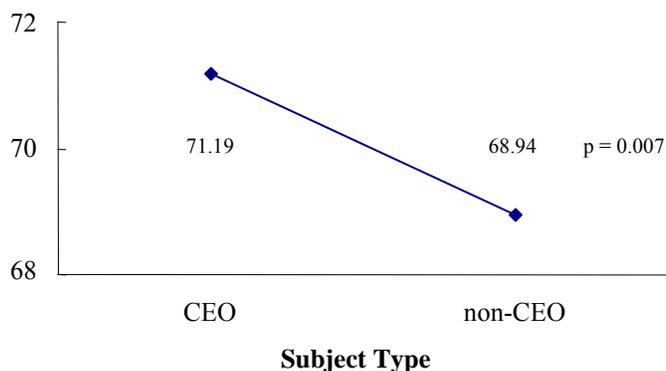
^a "director" is CEO director / non-CEO director categorization.

^b "perform" is firm performance above / below the industry average.

^c "decision" is public / private individual decision dissemination.

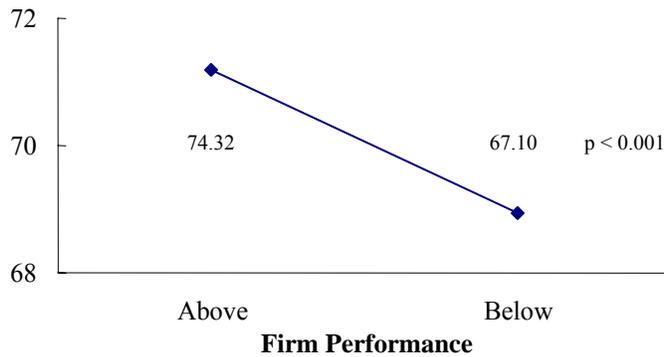
Hypothesis H1, CEO director-subjects will award greater compensation than non-CEO director-subjects, is supported. The mean award for a CEO director-subject is 71.1886 and the mean for a non-CEO director-subject is 68.9494 ($p = 0.007$). Results are represented graphically in Figure 2-2.

Figure 2-2. Compensation Award by Subject Type



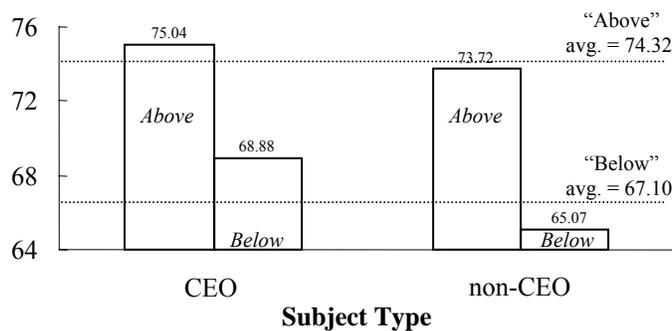
Hypothesis H2, director-subjects will award greater compensation when firm performance is above average as compared to below industry average, is also supported. The above industry average performance compensation mean is 74.3250 versus the below industry average of 67.1049 ($p < 0.001$). Results are represented graphically in Figure 2-3.

Figure 2-3. Compensation Award by Performance Realm



Hence, the experimental results suggest that both *director type* and *performance* have significant influence on CEO compensation. Figure 2-4 illustrates the combined results to help visually compare CEO award as a result of performance (above or below average) and as decided by board member type (CEO or non-CEO).

Figure 2-4. Compensation Award by Subject Type and Performance Realm



The 2 x 2 x 2 (director x performance x decision) cell descriptives are presented in Table 3-3.

Table 2-3. Cell Descriptives

		Value Label	N			
director	0	CEO	88			
	1	non-CEO	87			
perform	0	Below Avg Growth	103			
	1	Above Avg Growth	72			
decision	0	Private	92			
	1	Public	83			

director	perform	decision	Mean	Std. Deviation	N
CEO	Below Avg Growth	Private	70.03	3.08	25
		Public	67.92	6.84	30
		Total	68.88	5.52	55
	Above Avg Growth	Private	74.27	3.39	20
		Public	76.22	3.67	13
		Total	75.04	3.58	33
non-CEO	Total	Private	71.91	3.83	45
		Public	70.43	7.14	43
		Total	71.19	5.71	88
	Below Avg Growth	Private	63.67	7.64	21
		Public	66.16	7.87	27
		Total	65.07	7.79	48
Total	Above Avg Growth	Private	74.80	4.45	26
		Public	71.58	16.00	13
		Total	73.72	9.81	39
	Total	Private	69.82	8.21	47
		Public	67.92	11.25	40
		Total	68.95	9.72	87
Total	Below Avg Growth	Private	67.12	6.42	46
		Public	67.09	7.33	57
		Total	67.10	6.91	103
	Above Avg Growth	Private	74.57	3.99	46
		Public	73.90	11.62	26
		Total	74.32	7.60	72
	Total	Private	70.85	6.50	92
		Public	69.22	9.38	83
		Total	70.08	8.01	175

Variables are defined in Table 2.

The lack of two-way interactions is not surprising given that we expect director differences only when performance is below industry average. Therefore, to test hypothesis H3 we conducted a 2 x 2 (director type x decision) ANOVA restricted by below average performance (Table 2-4). Results indicate significant main effects for *director type* (CEO or non-CEO) but not for *decision* (public or private). Therefore, hypothesis H3, CEO director-subjects will award greater compensation (mean = 68.88) than non-CEO director-subjects (mean = 65.07) when performance is below the industry average, is supported ($F = 9.480, p = 0.003$). This finding indicates a significant interaction of director type and performance in the negative performance domain⁶. This result further supports the compensation-shielding phenomenon.

Table 2-4. 2 x 2 ANOVA Table – Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	505.91(a)	3	168.64	3.83	.012
Intercept	453869.92	1	453869.92	10305.45	.000
director	417.51	1	417.51	9.48	.003
decision	.97	1	.97	.02	.882
director * decision	133.99	1	133.99	3.04	.084
Error	4360.13	99	44.04		
Total	468681.38	103			
Corrected Total	4866.05	102			

a R Squared = .104 (Adjusted R Squared = .077)
Variables are defined in Table 2.

The significant three-way interaction ($F = 4.789, p = 0.030$) leads to the investigation of hypothesis H4, that when performance is below the industry average the CEO director-subject will award lower compensation when the individual decision is

⁶ As a further analysis, the same test was performed in the above industry average domain without significant results. The CEO director mean of 75.0364 versus the non-CEO director mean of 73.7231 proved non-significant ($F = 1.020, p = .277$).

noted to be made public as compared to being kept private. Table 2-5 presents the results of a one way ANOVA to testing hypothesis H4.

Table 2-5. One-way ANOVA

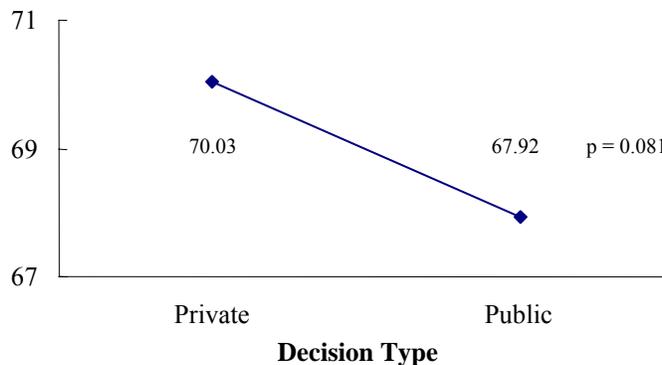
Public versus Private comparison for CEO directors in the below industry average domain

	Sum of Squares	df	Mean Square	F	Sig.*
Between Groups	60.40	1	60.40	2.02	.081
Within Groups	1582.50	53	29.86		
Total	1642.91	54			

* Reported p-value is one-tail given the directional nature of H4.

When we restrict the data to the below industry average performance and CEO directors, the results moderately support H4. The mean compensation awarded by CEO director-subjects when performance is below the industry average and the decision is private is 70.0280 versus 67.9233 when the decision is made public (F = 2.023, one-tail p-value = 0.081). This indicates that CEO directors no longer shield the chief executive's compensation when the decision is noted as public. A graphical representation is shown in Figure 2-5.

Figure 2-5. CEO director-subject Compensation Award by Decision Type



2.5 Conclusions

Agency problems manifest themselves in various forms within an organization, and the executive compensation setting process is no exception. Our study experimentally tests the influence of three factors: 1) director-subjects (CEO and non-CEO), 2) accounting performance (below average or above average), and 3) decision dissemination (public or private). A contribution of our study is that it shows how these three factors affect awarded compensation. We find results consistent with previous compensation shielding literature.

A limitation to this study is the subject pool. While our convenient sample provided internal validity, these subjects are not perfect substitutes for the business leaders, and thus this potentially limits our external validity. Future studies should build on this research to address the limitations of this study and examine the anchoring effects and other environmental factors that have been empirically shown to influence CEO compensation.

Our experimental results indicate that director type influences the compensation setting process, particularly when firm results are below the industry average. CEO director-subjects award greater compensation in general and award significantly greater compensation as compared to non-CEO director-subjects when performance is below average. A further influencing factor presents itself when the individual decision of the director is noted as being kept either private or made public. In our study we find evidence of further shielding by CEO director-subjects when performance is below average and when the decisions are private, as compared to when the decisions are

public. Thus, while director type mediates the influence of performance on pay, decision dissemination also mitigates the relation between performance and pay.

Appendix 2-A Corporate Governance Overview

Corporate Governance

A Very Short Overview

What is Corporate Governance?

“Corporate governance is a hefty-sounding phrase that really just means oversight of a company’s management – making sure the business is run well and investors are treated fairly” (Burns, *Wall Street Journal*, 10/27/2003).

Publicly traded companies are those whose stock is traded in a public forum, usually over the New York Stock Exchange (NYSE), the American Exchange (AMEX), National Association of Securities Dealers Automated Quotation System (NASDAQ), or other regional exchanges such as Philadelphia or San Francisco. As such, any company can literally have thousands of “owners”.

It is difficult for a company to be managed simultaneously by potentially thousands of different owners; therefore, the owners or stockholders elect a board of directors as their representatives. The board sizes vary with an average of 9 to 11 members.

The board of directors hires management, such as the chief executive officer (CEO), chief financial officer (CFO), and other vice-presidents to run the company – the board *oversees* their activities. This oversight is often conducted within a sub-committee of the board, such as the audit committee, the compensation committee, or the nominating committee. As an example, selected members of the board may be on the compensation committee – their job is to determine the compensation for the CEO and is a significant fiduciary duty as a board member.

“The board’s most important job is hiring, firing, and setting compensation for a company’s chief executive, who runs the company day-to-day” (Burns, *Wall Street Journal*, 10/27/2003).

The membership of the board is often comprised of the CEO or other firm *insiders*, CEO’s from other industries, bankers, retired politicians, academicians, and professional directors (often representing mutual or retirement funds). *Note: Although often on the board of directors, the CEO cannot be a member of his own compensation committee.* Board member provide not only oversight but also expertise and advice, often meeting three to five times a year in addition to the (usual) legally required once a year meeting.

Appendix 2-B Demographic Questionnaire

Name: _____

When you turn in the survey to your instructor, remove this first page. It will be used to record your participation.

Instructions:

Please read the following and the attached.

The board of directors is the governing body for a publicly held corporation. The board represents the shareholders, decides the major investment and social policies for a company, and hires and determines the compensation of the executive management.

In this case you serve on the board of directors of PUTT Company – this is not your full-time employment – please read the details of the attached for a description of your occupation. One of your duties while serving on the board of directors is to serve on the compensation committee.

TIAA-CREF, a major retirement pension fund in the United States, describes the importance of this function in their 2002 policy statement as such:

“The governance of the executive compensation process is a critically important and highly visible responsibility of the board of directors of a corporation. In a real sense, it represents a window through which the effectiveness of the board may be viewed”
TIAA-CREF (2002).

Please answer all the questions on the following page and the question at the bottom of the case.

Thank you for your time and assistance.

Appendix 2-B cont'd Demographic Questionnaire

Demographics _____

This section captures basic information related to you, the survey participant.

1. Age in years

2. Gender

- a. Male
- b. Female

3. Are you currently a student?

- a. Yes
- b. No

4. Number of years of full-time employment (excludes time as a student)

5. Number of Accounting courses completed (no ranges please)

6. Number of Finance courses completed (no ranges please)

7. Number of Management courses completed (no ranges please)

Appendix 2-C Sample Vignette

You are the Chief Executive Officer (CEO) of FHN Corporation. You are also on the board of directors of PUTT Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee for which you serve is the compensation committee.

Your company, FHN Corporation, does not perform any services for PUTT, nor does it anticipate doing so. You serve on the compensation committee of the board of directors for PUTT as an independent director. Serving with you on the compensation committee are five other members: Three are CEO's of other companies, one is a dean of a business school, and one is a retired U.S. senator.

Your compensation as CEO of FHN Corporation is in QWERTs, a non-denominational monetary unit.

You currently make 70 Qwerts as CEO.

The industry of PUTT has a CEO average compensation of 70 QWERTs.

The average compensation of all CEOs in all industries is 70 QWERTs.

- The golf equipment industry grew 10% this past year.
- PUTT Company grew at a 6% pace.
- Last year's earnings per share for PUTT was \$1.00. This year's earnings per share for PUTT is \$1.06.
- PUTT's closest competitor's earnings per share numbers are \$1.10 for the current year. The size of PUTT is comparable to the industry average, as is the total sales volume, and the number of shares of common stock outstanding.
- PUTT's operating margins and net income levels are below industry averages.

The compensation committee of the board of PUTT Company performs an annual compensation review of the chief executive officer. Your task as a member of the compensation committee is to set the compensation level of the CEO in QWERTS.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in QWERTs will you award to the CEO of PUTT Company?

_____ Qwerts

Appendix 2-D Post-Experimental Survey

Post Case Questions

1. Describe your role in this case
 - a. A chief executive officer (CEO) serving on a board of directors
 - b. A dean of a business school serving on a board of directors
 - c. A retired senator serving on a board of directors

2. On a scale of 1 to 7 rate PUTT Company's performance

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____
below _____ average _____ above

3. In this case, is your compensation decision
 - a. private and confidential
 - b. public and disclosed

Based on your role in the case, rate your association or connection to the following group(s) by circling a number.

4. Chief Executive Officers (CEOs)

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____
weak _____ strong

5. Non-CEOs (e.g., retired senators or business school deans)

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____
weak _____ strong

6. Board of Directors

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____
weak _____ strong

7. Please rate the difficulty in determining the compensation level.

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____
difficult _____ easy

8. Please rate the difficulty in assessing the information provided

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____
difficult _____ easy

References

- Adut, D., Cready, W.H., & Lopez, T.J. (2003). Restructuring Charges and CEO Cash Compensation: A Reexamination. *The Accounting Review*, 78(1), 169-192.
- Argote, L., Seabright, M. A., & Dyer, L. (1986). Individual versus Group Use of Base-Rate and Individuating Information. *Organizational Behavior & Human Decision Processes*, 38, 65-75.
- Ashton, R.H., & Kramer, S.S. (1980). Students as Surrogates in Behavioral Accounting Research: Some Evidence. *Journal of Accounting Research*, 18(1), 1-15.
- Bainbridge, S.M. (2002). Why a Board? Group Decisionmaking in Corporate Governance. *Vanderbilt Law Review*, 55(1), 1-55.
- Baumeister, R. F., & Leary, M. R. (1995). The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation. *Psychological Bulletin*, 117(3), 497-529.
- Belliveau, M.A., O'Reilly, C.A., & Wade, J.B. (1996). Social Capital At The Top: Effects Of Social Similarity And Status On CEO Compensation. *Academy of Management Journal*, 39(6), 1568-1593.
- Bhagat, S., & Black, B. (2002). The Non-Correlation Between Board Independence and Long-Term Firm Performance. *Journal of Corporation Law*, 27(2), 231-273.
- Burns, J. (2003). Everything You Wanted to Know About Corporate Governance...But didn't know to ask. *Wall Street Journal*, 10-27-2003, R6
- Daily, C. M., Johnson, J. L., Ellstrand, A. E., & Dalton, D. R. (1998). Compensation Committee Composition As A Determinant Of CEO Compensation. *Academy of Management Journal*, 41(2), 209-220.
- Dechow, P.M., Huson, M.R., & Sloan, R.G. (1994). The Effect of Restructuring Charges on Executives' Cash Compensation. *The Accounting Review*, 69(1), 138-156.
- Duru, A., & Iyengar, R. J. (1999). Linking CEO pay to firm performance: Empirical evidence from the Electric Utility Industry. *Managerial Finance*, 25(9), 21-33.
- Duru, A., Iyengar, R. J., & Thevaranjan, A. (2002). The Shielding of CEO compensation from the effects of strategic expenditures. *Contemporary Accounting Research*, 19(2), 175-193.
- Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, 88(2), 288.
- Festinger, L. (1950). Laboratory experiments: the role of group belongingness. *Miller, James Grier*.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Forsythe, R., Lundholm, R. (1990). Information Aggregation in an Experimental Market. *Econometrica*, 58(2), 309-347.

- Forsythe, R., Palfrey, T.R., & Plott, C.R. (1982). Asset valuation in an experimental market. *Econometrica*, 50(3), 537-568.
- Friedman, J.W. (1967). An experimental study of cooperative duopoly. *Econometrica*, 35, 379-397.
- Gaver, J.J., & Gaver, K.M. (1998). The Relation Between Nonrecurring Accounting Transactions and CEO Cash Compensation. *The Accounting Review*, 73(2), 235-253.
- Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror Management Theory of Self-Esteem and Cultural Worldviews: Empirical Assessments and Conceptual Refinements. *Advances in Experimental Social Psychology*, 61-139.
- Iyengar, R. J. (2003). Executive Compensation in Perennially Loss-making Firms. *Finance India*, 17(1), 199-214.
- Kachelmeier, S.J., Shehata, M. (1997). Internal auditing and voluntary cooperation in firms: a cross-cultural experiment. *The Accounting Review*, 72(3), 407-431.
- Kelly, K., Craig, S., & Dugan, L. J. (2003, November 19). Big Board Members Appear to Embrace Governance Changes. *The Wall Street Journal*, p. C1.
- Lambert, R. A., & Larcker, D. F. (1987). An analysis of the use of accounting and market measures of performance in executive compensation contracts. *Journal of Accounting Research*, 25(supplement), 85-125.
- Libby, R., Bloomfield, R., & Nelson, M. W. (2002). Experimental research in financial accounting. *Accounting, Organizations and Society*, 27(8), 775-810.
- Naughton, K. (2002, September 23, 2002). The Perk Wars. *Newsweek.MSNBC.com*, 2.
- Natarajan, R. (1996). Stewardship Value of Earnings Components: Additional Evidence on the Determinants of Executive Compensation. *Accounting Review*, 71(1), 1-22.
- Newman, H.A., & Mozes, H.A. (1999). Does the Composition of the Compensation Committee Influence CEO Compensation Practices? *Financial Management*, 28(3), 41-53.
- O'Reilly, C. A., Main, B. G., & Crystal, G. S. (1988). CEO compensation as tournament and social comparison: A tale of two theories. *Administrative Science Quarterly*, 33(2), 257-274.
- Peecher, M. E., & Solomon, I. (2001). Theory and experimentation in studies of audit judgments and decisions: Avoiding common research traps. *International Journal of Auditing*, 5(3), 193-203.
- Perel, M. (2003). An Ethical Perspective on CEO Compensation. *Journal of Business Ethics*, 48(4), 381-391.
- Plott, C.R., & Sunder, S. (1982). Efficiency of experimental security markets with insider information: an application of rational expectations models. *Journal of Political Economy*, 90, 663-698.

- Sedor, L. M., & Kadous, K. (2004). The efficacy of third-party consultation in preventing managerial escalation of commitment: The role of mental representations. *Contemporary Accounting Research*, 21(1), _-_.
- Sheikholslami, M. (2001). EVA, MVA, and CEO Compensation. *American Business Review*, 19(1), 13-17.
- Sloan, R. G. (1993). Accounting earnings and top executive compensation. *Journal of Accounting and Economics*, 16(1-3), 55-100.
- Stoner, J. A. F. (1961). A comparison of individual and group decisions involving risk. *Unpublished Master's Thesis*, Massachusetts Institute of Technology.
- TIAA-CREF. (2002). *TIAA-CREF Policy Statement on Corporate Governance*. Retrieved 3 Dec 2002.
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339.
- Ulick, J. (2003, March 25). CEO Salaries, Bonues Keep Rising. *CNN/Money*, pp. 1-4.
- Ulick, J. (2003b, April 22). Anger rising over CEO pay. *CNN/Money*, pp. 1-3.
- Wall Street Journal / Mercer Human Resource Consulting (2003). *2002 CEO Compensation Survey and Trends*, 1-28
- Whyte, G. (1993). Escalating commitment in individual and group decision making: A prospect theory approach. *Organizational Behavior & Human Decision Processes*, 54(3), 430-455.
- Young, M. N., & Buchholtz, A. K. (2002). Firm Performance and CEO Pay: Relational Demography as a Moderator. *Journal of Managerial Issues*, 14(3), 296-313.
- Zajac, E.J., & Westphal, J.D. (1996). Who Shall Succeed? How CEO/Board Preferences and Power Affect the Choice of New CEOs. *Academy of Management Journal*, 39(1), 64-90.

Chapter 3: An Experiment on the “Pay-For-Performance” Standard in Executive Compensation: Affect as an Influencing Factor on Decision Makers

3.1 Introduction

It has been generally noted and observed that the “pay-for-performance” exemplar in CEO circles may not be perfect or exist at all (e.g., O’Reilly et al., 1988; Fosberg, 1999; Iyengar, 2003). Why do decision makers not strictly follow this “pay-for-performance” paradigm? The difficulty is that many decisions are made in an environment of uncertainty, multiple frames of reference, and ambiguity. In such an environment members of a corporate compensation committee evaluate and determine the future compensation of the CEO. This evaluation and determination of compensation must be accomplished in the presence of past and current performance measures and in the presence of both relevant and irrelevant reference points. The committee members may use multiple frames of reference such as industry comparables for performance and pay, and their own personal reference points of personal performance and pay. For example, an outside CEO serving on the compensation committee evaluating the performance and compensation of the CEO may refer to benchmarks of the industry. The outside CEO may also refer to his or her own pay and performance as compared to that of the focal CEO under evaluation. Such reference points as industry or personal pay and performance may elicit either favorable or unfavorable emotions in the outside CEO in the compensation setting decision process.

Research indicates that decision makers under uncertainty exhibit different types of decision-making behavior depending on whether the alternatives are in a gain or loss framework. Prospect theory (Kahneman and Tversky, 1979) describes the gains and

losses along a value function where decision values change depending upon a reference point and the magnitude of change from that reference point. This translates into a theory that describes that decision makers, working from the reference point, tend to be risk averse in a gain context and risk seeking in a loss context. In a riskless choice scenario, decision makers seek loss aversion from a reference point and favor the status quo over other options (Tversky and Kahneman, 1991). In either risky or riskless decision-making, the measure of utility is relative to the decision maker. That is, the determination of an outcome as a gain or loss (the payoff or utility) is relative to the decision maker (Kapteyn, 1977). This leads to variable preferences based on psychological and sociological factors such as norms and opinions (Stadt et al., 1985) in the determination of such outcomes.

One psychological factor that has been shown to influence the behavior of decision makers is their affective reactions (Moreno et al., 2002). A decision maker's emotions may serve to either create a behavior in accordance with or in contradiction to Prospect Theory. In this research, the origination of the emotion for the decision maker stems from internal and external anchors, such as personal pay and performance and industry average pay and performance. For example, an outside CEO on the compensation committee might be "upset" that his or her compensation is below the average and this may then negatively impact the pay setting decision for the focal CEO.

In the executive compensation committee setting, the determination of a gain or a loss in the decision process is from the perspective of the outside CEO serving on the compensation committee, not the focal CEO. The utility or payoff of the outcome is not the compensation of the focal CEO, but some other factor affecting the outside CEO

director. In this study we propose that the outside CEO's payoff and the determination of the gain or loss is based upon the affective reaction. That is, a gain context is one in which the outside CEO is apt to have a positive emotion and a loss context is one in which the outside CEO is apt to have a negative emotion. This research examines the decision-making behavior in a role-playing executive compensation setting environment. When given multiple anchors, we propose that subjects will seek to minimize negative emotions in their decision-making behaviors. In this study, the affective state is the utility measure of the subjects that serves to create a gain or loss context. This affective preservation or loss aversion, we believe follows the predictions of Prospect Theory. That is, the value function created by the affective state is more steep on the loss side as compared to the gain side, indicating behavior that is risk seeking. Subjects in a negative affect scenario anchor more strongly to personal reference points than subjects in a positive affect scenario. The distance in movement from a neutral reference point to the decision outcome is greater under negative affect than positive affect, indicating more risky behavior under the negative affect domain.

In this research, subjects examine the performance (fixed) of a fictitious CEO and award compensation. Results indicate that the personal reference points and affect of the subjects, those setting the compensation, influence the "pay-for-performance" ideal. The affect of the subjects is manipulated through the use of anchors or personal reference points as to their own individual compensation and performance as executives. Our results indicate that subjects, role-playing in an executive compensation setting, exhibit decision-making behavior consistent with Prospect Theory. We use an anchor of *personal compensation* to create positive or negative affect and find subjects anchor more

strongly under negative affect than positive affect conditions. That is, director-subjects paid below (above) the industry average award lower (higher) compensation than the industry average. Also, as predicted under Prospect Theory, the negative affect or loss side of the value function has a slope steeper than the positive affect or gain side. Further, we introduce a second anchor of *personal performance* to elicit an additional affect. We find this anchor, too, is significant in predicting awarded compensation, particularly in the negative affect scenarios. For subjects role-playing with *personal compensation* below the average, the second anchor of *personal performance* serves to even further reduce the awarded compensation. We find this decrease in awarded compensation regardless of whether the personal performance anchor is designed to elicit positive or negative affect.

This article proceeds as follows. We first review prior research relating to executive compensation decision and research in risky decision-making and affect to develop a set of hypotheses. We then describe the research methodology, results, and conclusion.

3.2 Related Literature

3.2.1 Executive Compensation

Ideally, executive compensation and firm performance are perfectly correlated, but associative studies on CEO compensation and performance have yielded mixed results. Some research suggests a positive relationship between pay and performance (Akhigbe et al., 1997; Duru and Iyengar, 1999; Gomez-Mejia et al., 1987; Lambert and Larcker, 1987; Natarajan, 1996; Newman and Mozes, 1999; Young and Buchholtz,

2002). Other research indicates a weak, poor, or negative relationship of pay to performance (O'Reilly et al., 1988; Fosberg, 1999; Iyengar, 2003). One difficulty with the various analyses is the nature of correlational research and the presence of confounding factors. Multiple determinants of CEO compensation may exist and researchers have proposed exploration of alternative theories (Daily et al., 1998) and moderator variables (Tosi et al., 2000) to further explain executive pay. This research examines one such moderator, the affect of decision makers, as a variable that has influence upon the compensation setting outcome. Additionally, this research serves to add to the literature by utilizing an experimental approach in an effort to isolate cause and effect factors unreachable in past associative studies.

3.2.2 Risky Decision Making

Prospect theory describes decision-making under risk or uncertainty as a choice between outcomes (Kahneman and Tversky, 1979). Under Prospect Theory, decision-making behavior is dependent upon the frame of reference of the decision maker and whether the alternatives are in a gain or loss context. In gain context decision makers are risk averse, while in a loss context decision makers are risk seeking. For example, a manager may be risk averse when deciding upon risky investment projects when the company is performing above expectations. The same manager may be risk seeking in the same decision if the company is performing below expectations. Extensive research supports such predictions (e.g., Tversky and Kahneman, 1981, 1986, 1991; Schoemaker, 1990; Bromiley, 1991; Myagkov and Plott, 1997). Decision-making under risk using accounting information arises throughout the business process. For example, decision

makers may weigh the need to make capital investment decisions, expand or contract product offerings, or determine the amount of the next wage increase. Decision-under-risk research has been performed in the accounting arena under topics such as tax (Schisler, 1994), managerial accounting and investment decisions (Sullivan and Kida, 1995), and managerial accounting and variance investigation (Lipe, 1993). Schisler (1994) finds that tax preparers behave according to Prospect Theory when in a position contrary to a client. When in agreement with the client it is the taxpayer who envisions an outcome that is a gain or loss, not the preparer. The author notes it is only in an opposing position to a client that there exists a potential monetary gain or loss for the preparer, and that is the potential loss of the fee. Sullivan and Kida (1995) find that decision makers with multiple points of reference exhibit behavior more complex than Prospect Theory would suggest. The authors find that managers do not focus on just one reference point but multiple points resulting in a mixture of risk taking and risk avoiding behaviors. Lipe (1993) finds that hindsight bias of prior results and the framing of variances as gains or losses influence managers in making variance investigation decisions. Furthermore, investigators are evaluated more favorably when investigations identify problems. That is with hindsight, an investigation without a problem identification is deemed to be a loss, while an investigation that is successful in a problem identification is deemed to be beneficial. This body of research indicates the outcomes are dependent upon the perspective of the individual, multiple reference points add complexity to the decision process, and past results influence the decision maker. However, research on risky decision-making as it relates to CEO compensation in an experimental fashion seems to be limited.

3.2.3 Affective Reactions

Affect or emotion encompasses a wide range of human feelings, and core affect may be thought of as mood where individuals may feel “good” or “bad” (Russell, 2003). Research has shown that affect is a physiological process that may influence the cognitive processing of individuals (e.g., Cacioppa and Gardner, 1991; Russell and Barrett, 1999). This influence of emotion has been studied in economic (e.g., Tiedens and Linton, 2001; Lerner et al., 2004) and non-economic (Mellers et al., 1999) choice selections and has been shown to overpower, in certain circumstances, the predicted behavioral outcome of Prospect Theory (Moreno et al., 2002). During a capital budgeting decision, managers follow Prospect Theory in the absence of affect; however, when affect is introduced, managers tend to reject capital budgeting options that elicit negative emotions and accept those with positive emotions. This runs contrary in payoff terms to Prospect Theory (Moreno et al., 2002). In this case, affect was pitted against Prospect Theory and affect was found to be a strong moderator.

3.3 Hypotheses Development

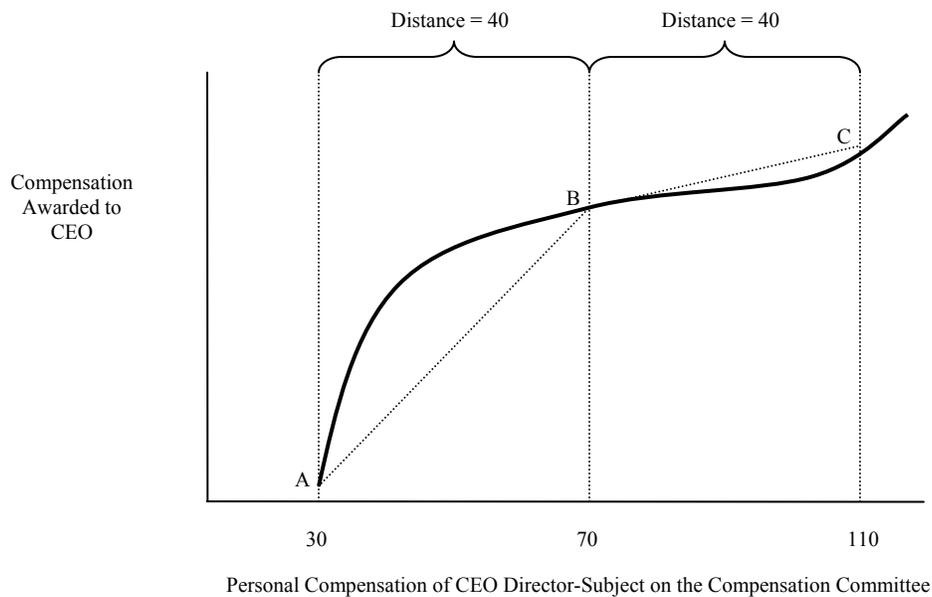
This research examines circumstances where affect works within the framework of Prospect Theory where the gain (loss) situation is defined as the outcome with positive (negative) affect. When subjects role-playing as directors are setting the compensation of the CEO, the utility or payoff of the outcomes or choices of the directors may be positive or negative emotions. The directors do not specifically gain or lose monetarily for this decision, but the decision they make may make them feel good or bad. For example,

consider a CEO director that is compensated at less than the industry average. This director may experience negative affect due to this personal anchor, which may in turn influence his/her compensation award to the focal CEO. In awarding compensation to the focal CEO that is closer to his/her own, the CEO director may minimize this negative affect. In this experiment, this positive or negative state is dependent upon their anchors of personal compensation. Affect, then, becomes the currency within Prospect Theory. Stated in the alternative form, we hypothesize the following:

H1a: *Subjects with a negative or below average personal compensation (positive or above average personal compensation) will award lower (higher) compensation than subjects with the industry average compensation anchor.*

Figure 3-1 illustrates the expected value function curve following Prospect Theory.

Figure 3-1. Single Anchor: Expected Value Function Curve Following Prospect Theory



Hypotheses: Using Single Anchor of Personal Compensation

H1a: $A < B < C$

H1b: Slope AB > Slope BC

As noted by the function curve predicted by Prospect Theory, the loss or negative affect side will have a steeper curve than the gain or positive affect side. We argue that in a loss situation, as noted by negative affect, subjects will be risk seeking; and in a gain situation, as noted by positive affect, subjects will be risk averse (or less risk seeking). The magnitude of risky decision outcomes in our case is defined as the distance from the unanchored mean (one without affect) to the anchored mean (one with affect). This follows Prospect Theory's magnitude of change from a reference point (Kahneman and Tversky, 1979) and determines the general shape of the slope. Therefore, based on the general shape of this curve and stated in the alternative form, we hypothesize:

H1b: *Subjects with a negative personal compensation anchor will have a magnitude of change greater than the subjects with a positive personal compensation anchor (from the subjects with the industry average personal compensation anchor).*

While the first set of hypotheses deal with a single anchor, *personal compensation*, the second set of hypotheses deal with *personal compensation* and *personal accounting performance*. We suggest that an additional affective anchor will exacerbate the results from a single anchor. This additional anchor will serve to cognitively occupy the subject, thus causing the subject to affix his/her decision more firmly to the primary anchor. The primacy effect of the first anchor, *personal compensation*, should dominate the recency effect of the second anchor, *personal performance* (Altmann, 2000). In introducing performance anchors to the subjects, we believe the additional anchor will cause subjects on the negative affect side to grant even further reduced compensation, and subjects on the positive side to grant even greater

compensation, regardless of whether the performance anchor itself is negative or positive. Again, in accordance with the value function curve suggested by Prospect Theory, we hypothesize that the change due to the introduction of the performance anchor in the negative affect realm will be greater than the change in the positive affect realm. Stated in the alternative form, we hypothesize:

H2a: *Subjects with the personal performance anchor and the negative (positive) personal compensation anchor will award less (greater) compensation than the negative (positive) personal compensation anchor alone.*

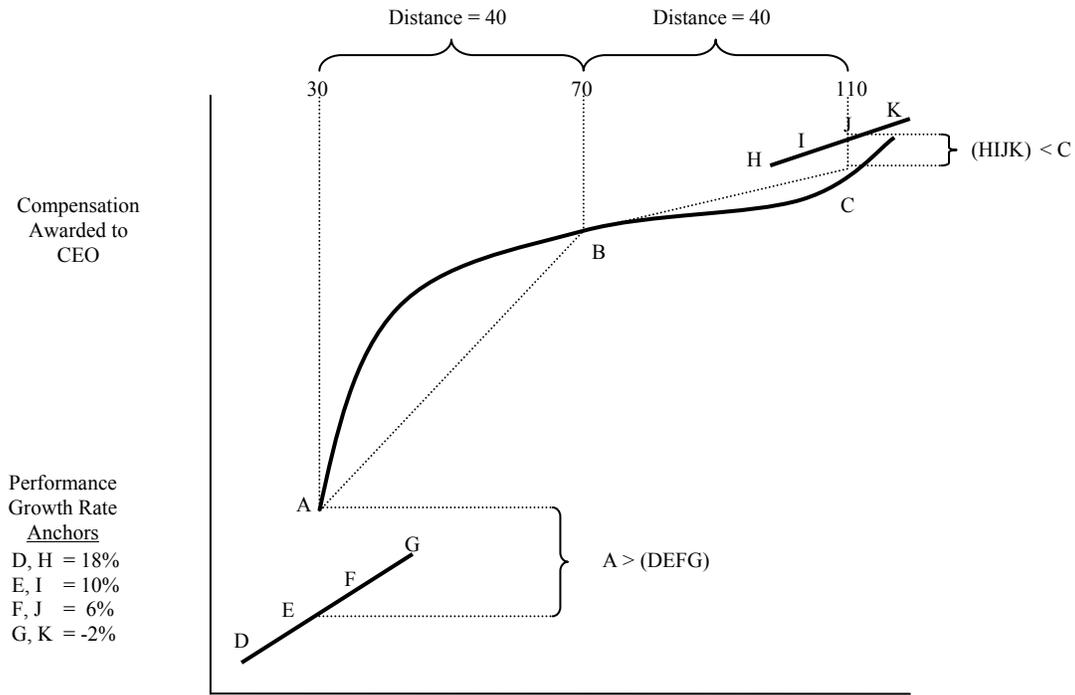
Lastly, within the general negative and positive areas of the personal compensation anchors, we suggest that positive and negative performance anchors will cause an increase or decrease in awarded compensation. Specifically, we hypothesize that subjects will award compensation inversely to their personal performance anchors. While this may seem counter-intuitive at first, the performance anchors should serve to reinforce the affect from the compensation anchor. For example, a subject is asked to determine the compensation of a CEO who is performing slightly below average in an industry where the mean compensation is 70. If the subject has a personal compensation level of 30, which is below average, this elicits negative emotion. If the subject has a personal growth rate or accounting performance below average and below average compensation, the subject has negative emotion, but it can be rationalized as “deserved”. If a subject has a personal growth rate or accounting performance well above average, though, but is paid well below average, the negative emotion will be the greatest resulting in the lowest awarded compensation. Therefore, given an industry average growth rate of 10%, if we use personal performance anchors of -2%, 6%, 10%, and 18% growth, and if

affect does influence the decision maker, we would expect compensation to be the highest with the -2% anchor and lowest with the 18% anchor. A subject will award the least compensation when their personal compensation anchor is 30 (compared to an industry average of 70) and a personal performance anchor of 18% growth (compared to an industry average of 10%). Subjects will feel the most negative affect when they have over-performed the average (given their personal compensation) and will feel the most positive affect when they have under-performed the average. Stated in the alternative form we have the following hypotheses:

H2b: *Subjects will award compensation inversely to their own personal performance anchors.*

Figure 3-2 illustrates expected value function curve following Prospect Theory and the expected values due to the introduction of the second anchor. The general shape of the diagram depicts the expectations for exacerbation of awards due to the second anchor and the consequence of the affect within this second anchor.

Figure 3-2. Two Anchors: Expected Value Function Curve Following Prospect Theory



Personal Compensation of CEO Director-Subject on the Compensation Committee

Hypotheses: Using Personal Compensation and Personal Performance Anchors
 $(D < E < F < G) < A$ and $(H < I < J < K) > C$

3.3 Methodology

3.3.1 Participants

Subjects in our study were 307 undergraduate students at a large, southeastern university. The subjects were recruited from seven class sections of undergraduate, second semester principles of accounting classes. Undergraduate subjects were chosen as opposed to professionals or actual directors for two primary reasons: (1) a large sample size and, (2) minimization of external confounds such as personal pay. Although the use of college students in behavioral accounting research has been performed in the past, we acknowledge that it is not ideal but may be practical. Our experiment is centered on

decision-making with subjects fairly immersed in their roles. Following Sedor and Kadous (2004), student subjects are appropriate since this study utilizes theories centered on characteristics not dependent on the professional population (Peecher and Solomon, 2001; Libby et al., 2002). Evidence in student surrogate studies examining attitudes show there is a divergence between students and other subjects, while in studies examining decision-making, considerable similarities exist (Ashton and Kramer, 1980).

The subject pool contained 171 male and 136 female students with an average age of 19.84 years. Participation was voluntary and those who chose to take part received either extra-credit or a waiver of one homework grade, equal to three points out of five hundred and fifty total points for the class. We initially began with 323 subjects. Of these, we eliminated 2 participants as outliers⁷, and we eliminated 14 participants who incorrectly identified their roles in a manipulation check. Table 3-1, Panel A, shows the derivation of our sample, Panel B contains the descriptive statistics of the sample, and Panel C presents the total number of subjects by experimental case.

⁷ With a mean dependent variable response of 67.48 Qwert (fictitious monetary unit), we eliminated two cases as outliers (responses of 2 and 77,000) using the jackknife method (Ott and Longnecker [2001]) of point-by-point analysis.

Table 3-1. Sample Overview

Panel A. Derivation of Sample

Original sample size	323
Less: compensation of outlier responses	2
Less failed manipulation check responses	<u>14</u>
Final Sample	<u>307</u>

Panel B. Descriptive Statistics of Sample

Male	171	
Female	<u>136</u>	
Final Sample	<u>307</u>	
Age	19.84	mean
	0.98	standard deviation

Panel C. Total Number and Percentages of Subjects by Case

<i>Case</i>	<i>Total</i>	<i>Percentage</i>
0	25	8.1%
1	30	9.8
2	29	9.4
3	31	10.1
4	27	8.8
5	29	9.4
6	29	9.4
7	27	8.8
8	28	9.1
9	25	8.1
10	<u>27</u>	<u>8.8</u>
Final Sample	<u>307</u>	100.0%

3.3.2 Overview of Experiment

Subjects were given a vignette and asked to role-play as an outside CEO director on the compensation committee of Putt, a fictitious industrial company in the golfing sector. Approximately one week prior to the experiment, students were asked to read a one-page overview on corporate governance (Appendix 3-A). We did this in order to

provide a summary of the responsibilities and obligations of the board of directors and the compensation committee. As a member of this committee, they were to use the information provided in the vignette to determine the compensation of the CEO of Putt. The subjects were further told that there were no incorrect answers to the compensation question. The vignettes (0 through 10) provide various accounting and economic performance indicators such as the growth rate of the golfing industry (10%), the growth rate of Putt (6%), earnings per share, the average compensation of CEOs in the industry and in whole, and the compensation of subject-director (30, 70, 110). The compensation amounts indicated are in a fictional monetary unit called a Qwert. This experimental device was employed to minimize potential personal biases and knowledge as to contemporary compensation levels. While we believe the use of this device somewhat retards ecological validity, we also believe it improves internal validity. Additionally, vignettes 3 through 10 describe to the subject the growth rate of their base company, ABC (-2%, 6%, 10%, 18%). Lastly, questions regarding personal demographic data and a manipulation check were asked before the subjects exited the experiment.

3.3.3 Decision Scenarios

We use the personal reference points of the subject-directors to trigger the affective reaction in our experiment. For each subject, personal compensation is his or her compensation as a CEO in the outside company (and industry), and personal performance is his or her performance as the CEO in that company. Subjects should experience positive (negative) affect when their own pay is above (below) that of the industry average, and should experience positive (negative) affect when their

performance is below (above) that of the industry. The latter may be explained in relation to pay and peer performance. For example, assume for a moment you are a CEO director who is paid below the industry average (which alone elicits negative affect). You then determine that your accounting and economic performance is above the average. The combination of these two factors, below average compensation with above average performance, creates even greater negative affect.

Subjects assigned to role-play using vignettes zero through two have personal anchors of compensation only. In these vignettes, the subjects are given their own compensation levels but not their accounting or economic growth rates of the company they personally manage. Each subject has a personal compensation equidistance level of 30, 70, or 110 in which to compare to the industry average level of 70. Based on this information, we expect the subject directors to anchor to personal data in selecting a compensation level.

Subjects assigned to role-play using vignettes three through six (seven through ten) have personal compensation levels of 30 (110) Qwert, which is below (above) the industry average of 70. Additionally, personal performance indicators of accounting and economic growth rates for the CEO director-subjects of -2%, 6%, 10%, or 18% are given (Table 3-2). These growth rates are for the companies the subjects personally manage. These reference points serve to create further affective reactions from the subject-director. For example, the subject-director with compensation of 30 may experience negative affect, particularly when it is known the industry average compensation is 70 (Vignette 0). A subject-director with compensation of 30 and a growth rate of +18% may experience even greater negative affect, given that they know they are paid less than the

industry average and they performed better than same (Vignette 6). The larger the negative affect, the less the subject-director will award in compensation, presumably to reduce negative feelings. The breakdown by case, by manipulation is shown in Table 3-2. See Appendix 3-B for a sample vignette.

Table 3-2. Number of Subjects by Case, Compensation Anchor Levels, and Growth Anchor Levels

Case	Compensation Anchor (Qwerts) [#]			Growth Rate Anchor
	30	70	110	
0		25		Not given
1	30			Not given
2			29	Not given
3	31			-2%
4	27			6%
5	29			10%
6	29			18%
7			27	-2%
8			28	6%
9			25	10%
10			27	18%
Sub-total (3-10)	116	0	107	
Total	146	25	136	= 307

[#] Fictional monetary unit used as an experimental device to reduce potential confounds

3.4 Results

The results provide support for H1a, that subjects with a negative or below average personal compensation (positive or above average personal compensation) will award lower (higher) compensation than subjects with the industry average compensation anchor. Results indicate that subjects anchor to their own personal compensation. Our expectation in awarded compensation for H1a in our experiment is $Case1_{30} < Case0_{70} < Case2_{110}$ which means those with a personal compensation anchor of 30 award less than

those with an anchor of 70, who likewise award less than those with an anchor of 110.

This is expressed in the following relationship where *Qwert* is the dependent variable and awarded compensation, and *Compensation* is the independent variable and personal anchor of each subject *i*.

$$Qwert_i = \alpha + \beta_1 Compensation_i$$

The results indicate general support for H1a with means for Case1₃₀, Case0₇₀, and Case2₁₁₀ of 66.45, 70.03, and 71.76, respectively (Table 3-3, Panel A; F = 4.463; p = 0.038); and in the broader view of all cases with compensation of 30, 70, and 110 with means of 62.69, 70.03, and 72.14 (Table 3-3, Panel B; F = 45.525; p < 0.001). However, we also note that in a single-tail t-test on means comparisons, Case0₇₀ is not significantly different than Case2₁₁₀ (Table 3-4; p = 0.262). Case0₇₀, though, is significantly different than Case1₃₀ (Table 3-4; p = 0.038).

Table 3-3. ANOVA and Coefficients Tables*Panel A. Single Predictor (Compensation Anchor) Cases 0, 1, and 2*

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	417.579	1	417.579	4.463	0.038
Residual	7672.830	82	93.571		
Total	8090.409	83			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	64.722	2.430		26.632	0.000
Compensation	0.067	0.031	0.227	2.113	0.038

Panel B. Single Predictor (Compensation Anchor) Cases 0 - 10

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	6320.619	1	6320.619	45.525	0.000
Residual	42345.841	305	138.839		
Total	48666.460	306			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	59.341	1.381		42.982	0.000
Compensation	0.118	0.018	0.360	6.747	0.000

Panel C. Two Predictors (Compensation and Performance Anchors) Cases 0 - 10

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	7449.254	2	3724.627	24.471	0.000
Residual	41217.206	304	135.583		
Total	48666.460	306			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	60.891	1.466		41.530	0.000
Compensation	0.118	0.017	0.360	6.821	0.000
Performance	-0.269	0.093	-0.152	-2.885	0.004

Panel D. Two Predictors (Compensation and Performance Anchors) Cases 3 - 10

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	6955.225	2	3477.612	23.033	0.000
Residual	33216.675	220	150.985		
Total	40171.900	222			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	59.772	1.855		32.219	0.000
Compensation	0.132	0.021	0.393	6.410	0.000
Performance	-0.256	0.113	-0.139	-2.267	0.024

Note: For all Panels above, the dependent variable is awarded compensation, or Qwert, a fictitious monetary unit

Table 3-4. T-Test Means Comparisons

Panel A. Case-to-Case single-tail p-values												
Case	70	30	110	30	30	30	30	110	110	110	110	Compensation Anchor Performance Anchor Average Response by Case (Qwerts)
				-2%	6%	10%	18%	-2%	6%	10%	18%	
	70.03	66.45	71.76	63.75	60.19	61.58	61.10	75.39	73.90	72.50	67.19	
	0	1	2	3	4	5	6	7	8	9	10	
0												
1	0.038											
2	0.262	0.041										
3	0.002	0.143	0.006									
4	0.002	0.041	0.003	0.160								
5	0.002	0.061	0.003	0.245	0.349							
6	0.006	0.070	0.005	0.232	0.467	0.453						
7	0.005	0.001	0.119	0.000	0.000	0.000	0.000					
8	0.038	0.003	0.248	0.000	0.000	0.000	0.001	0.288				
9	0.146	0.019	0.412	0.002	0.001	0.001	0.003	0.156	0.319			
10	0.063	0.380	0.064	0.084	0.025	0.038	0.046	0.001	0.006	0.031		

Note: Per Levene's Test, we do not assume equal variances for p-values in testing comparisons for all cases. The results are not qualitatively different.

Panel B. Case-to-Case t-values											
Case	0	1	2	3	4	5	6	7	8	9	10
0											
1	1.808										
2	-0.643	-1.777									
3	3.009	1.077	2.640								
4	3.054	1.787	2.966	1.008							
5	2.997	1.575	2.880	0.695	-0.350						
6	2.626	1.502	2.698	0.738	-0.211	0.118					
7	-2.704	-3.561	-1.195	-4.542	-4.285	-4.397	-3.894				
8	-1.819	-2.872	-0.688	-3.839	-3.801	-3.841	-3.497	0.563			
9	-1.068	-2.145	-0.223	-3.051	-3.262	-3.218	-2.895	1.007	0.475		
10	1.559	-0.308	1.551	-1.400	-2.018	-1.809	-1.727	3.332	2.636	1.913	

Note: Per Levene's Test, we do not assume equal variances for all cases. The results are not qualitatively different.

While results do not completely support all aspects of hypothesis H1a, the above results are de facto support of hypothesis H1b. Our expectation for H1b is that the magnitude of changes will be greater for the subjects with a negative personal

compensation anchor than subjects with a positive personal compensation anchor (from the subjects with the average personal compensation anchor). If the loss side (negative affect) has a steeper slope than the gain side (positive affect), there will be a greater difference between the means to the control. We expect that the difference in Case1₃₀ less Case0₇₀ will be greater than the difference in Case2₁₁₀ less Case 0₇₀. As previously noted by the single-tail t-test of means, we find a significant difference between Case1₃₀ and Case0₇₀ (Table 3-4; p = 0.038), but not between Case2₁₁₀ and Case0₇₀ (Table 3-4; p = 0.262). The difference between the means on the negative side (3.58) as compared to the difference between the means on the positive side (1.73) is significant using a single-tail t-test (t = - 1.787; p = 0.04). Therefore, the slope of the regressed line on the negative affect side (loss side) has a steeper slope than the positive affect side (gain side), which is in line with Prospect Theory and in support of our hypothesis.

We find support for H2a, that the introduction of a second anchor, namely personal performance, is a significant predictor of awarded compensation and in general strengthens the anchoring action, particularly on the loss side of the value function. We find this evidence in Cases 0 – 10 (Table 3-3, Panel C; p = 0.004) and in Cases 3 – 10 (Table 3-3, Panel D; p = 0.024). This is expressed in the following relationship where *Qwert* is the dependent variable and awarded compensation, *Compensation* is an independent variable and personal anchor, and *Performance* is an independent variable and personal anchor of each subject *i*.

$$Qwert_i = \alpha + \beta_1 Compensation_i + \beta_2 Performance_i$$

To test if each of the four levels of performance reduces (increases) the compensation award in the below (above) average personal compensation realm, we

examine the means at each level (Cases₃₀ 3-6 and Cases₁₁₀ 7-10) and compare them to the single personal compensation anchor (Case₁₃₀ and Case₂₁₁₀). In the negative realm with the personal compensation level of 30, we find the mean of 66.45 is reduced with the introduction of any of the performance anchors, although with only moderate significance with the 18% anchor (mean = 61.10; t = 1.502; p = 0.070) and the 10% anchor (mean = 61.58; t = 1.575; p = 0.061). The reduction is significant to the 6% (mean = 60.19; t = 1.787; p = 0.041), and not significant to the -2% anchor (mean = 63.75; t = 1.077; p = 0.143). We find no statistical significance between the performance anchors themselves (Table 3-4).

In the positive realm with the personal compensation level of 110, we find the mean of 71.76 is increased with the -2%, 6%, and 10% performance anchors, but not significantly. The performance anchor of 18% actually causes a *decrease* in compensation, which is not what we expected. To further examine this result we test for an interaction between *Compensation* and *Performance*. This is expressed in the following relationship:

$$Qwert_i = \alpha + \beta_1 Compensation_i + \beta_2 Performance_i + \beta_3 (Compensation_i)(Performance_i)$$

We find in an examination of Cases 3 – 10 that the model is significant (Table 3-5, Panel A; F = 15.955; p = 0.000), but only the Compensation variable is statistically significant (p = 0.000) with the introduction of the interaction term.

Table 3-5. ANOVA and Coefficients Tables for Interaction Analyses*Panel A. Compensation, Performance, Compensation x Performance (Cases 3-10)*

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	7205.103	3	2401.701	15.955	0.000
Residual	32966.796	219	150.533		
Total	40171.900	222			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	57.824	2.391		24.184	0.000
Compensation	0.161	0.030	0.479	5.297	0.000
Growth	-0.009	0.223	-0.005	-0.040	0.968
Growth x Compensation	-0.004	0.003	-0.178	-1.288	0.199

Panel B. Compensation x Performance (Cases 3 – 6)

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	86.810	1	86.810	0.434	0.511
Residual	22814.636	114	200.128		
Total	22901.446	115			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	62.646	1.927		32.509	0.000
Growth x Compensation	-0.004	0.006	-0.062	-0.659	0.511

Note: Growth is an excluded variable, Compensation is always 30 and included in the constant.

Panel C. Compensation x Performance (Cases 7 – 10)

Model	Sum of Squares	df	Mean Square	F	Significance
Regression	939.353	1	939.353	9.715	0.002
Residual	10152.161	105	96.687		
Total	11091.514	106			

Model	Unstandardized Coefficients		Std. Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	75.504	1.411		53.511	0.000
Growth x Compensation	-0.004	0.001	-0.291	-3.117	0.002

Note: Growth is an excluded variable, Compensation is always 110 and included in the constant.

Note: For all Panels above, the dependent variable is awarded compensation, or Qwert, a fictitious monetary unit

To determine if this is a function of the affect domain, we next examine Cases₃₀ 3 – 6

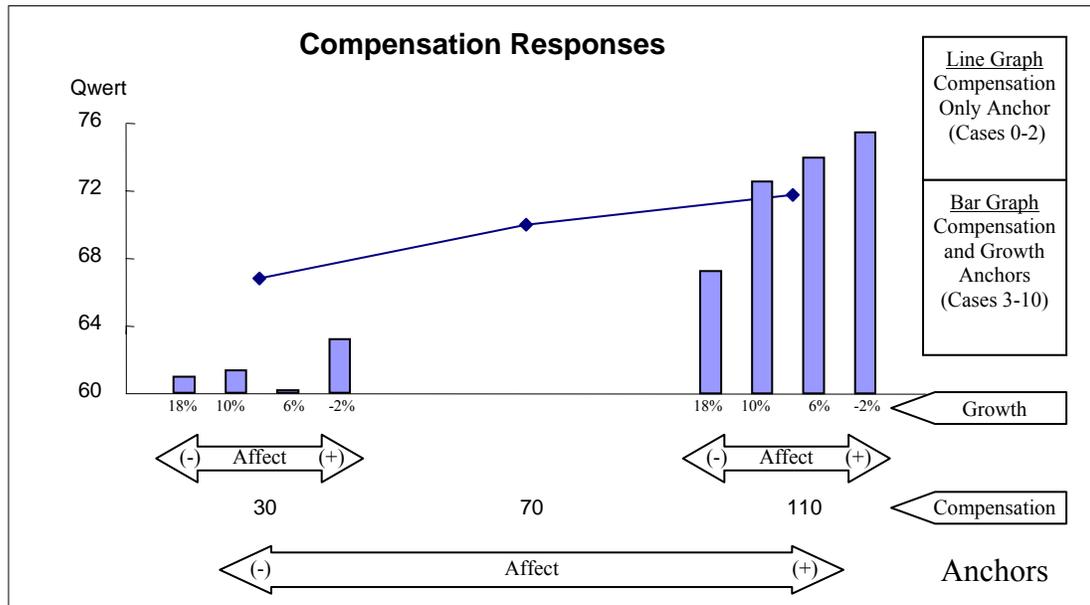
where the personal compensation anchor is 30. We find that the model is not statistically

significant (Table 3-5, Panel B; $F = 0.434$; $p = 0.511$). This is expected since we believe the additional anchor exacerbates the compensation award, not necessarily moderating the award. We follow this with an examination of Cases₁₁₀ 7 – 10 where the personal compensation anchor is 110 and find the model and the interaction term are significant (Table 3-5, Panel C; $F = 9.715$; $p = 0.002$). Therefore, we can conclude that an interaction occurs in the positive affect domain and exacerbation of the award decision does not necessarily exist.

A possible explanation for this interaction may be that in this case subjects were less likely to anchor to their own personal reference points and truly award compensation in an esoteric pay-for-performance manner. Given that the CEO, and the company the subjects are evaluating, is performing below the industry average (6% growth versus 10%), it seems possible that the subjects are awarding compensation solely on the merits of the performance indicated. Perhaps the most intriguing scenario is the behavior of the subjects with a 110 personal compensation and an 18% personal performance anchor. Since this group has a performance anchor far above the industry average, they may be relying more heavily on the performance anchor in their decision setting process. In this case the primary anchor may be performance with the secondary anchor as compensation. See Table 4 for a matrix of t-test means comparisons between all cases.

Hypothesis H2b, that subjects will award compensation inversely to their own personal performance anchors, is not supported in the above average personal compensation cases and only has limited support in the below average personal compensation cases. While we can visually see the effects of the second anchor in Figure 3-3, we only find limited support for our hypotheses.

Figure 3-3. Graphed Compensation Award Results



On the gain or positive affect side (Cases₁₁₀ 7-10 or those with personal compensation in excess of the industry average of 70), the additional anchor generally increased the awarded compensation but not significantly. On the loss or negative affect side (Cases₃₀ 3-6 or those with personal compensation at the 30 level, which is below the industry average of 70), the additional anchor generally decreased the awarded compensation with significant or moderately significant results. Using only the personal compensation anchor, Case₁₃₀ has a mean of 66.45. With the introduction of the additional personal performance anchor, though, the means drop to 63.75, 60.19, 61.58, and 61.10 for anchors -2%, 6%, 10%, and 18%, respectively. Using single-tail t-test means comparisons we have p-values of 0.143, 0.041, 0.061, and 0.070 (Table 3-4). While only the 6% anchor is significant below the 0.05 level, we can see that through the

introduction of the second anchor the means seem to move in the direction expected.

Table 3-6 provides the mean responses by case by manipulation.

Table 3-6. Mean Responses and Standard Deviations by Case and Compensation Anchor Levels

Case	Compensation Anchor (Qwerts) [#]			Std. Dev.	Growth Rate Anchor
	30	70	110		
0		70.03		3.08	Not given
1	66.45			9.48	Not given
2			71.76	13.12	Not given
3	63.75			10.04	-2%
4	60.19			15.83	6%
5	61.58			13.79	10%
6	61.10			16.73	18%
7			75.39	9.46	-2%
8			73.90	10.22	6%
9			72.50	11.13	10%
10			67.19	8.62	18%
Cases (3-10)					
Mean (3-10)	61.72		72.25	66.77	
Std. Dev.	14.11		10.23	13.45	
Cases (0-10)					
Mean (0-10)	62.69	70.03	72.15	67.48	
Std. Dev.	13.40	3.08	10.86	12.61	

[#] Fictional monetary unit used as an experimental device to reduce potential confounds

3.5 Conclusion

In our experimental condition where subjects role-play as CEO directors on the compensation committee, we find that subjects do not strictly base compensation on accounting performance but are influenced by reference points such as personal compensation and personal performance. When manipulating the personal compensation, we find subjects anchor more strongly under a negative affect than

positive affect scenario. That is, subjects more strongly anchor to their own pay when their pay is below some indicated average than when their pay is above some indicated average. This is consistent with Prospect Theory in that in the negative affect scenario the subjects are risk seeking and in the positive affect scenario the subjects are more risk averse. The awarded compensation is a greater distance from the average when subjects have a below average personal compensation than when subjects have an above average personal compensation. This difference in distance reflects and demonstrates a steeper slope under negative affect, the loss side of the value function, as compared to positive affect, the gain side of the value function.

When we introduce a second accompanying anchor, personal performance, we find the awarded compensation levels to be somewhat exacerbated. While personal performance is a significant indicator of awarded compensation, this largely stems from findings on the loss side. We find that anchor values that generate the greatest negative affect lower the awarded compensation. Regardless, though, whether the personal performance anchor is negative or positive, the anchor itself serves to reduce the awarded compensation on the loss side. We attribute this behavior to one of two possible reasons. First, it may be that the personal performance anchor serves to make the personal compensation anchor that much more salient. This second anchor could serve to strengthen the effect of the primary or personal compensation anchor. Secondly, it may be due to cognitive overload of the subjects. That is, the subjects may have more information than they can effectively process and more heuristically choose to anchor to his or her personal compensation. In either case, the awarded compensation moves closer to the personal compensation anchor.

This research adds to the literature in two ways. First, it experimentally explores factors that may affect the compensation decision-making process. Past studies have primarily been correlational in nature and somewhat hampered by confounding factors. Although we expect CEO pay should be driven primarily by accounting performance, we know from prior research this is not always the case (e.g., O'Reilly et al., 1988; Fosberg, 1999; Iyengar, 2003). Secondly, it shows that in decision-making in the absence of direct monetary payoffs, affect may influence the compensation decision. We show that the direction of the experimental results is consistent with Prospect Theory in this regard.

The greatest limitation with this research is the subject pool. Although we feel the underlying psychological processes are equivalent to those of actual CEO directors on the compensation committee, we acknowledge that other factors such as experience, familiarity, group dynamics, and social pressures may significantly change our results if replicated with a truer sample. Despite this limitation, though, our results still clearly show that affective reactions and personal reference points influence human judgments. We believe that the results of this study do apply to decision makers within the context of awarding compensation; however, one has to be cautious about extending the results of this study beyond the experimental context described herein.

A possible implication of this research is the examination of the personal compensation and performance of the compensation committee members and the lack of detailed compensation setting practices and guidelines. Given that the factors studied played a role in the decision-making process with subjects, boards may wish to prescribe conditions for compensation awards to eliminate or reduce human factors and subjectivity in the decision process. Future research in this area can focus on additional

factors that may affect the compensation setting decision, such as group decision-making, leadership influences, social comparisons, and other psychological factors that may influence the pay-for-performance scheme.

Appendix 3-A

Corporate Governance

A Very Short Overview

What is Corporate Governance?

“Corporate governance is a hefty-sounding phrase that really just means oversight of a company’s management – making sure the business is run well and investors are treated fairly” (Burns, *Wall Street Journal*, 10/27/2003).

Publicly traded companies are those whose stock is traded in a public forum, usually over the New York Stock Exchange (NYSE), the American Exchange (AMEX), National Association of Securities Dealers Automated Quotation System (NASDAQ), or other regional exchanges such as Philadelphia or San Francisco. As such, any company can literally have thousands of “owners”.

It is difficult for a company to be managed simultaneously by potentially thousands of different owners; therefore, the owners or stockholders elect a board of directors as their representatives. The board sizes vary with an average of 9 to 11 members.

The board of directors hires management, such as the chief executive officer (CEO), chief financial officer (CFO), and other vice-presidents to run the company – the board *oversees* their activities. This oversight is often conducted within a sub-committee of the board, such as the audit committee, the compensation committee, or the nominating committee. As an example, selected members of the board may be on the compensation committee – their job is to determine the compensation for the CEO and is a significant fiduciary duty as a board member.

“The board’s most important job is hiring, firing, and setting compensation for a company’s chief executive, who runs the company day-to-day” (Burns, *Wall Street Journal*, 10/27/2003).

The membership of the board is often comprised of the CEO or other firm *insiders*, CEO’s from other industries, bankers, retired politicians, academicians, and professional directors (often representing mutual or retirement funds). *Note: Although often on the board of directors, the CEO cannot be a member of his own compensation committee.* Board members provide not only oversight but also expertise and advice, often meeting three to five times a year in addition to the (usual) legally required once a year meeting.

Information and statistics taken from the Wall Street Journal article by Judith Burns, October 27, 2003.

You are the Chief Executive Officer (CEO) of ABC Corporation. You are also on the board of directors of PUTT Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee for which you serve is the compensation committee.

Your company, ABC Corporation, does not perform any services for PUTT, nor does it anticipate doing so. You serve on the compensation committee of the board of directors for PUTT as an independent director. Serving with you on the compensation committee are five other members: Three are CEO's of other companies, one is a dean of a business school, and one is a retired U.S. senator.

Your compensation as CEO of ABC Corporation is in QWERTs, a non-denominational monetary unit. You currently make 30 Qwerts as CEO of ABC Corporation.

The industry of PUTT has a CEO average compensation of 70 QWERTs.

The average compensation of all CEOs in all industries is 70 QWERTs.

- The golf equipment industry grew 10% this past year, the average of all other industries. PUTT Company grew at a 6% pace. Your company, ABC Corporation, had a growth rate of 18%.
- Last year's earnings per share for PUTT was \$1.00. This year's earnings per share for PUTT is \$1.06.
- PUTT's closest competitor's earnings per share numbers are \$1.10, for the current year. The size of PUTT is comparable to the industry average, as is the total sales volume, and the number of shares of common stock outstanding.
- PUTT's operating margins and net income levels are below industry averages.

The compensation committee of the board of PUTT Company performs an annual compensation review of the chief executive officer. Your task as a member of the compensation committee is to set the compensation level of PUTT's CEO in QWERTS.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in QWERTs will you award to the CEO of PUTT Company?

_____ Qwerts

References

- Akhigbe, A., Madura, J., & Ryan, H. (1997). CEO Compensation and Performance of Commercial Banks. *Managerial Finance*, 23(11), 40-55.
- Altmann, E. M. (2000, August). *Memory in Chains: Modeling Primacy and Recency Effects in Memory for Order*. Paper presented at the Proceedings of the 22nd annual conference of the Cognitive Science Society, Hillsdale, NJ.
- Ashton, R. H., & Kramer, S. S. (1980). Students as surrogates in behavioral accounting research: some evidence. *Journal of Accounting Research*, 18(1), 1-15.
- Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. *The Academy of Management Journal*, 34(1), 37-59.
- Burns, J. (2003, October 27, 2003). Everything You Wanted to Know About Corporate Governance...but didn't know to ask. *Wall Street Journal*, pp. R6-R7.
- Cacioppo, J. T., & Gardner, W. L. (1991). Emotion. *Annual Review Psychology*, 50, 191-214.
- Daily, C. M., Johnson, J. L., Ellstrand, A. E., & Dalton, D. R. (1998). Compensation Committee Composition As A Determinant Of CEO Compensation. *Academy of Management Journal*, 41(2), 209-220.
- Duru, A., & Iyengar, R. J. (1999). Linking CEO pay to firm performance: Empirical evidence from the Electric Utility Industry. *Managerial Finance*, 25(9), 21-33.
- Fosberg, R. H. (1999). Leadership structure and CEO compensation. *American Business Review*, 17(1), 50-56.
- Gomez-Mejia, L. R., Tosi, H., & Hinkin, T. (1987). Managerial Control, Performance, and Executive Compensation. *Academy of Management Journal*, 30(1), 51-70.
- Iyengar, R. J. (2003). Executive Compensation in Perennially Loss-making Firms. *Finance India*, 17(1), 199-214.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-292.
- Kapteyn, A. (1977). A Theory of Preference Formation. *unpublished Ph.D. Thesis, Leyden University*.
- Lambert, R. A., & Larcker, D. F. (1987). An analysis of the use of accounting and market measures of performance in executive compensation contracts. *Journal of Accounting Research*, 25(supplement), 85-125.
- Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart Strings and Purse Strings: Carryover Effects of Emotions on Economic Decision. *Psychological Science*, 15(5), 337-341.
- Libby, R., Bloomfield, R., & Nelson, M. W. (2002). Experimental research in financial accounting. *Accounting, Organizations and Society*, 27(8), 775-810.
- Lipe, M. G. (1993). Analyzing the Variance Investigation Decision: The Effects of Outcomes, Mental Accounting, and Framing. *Accounting Review*, 68(4), 748-764.
- Mellers, B., Schwartz, A., & Ritov, I. (1999). Emotion-Based Choice. *Journal of Experimental Psychology: General*, 128(3), 332-345.
- Moreno, K., Kida, T., & Smith, J. F. (2002). The Impact of Affective Reactions on Risky Decision Making in Accounting Contexts. *Journal of Accounting Research*, 40(5), 1331-1349.

- Myagkov, M., & Plott, C. R. (1997). Exchange Economies and Loss Exposure: Experiments Exploring Prospect Theory and Competitive Equilibria in Market Environments. *The American Economic Review*, 87(5), 801-828.
- Natarajan, R. (1996). Stewardship Value of Earnings Components: Additional Evidence on the Determinants of Executive Compensation. *Accounting Review*, 71(1), 1-22.
- Newman, H. A., & Mozes, H. A. (1999). Does the Composition of the Compensation Committee Influence CEO Compensation Practices? *Financial Management*, 28(3), 41-53.
- O'Reilly, C. A., Main, B. G., & Crystal, G. S. (1988). CEO compensation as tournament and social comparison: A tale of two theories. *Administrative Science Quarterly*, 33(2), 257-274.
- Ott, R. L., & Longnecker, M. (2001). *An Introduction to Statistical Methods and Data Analysis* (5th ed.). Pacific Grove, CA: Duxbury.
- Peecher, M. E., & Solomon, I. (2001). Theory and experimentation in studies of audit judgments and decisions: Avoiding common research traps. *International Journal of Auditing*, 5(3), 193-203.
- Russell, J. A. (2003). Core Affect and the Psychological Construction of Emotion. *Psychological Review*, 110(1), 145-172.
- Russell, J. A., & Barrett, L. F. (1999). Core Affect, Prototypical Emotional Episodes, and Other Things Called Emotion: Dissecting the Elephant. *Journal of Personality and Social Psychology*, 76(5), 805-819.
- Schisler, D. L. (1994). An experimental examination of factors affecting tax preparers' aggressiveness -- a prospect theory approach. *The Journal of American Taxation Association*, 16(2), pg. 124.
- Schoemaker, P. J. H. (1990). Are risk-attitudes related across domains and response modes? *Management Science*, 36(12), 1451-1463.
- Sedor, L. M., & Kadous, K. (2004). The efficacy of third-party consultation in preventing managerial escalation of commitment: The role of mental representations. *Contemporary Accounting Research*, 21(1), 55-82.
- Stadt, H. v. d., Kapteyn, A., & Geer, S. v. d. (1985). The Relativity of Utility: Evidence from Panel Data. *The Review of Economics and Statistics*, 67(2), 179-187.
- Sullivan, K., & Kida, T. (1995). The effect of multiple reference points and prior gains and losses on managers' risky decision making. *Organizational Behavior and Human Decision Processes*, 64(1), 76-83.
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, 81(6), 973-988.
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339.
- Tversky, A., & Kahneman, D. (1981). The Framing of Decisions and the Psychology of Choice. *Science*, 211(4481), 453-458.
- Tversky, A., & Kahneman, D. (1986). Rational Choice and the Framing of Decisions. *The Journal of Business*, 59(4, Part 2), S251-S278.
- Tversky, A., & Kahneman, D. (1991). Loss Aversion in Riskless Choice: A Reference-Dependent Model. *The Quarterly Journal of Economics*, 106(4), 1039-1061.

Young, M. N., & Buchholtz, A. K. (2002). Firm Performance and CEO Pay: Relational Demography as a Moderator. *Journal of Managerial Issues*, 14(3), 296-313.

Chapter 4. Group Decision-Making and Leadership: An Experimental Examination in an Executive Compensation Scenario

4.1 Introduction

There has been concern expressed in the financial press and focus established in the accounting literature during the past few years over rising levels of executive compensation.⁸ An important compensation concept that repeatedly draws attention is pay-for-performance, i.e. increased compensation when firm performance increases and reduced compensation when firm performances declines. However, executive pay and performance do not always move in tandem. A CEO may maintain a high level of compensation or receive compensation increases even when his or her firm is producing losses or performance declines.⁹ The pay-for-performance concept may be moderated or mediated by factors in the environment or the decision process that affect the decision-makers. While past research has focused on factors such as board composition, board leadership structure, and firm size to name a few; inconsistencies in associative findings have led researchers to suggest exploring alternative theories (Daily et al., 1998) and moderating variables (Tosi et al., 2000) as determinants of CEO compensation to gain further insights. This research experimentally examines potential factors involved in the decision process of the group responsible for determining executive compensation, the compensation committee. This research examines the process of exaggeration of a group decision over individual beliefs, and the impact of leadership type, in-group versus out-group, upon a committee's outcome.

⁸ For example, Lublin, *The Wall Street Journal* (2/25/2005); Anonymous, *The Economist* (12/21/2004); Perel (2003); Sheikholeslami (2001).

⁹ For example, Iyengar (2003); Adut et al. (2003); Tosi et al. (2000).

One factor that is theorized to influence the compensation decision-making process is the relationship between the board and the CEO. The board of directors provides oversight and guidance to the executive management of a publicly traded corporation and has a fiduciary duty to the shareholders and investors they represent. However, the majority membership on the board is often more similar in status and peerage to the CEO than to the shareholders and investors. While the board often has outside members such as academicians and retired government officials, boards often have other CEOs as the majority of outside members. It is the social relationship of status and power between the board and the CEO that may influence the compensation decision process (Belliveau et al., 1996). Perel (2003) also suggests that complex interactions between the board of directors and CEOs can compromise the rational decision-making process surrounding CEO compensation. He notes that many corporate boards are closely allied with the CEO and “have become a part [sic] of the very culture they are supposed to challenge” (Perel, 2003, p. 383).

Though while the board of directors is ultimately responsible for ratification of CEO pay, a sub-committee of the board, the compensation committee, is the group that determines the compensation of the executive management and is responsible for maintaining the pay-for-performance standard. According to Nell Minow, editor of The Corporate Library, a corporate governance research firm, the best predictor of CEO overpay is the number of chief executives on the compensation committee (Burns, 2003). Ms. Minow suggests that a primary reason for excess pay is the composition of the compensation committee. Academic research is mixed in this area. Research has shown the presence of CEOs on the compensation committee allows the focal CEO to exert

influence (Lorsch and MacIver, 1989), leads to compensation packages more in line with those preferred by CEOs than shareholders (O'Reilly et al., 1988), but also that the proportion of CEOs on the compensation committee may be associated with lower pay (Daily et al., 1998)¹⁰. Therefore, the relationship between the constitution of a compensation committee and the remuneration of the CEO is still an open, and important, question.

As individual decision-makers, members of the compensation committee formulate beliefs about the appropriate compensation award for a CEO. When these individuals gather and meet as a group, though, their individual beliefs may not be averaged to form a group decision (Sniezek and Henry, 1989), but may instead be exacerbated into an extreme position, depending upon the majority position of the group. For example, a compensation committee with three highly compensated CEOs and one significantly less compensated non-CEO member may have differing opinions as to a particular compensation award. If each individual CEO member supports a relatively high wage award and the non-CEO supports a more modest award, the group decision is not likely to be an averaging of these beliefs, but rather in this case, something larger. This could be due to multiple group decision processes. For example, if there is a dominant argument (three high pays versus one modest), the dominant argument may win and become the group belief (Pruitt, 1971). Or, for example, when an individual argues a position he or she may be inclined to exaggerate that belief. If the individual wins over the group, this exacerbated belief then becomes supported (Moscovici and Zavalloni, 1969; Myers and Arenson, 1972).

¹⁰ Daily et al. (1998) note this relationship is the opposite of that hypothesized.

The general group process consists of the committee gathering as a group, reviewing various aspects of the performance of the CEO, possibly enlisting compensation consultants to gauge industry standards, and then determining the compensation of the executive management. Each committee member has their own personal pay-for-performance beliefs, compensation anchors, and social schemas. Membership of this committee is comprised entirely of outside directors¹¹ and may or may not have a publicly disclosed chair. The majority membership and leadership of this committee are often CEOs from other companies.¹² So, for example, the committee reviewing the compensation of the focal CEO may be comprised of chief executives from other corporations with possibly a member who is not a CEO. The leader of the committee to determine CEO pay may or may not be another CEO.

In scenarios role-played in this experiment, results indicate that a group decision outcome differs from the average of the individual decision outcomes. That is, at certain performance levels, the group awards greater compensation than the average of the individual members, and at lower levels, the group awards less compensation than the average of the individual members. Additionally, this research examines a potential influencing factor in the group decision-making process, leadership, which may have an impact on the compensation-setting process. This research finds support for moderating

¹¹ SEC rule 303A.

¹² Per the SEC proxy filings (DEF 14A) for the year ended December 31, 2003, General Electric, Walmart, Citigroup, and ExxonMobil in total have seventeen members on the compensation committee. Of these members, seven are active chairmen or CEOs, seven are retired chairmen or CEOs, and three are non-CEOs. Two of the companies list the leadership of the compensation committee, of which one is an active CEO/Chairman and one is retired. These companies, per the *Forbes* 2004 rankings, represent the world's largest conglomerate, retailer, bank, and oil and gas concerns in terms of market capitalization (\$328.54, \$243.74, \$255.30, and \$277.02 billion, respectively).

effects between firm performance and compensation committee leadership type (in-group versus out-group), but non-significant results for leadership type alone.

This research adds to the literature in two primary ways. First, it examines additional factors in the decision-making process that may moderate the impact of accounting performance measures and adds to the greater understanding of social and leadership dynamics of groups involved in the assimilation of accounting performance data. It does this by examining group outcomes under differing leadership type with identical performance data. Second, by utilizing an experimental approach in an effort to re-create a condition that may not occur frequently in the business world, the research helps isolate a cause and effect factor previously untested in past associative studies in accounting. This research experimentally examines the leadership factor in a scenario that is not commonly found in practice: compensation committee leadership by a non-CEO director. By identifying a moderating effect of leadership type and performance on compensation in an experimental setting, it highlights a potential agency cost in the authentic environment. Infrequently are compensation committee chairs non-CEOs, thus making archival observations difficult to obtain or non-existent. Empirically, it would be difficult to test the role of leadership in an archival manner if very few non-CEO or out-group directors exist. By experimentally creating and examining this phenomenon, this research sheds light on a decision process that relates to a corporate governance process which further explains and predicts executive compensation awards.

The research proceeds as follows. First, prior research relating to executive compensation is reviewed, followed by group decision-making and social comparison

phenomena. This is followed by the research methodology, statistical analysis, and summary.

4.2 Related Literature and Hypothesis Development

4.2.1 Executive Compensation

Investors and shareholders expect executive compensation and firm performance to be correlated, but associative studies on CEO compensation and performance have yielded mixed results. Research has indicated both positive relationships (e.g., Akhigbe et al., 1997; Duru and Iyengar, 1999; Gomez-Mejia et al., 1987; Lambert and Larcker, 1987; Natarajan, 1996; Newman and Mozes, 1999; Young and Buchholtz, 2002) and weak, poor, or negative relationships (e.g., O'Reilly et al., 1988; Fosberg, 1999; Iyengar, 2003). When associations are identified, often other interesting factors or confounds are likewise linked. For example, Newman and Mozes (1999) find that the relationship between performance and pay is positive, yet more favorable to the CEO when the firm has insiders on the compensation committee.¹³ O'Reilly et al. (1988) note that return on equity is related to executive cash compensation, but also related to executive cash compensation is the relationship of compensation of the outside members on the compensation committee to CEO pay. These latter two studies suggest compensation committee membership may play a part in compensation awards.

The relationship between the board and the CEO can also compromise the compensation decision-making process (Perel, 2003). Confounding factors and multiple

¹³ The author's definition of "insider" is different from that of the SEC. The authors define "insider" as any member who is likely to be positively biased in determining CEO compensation. This includes, for example, former employees, individuals with ties to or representing businesses with significant business dealings with the firm, and interlocking directors.

determinants of CEO compensation may exist, suggesting that researchers explore alternative theories (Daily et al., 1998) and moderator variables (Tosi et al., 2000). Additional associative studies on the composition and outcomes of the compensation committee or board of directors include Dechow et al. (1994), Zajac and Westphal (1996), Gaver and Gaver (1998), Young and Buchholtz (2002), and Adut et al. (2003), to name a few. However, to date there have been no experimental studies published on the same topics known to this author.

4.2.2 Group Formation and Decision Making

The psychology literature suggests people in general have a need to belong to groups, and there is constant pressure towards uniformity within groups (e.g., Greenberg et al., 1997). Research on groups has given attention to the natural formation of groups, uniformity within groups, and a normalization of behavior (e.g., Festinger, 1950, 1954). Greenberg et al. (1997) suggest that individuals belong to at least some group and that people identify themselves with a particular worldview. Baumeister and Leary (1995) indicate that group interactions take place in a stable environment and endure due to a concern for other group members' welfare. Additionally, Baumeister and Leary (1995) note that groups exist beyond the need for basic survival and may be shaped by economic need and opportunity. Festinger (1950, 1954) describes a social comparison tension within groups as a force that persuades members to strive for the uniformity necessary for group goal achievement. Individuals within the group share information, socially compare, and corroborate beliefs. Groups perform decision making on the basis of consensus after thorough discussion (Whyte, 1993).

In this research groups are formed in a role-playing experiment. The subjects are either in-group members, role playing as CEO directors, or they are out-group members, role playing as non-CEO directors. This role, along with a description of their background and personal compensation, forms the basis of their individual worldviews. This creates a sub-group of individuals within a committee with similar, but not exact, views. This slight difference in views is a catalyst that leads to differing beliefs and individual decisions. The group, though, strives for uniformity and seeks a consensus in the decision-making process.

In this research teams are formed for a specific purpose, to evaluate and determine the pay for a fictitious CEO given a certain level of performance. The individual team members have different personal compensation levels, which facilitates the formation of individual beliefs. Through face-to-face discussions, the members share individual information, espouse individual beliefs, consolidate the beliefs through discussion, and, as a group, reach a decision. The appointed committee chair records and communicates the decision.

One way in which individual decision making differs from group decision making is that the latter is more prone to social influences. When a group gathers to make a decision, the process may be influenced by members' ideas, communications, and perceived group norms. There is pressure to conform. In making a decision, group members may rely upon the views of other members, thus superficially processing the information; if the decision or outcome is considered highly important, the members may systematically process the information while considering the views of the other members (Smith and Mackie, 2000). When a group makes a decision, the outcome may be an

average of individual decisions or something more extreme. If group members are fairly evenly divided on an issue yet reach a decision, the group may have compromised and converged to a moderate or averaged position. If a majority of group members favor a particular view, though, the discussion may become polarized and move the group to a more extreme position (Smith and Mackie, 2000). Originally described as Risky Shift (Myers and Bishop, 1970), this phenomenon explains the group behavior in terms of shared risk. An individual making a decision may be more conservative than the same person making a decision within a group, since the risk is shared. Thus, individuals make less risky decisions as compared to group decisions. It was noted, though, that the direction of the shift was dependent upon the initial dominant viewpoint of the group. This phenomenon later became the Group-Polarization Hypothesis (Myers and Lamm, 1976), which suggests that groups make extreme decisions in the direction of the majority members' beliefs.

Group judgments are not merely an averaging process (Sniezek and Henry, 1989) but may result in exacerbated or extreme positions, particularly if initial individual positions differ. In many groups, members have differing opinions or views. In this experiment, members are provided with personal information that is different from the person next to them to facilitate this event. In a four member group, three will have personal compensation levels that are relatively high and one will have a personal compensation level that is relatively low. The belief is that the group will assimilate this information and, through a group decision-making process, will determine an outcome that may not be an averaging of individual beliefs.

There are compelling explanations for group polarization, this non-averaging outcome. Persuasive Argument Theory (Pruitt, 1971), an instance of group polarization, suggests that individual members of a group develop arguments in support of their personal positions. Information is systematically processed, and, in order to convince other group members, extreme arguments are espoused. Members exaggerate a position to convince other members. As a result, one argument will dominate, and the group will buttress an extreme decision (Pruitt, 1971). Once the position is won, the member feels obligated to support the position, even though it may feel excessive (Moscovici and Zavalloni, 1969; Myers and Arenson, 1972). In this research, subjects are inveigled into personal positions through role assignment and personal pay anchors. In-group members are assigned the role of CEO director and have higher personal compensation, while out-group members are assigned the role of academic director and have lower personal compensation. In this experiment the number of in-group to out-group subjects is approximately 3-to-1.

Another explanation for group polarization is Escalation of Commitment (Staw, 1976), which suggests that as members strive for and begin to achieve group uniformity, they become more committed to the actions and outcomes of the group. Members process the information superficially and employ heuristics: they incorporate and rely upon the views of other group members in their decision making. This is a social process of alignment of individual opinions and decision movement within a group (Friedkin, 1999). Whyte (1993) cites Staw (1980) and Sandelands et al. (1988) in explaining the primary theoretical underpinnings of escalation commitment: Individuals are involved in self-justification to prove to themselves and others they are competent and rational, often

at the expense of error persistence. Even if individuals within the committee disagree at some level with the group decision, they will support the decision. The individual will not want to be at odds with the group. If the group is perceived as deriving the correct answer, any individual not agreeing may be perceived as incompetent.

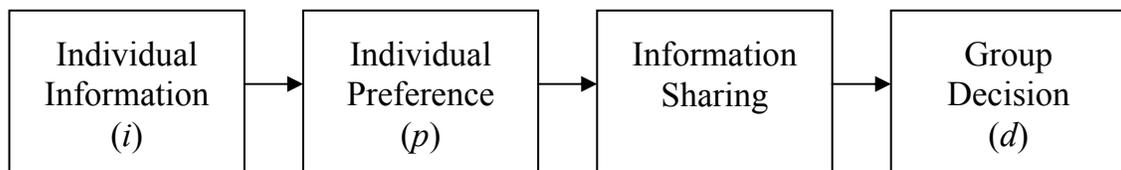
Escalation is also explained within the group setting as a decline in personal responsibility over individual actions and decisions (Darley and Latane, 1968; Zimbardo, 1970; Mynatt and Sherman, 1975). This group mechanism can develop not only confidence in decision-making but also opinion extremes (Baron et al., 1996). In this experiment, each individual subject is asked to determine and record the compensation award to the CEO. Since there is no particular correct answer, subjects should approach a decision with some conservatism. The same individuals are then introduced into groups where they then again must determine and record the compensation award to the CEO. This time the decision is made by the group. If the decision is somehow “incorrect”, the group is responsible, not the individual. Therefore, less risk may be viewed in a group decision by individuals in supporting a solution that is more risky or aggressive.

A group may even be more concerned with reaching a consensus rather than making the correct decision, thus potentially leading to *Groupthink* (Smith and Mackie, 2000). Groupthink may be an issue in cohesive groups (Janis, 1972). In a team that is striving for harmony and thus shying away from conflict, members may either remain silent or endorse an outcome to remain in accord with the group. As a result of groupthink, individuals may agree with a group that is making a decision to provide high pay for a CEO who has low performance. Since in this experiment there are two to three individuals with higher personal compensation and one with lower compensation, the less

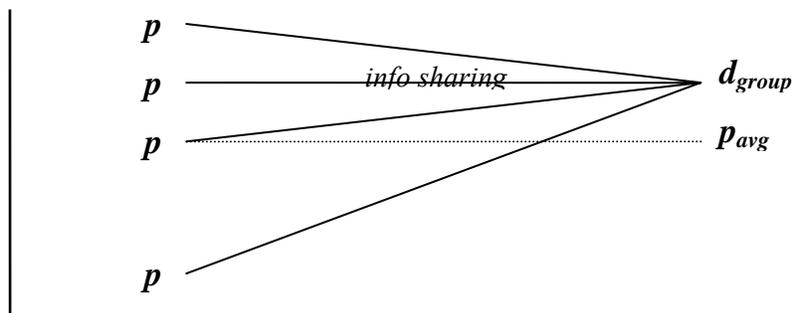
compensated individual may succumb to groupthink. That is, in order not to conflict with the group, the lower-paid out-group member may stay silent in an attempt to avoid conflict with the other group members. It is this phenomenon that can induce groups to make bad decisions in certain situations. A possible mitigative action to this phenomenon is through the introduction of a minority or dissenting viewpoint. By having a minority viewpoint expressed, conformity pressure may be relieved. This may be achieved by appointing the member with the minority viewpoint, presumably the non-CEO director, as the leader of the group.

In summation, people may form associations or coteries that align and marshal opinions or goals. This can lead to group confidence with potentially exaggerated, exacerbated, or extreme decision outcomes. This experiment is set up in such a way as to induce such an effect. The general theoretical outcome is illustrated in Figure 1.

Figure 4-1. Group Decision Escalation Model



$$(d) \neq (p)$$



4.2.3 Corporate Governance Committees as Groups

Groups and group processes exist in business and corporate governance contexts. Both the board of directors and the compensation committee may represent a group not only in name, but in the pursuit of common goals, purpose, and demographic make-up. Bainbridge (2002) notes that corporations are hierarchical in nature, while the board of directors is a collegial group working towards consensus. Zajac and Westphal (1996) find evidence suggesting that board members tend to pick someone demographically similar to their own profiles in choosing an outside successor. Young and Buchholtz (2002) find that the compensation committee is influenced by demographic similarities to the CEO. Belliveau, O'Reilly, and Wade (1996) find that social capital (social status and network ties) of the CEO is associated with higher compensation. O'Reilly, Main, and Crystal (1988) find evidence supporting social comparison theory, noting an association between the compensation level of the outside directors on the compensation committee and that of the CEO. The theory suggests that individuals make comparisons to those they perceive as similar (Festinger, 1954). In short, theory and evidence suggests the development of associations or coterie among those with similar characteristics, including status, position, and wealth.

The compensation committee may be one such coterie, particularly if many of the individuals within the group are similar either in position or status. Associative findings indicate that the compensation committee, often filled with outside CEOs, protects or shields the chief executive's compensation against negative performance (Dechow et al., 1994; Gaver and Gaver, 1998; Duru et al., 2002; Adut et al., 2003). That is, when

performance is down, the compensation committee does not modify compensation in a similar fashion. When performance is up, though, CEOs are often rewarded. This is a different approach from the pay-for-performance paradigm. This indicates that a coterie, an exclusive group of people who associate together, may moderate the pay-for-performance ideal.

The conjecture is that a group decision of like individuals with different informational beliefs will overpay or underpay when compared to individual decisions. This relates to the compensation-setting process in that a compensation committee often has members similar in status, but with differing reference points and beliefs about compensation. As individual members review information, they will form individual opinions and preferences. When members congregate, though, they will share information and create an exacerbated group preference. That is, the group will choose an outcome that is more extreme than the simple average of the group. This group polarization, whether explained by the Persuasive Arguments Theory or Escalation of Commitment, yields the same results. The first hypothesis, based on the social/psychological underpinnings of Figure 4-1, is stated in the alternative form as such:

H1: *Groups compensation levels will not equal individual compensation levels.*

4.2.4 Leadership in Groups

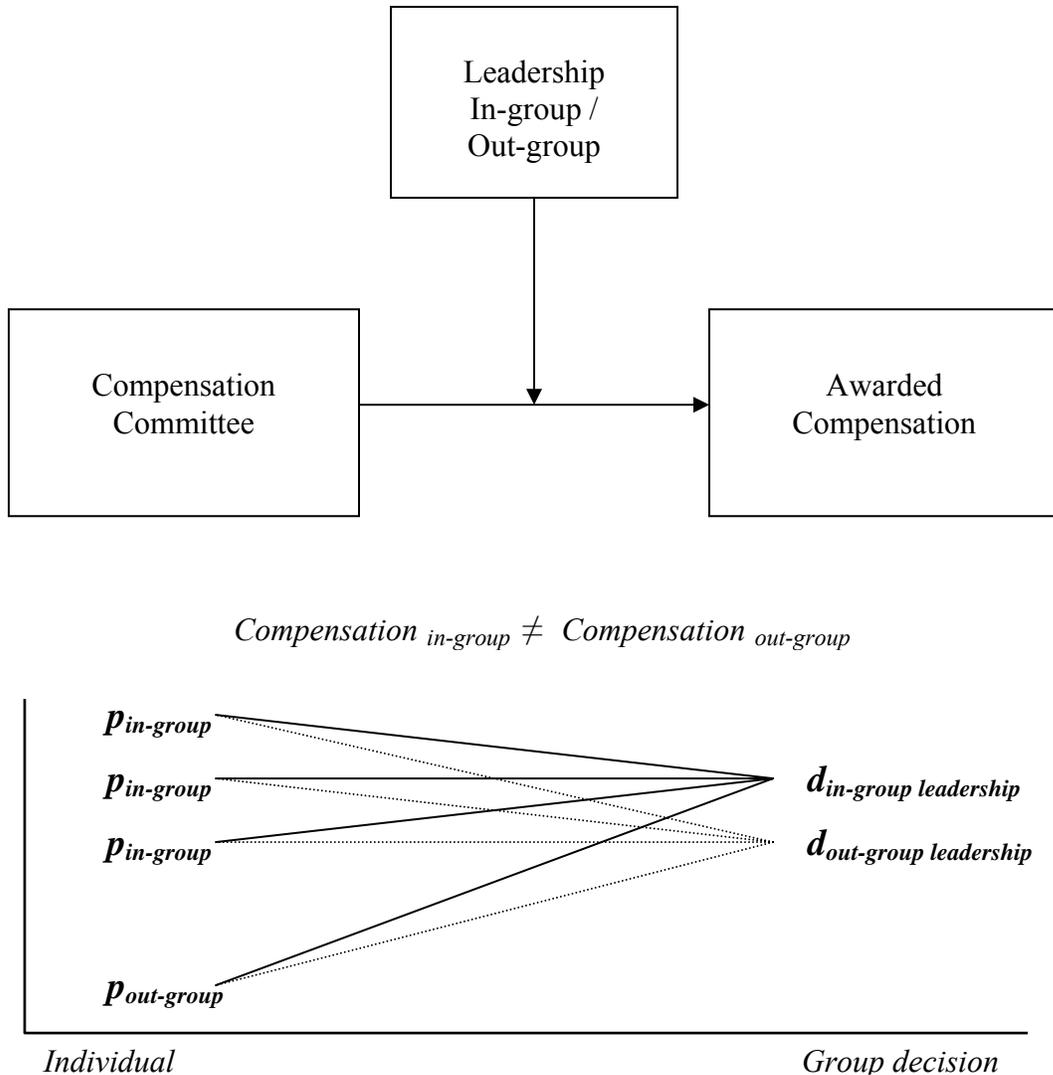
Based on the nature and membership of the group, the inference exists that a group led by someone outside the coterie may serve to mitigate the group exaggeration

process. This research is not concerned with the identification, style, or personality of leadership of individual committee chairs, but rather is interested in the group-decision impact of team leadership where the leader is or is not a member of the majority group coterie. If a leader is appointed, he or she may have influence over the team by the simple virtue of having the express authority to voice their personal belief.

This will be particularly true if the leader is a member of the in-group and shares similar status with the team. If, however, the leader is a member of the out-group, the leader is less likely to completely indulge the team's suggestion and the leader will exert some influence. It is in this situation that an out-group leader will serve to moderate the escalation of the in-group members. A reason behind this is that groups tend to *choose* leaders with similar worldviews and norms (Foti et al., 1982; Hogg, 1996). Group leaders with similar dispositions or positions to the group are rated as more effective leaders (Hains et al., 1997), particularly if they identify with the group. Thus, an out-group individual *appointed* as a leader will be less effective, resulting in a group decision that is less likely to follow the "normal" group polarization process in decision-making. In a compensation-decision setting relating to corporate governance, this would be synonymous with a compensation committee with an appointed non-CEO board member as leader or chair. For example, given a compensation committee of four members where three are outside CEOs and one is an academic, when the academic leads the committee the compensation award level should be closer to the individual average than when the committee is led by one of the outside CEO members. The academic or non-CEO may serve to inhibit the process of choice shift, since the non-CEO may not be within the same status or social group as the CEOs. This leadership factor may serve to explain

some variance and inequities in the pay-for-performance paradigm. Figure 4-2 serves as an illustration of this effect when the choice shift is upwards.

Figure 4-2. Leadership Impact within Group Model



My second hypothesis, stated in the alternative form, is given below:

H2: *Groups led by out-group subjects will award compensation levels that differ from groups led by in-group subjects.*

4.3 Research Methodology

4.3.1 Subjects

Subjects in the study are from two cohorts of the executive masters' of business administration program and from the masters' of professional accountancy program (hereafter noted as eMBA and MPA, respectively) of a large eastern U.S. university. Participation was voluntary and took place during class time. Subjects were not compensated, but rather they were informed by their administrating faculty that participation in-and-of-itself would enhance their educational experience. The subject pool contained 59 eMBA and 39 MPA students, for a total of 98 individuals. The eMBA group contained 35 male and 24 female subjects, while the MPA group contained 23 male and 16 female subjects. The subjects averaged 10.7 and 3.24 years in experience, respectively for the eMBA and MPA groups. The average age was 33.4 years for the eMBA group and was 26.2 years for the MPA group.

The experiment had a repeated measure aspect making the total gross observations 196. Out of the 196 observations, 23 eMBA and 15 MPA observations were eliminated, due to either missing data or outlier analysis¹⁴, for a total of 158 individual and 50 group observations. The removal of these observations did not appreciably change either the gender make-up, age, or experience of the subject pool.

4.3.2 Research Overview

This research is a role-playing experiment in which subjects act as members of the compensation committee of a fictitious company. For the experiment, subjects

¹⁴ Outliers were removed using the least restrictive measure of either 1) +/- 2 standard deviations, or 2) Grubbs' Test for Outliers (Grubbs, 1969; Stefansky, 1972).

individually read information about their role, the company and its performance, and the industry performance benchmark as background (see Appendix 4-C for a sample vignette). For every subject role-playing as a non-CEO member of the compensation committee, three others are role-playing as CEO members of the compensation committee. From the provided material, each subject determines and records the compensation of a fictitious CEO. Then, maintaining the same roles, subjects are assigned into groups comprised of three to four members. In each group there is one non-CEO member with the remainder role-playing as CEO members. Subjects wear name tags denoting the vocation of the group members, e.g., “Professor of Business” or “CEO of ABC Company”. The name tags serve as a role reminder to individual subject and to those in the group. One member, either a CEO director or a non-CEO director, is appointed as committee chair. The appointment of the chair is done in the presence of the other group members, as are the instructions to the chair in regards to the recording of the compensation award. The group, given the same company performance level as previously reviewed as individuals, then determines the compensation award and the chair records same. The entire experiment is then repeated with the same vocational roles, but with a different company performance level, with different committee members, and with a different director type as leader. The order of leadership and company performance is counter-balanced.

4.3.3 Variables

The dependent variable is compensation awarded for individuals and groups, or the absolute value of the difference between individuals and groups. To alleviate

potential personal confounds, the compensation is in a fictitious monetary unit (Qwert). Confounds such as preconceived beliefs about the actual dollars a CEO may or may not make, salaries of contemporary athletes and pop culture icons, or even the salaries of close friends or colleagues could confound the experiment if it is conducted in dollars. Using a fictitious monetary unit as an experimental device guides the subject into using the provided references and anchors.

The primary independent variable is director type (non-CEO director or CEO director). This is operationalized through two mechanisms, the role played and the salary of the role. The roles and titles assigned include “Professor of Business” for the non-CEO director, “CEO of ABC Company”, “CEO of DEF Company”, or “CEO of GHI Company” for the CEO directors. The manipulation is strengthened by using name-tags with the subject’s profession as a visual cue. The name-tag serves to make group affiliation more salient to the subjects in individual decision-making and to the other subjects in group decision-making. The salary for each role is 30, 70, 90, and 110 Qwert, respectively. This is not the compensation they receive as a director, but the compensation they make in their normal vocational position.

The other independent variable for the individual decision process is firm performance (-2% or 6% growth rates). Performance is expressed in earnings per share and growth rates with clear indications that the firm is performing below industry standards (-2% and 6% versus 10% industry growth rates). The performance variable is introduced to limit the time-related maturation effect of the repeated measure aspect. If, during the second attempt of the individual and group decision process the firm performance is identical, then there exists the strong possibility of carryover effects. By

changing firm performance, though, carryover effects should be lessened. For the group decision process, the additional independent variable is the leader type (CEO or non-CEO leader).

4.3.4 Procedures

Approximately 3 to 5 days before the experiment, subjects read, as a primer, a short overview on corporate governance and the importance of the compensation setting process (Appendix 4-A). This was sent via electronic mail along with a cover letter to each subject. Prior to the start of the experiment, subjects read instructions and completed a short demographic questionnaire (Appendix 4-B).

For the individual component of the experiment, subjects, wearing their name tags, read a vignette (Appendix 4-C), recorded their private compensation award decision, and completed a short questionnaire (Appendix 4-D). Individuals were then assigned to groups, leaders were assigned, and a form for the committee answer was given to the appointed chair. Following the committee decision, the individual non-chair members and the chair completed a group-related questionnaire (Appendix 4-E). Excluding the individual demographic portion, the entire procedure was repeated. Individuals kept the same role, but the performance of the company was changed, groups were changed, and leadership was changed. Roles were randomized, and firm performance and group leadership were counter-balanced. The entire experiment took approximately 30 to 45 minutes. Table 4-1 has the breakdown of individual observations by role and performance level.

Table 4-1. Individual Observations by Role and Performance Levels

Director Type	Personal Pay in Qwert ^a	Company Performance Growth % (Industry Avg. 10%)	Number of observations
Non-CEO	30	-2%	22
Non-CEO	30	6%	<u>14</u>
		Total	36
CEO	90 ^b	-2%	54
CEO	90 ^b	6%	<u>68</u>
		Total	<u>122</u>
		Total Observations	158
^a Qwert is a fictional currency.			
^b Each CEO director has a personal compensation level of either 70, 90, or 110 Qwert with each group having a CEO member average of 90 Qwert.			

4.4 Results

The results show support for hypothesis H1 that groups will award compensation levels that differ from individual compensation awards. Results show mixed support for hypothesis H2, that groups led by out-group subjects will award compensation levels that differ from groups led by in-group subjects. This is affected by the performance variable. Given that the experimental procedures involved a repeated measure between- and within-subjects design, and the time between the experiments may not allow for a washout effect, an examination of sequence effects using a t-test for Equality of Means is employed. A test for sequence effects shows no significant difference between attempts 1 and 2, either individually or in the group setting¹⁵.

To analyze hypothesis H1, that groups will award compensation levels that differ from individuals, the group scores are compared to the average of the individual scores.

¹⁵ A t-test for Equality of Means was computed for the individual and group scores. Individual means for attempt 1 and 2 were 72.4375 and 73.7410, respectively, for a p-value of 0.670. Group means for attempt 1 and 2 were 75.4884 and 71.4320, respectively, for a p-value of 0.303.

For example, the four individual scores for the members ultimately to be assigned into group 1 are averaged (QwertIavg) and compared to the group 1 decision (QwertG). The overall results indicate an individual average of 71.97 versus a group average of 73.46, for a two tail p-value of 0.284. Upon closer examination, though, findings indicate a difference when dividing the sample by the firm performance variable. Given a stated industry average growth rate of 10%, groups awarded *lower* compensation levels than individuals when it was indicated that firm performance was -2%, but significantly *higher* compensation levels when it was indicated that firm performance was 6% (see Figure 4-3). At the -2% level, the individual average is 67.42 and the group average is 65.65, for a p-value of 0.360. At the 6% level, though, the individual average is 76.54 and the group average is 81.27, for a p-value of 0.015. This suggests that the group exaggeration process works to the negative side when the performance reaches some minimal point, and that the process works to the positive side above some level. Table 4.2 contains the results of this analysis and Figure 4-3 graphically illustrate the results.

Table 4-2. Individual versus Group Means T-Test

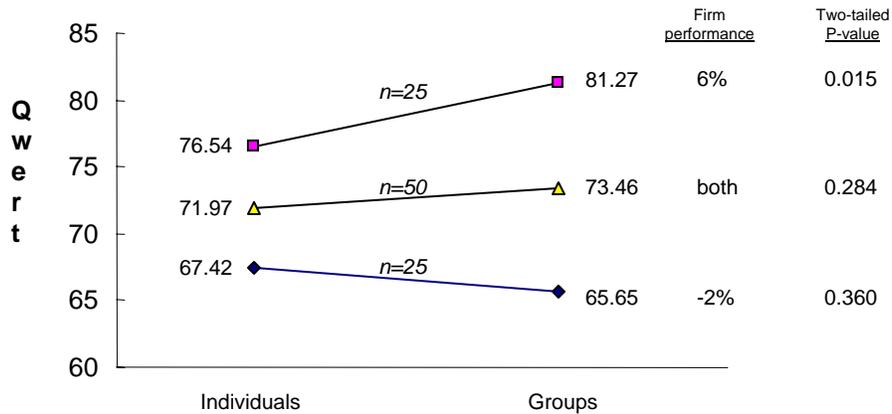
Performance	Pair	Mean	N	Std. Deviation	Std. Error	t	p-value
All	QwertIavg	71.97	50	10.258	1.45	-1.084	0.284
	QwertG	73.46	50	13.778	1.95		
-2%	QwertIavg	67.41	25	9.184	1.84	0.934	0.360
	QwertG	65.65	25	13.226	2.65		
6%	QwertIavg	76.54	25	9.335	1.87	-2.631	0.015
	QwertG	81.27	25	9.252	1.85		

QwertIavg is the average of the individuals within the group

QwertG is the group award.

Note: The p-value provided is using a two-tail test.

Figure 4-3. Individual versus Group



Additional analyses of the results indicate significant support for the group exaggeration process. Given that group results show an exaggeration above the individual average for the 6% performance level, and an exaggeration below the individual average for the -2% performance level, an additional analysis is performed using the absolute value of the exaggeration from the individual average to the group average. In comparing the absolute value of the difference of individual decisions from the individual average to the absolute value of the difference of group decisions from the group average, results indicate that the group decision difference is significantly greater than the individual decision difference ($t = 3.932, p < 0.001$). That is, group differences were further from the mean than were individual differences, suggesting that the groups suffered a decision exaggeration. With an individual average of 71.97, the absolute value average of difference to the mean is 8.42, with a standard deviation of 5.73. The group average is 73.46 with an absolute value average of difference to the mean of 11.95, with a standard deviation of 6.64. Thus, while the nature of a group is to align individuals and

arrive at a group consensus, in this scenario the group outcome itself is exaggerated in comparison to the individual outcome alone.

To analyze hypothesis H2, that groups led by out-group subjects will award compensation levels that differ from groups led by in-group subjects, regression analysis is employed. The variables may be expressed in the following relationship for hypothesis H2:

$$QwertG_i = \alpha + \beta_1 Attempt_i + \beta_2 Perf_i + \beta_3 Leadtype_i + \beta_4 Attempt_i * Perf_i + \beta_5 Attempt_i * Leadtype_i + \beta_6 Perf_i * Leadtype_i + \beta_7 Attempt_i * Perf_i * Leadtype_i$$

where, for each group i , $QwertG$ is the compensation awarded; $Attempt$ is either the first or second group attempt; $Perf$ is the firm performance, either -2% or 6%; and $Leadtype$ is the leader of the group, either a CEO or non-CEO director.

The results indicate that there are main effects for $Perf$ only ($F=34.692$, p -value <0.001), while the variables $Attempt$ and $Leadtype$ are not significant (p -values of 0.095 and 0.717, respectively). Results also indicate that there is a two-way interaction effect for $Attempt*Perf$ and $Perf*Leadtype$ ($F= 23.316$, p -value <0.001 ; $F=6.259$, p -value 0.016; respectively) suggesting the existence of a moderator variable.

Table 4-3. Test of Effects in Group Compensation Awards (QwertG)

Source	Sum of Squares	df	Mean Square	F	p-value
Corrected Model (adj. R ² = 0.539)	5628.51	7	807.07	9.195	0.000
Intercept	245113.47	1	245113.47	2803.03	0.000
<i>Attempt</i>	255.62	1	255.62	2.923	0.095
<i>Perf</i>	3033.64	1	3033.64	34.692	0.000
<i>Leadtype</i>	11.687	1	11.687	0.134	0.717
<i>Attempt*Perf</i>	2038.90	1	2038.90	23.316	0.000
<i>Attempt*Leadtype</i>	84.86	1	84.86	0.970	0.330
<i>Perf*Leadtype</i>	547.34	1	547.34	6.259	0.016
<i>Attempt*Perf*Leadtype</i>	0.15	1	0.15	0.002	0.967
Error	3672.72	42	87.45		
Total	279121.28	50			
Corrected Total	9301.24	49			

Attempt is the group attempt in the repeated measure.

Perf is the performance of the firm under evaluation.

Leadtype is the leader of the group making the decision, either a CEO or non-CEO director.

In an examination of the interaction of performance and attempt, results indicate an exaggeration of group results, perhaps through group learning or momentum. For the -2% case, the group mean for the first attempt is 73.50 versus a mean of 57.15 for the second attempt, yielding a two-tailed p-value of 0.001. For the 6% case, the mean for the first attempt is 77.64 and 84.62 for the second attempt, yielding a two-tail p-value of 0.058. Perhaps just as importantly, though, is the standard deviation of the group decisions from the first attempt to the second. For both cases, the standard deviations are cut by 4-5 Qwert, suggesting a tightening, along with the exaggeration process, of group decisions as learning, practice, and information symmetry spread. It is important to note

that learning is not occurring within each performance level, since each member and each group see each performance level only once. Figure 4-4 graphically illustrates the results contained within Table 4-4.

Figure 4-4. Group Means by Attempt and Performance

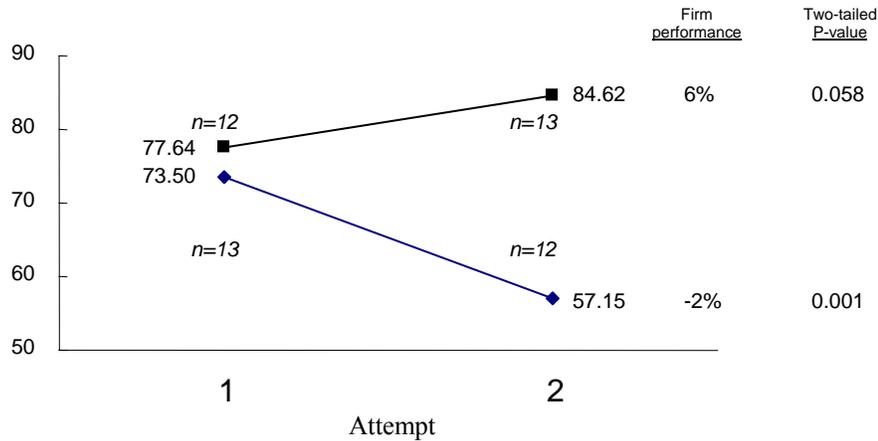


Table 4-4. Group Means T-Test by Performance and Attempt

Performance	Attempt	Mean	N	Std. Deviation	Std. Error	t	p-value
-2%	1	73.50	13	12.503	3.47	3.894	0.001
	2	57.15	12	7.712	2.23		
6%	1	77.64	12	10.832	3.13	-1.996	0.058
	2	84.62	13	6.195	6.20		

The Mean is in Qwert for the group.

Note: The p-value provided is using a two-tail test.

In an examination of the interaction of performance and lead type, results indicate an exaggeration of group results in the expected direction, but not significantly. For the -2% case, the group mean for the non-CEO led groups is 67.77 versus a mean of 62.48 for the CEO led groups, yielding a two-tailed p-value of 0.338. For the 6% case, the

mean for the non-CEO led groups is 79.09 and 82.98 for the CEO led groups, yielding a two-tail p-value of 0.307. The results, although not significant, do provide some insight into the group process as to the direction the leader may have upon the group's decision. From the individual decisions, results show that for the -2% performance level, the CEO directors significantly reduce pay below that of non-CEO directors, and for the 6% performance level, the CEO directors significantly increase pay above the non-CEO directors. In the group results, we see the same direction of award by the same type of group leader. That is, in the -2% performance level, groups led by CEO directors award less than non-CEO directors, and in the 6% performance level, the reverse is true. This shows that the out-group leader, in this case the non-CEO director, may be a mitigator to the group exaggeration process. Figure 4-5 illustrates the results contained in Table 4-5.

Figure 4-5. Group Means by Lead Type and Performance

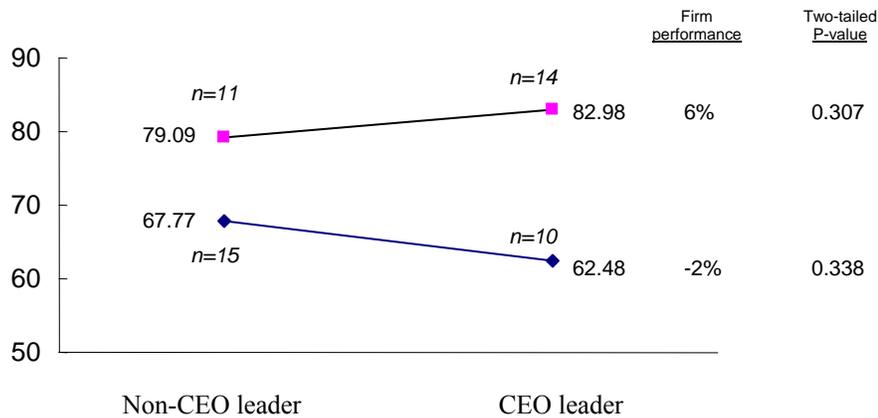


Table 4-5. Group Means T-Test by Performance and Director Type

Performance	Leader	Mean	N	Std. Deviation	Std. Error	t	p-value
-2%	Non-CEO	67.77	15	12.420	3.21	0.978	0.338
	CEO	62.48	10	14.419	4.56		
6%	Non-CEO	79.09	11	9.635	2.91	-1.045	0.307
	CEO	82.98	14	8.914	2.38		

The Mean is in Qwert for the group.

Note: The p-value provided is using a two-tail test.

4.5 Conclusions

This research studies decision outcomes by comparing the individual and group decision-making preferences in an experimental scenario. This relates to accounting and corporate governance in that the compensation committee, a group with multiple member types, weighs accounting performance in determining CEO pay. This pay-for-performance research attempts to re-create a group decision-making scenario not commonly found in practice, an appointed out-group leader. Specifically, through a role-playing experiment, the research examines the effects of group decision making and the potential for group decision exaggeration over individual decision. Support for group exaggeration is found. Additionally, this research examines the influence of leadership type on the decision-making process. While leadership type alone is not significant, results indicate moderating effects through the interaction of leadership type and firm performance, suggesting at some levels leadership type may represent an agency cost.

An examination of this decision-making process is important since chief executive compensation continues to rise and is a social and political topic of discussion.

This study adds greater understanding about the social and psychological factors underpinning the compensation decision-making process by experimentally studying the effects of group membership and committee leadership versus individual compensation awards.

Limitations to the study, though, do exist. In examining the validity of the experiment, both the internal and external validity must be weighed. Internal validity is strengthened through the application of random assignment, variable control, and variable precision in the examination of cause and effect. Extraneous variations are minimized while, it is believed, systematic variation is enhanced through the procedures employed. External validity may be somewhat weaker, though. This research acknowledges that ecological validity, the realism of the setting and situation in which compensation committee decisions are made, is greatly reduced, but it can be argued that many of the factors that relate to an authentic setting may be mundane in nature. This *mundane realism* (Aronson and Carlsmith, 1968) relates to events or circumstances that may exist in a field setting, but in actuality may be unimportant to the population and phenomenon. *Experimental realism* (Aronson and Carlsmith, 1968) is the level in which the experimental events' mimics the real world decision process. While the exact process in determining executive compensation may differ between firms (and within firms from year to year), it can be assumed with a general assurance that a committee of individuals meet, review results, make comparisons, and then determine appropriate pay levels. Therefore, while generalizability is limited given the fact that the experiment does not use actual board of director members, the experimental realism is reasonably intact while minimizing mundane realism. In one aspect, generalizability may not be possible, since

compensation committee leadership by a non-CEO does not appear to be common, and a sizeable population may not exist. This is not to say, though, that in the future through political and social influences, that this circumstance will remain.

Future research might focus on experimental factors that are beyond the scope of this study. This study is performed in the performance domain that is below average, and may be conducted in the positive performance domain, with multiple levels of performance. An additional factor that could tie into this study is the tenure of compensation members and whether they are appointed during the tenure of the CEO. This may affect the committee member's allegiance and either strengthen or reduce the member's group inclusion.

Finally, the experimental methodology used allows for a more in-depth study of cause and effect factors in a decision-making setting. Associative studies have yielded a wealth of information and have directed intellectual curiosities into certain areas. This research expands upon previous findings to isolate potential variances in this type of decision-making and helps to illuminate factors that have not previously been researched comprehensively.

Appendix 4-A

Corporate Governance

A Very Short Overview

What is Corporate Governance?

“Corporate governance is a hefty-sounding phrase that really just means oversight of a company’s management – making sure the business is run well and investors are treated fairly” (Burns, *Wall Street Journal*, 10/27/2003).

Publicly traded companies are those whose stock is traded in a public forum, usually over the New York Stock Exchange (NYSE), the American Exchange (AMEX), National Association of Securities Dealers Automated Quotation System (NASDAQ), or other regional exchanges such as Philadelphia or San Francisco. As such, any company can literally have thousands of “owners”.

It is difficult for a company to be managed simultaneously by potentially thousands of different owners; therefore, the owners or stockholders elect a board of directors as their representatives. Board sizes vary with an average of 9 to 11 members.

The board of directors hires management, such as the chief executive officer (CEO), chief financial officer (CFO), and other vice-presidents, to run the company, but the board *oversees* their activities. This oversight is often conducted within a sub-committee of the board, such as the audit committee, the compensation committee, or the nominating committee. As an example, selected members of the board may be on the compensation committee. Their job is to determine the compensation of the CEO which is a significant fiduciary duty as a board member.

“The board’s most important job is hiring, firing, and setting compensation for a company’s chief executive, who runs the company day-to-day” (Burns, *Wall Street Journal*, 10/27/2003).

The membership of the board is often comprised of the CEO or other firm insiders, CEO’s from other industries, bankers, retired politicians, academicians, and professional directors (often representing mutual or retirement funds). *Note: Although often on the board of directors, the inside CEO cannot be a member of his own compensation committee.* Board members provide not only oversight but also expertise and advice, often meeting three to five times a year in addition to the (usual) legally required once a year meeting.

Information and statistics taken from the *Wall Street Journal* article by Judith Burns, October 27, 2003.

Appendix 4-B

Instructions:

Please read the following and the attached, then answer all the questions on the following pages to the best of your ability.

Thank you for your time and assistance.

The Board of Directors is the governing body for a publicly held corporation. The board represents the shareholders, decides the major investment and social policies for a company, and hires and determines the compensation of the executive management.

In this case, you serve on the board of directors of Putt Company. This is not your full-time employment. Please read the details of the attached case for a description of your occupation. One of your duties while serving on the board of directors is to serve on the compensation committee.

TIAA-CREF, a major retirement pension fund in the United States, describes the importance of this function in their 2002 policy statement as such:

“The governance of the executive compensation process is a critically important and highly visible responsibility of the board of directors of a corporation. In a real sense, it represents a window through which the effectiveness of the board may be viewed” TIAA-CREF (2002).

Demographic Questionnaire

This section captures basic information related to you, the survey participant.

1. Age in years _____

2. Gender (please circle) male female

3. Number of years of full-time employment _____

4. Please list any degrees obtained (e.g., B.S. in B.A.)

5. Please list any certifications obtained (e.g., C.P.A.)

_____ _____
_____ _____
_____ _____

6. Would you describe your current position as

- a. staff
- b. front-line supervisor
- c. mid-level supervisor
- d. junior executive
- e. senior executive

You are the Chief Executive Officer (CEO) of ABC Company. You are on the board of directors of Putt Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee on which you serve is the compensation committee.

Your company, ABC Company, does not perform any services for Putt, nor does it anticipate doing so. You serve on the compensation committee of the board of directors for Putt Company as an independent director. Serving with you on the compensation committee are three other members: Two are also CEOs of other companies and one is an academic at a large eastern business school.

Your Personal Information:

- You are the chief executive officer (CEO) of ABC Company.
- Your personal compensation as CEO of ABC is in Qwerts, a non-denominational monetary unit.
- You currently make 70 Qwert as the CEO of ABC.

Putt Company Information

- The golf equipment industry grew 10% this pas year.
- Putt Company grew at a 6% pace.
- Putt Company's closet competitor grew at a rate of 10%
- Last year's earnings per share for Putt Company was 0.100 Qwert. This year's earnings per share for Putt Company is 0.106 Qwert.
- The size of Putt Company is comparable to the industry average, as is the total sales volume.
- Putt Company's operating margins and net income levels are below industry averages.

The compensation committee of the board of Putt Company performs an annual compensation review of the chief executive officer. Your task as a member of this committee is to set the compensation level of the CEO in Qwerts.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in Qwerts will you award the CEO of Putt Company?

_____ Qwerts

You are the Chief Executive Officer (CEO) of DEF Company. You are on the board of directors of Putt Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee on which you serve is the compensation committee.

Your company, DEF Company, does not perform any services for Putt, nor does it anticipate doing so. You serve on the compensation committee of the board of directors for Putt Company as an independent director. Serving with you on the compensation committee are three other members: Two are also CEOs of other companies and one is an academic at a large eastern business school.

Your Personal Information:

- You are the chief executive officer (CEO) of DEF Company.
- Your personal compensation as CEO of DEF is in Qwerts, a non-denominational monetary unit.
- You currently make 90 Qwert as the CEO of DEF.

Putt Company Information

- The golf equipment industry grew 10% this pas year.
- Putt Company grew at a 6% pace.
- Putt Company's closet competitor grew at a rate of 10%
- Last year's earnings per share for Putt Company was 0.100 Qwert. This year's earnings per share for Putt Company is 0.106 Qwert.
- The size of Putt Company is comparable to the industry average, as is the total sales volume.
- Putt Company's operating margins and net income levels are below industry averages.

The compensation committee of the board of Putt Company performs an annual compensation review of the chief executive officer. Your task as a member of this committee is to set the compensation level of the CEO in Qwerts.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in Qwerts will you award the CEO of Putt Company?

_____ Qwerts

You are the Chief Executive Officer (CEO) of GHI Company. You are on the board of directors of Putt Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee on which you serve is the compensation committee.

Your company, GHI Company, does not perform any services for Putt, nor does it anticipate doing so. You serve on the compensation committee of the board of directors for Putt Company as an independent director. Serving with you on the compensation committee are three other members: Two are also CEOs of other companies and one is an academic at a large eastern business school.

Your Personal Information:

- You are the chief executive officer (CEO) of GHI Company.
- Your personal compensation as CEO of GHI is in Qwerts, a non-denominational monetary unit.
- You currently make 110 Qwert as the CEO of GHI.

Putt Company Information

- The golf equipment industry grew 10% this pas year.
- Putt Company grew at a 6% pace.
- Putt Company's closet competitor grew at a rate of 10%
- Last year's earnings per share for Putt Company was 0.100 Qwert. This year's earnings per share for Putt Company is 0.106 Qwert.
- The size of Putt Company is comparable to the industry average, as is the total sales volume.
- Putt Company's operating margins and net income levels are below industry averages.

The compensation committee of the board of Putt Company performs an annual compensation review of the chief executive officer. Your task as a member of this committee is to set the compensation level of the CEO in Qwerts.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in Qwerts will you award the CEO of Putt Company?

_____ Qwerts

You are a business professor at a large eastern U.S. college. You are on the board of directors of Putt Company, an industrial company that manufactures golf equipment. Within the board of directors, one committee on which you serve is the compensation committee.

Your university does not perform any services for Putt, nor does it anticipate doing so. You personally do not perform any services, such as consulting, for Putt. You serve on the compensation committee of the board of directors for Putt Company as an independent director. Serving with you on the compensation committee are three other members who are chief executive officers (CEOs) of other companies.

Your Personal Information:

- You are a business professor at a large eastern U.S. college.
- Your personal compensation as a professor is in Qwerts, a non-denominational monetary unit.
- You currently make 30 Qwert as a professor.

Putt Company Information

- The golf equipment industry grew 10% this pas year.
- Putt Company grew at a 6% pace.
- Putt Company's closet competitor grew at a rate of 10%
- Last year's earnings per share for Putt Company was 0.100 Qwert. This year's earnings per share for Putt Company is 0.106 Qwert.
- The size of Putt Company is comparable to the industry average, as is the total sales volume.
- Putt Company's operating margins and net income levels are below industry averages.

The compensation committee of the board of Putt Company performs an annual compensation review of the chief executive officer. Your task as a member of this committee is to set the compensation level of the CEO in Qwerts.

The compensation level you decide will be kept private and confidential.

Based on the information provided, what compensation in Qwerts will you award the CEO of Putt Company?

_____ Qwerts

Post-Case Questionnaire - Individual

1. Describe your role in this case
 - a. A chief executive officer (CEO) serving on the board of directors of Putt Company
 - b. The chief executive officer (CEO) of Putt Company
 - c. A business school professor serving on the board of directors of Putt Company.

2. On a scale of 1 to 7, rate Putt Company's performance

1	2	3	4	5	6	7
below			average			above

3. Please rate the difficulty in determining the compensation level.

1	2	3	4	5	6	7
difficult			average			easy

4. Please rate your confidence in your answer

1	2	3	4	5	6	7
not very			somewhat			very

5. Please rate the importance of the compensation decision

1	2	3	4	5	6	7
not very			somewhat			very

Post-Case Questionnaire – Individual in Team as Chair

1. Describe your role in this case
 - a. A chief executive officer (CEO) serving on the board of directors of Putt Company
 - b. The chief executive officer (CEO) of Putt Company
 - c. A business school professor serving on the board of directors of Putt Company.

2. On a scale of 1 to 7, rate Putt Company's performance

1	2	3	4	5	6	7
below			average			above

3. Please rate the difficulty in determining the compensation level.

1	2	3	4	5	6	7
difficult			average			easy

4. Please rate your confidence in your answer

1	2	3	4	5	6	7
not very			somewhat			very

5. Please rate your agreement with the committee's decision

1	2	3	4	5	6	7
did not agree						strongly agreed

6. Please rate the importance of the compensation decision

1	2	3	4	5	6	7
not very			somewhat			very

Post-Case Questionnaire – Individual in Team as member

1. Describe your role in this case
 - d. A chief executive officer (CEO) serving on the board of directors of Putt Company
 - e. The chief executive officer (CEO) of Putt Company
 - f. A business school professor serving on the board of directors of Putt Company.

2. On a scale of 1 to 7, rate Putt Company's performance

1	2	3	4	5	6	7
below			average			above

3. Please rate the difficulty in determining the compensation level.

1	2	3	4	5	6	7
difficult			average			easy

4. Please rate your confidence in your answer

1	2	3	4	5	6	7
not very			somewhat			very

5. Please rate your agreement with the committee's decision

1	2	3	4	5	6	7
did not agree						strongly agreed

6. Please rate the importance of the compensation decision

1	2	3	4	5	6	7
not very			somewhat			very

References

- Adut, D., Cready, W. H., & Lopez, T. J. (2003). Restructuring Charges and CEO Cash Compensation: A Reexamination. *Accounting Review*, 78(1), 169-192.
- Akhigbe, A., Madura, J., & Ryan, H. (1997). CEO Compensation and Performance of Commercial Banks. *Managerial Finance*, 23(11), 40-55.
- Anonamous. (2004, December 11). Leaders: Running out of options; Pay for performance. *Economist*, 373, 10.
- Aronson, E., Brewer, M., & Carlsmith, J. M. (1985). Experimentation in Social Psychology. In G. Lindzey & E. Aronson (Eds.), *Handbook of Social Psychology* (Vol. 1, pp. 441-486). New York: Random House.
- Bainbridge, S. M. (2002). Why a Board? Group Decisionmaking in Corporate Governance. *Vanderbilt Law Review*, 55(1), 1-55.
- Baron, R. S., Hoppe, S. I., Kao, C. F., Brunzman, B., Linneweh, B., & Rogers, D. (1996). Social Corroboration and Opinion Extremity. *Journal of Experimental Social Psychology*, 32(6), 537-560.
- Baumeister, R. F., & Leary, M. R. (1995). The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation. *Psychological Bulletin*, 117(3), 497-529.
- Belliveau, M. A., O'Reilly, C. A., & Wade, J. B. (1996). Social Capital At The Top: Effects Of Social Similarity and Status On CEO Compensation. *Academy of Management Journal*, 39(6), 1568-1593.
- Burns, J. (2003, October 27). Everything You Wanted to Know About Corporate Governance...but didn't know to ask. *Wall Street Journal*, pp. R6-R7.
- Daily, C. M., Johnson, J. L., Ellstrand, A. E., & Dalton, D. R. (1998). Compensation Committe Composition As A Determinant Of CEO Compensation. *Academy of Management Journal*, 41(2), 209-220.
- Darley, J. M., & Latane, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*, 8, 377-383.
- Dechow, P. M., Huson, M. R., & Sloan, R. G. (1994). The Effect of Restructuring Charges on Executives' Cash Compensation. *The Accounting Review*, 69(1), 138-156.
- Duru, A., & Iyengar, R. J. (1999). Linking CEO pay to firm performance: Empirical evidence from the Electric Utility Industry. *Managerial Finance*, 25(9), 21-33.
- Duru, A., Iyengar, R. J., & Thevaranjan, A. (2002). The Shielding of CEO compensation from the effects of strategic expenditures. *Contemporary Accounting Research*, 19(2), 175-193.
- Festinger, L. (1950). Laboratory experiments: the role of group belongingness. *Miller, James Grier*.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Fosberg, R. H. (1999). Leadership structure and CEO compensation. *American Business Review*, 17(1), 50-56.
- Foti, R. J., Fraser, S. L., & Lord, R. G. (1982). Effects of leadership labels and prototypes on perceptions of political leaders. *Journal of Applied Psychology*, 67, 326-333.

- Friedkin, N. E. (1999). Choice Shift and Group Polarization. *American Sociological Review*, 64(6), 856-875.
- Gaver, J. J., & Gaver, K. M. (1998). The relation between nonrecurring accounting transactions and CEO cash compensation. *Accounting Review*, 73(2), 235-253.
- Gomez-Mejia, L. R., Tosi, H., & Hinkin, T. (1987). Managerial Control, Performance, and Executive Compensation. *Academy of Management Journal*, 30(1), 51-70.
- Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror Management Theory of Self-Esteem and Cultural Worldviews: Empirical Assessments and Conceptual Refinements. *Advances in Experimental Social Psychology*, 61-139.
- Grubbs, F. (1969). Procedures for Detecting Outlying Observations in Samples. *Technometrics*, 11(1), 1-21.
- Hains, S. C., Hogg, M. A., & Duck, J. M. (1997). Self-categorization and leadership: Effects of group prototypicality and leader stereotypicality. *Personality and Social Psychology Bulletin*, 23, 1087-1099.
- Hogg, M. A. (1996). Social identity and group cohesiveness. In E. H. Witte & J. A. Davis (Eds.), *Understanding group behavior, Vol. 2: Small group processes and interpersonal relations* (Vol. 2, pp. 227-253). Mahwah, NJ: Erlbaum.
- Iyengar, R. J. (2003). Executive Compensation in Perennially Loss-making Firms. *Finance India*, 17(1), 199-214.
- Janis, I. (1972). *Victims of Groupthink*. Boston: Houghton-Mifflin.
- Lambert, R. A., & Larcker, D. F. (1987). An analysis of the use of accounting and market measures of performance in executive compensation contracts. *Journal of Accounting Research*, 25(supplement), 85-125.
- Lorsch, J.W., & MacIver, E. (1989). *Pawns or potentates: The reality of America's corporate boards*. Boston: Harvard Business School Press
- Lublin, J. S. (2005, February 25). CEO Bonuses Rose 46.4% at 100 Big Firms in 2004. *Wall Street Journal*, p. A1.
- Moscovici, S., & Zavalloni, M. (1969). The group as a polarizer of attitudes. *Journal of Personality & Social Psychology*, 12, 125-135.
- Myers, D. G., & Aronson, S. J. (1972). Enhancement of dominant risk tendencies in group discussion. *Psychological Science*, 6, 10-19.
- Myers, D. G., & Bishop, G. D. (1970). Discussion effects on racial attitudes. *Science*, 169, 778-779.
- Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, 83, 602-627.
- Mynatt, C., & Sherman, S. J. (1975). Responsibility attribution in groups and individuals: A direct test of the diffusion of responsibility hypothesis. *Journal of Personality & Social Psychology*, 32, 1111-1118.
- Natarajan, R. (1996). Stewardship Value of Earnings Components: Additional Evidence on the Determinants of Executive Compensation. *Accounting Review*, 71(1), 1-22.
- Newman, H. A., & Mozes, H. A. (1999). Does the Composition of the Compensation Committee Influence CEO Compensation Practices? *Financial Management*, 28(3), 41-53.
- O'Reilly, C. A., Main, B. G., & Crystal, G. S. (1988). CEO compensation as tournament and social comparison: A tale of two theories. *Administrative Science Quarterly*, 33(2), 257-274.

- Perel, M. (2003). An Ethical Perspective on CEO Compensation. *Journal of Business Ethics*, 48(4), 381-391.
- Pruitt, D. G. (1971). Choice Shifts in Group Discussion: An Introductory Review. *Journal of Personality & Social Psychology*, 20(3), 339-360.
- Sandelands, L. E., Brockner, J., & Glynn, M. A. (1988). If at first you don't succeed, try, try again: Effects of persistence -- performance contingencies, ego involvement, and self-esteem on task persistence. *Journal of Applied Psychology*, 73, 208-216.
- Sheikholeslami, M. (2001). EVA, MVA, and CEO Compensation. *American Business Review*, 19(1), 13-17.
- Smith, E. R., & Mackie, D. M. (2000). *Social Psychology* (2nd ed.). Philadelphia: Psychology Press, Taylor & Francis.
- Snizek, J. A., & Henry, R. A. (1989). Accuracy and Confidence in Group Judgment. *Organizational Behavior & Human Decision Processes*, 43, 1-28.
- Stefansky, W. (1972). Rejecting Outliers in Factorial Designs. *Technometrics*, 14, 469-479.
- Staw, B. M. (1976). Knee-deep in the big muddy -- a study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16(1), 27.
- Staw, B. (1980). Rationality and justification in organizational life. In B. Staw & L. Cummings (Eds.), *Research in Organizational Behavior*. Greenwich, CT: JAI Press.
- TIAA-CREF. (2002). *TIAA-CREF Policy Statement on Corporate Governance*. Retrieved 3 Dec 2002
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339.
- Whyte, G. (1993). Escalating commitment in individual and group decision making: A prospect theory approach. *Organizational Behavior & Human Decision Processes*, 54(3), 430-455.
- Young, M. N., & Buchholtz, A. K. (2002). Firm Performance and CEO Pay: Relational Demography as a Moderator. *Journal of Managerial Issues*, 14(3), 296-313.
- Zajac, E. J., & Westphal, J. D. (1996). Who shall succeed? How CEO / Board preferences and power affect the choice of new CEOs. *Academy of Management Journal*, 39(64-90).
- Zimbardo, P. G. (1970). The human choice: Individuation, reason, and order versus deindividuation, impulse, and chaos. In W. J. Arnold & D. Levine (Eds.), *Nebraska Symposium on Motivation* (Vol. 17). Lincoln, Nebraska: University of Nebraska Press.

Chapter 5. Summary, Conclusions, and Direction for Future Research

5.1 Summary and Conclusions

Studies show that executive pay and performance do not always move in unison (Iyengar, 2003; Adut et al., 2003; Tosi et al., 2000). Interest in this incongruity is expressed in the financial press and the accounting literature.¹⁶ While past research has focused on factors such as board composition, board leadership structure, and firm size, inconsistencies in associative findings have led researchers to suggest exploring alternative theories (Dailey et al., 1998). This dissertation experimentally examines select factors in the compensation setting process that have not been previously studied or have not been examined in an experimental fashion. These factors include individual pay anchors, privacy of compensation decisions, personal performance, group polarization and decision exaggeration, and group leadership. The factors center around the decision makers and the effects they have on the pay-for-performance paradigm.

The first study (chapter 2) examines the influence of individual anchoring and the effects of private versus public decisions upon compensation by those making the awards. In this study, subjects role-play as either an outside CEO or a non-CEO director serving on the compensation committee. The results indicate that subjects anchor to personal pay levels, CEO subjects shield the focal CEO from declining compensation when performance is below average, and that this phenomenon is mitigated when the individual director-subject decision is deemed to be made public. The shielding of compensation is consistent with Social Comparison Theory (Festinger, 1954) in that the

¹⁶ For example, Lublin, *The Wall Street Journal* (2/25/2005); Anonymous, *The Economist* (12/21/2004); Perel (2003); Sheikholeslami (2001).

subjects role-playing as outside CEO directors protect the focal CEO, a peer member, by limiting declines in compensation awards as performance declines. This shielding thus represents an agency cost.

The second study (chapter 3) examines affect as an influencing factor in individual decision makers in the compensation setting process. Using personal pay and personal performance as anchors for subjects role-playing as directors on the compensation committee, results indicate that subjects make decisions that personally maximize (minimize) positive (negative) affect. In the absence of a personal monetary gain or loss, subjects supplanted a tangible with an intangible outcome, affect, as the decision prospect. Results indicate these decisions were consistent with Prospect Theory (Kahneman and Tversky, 1979).

The third study (chapter 4) examines group decision making as compared to individual decision when making compensation awards. Results indicate that when a group has a majority viewpoint, and thus a minority viewpoint, the group decision is not an averaging of individual views but is more extreme. This is consistent with the Group-Polarization Hypothesis (Myers and Lamm, 1976) which suggests that groups make extreme decisions in the direction of the majority members' beliefs. The findings also suggest, though, that the appointment of a leader as chair of the committee, such as someone in the minority, has a moderating effect on the group outcome. The findings indicate the potential for agency costs within the group decision process itself.

This dissertation provides evidence of individual and group factors that can influence the compensation award decision process. The results of the first two studies provide evidence that individual factors can influence the compensation decision process.

Results indicate decision makers anchor to personal pay; individuals role-playing as outside CEO directors shield their peer, the focal CEO from diminished compensation awards when performance is down; and that the publicness of the individual award can mitigate the shielding effect. Additionally, results indicate that individual decision-maker affect can influence the compensation process. Personal anchors such as pay and performance cause subjects to award compensation in a manner to minimize (maximize) personal negative (positive) affect. The third study provides evidence that the individual decisions differ from the group decision. When a majority viewpoint exists within a group, the group will polarize and formulate an extreme position in comparison with the average of the individual decisions. Furthermore, the role of the leader of the committee acts as a moderator with firm performance in the group compensation award. Taken together, these individual and group factors examined represent additional agency costs of corporate governance and the executive compensation-setting process.

5.2 Direction for Future Research

The goal of this dissertation is to add to the body of knowledge of factors that affect the executive compensation setting process. The three studies contain herein utilize an experimental method not previously employed in the examination of this process to identify causality. The findings of these studies suggest multiple areas of future research.

The first two studies examine the individual factors of personal pay, decision privacy, personal performance, and affect. An additional individual factor within the executive compensation arena that might be explored centers around the director

relationship to the CEO. In these experiments, no indication was given as to whether the focal CEO appointed the director to the board or not. It may be that a director appointed to the board or compensation committee by the focal CEO may feel “beholden” to the CEO and reward him/her in the compensation setting process. Additionally, it may be interesting to repeat studies 1 and 2 using base salary and bonus as opposed to only “compensation”. Individuals may award compensation differently when remuneration has a short-term and a long-term component to it.

The third study examines decision exaggeration in the group process as compared to the individual process. This study explores the nature of a group with a majority and a minority viewpoint and the influence of the group make-up on the decision process. It might be interesting to examine groups of differing sizes and groups of differing ratios of majority versus minority viewpoints for decision influence. Furthermore, it might be interesting to examine a group without a minority viewpoint (e.g., a group of only outside CEO directors) to see if the exaggeration effect derived from group polarization disappears. Additionally, it would be interesting to examine a group process to see if individual affect changes the exaggeration effect; whether compensation broken into “salary” and “bonus” change the exaggeration effect; and whether group decision outcomes are consistent with Prospect Theory like the individual decisions.

This dissertation contributes to the executive compensation literature by providing evidence of individual and group factors that experimentally demonstrate causality in the remunerative process. The findings of these studies indicate that agency costs exist at both the individual and group level, which may further explain the incongruity in the pay-for-performance executive compensation paradigm.

References

- Adut, D., Cready, W. H., & Lopez, T. J. (2003). Restructuring Charges and CEO Cash Compensation: A Reexamination. *Accounting Review*, 78(1), 169-192.
- Anonamous. (2004, December 11). Leaders: Running out of options; Pay for performance. *Economist*, 373, 10.
- Daily, C. M., Johnson, J. L., Ellstrand, A. E., & Dalton, D. R. (1998). Compensation Committee Composition As A Determinant Of CEO Compensation. *Academy of Management Journal*, 41(2), 209-220
- Iyengar, R. J. (2003). Executive Compensation in Perennially Loss-making Firms. *Finance India*, 17(1), 199-214.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-292.
- Lublin, J. S. (2005, February 25). CEO Bonuses Rose 46.4% at 100 Big Firms in 2004. *Wall Street Journal*, p. A1.
- Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, 83, 602-627.
- Perel, M. (2003). An Ethical Perspective on CEO Compensation. *Journal of Business Ethics*, 48(4), 381-391.
- Sheikholeslami, M. (2001). EVA, MVA, and CEO Compensation. *American Business Review*, 19(1), 13-17.
- Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339.

Vita

Arron Scott Fleming was born in Fairmont, West Virginia, on January 1, 1966. He grew up in Ravenswood, West Virginia, and graduated from Ravenswood High School in 1984. Scott graduated from West Virginia University in 1988 with a Bachelor of Science degree in Business Administration, Accounting major. Scott obtained his CPA in 1992 and his CMA in 1994. Scott went on to earn his Master's of Business Administration in 1996 from West Virginia University.

Scott has worked in various industries for approximately ten years in the capacity as financial accountant, cost accountant, treasurer, accounting manager-controller, internal auditor, and mergers-and-acquisitions analyst, gaining both domestic and foreign experience. He went on to instruct at Salem-Teikyo University in Salem, West Virginia, and West Virginia Wesleyan College in Buckhannon, West Virginia.

Scott began his doctoral studies in 2001. He currently resides in Elkins, West Virginia, with his wife Julie, and is an Assistant Professor of Accounting at West Virginia University, in Morgantown, West Virginia.