Effects of Principal's Pay and Pay Satisfaction for Student Achievement at the
Elementary School Level*

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Abstract

A random sample of male elementary school principals was drawn from a pacific coast state (California), and multiple data sources were used (survey methodology and archival database) to obtain information about pay, reactions to pay, and student achievement. Pay is examined for these building level administrators as part of the employer-employee change relationship focusing on actual pay levels, affective reactions to pay (pay satisfaction), and student achievement through a structural equation modeling approach. Results indicate that when consideration is afforded to actual pay verses affective reactions to pay relative to student achievement, only the former source is controlling

Keywords: Student Achievement, Pay, Pay Satisfaction, and Elementary School
Principals.

Executive Summary for Evaluation Criteria

Purpose of the Study. The purposes of this study are to investigate the relationships among actual pay, pay satisfaction, and student achievement for male elementary school principals in the state of California. To do so, three hypotheses are submitted to empirical test, and each addresses a significant question warranting investigation.

Hypothesis 1. It is hypothesized that when variables associated with pay are considered (i.e. occupation, organization, focal position, personal attributes, and human capital endowments), an inferred variable will emerge relative to the market value of elementary school principals (test of a measurement model).

*Hypothesis 2. It is hypothesized that when facets of pay (*pay level, benefits, pay structure, and pay raises) *are assessed for elementary school principals an inferred variable of pay satisfaction will emerge (test of a measurement model).*

Hypothesis 3. It is hypothesized a significant amount of variance in student achievement can be accounted for by actual pay, by market value of employees, and by affective reactions of employees to pay (test of a structural model).

Theoretical Framework. This study commingles theoretical frameworks both form the economic literature addressing pay as an outcome variable with special emphasis for factors influencing pay (occupation, organizations, focal position, personal attributes, and human capital endowments) and from the psychological literature addressing pay as an affective reaction defined from a facet perspective (pay level, benefits, pay structure, and pay raises). Most important, both theoretical frameworks are assessed relative to student achievement and are juxtaposed on the public school setting.

Methods. Multi-methods (survey techniques and archrival data sources) are used in this study to obtain information about actual pay and pay satisfaction relative to student achievement as measured by the "API" for a random sample of elementary school principals. A structural modeling equation is used for the first time in this body of literature to assess simultaneously all three hypotheses as set forth for male elementary school principals relative to pay, to pay satisfaction, and to student achievement using actual data obtained from principals and reported by state databases.

Results. Empirical data are provided for each hypothesis, and each hypothesis is linked to appropriate literature reviewed. Special attention is afforded to the voids noted in this body of literature relative to pay, to pay satisfaction, and to student achievement. Specific attention is given to the population, to the sample size, and to statistical methods relative to the questions addressed via a structural equation modeling approach.

Conclusions. A structural model reflecting outcomes of this study is presented relative to the interrelationships among variables as specified by the hypotheses (Figure1). Statistics for important paths in this model involving pay, reactions to pay, and student achievement are provided and are discussed from a statistical perspective as well as from a practical perspective.

Significance. Within this study, pay for principals is justified from a policy perspective relative to student achievement for a first time in this body of literature. Quandaries associated with pay and with student achievement are discussed relative to recruitment and to selection of principals in the field setting. Based on this study, other research is suggested and certain limitations are noted. In conclusion, this study indicates pay for male elementary school principals as an important variable for investigation for school boards, employees, and students in the public school setting, especially California.

Effects of Principal's Pay and Pay Satisfaction for 7 Student Achievement at the
Elementary School Level*

A continuing interest of all public school districts is student achievement
(Sergiovanni, 2006). With the passage of the No Child Left Behind Act (2001), with the
adoption of competency based tests at the state level, and with the improvements of state
maintained databases, information about student achievement is readily available to all
interested parties. Indeed, indices for student achievement are easily accessible on the
Internet, are published in the popular press, and are broken-down often for districts at
large as well as for each school building nested within a school district (e.g., Cupertino
Unified School District, n.d.).

Based on these outcome measures of student achievement as revealed by
standardized test results, school districts/school buildings seek either to maintain or to
enhance the level of achievement for students. For both goals, research is needed from
several perspectives. That is, new information is warranted about how students learn
(e.g., Shapiro, 2004), about how teachers teach (McLaren, 2007), and about how
management manages (e.g., Cunningham & Cordeiro, 2006).

Among these different research needs pertaining to advancing knowledge about
student achievement within the public school setting, this manuscript focuses on the
management process as defined by a particular human resource activity practiced by all
public school districts, i.e. employee pay (Webb & Norton, 2003; Young, 2008).
Employee pay, within the public school setting, is determined from a policy perspective
by boards of education because school districts lack a net profit motive used by private
industry as a criterion for establishing employee pay.

However, like the private sector for profit organizations, employee pay in the public sector has policy implications for school districts (e.g., Owings & Kaplan, 2006; Web & Norton, 2003), has individual implications for employees (e.g., Young, 2007; Young & Brown , 1997; Young, Delli, Miller-Smith, & Buster 2004,), and has been linked to a desired organizational outcome, i.e. student achievement (e.g., Currall, Towler, Judge, & Kohn, 2005). Given the importance of pay as a human resource activity in the private sector (Gerhart & Milkovich, 1992; Heneman & Judge 2005; Rice, Phillips, & McFarlin, 1990) as well as in the public sector (Webb & Norton, 2003; Young, 2008), pay is addressed in this study both from an effective (amount of) espective and from an affective (satisfaction with) perspective as related to student achievement in the public school setting. More specifically, this study focuses on pay for only building level elementary school principals relative to student achievement but does so for specific reasons as noted within existing research addressing this human resource activity from a policy perspective (discussed below).

<center>Pay in General</center>

Research addressing pay in general has approached this human resource activity from different points of view in the professional literature: (1) effective as an outcome variable and (2) affective as a psychological construct. For both perspectives, separate bodies of literature provide important methodological constraints/considerations that should be heeded relative to the purpose of this study. As such, this manuscript follows these leads as suggested by each area in a pointed manner.

Effective Pay as an Outcome Variable

Within the private sector literature, pay outcomes are defined by actual salaries received by employees, and actual salaries are reported to be a function of several factors. Included among these factors are occupations, organizations, focal positions, personal attributes, and human capital endowments. For example, Huffman (2004) indicates some occupations pay more than other occupations in that manufacturing occupations pay more than service occupations.

With respect to organizations, private sector organizations pay more than public sector organizations (Kmec, 2005). For focal positions within occupations and within organizations, Schwab, Rynes, and Aldaq (1987) note "middle managers earn more than entry level managers" (p. 131). Even for the same focal position, some employees are paid more than other employees relative to a personal attribute relating to sex (Morgan & Arthur, 2005) as illustrated in the popular press on an annual basis by *Parade* (for the latest edition, see *Parade*, 2007).

Wang and Holton (2005) point out still additional factors impacting actual pay for "equal work" as defined by the Equal Pay Act (n.d.). These factors are human capital endowments possessed by specific position holders and pertinent to this study are the following human capital variables: education and experience. "Likewise, even when job and organization are held constant, some position holders possess certain attributes with more market value than other position holders (i.e., experienced persons tend to be paid more than inexperienced persons" (Young & Brown, 1996, p. 143) and the same could be said for education possessed by job incumbents.

Given these factors impacting actual pay, this study controls for each factor in a systematic way. It does so either through the sampling framework or by statistical

techniques. For the sampling frame used in this study, occupation is controlled by focusing on only education as an occupation (Huffman 2004), organization is controlled by focusing only on public school districts (Kmec, 2005), focal position is controlled by focusing only on elementary school principals (Schwab et al., 1987), and sex of employees is controlled by sampling only males (Morgan & Pounder, 1988; Stone, 1985; Young, 2005).

Statistical techniques are used in this study to control for human capital endowments of employees found to impact pay and to vary among elementary school principals (Author, 1996, 1997; Wang & Holton, 2005). Specifically addressed are educational attainment of elementary school principals and their job experience within an assigned school building. By coupling human capital endowments with occupational and organizational concerns, a hypothesis is set forth for empirical test.

> *Hypothesis 1. It is hypothesized that when variables associated with pay are considered (i.e. occupation, organization, focal position, personal attributes, and human capital endowments), an inferred variable will emerge relative to the market value of elementary school principals (test of a measurement model).*

Affective Reactions to Pay

Pay has however, not only economic implications for employers and for employees when defined as an outcome variable involving actual pay amounts, but psychological ramifications for individuals as job incumbents when assessed from an affective perspective (Heneman & Judge 2006). From an affective perspective, pay has been used as a proxy to gauge the organizational value of positions as well as of employees from a relative worth perspective (Author, 1997, 2008). Indeed, superintendents are paid more than principals, high school principals are paid more than

elementary school principals, and some principals within each level are paid more than other principals (Webb & Norton, 2003).

Affective reactions to pay within the general industrial/organizational literature have been linked positively to organizational commitment and negatively to turnover propensity in a variety of settings (for a review see Currall et al. 2005; Heneman & Judge, 2006). The affective reactions of employees about their pay are captured under the general construct of pay satisfaction. However, unlike other long standing human resource activities receiving attention in the professional literature (e.g., recruitment and selection), "it has been only in the past 3 decades, for instance, that pay satisfaction has become an intensive area of inquiry" (Currall et al. 2005, p. 614) for industrial and organizational psychologists.

Within this body of literature addressing the affective reactions of employees toward their pay, pay satisfaction is purported to vary according to different facets associated with the pay process. These facets include pay level, benefits, pay structure, and pay raises (Heneman & Schwab, 1985). That is, pay satisfaction can vary for each facet along a single continuum ranging from dissatisfaction to satisfaction.

Recent research has broached these alternate perspectives of pay satisfaction within the public school setting through structural equation modeling (SEM) techniques assessing the utility of different measurement models relative to facets of pay satisfaction (Currall et al., 2005). This research offers empirical support for the notion of pay satisfaction as defined from a facet perspective reflecting those components suggested initially by Heneman and Schwab (1985) involving pay level, benefits, pay structure, and pay raises and as captured subsequently by an inferred variable (SEM) with a population

of teachers (Currall et al., 2005). Because most principals have been teachers and because principals as well as teachers work in the same job setting (school building level), another hypothesis is formulated and subjected to empirical test.

*Hypothesis 2. It is hypothesized that when facets of pay (*pay level, benefits, pay structure, and pay raises) *are assessed for elementary school principals an inferred variable of pay satisfaction will emerge (test of a measurement model).*

Pay and Student Achievement

Actual pay and pay satisfaction are found to relate to the academic performance of students for a selected group of employees (teachers) within a particular state having a common funding formula for public school districts (Currall et al., 2005). Given the outcomes of Currall et al.'s research, additional attention is warranted in this important area relative to actual pay, market value of employees, and to satisfaction with pay of other employee groups within the public school setting who are responsible also for student achievement, i.e. building level principals. Building level principals, like classroom teachers, are responsible for the achievement of students under their watch (Cunningham & Cordeiro, 2006; Sergiovanni, 2006) but have yet to be addressed in this body of literature concerning pay amounts and pay satisfaction. Findings from such research could have important implications for public school districts and for individual position holders in the field setting both from a policy and from an applied perspective.

To provide information about school building principals relative to effective/actual pay, to market value, to affective reactions (satisfaction) toward their pay, and to student achievement is the focus of this study. This focus is addressed by using a structural equation modeling approach. Factors purported to influence actual pay of

principals are controlled either through sampling design holding constant occupation (Huffman, 2004), organization (Kmec, 2005), focal position (Schwab et al, 1987), and a personal attribute pertaining to sex (Morgan & Arthur, 2005) or through statistical techniques controlling for specific human capital endowments (Wang & Holton, 2005) relating to education and to experience (Pounder, 1988; Stone, 1985; Young, 1997; Young & Brown, 1996). Information about the relationships among these variables on student achievement has, however, been unaddressed for elementary school principals.

To address the above advancements as set forth, an empirical study is conducted. Within this study, factors purported to influence effective/actual pay as an outcome variable are controlled, affective reactions toward pay are addressed from a facet perspective, and a measure of student achievement is obtained via standardized test developed by and administered by a particular state for all students enrolled in public elementary school buildings. These relationships are explored from a structural equation modeling approach as a first in this research stream for elementary school building principals, and a specific hypothesis is set forth for empirical test.

Hypothesis 3. It is hypothesized a significant amount of variance in student achievement can be accounted for by actual pay, by market value of employees, and by affective reactions of employees to pay (test of a structural model).

Methodology

Population. The population for this study is all male elementary school principals (n=1,774) employed in a pacific coast state, i.e. California. This population is so defined for several reasons in light of existing research pertaining to pay. First, it has been noted the importance of occupations (Huffman, 2004), of organizations (Kmec, 2005), and of

focal positions (Schwab et al., 1987) for assessing pay amounts, and all these factors are addressed by considering a certain occupation (service [education] as opposed to manufacturing), a specific organization (public school districts), and a unique focal position (elementary school principals).

Second, existing research, in the educational setting (Pounder, 1988; Stone, 1986), reports that pay amounts for principals are a function of their sex group. Within these studies, females were reported to have a pay amount less than males. Based on these findings, sex of elementary school principals is held constant in the definition of the population by focusing only on male elementary school principals.

Sample. From this population of male elementary school principals (n= 1,774), a total of 240 were selected using a random sampling process and were requested to take part in this study. This number of participants was determined on the basis of several *a priori* considerations. Among these considerations are statistical requirements for the method used in this study (SEM) and expected rates of return for requested information sought from elementary school principals.

According to Thompson (2002), "it has been suggested that the ratio of number of people to number of measured or observed variables (n:v) should be at least 10:1" (p. 272) from a SEM approach, and this study assesses a total of 12 variables, i.e. 120 responses are needed at minimum. In addition to actual numbers needed by an SEM procedure, a review of existing studies indicates that only approximately 50% of those sampled and of those requested to participate in this study will likely take part (Newton, Giesen, Freeman, Bishop, & Zeitoun, 2003). Based on this information, these restraints suggest an over sampling within the population (2:1).

To accommodate both concerns (minimum number and response rate), 240 participants were sampled at random and were requested to take part in this study. Imposed on the sampling frame is a specific delimiter. That is, only a single principal was selected from any school district because others have suggested that pay is a district prerogative (Currall, et al. 2005; Schwab, et al. 1987; Webb & Norton, 2003) and have implied that district decisions about pay must be controlled when assessing actual pay of elementary school principals. Thus, this study sampled only a single elementary school principal from a school district to control for pay decisions/practices unique to a particular employer (school board).

Of those elementary school principals sampled at random and requested to participate (n=240), 145 complied to reflect a response rate of 60%. This number of respondents exceeds minimum constraints suggested by Thompson (2002) for a SEM analysis (n=120) as well as anticipated rates of return implied by existing research (50%) using a similar research protocol (Newton, et al., 2003). Descriptive data and correlations among observed/measured variables addressed in this study are found in Table 1.

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Insert Table 1 about here

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Data Sources

To obtain the data as found in Table 1, this study relied both on multiple data sources and on multiple data collection techniques. Information about actual pay amounts, about human capital characteristics of position holders (education and principal

experience), and about facets of satisfaction associated with pay (pay levels, benefits, pay structure, and pay raises) were assessed through survey methodology. For information pertaining to organizational characteristics (per pupil expenditures and building level enrollments) and to student achievement (standardized test scores), archival information was obtained from a database maintained by the targeted state in this investigation (California Department of Education, n.d.).

Survey Data. As part of the data collection process, principals completed a general survey and an established pay satisfaction instrument (to be described). To obtain this information, all participants received by US Mail an information packet, and this packet was mailed to them at their work site. Contained within this information packet are a letter of introduction, a general survey instrument, a scale for assessing facets of pay satisfaction, and a pre-addressed stamped envelope for return of information along with a pre-addressed post card for requesting feedback from this study.

Within the letter of introduction, the basic purpose of this study is described, participation is encouraged, and confidentiality is assured as a condition of their involvement. As noted in the introductory letter, an opportunity for feedback of results is provided through the return of a post paid card requesting feedback (included in the information packet). Accompanying this letter was a general survey instrument designed to assess self reports of biographical information, experiential data pertaining to human capital variables, information about amount of pay as well as about the contractual work year, and a standardized measure addressing facets of pay satisfaction.

Because elementary school principals sampled in this study worked different work years, consideration was afforded to a per diem rate rather than an annual rate of

pay. This was accomplished by dividing an annual contract salary by the number of work days. Descriptive data as well as correlations for per diem rates are found in Table 1.

To capture the pay satisfaction of elementary school principals, a subscale of the Minnesota Satisfaction Questionnaire (MSQ) was used (Weiss, Dawis, England, & Lofquist, 1967). This subscale of the MSQ is part of the total instrument reflecting other dimensions of satisfaction (i.e., work, co-workers, supervision, job in general), and the particular subscale, as used in this study, pertains specifically to the affective reactions of employees about their pay as measured by their perception of pay satisfaction from a facet perspective: pay levels, benefits, pay structure, and pay raises (see Table 1).

Most importantly, this is the same subscale used by Currall et al. (2005) with teachers as noted previously in this manuscript, and this study follows their lead. That is, pay satisfaction, as measured by the MSQ, is disaggregated according to the dimensions of pay satisfaction suggested by Heneman and Schwab (1986). Specific satisfaction measures are provided for pay levels, benefits, pay structure, and pay raises.

For every item as nested within each facet of pay satisfaction just described, a common metric exists. This metric relies on five anchor points ranging from very dissatisfied (1) to very satisfied (5) with higher scores reflecting a greater level of pay satisfaction than lower scores. Composite satisfaction scores associated with pay levels, benefits, pay structure, and pay raises are assessed, and reliability coefficients were calculated for each facet (.89 for pay level, .92 for benefits, .87 for pay structure, and .86 for pay raises).

Archival Data. In addition to survey data collected from practicing elementary school principals, additional information was gleaned from a state database maintained

by the target state (California Department of Education, n.d.). This latter source of data

pertains to organizational characteristics purported to influence pay and to influence

student achievement levels. Organizational characteristics assessed pertain to elementary

school size reflecting information about the work assignment (Stone, 1985; Young, 1997)

and to district wealth as measured by per-pupil expenditures (Young, 1996, 1997; Young

& Brown, 1996; Young et al., 2004).

Size of an elementary school building was measured according to student

enrollments. Student enrollments were measured by average daily attendance for each

building assignment. Wealth of a school district relating to ability to pay was measured

by a per-pupil expenditure on a district-wide basis.

Student achievement associated with specific elementary school buildings under

the direction of participating elementary school principals is defined by a composite

achievement score as measured by the "Academic Performance Index (API)." This

composite achievement score for elementary school students is used to construct a report

card for school buildings, is part of the database maintained by the targeted state defining

the population of this study, and is readily available (California Department of Education,

n.d.). The API is the bedrock of the competency-based student assessment program

within this state and serves as the yardstick for performance measurement within and

between school districts/school buildings.

The API was developed by the state department of education and is administrated

by the state department of education on a group basis. As a regulatory requirement for all

public school districts via state mandates, the API is less susceptible to sampling biases

associated with many achievement measures (e.g., ACT and SAT) because exemptions of

students are extremely limited and because self selection is not an option (Currall et al., 2005). Within this targeted state almost all students take the API even in spite of English language deficiencies.

Scores on the API for an elementary school building are a composite measure and can range from a low of 200 to a high of 1000 with lower scores reflecting less academic achievement levels for an elementary school building than higher scores. Included in the calculation of composite scores are outcomes on specific subtests having differential weightings for academic areas. Descriptive statistics for the composite academic scores of the elementary school buildings included in this study are found in Table 1.

Statistical Analysis

This study uses a structural equation modeling (SEM) approach involving the assessment of two measurement models (hypotheses 1 and 2) and of a single structural model (hypothesis 3). Initial emphasis within the statistical process was devoted to measurement models. As indicated by Thompson (2002), "first confirm that the specific measurement models all fit their respective data; second, then and only then, explore the structural relationships among the latent-synthetic variables" (p.273).

To assess the adequacy of measurement models, a confirmatory factor analysis is used. This procedure differs from an exploratory factor analysis in an important way. That is, the relationship between observed variables and an inferred variable (factor) are designated by the investigator in a confirmatory factor analysis rather than selected by a statistical algorithm in an exploratory factor analysis.

The first measurement model involves an assessment of organizational characteristics (per pupil expenditures and elementary school building enrollments) and

of human capital endowments of position holders (education and years of experience as a principal in the assigned building) for defining an inferred variable defined as market value within this research. To determine the adequacy of this measurement model as defined by market values, a confirmatory factor analysis was conducted. Results of the confirmatory factor analysis support the first hypothesis as set forth in this study (see hypothesis 1).

A test of the residual correlation matrix as defined by differences between observed and inferred correlations is non significant ($X^2 = 8.07$, df = 5, p. $\leq$. 05). Further support for the adequacy of this particular measurement model as defined by market value is suggested by other fit measures. Included among these fit measures are as follow: (1) root mean square error of approximation (RMSEA) less than .08 [.07 with these data] and (2) goodness of fit index (GFI) of at least .90 [.90 with these data].

The other measurement model addressed in this study as noted by the second hypothesis involves the inferred variable of pay satisfaction. Within this study, pay satisfaction was defined from facet perspectives that include satisfaction with pay level, pay benefits, pay structure, and pay raises as suggested by Heneman and Schwab (1985) and as used by Currall et al. (2005) to assess a measurement model for the pay satisfaction with teachers. Results of the second confirmatory factor analysis involving pay satisfaction as an inferred variable lend support to this particular measurement model and to the second hypothesis by producing a non-significant chi square ($X^2 = .01$, df = 1, p.$\leq$.05), a RMSEA of .01, and a GFI of .99.

Given the adequacy of both measurement models (market value and pay satisfaction) for the obtained data via conventional standards (X^2, RMSEA, and GFI),

attention is redirected to the structural model of interest in this investigation (hypothesis

3). Contained in Figure 1 is the particular structural model assessed in this study along

with pertinent statistics. An assessment of this model indicates that the residual matrix is

non-significant ($X^2 = 41.1$, df = 33, p.≤.05) and fit statistics are within expected ranges (a

RMSEA of .04 and a GFI of .97).

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Insert Figure 1 about here

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In light of these assessments of adequacy for the structural model and given the

potential of this model as a viable although not an exclusive representation of these data,

support is suggested for the third hypothesis and certain insights are provided. Most

notable is that 18% of the systematic variance associated with student achievement is

explained. This amount is not inconsequential from a statistical or from a practical

perspective (see Cohen, 1988), because many other variables contribute to student

achievement and are excluded from this study.

An examination of standardized path coefficients provides insights for these data.

Most important is the path for actual pay as related to student achievement (see Figure 1,

B = .38, p ≥. .01). When the daily rate of pay increases by one dollar, a .57 increase in

student achievement on the API is noted by the unstandardized regression coefficient (b =

.57, not reported in Figure 1).

Important for the daily rate of pay is the inferred variable for market value as

defined by human capital and by organizational characteristics. The path from the

inferred variable defining market value is statistically significant (see Figure 1, B = .26, p

≥. .05). Also, the inferred variable defined as market value has a statistically significant

path for student achievement (see Figure 1, B = -.33, p ≥. .05).

A major difference between the standardized path coefficients for actual pay and

for student achievement is the sign of the path coefficients. For actual pay it is positive

(B = .26, in Figure 1) and for student achievement it is negative (B = -.33, in Figure 1).

On reflection, this difference in directionality has a logical explanation when

consideration is afforded to the observed variables used to define the inferred factor

(market value).

Predominant among the observed variables defining the inferred factor (market

value) is student enrollment (see Figure 1, B = .97, p ≥. .05). Given this outcome, these

data suggest that elementary school principals having high enrollments are paid more

than elementary school principals having low enrollments (a positive sign for actual pay).

However, elementary school principals having high enrollments are less likely to obtain

the same achievement levels for the building as elementary school principals having low

enrollments (a negative sign for student achievement).

Pay satisfaction as defined by an inferred factor comprised of different facets

associated with the pay process (pay levels, benefits, pay structure, and pay raises) failed

to reveal any significant path coefficients. Indeed, the path between pay satisfaction and

actual pay is non-significant (see Figure 1, B = .02, p ≤ .05), the path between pay

satisfaction and student achievement is non-significant (see Figure 1, B = .00, p ≤ .05),

and the relationship between pay satisfaction and market value is non-significant (see

Figure 1, r = .08, p ≤ .05). Although these last findings for pay satisfaction were

unexpected and are somewhat surprising in light of existing research, specific speculations are provided in the following section of this manuscript.

Discussion and Limitations

As noted at the beginning of this manuscript, student achievement is a major concern for all public school districts, and information related to student achievement is needed in a variety of areas, e.g., how students learn, how teachers teach, and how school districts are administered. Among these needed sources of information, it is the last tack that is the focus of this study, and this study focuses only on a specific human resource activity practiced by all school districts purported to have implications for student achievement, i.e., pay for principals.

Pay for elementary school principals is viewed from several lenses in this study by considering effective outcomes of pay defined by actual salaries, market considerations for pay as defined by an inferred variable involving organizational and human capital variables, and by assessing affective reactions to pay as defined by a psychological construct involving an inferred variable for pay satisfaction. For all approaches, literature from the private sector as well as from the public school setting was used as a theoretical base for the hypotheses set forth in this study. To assess this information about pay from different perspectives and to relate this information to student achievement for a random sample of elementary school principals, a multi-methods approach involving self reported surveys and archival data sources are used.

Results from this study lend credence to the notion that pay is an important variable worthy of consideration in the educational literature for elementary school principals like results reported for public school teachers (e.g., Currall et al., 2005) when

it comes to student achievement. Indeed, actual pay is found to account for a statistical as well as a practical amount of variance associated with student achievement in the public school setting at the elementary school level (18% of the variance, see Figure 1). This finding would seem particularly important for several reasons.

From a policy perspective, pay for principals is determined unilaterally by a school board unlike pay for teachers that is bilaterally determined with unions through negotiations (Young, 2008). That is, principals are seldom represented by labor unions and school boards can not diffuse their responsibilities for actual salaries of principals but need a legitimate reason for paying principals. As such, these findings reflect a positive return on investments in principal salaries relative to student achievement (see Figure 1).

Also, these findings addressing pay of elementary school principals are important for academic reasons as defined by student achievement. No doubt, early achievement of students at the elementary school level has implications for later achievement of students at the secondary level. Thus, school boards can pay upfront or can pay later through remedial programs but the former method of pay offsets negative effects for students encountered by the later method.

Beyond justifying pay for principals relative to student achievement, the different signs associated with market value have implications for pay and for student achievement. These bidirectional findings for market value (positive for actual pay and negative for student achievement) may well produce a quandary for the recruitment and for the selection of quality principal candidates at the elementary school level. For quality principal candidates, these findings imply either a "win-loose" (high salary → low achievement) or a "loose-win" (low salary → high achievement) rather than a "win-

win" situation (high salary ↔ high achievement). Given the current emphasis on student achievement as set forth by NCLB as well as by state legislation for failing to produce high achievement scores for student within particular school buildings, an important area of concern is noted by these findings.

By viewing pay through alternate lenses (effective outcomes/actual pay and affective reactions/pay satisfaction), several insights are provided by these data. As can be observed via Figure 1, affective reactions of male elementary school principals are unrelated either to their actual pay or to student achievement at their school building level. These findings suggest that pay satisfaction may well be tempered by variables other than those considered in this study in light of other research.

Other research suggests that pay satisfaction has important implications as related to organizational commitment and to turnover (Currall et al. 2005; Heneman & Judge, 2005) and is a function of the referent source used as a comparison (Rice et al., 1990; Tremblay, St-Onge, Toulouse, 1997) not necessarily related to actual pay. When interpreted from a contextual perspective, referent sources are defined in this body of literature to include others within the same school district holding either similar positions (i.e. elementary school principalships) or different positions (i.e., high school principalships). "The former comparison is chosen as a referent source based on the criterion of similarity to self, whereas the later comparison is chosen as a referent source based on the criterion of proximity to self" (Young, 1997, p.383). However, pay satisfaction as addressed in this study is insensitive to any referent source, and this omission may have masked important relationships between affective reactions and student achievement.

Finally, this study, like all studies, has certain limitations. Findings from this study are limited to a specific state (California), to a certain type of organization (public school district), to a particular focal position (elementary school principals), to a designated sex group (males), to limited organizational characteristics (per-pupil expenditures and school building enrollment), to certain human capital endowments (education and experience), to a unique albeit standardized measure of pay satisfaction (MSQ), and to a sole measure of academic achievement (API). Without a doubt, other research is needed both to replicate these findings and to expand on these findings in other ways before any broad generalizations are made relative to pay, to market values for pay, to affective reactions toward pay, and to student achievement.

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Table 1
Descriptive Statistics and Correlations among Measured Variables

Variable	Mean	Standard Deviation	Correlations									
Student Achievement	752.67	75.999	1									
Per-pupil Expenditure	$7,476.39	$2,647.537	.006	1								
ADA Enrollment	516.18	278.423	.235	.323	1							
Educational Level	2.24	.681	.015	.037	.233	1						
Job Experience	6.58	5.732	.088	.054	.104	.076	1					
Satisfaction Pay Amount	13.89	3.877	.081	.044	.059	.132	.088	1				
Satisfaction Benefits	19.37	5.168	.029	.077	.013	.040	.021	.570	1			
Satisfaction Raises	9.76	2.945	.087	.038	.022	.133	.052	.685	.488	1		
Satisfaction Structure	13.32	3.306	.050	.178	.079	.097	.005	.629	.590	.693	1	
Per Diem Pay	423.58	50.55	.296	.165	.235	.156	.073	.27	.176	.138	.221	1

Figure 1
  Structural Model Relating Student Achievement to Actual Pay and Pay Satisfaction.