

**The Relationship Between Employee Morale
And Employee Productivity**

Fire Service Financial Management

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Abstract

The District 4 Fire District of the Tulsa Fire Department covers approximately 40 square miles has six fire stations, and eight fire units. The problem: The issue of morale and its relationship to employee productivity has never been quantified within our department. The purpose of this research project was to determine if there is a relationship between the morale and productivity of the personnel who I supervise in District 4 “C” Platoon.

Historical and descriptive research was performed utilizing data obtained from twelve months worth of quarterly reports, to measure if our District had increased its productivity over a twelve month period. Measures were put into place to augment the morale of District 4 “C” Platoon personnel during the last three-quarters of the data that was analyzed. A survey was given to District 4 “C” platoon personnel to determine what affects morale and whether or not morale has increased over the last year. A literature review was conducted to determine if other entities had experienced a relationship between morale and productivity. The following research questions were answered.

1. Is there a relationship between the morale and productivity of an employee?
2. Can employee productivity increase within an employee group by increasing employee morale?
3. What measures can a supervisor take to improve employee morale?

The survey and reports revealed a pattern that links the productivity of personnel with their level of morale. The literature review also supported the notion that a relationship exists between employee moral corresponding productivity.

It is recommended that an analysis of employee morale/productivity be performed for the entire department. The final step would be to employ the measures utilized in this research project to increase the moral /productivity within other fire districts and shifts on as needed basis.

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Introduction

Historical and descriptive research will be performed utilizing data obtained from twelve months worth of quarterly reports, to measure if District 4 “C” Platoon has increased its productivity over a twelve month period. Measures will be put into place to augment the morale of District 4 “C” Platoon personnel during the last three-quarters of the data that will be analyzed. A survey will be given to District 4 “C” platoon personnel to determine what affects their morale and whether or not morale within the District has increased over the last year.

A literature review will be conducted to determine if other entities have experienced a relationship between morale and productivity. The following research questions will be answered.

1. Is there a relationship between the morale and productivity of an employee?
2. Can productivity increase within an employee group by increasing employee morale?
3. What measures can a supervisor take to improve employee morale?

I anticipate that an increase in morale will result in an increase of productivity of District 4 personnel. If my conclusion is correct, then in order to increase the productivity personnel, one can take measures to increase morale. I would submit that these same results could be applied to not only other districts and other shifts, but to all work forces at-large. I expect my results to conclude that there is a strong correlation between how members feel about their job and the quality of the their work.

Background and Significance

Morale has long been debated on our department as intangible, indefinable, and even as a choice one makes whether or not to have high moral. The issue of morale and its relationship to employee productivity has never been quantified within our department. The purpose of this research project was to determine if there is a relationship between the morale and productivity of the personnel who I supervise in District 4 “C” Platoon. Finding this correlation is important because a supervisor must be aware of the external factors that influence an employee’s moral. Having recognized those external factors, steps can be taken to ensure that the employees remain upbeat and feel good about the contribution that they make. The effectiveness of a supervisor would then be measured not necessarily by how well he or she manages, but would also include one’s ability to motivate employees by increasing their morale.

These principles and concepts dovetail nicely with the National Fire Academy Financial Management course, particularly Unit V Forecasting which deals with interpreting, and applying statistical data and Analysis in Unit VI which essentially concerns making the most of one’s resources.

Literature Review

The purpose of the literature review was to determine what information is available on the relationship of morale and employee performance. Although the specific word morale was not used this text, the Successful Manager’s Handbook dedicates two chapters concerning leadership and motivational skills (Davis 1992). The authors express the need to foster teamwork, coach and develop others, and the importance of motivating others. This text was more of a self-help book that did not involve quantifiable data

concerning my premise, but clearly the importance of a workforce that feels good about what they do is significant in the overall mission of any organization.

Other publications reviewed included an applied research project from the National Fire Academy: *Developing an Employee Moral Index in the Emergency Services Organization* (Hunter 1997). This was an effort to index morale based on employee satisfaction. The following factors were constructed to determine employee satisfaction:

1. Mean hours of sick leave taken
2. Ratio of refusals to acceptances to volunteer for overtime with pay.
3. Number of grievances filed in a given period.
4. Composite scores of job satisfaction
5. Mean performance evaluation scores.

Each of the factors were then weighted and tabulated to determine the morale of the subject fire department. The author drew the conclusion that there was a strong direct causative correlation between high productivity and high morale and vice versa.

Richard Arwood, a retired Fire Chief and renowned NFA adjunct wrote in an issue of "Speaking of Fire" points out the potentially most cost effective way in which a fire service can increase productivity is through a formal positive reinforcement program. In other terms highly motivated employees are more productive employees (Arwood 1989).

Randy Novak, now director of Fire Service Training in Stillwater Oklahoma, wrote an article entitled "Much More To Morale Than You Might Think." This 1990 article appeared in the *Minnesota Fire Chief* magazine. In it, he mentions several of the external factors that influence morale that were listed in this research project's survey instrument. Listening, keeping people informed, encouraging participation, promoting a positive attitude as leaders are all cited by Novak as being effective means in responding to employee concerns (Novak 1990).

Rodney Nordstrom of Nordstrom and Associates (a private consulting firm specializing in employee productivity) had the ominous task of rebuilding the morale of the Codes Administration for the City of Kansas City Missouri, following the tragedy and subsequent scandal surrounding the Hyatt skywalk collapse. Inspectors were thrown into the mix of corruption in expose' that showed them loafing on the job. Nordstrom sites feedback as being the single most positive influencing factor in restoring the employee's morale. He sites feedback as being effective in the treatment of all productivity concerns from accident reduction to increasing the number of inspections (Nordstrom 1985). BOCA Past President Gerald Jones took over the directorship of codes for the City of KC Missouri during this storm of controversy. He writes that employee productivity and morale were at such a low that he sought the advise and services of an outside private sector firm to help restore his agency (Jones 1985).

In a June 1995 article in the publication "Occupational Health and Safety" Alan Colledge sites the example of the Union Pacific Railroad diesel shop's increase in injury claims over a two year period. The employees felt that management cared more for production than for the well being of the workforce. A ten-member committee was set up with representatives from all sides of the issue. AIM, Attitude, Incentive, Morale was the name given to this team of individuals. The group "empowered" its employees and gave them a sense of ownership in the decision making process. The result was a dramatic decrease in injuries and a commensurate level increase in productivity (Colledge1995).

William Ransom, President of Ransom & Associates (a management advisory firm) writes: "The morale of a business allows it to accomplish more than its cumulative talents would suggest. It operates in a synergistic mode using management, employee and

customer participation to resolve its problems.” He further lists three characteristics of a high morale organization: 1. Gives workers the freedom and autonomy to do their jobs. 2. Rewards the employee for exceeding expectations. 3. Listens to employees, and swiftly act to resolve any disputes. Ransom also sites that high morale organizations are more productive than the competition (Ransom 1995).

Ben & Jerry’s Ice Cream and Frozen Yogurt started out as a small company ran by two guys (Ben & Jerry) and quickly grew to a major player in the franchise industry. These admittedly simple guys soon realized that they needed the contributions of all employees in the decisions that affected these employees day to day. They attribute their success largely to the input from the employees into the decision making process. All the literature that was reviewed echoed a common theme: employee input is crucial to high morale.

Elton Mayo ran a series of experiments from 1927 to 1932 to determine how changing the physical environment would impact production. These tests were dealt primarily with the lighting of the work area at Western Electric’s Chicago Hawthorne plant. In a certain control group the test subjects continued to produce consistently even when the lighting was reduced to near darkness. This single control group knew they were being tested. It was later determined that the morale and motivation of the consistently productive control group was their impetus for production. This phenomenon would later be called the “Hawthorne Effect” (Fry 1989). Other public administration authorities concur with the findings of the Hawthorne experiments. In the textbook “Organizational Theory: A Public Perspective” these authors also concluded that the significance of the Hawthorne effect was not the lighting or lack thereof, subjected to the test subjects. These authorities

concluded the following: “the most important factor influencing the workers was not the physical environment, but the attitudes that resulted from the workers seeing themselves as important to the ongoing experiment (Gortner 1997).”

The literature all indicated that there is a by-product of employee input and morale and it translates into a more productive workforce. This literature review only served to further solidify my theory that an increase in the independent variable X, morale will provide a commensurate increase in the dependent variable Y, employee productivity.

Procedures

Two methods of data collection were used to determine if an increase in morale would provide an increase in productivity. The first instrument utilized was data collected from twelve month’s worth of T.F.D. quarterly reports for District 4 “C” Platoon. The second method employed in this research was the use of a survey instrument. The survey was used to determine what members of District 4 “C” Platoon believe to be factors that affect one’s morale and to determine their morale level before and after my arrival and subsequent implementation of a morale augmenting plan. (See appendix C).

The Tulsa Fire Department measures the productivity of fire crews against a benchmark known as the business plan. Each quarter, data are collected from each fire company who keeps track of a number of required functions that are to be completed. Each District Chief tracks the data and compiles it for his/her District. Each District Chief, then turn the data into the appropriate Assistant Chief who compiles the data for the entire city for the Platoon he/she is responsible for, either A, B, or C Platoon. The department has operationalized these measurements in the business plan as being what determines a productive/effective fire crew. The General Staff, a committee of Senior

Executive Fire Officers on the T.F.D. has approved of this method of measuring effectiveness of fire crews and provided much input into the development of these measurements. Data from quarterly reports were collected for the quarter prior to my arrival as District Chief, and compared with quarterly reports after my arrival.

The morale augmentation plan consisted primarily of introducing myself to each and every member of the District during the first week of my assignment. Group meetings were held at all the District stations to discuss employee expectations and listen to the concerns of the firefighters. A concerted effort was made on my behalf for the next several weeks to meet the needs of the personnel. These needs and issues ranged from resolving facility and truck repairs to help with promotional exams. An open door policy was instituted and the Captains were empowered with the flexibility they needed to accomplish quarterly objectives. Informal meetings were held regularly to determine employee feedback and repeat the cycle of listening to the employees and promptly addressing their needs and concerns. This was a genuine effort on my part and I feel a crucial component in order to repel any possible Hawthorne effect.

Method 1

The first quarter for fiscal year 97/98 beginning in July and ending in September was compared against the three remaining quarters starting in October 1997 and ending in June 1998 (see appendix A.) The three-quarters under my watch were averaged and compared to the first quarter reporting and the percentage increase or decrease was calculated. A scatterplot graph was established showing the results of the quarterly reporting (see appendix B). This allows one to observe the productivity of District 4”C”

Platoon before and after implementing the motivational measures to increase moral thus productivity.

Method II

The second method employed in this research was the use of a survey instrument to determine what members of District 4 “C” Platoon believe to be factors that affect one’s morale (see appendices C & D). Ten questions were asked. The first eight questions dealt primarily with external factors that could affect one’s morale. The final two questions dealt with how the respondents felt about their own morale over the past twelve months and how their morale compared to the rest Tulsa Fire Department outside of District 4 “C” Platoon.

Limitations

There were also some limitations to this research that should be noted. Data to compare districts to other districts are not kept and therefore District 4 “C” could not be compared with other districts to determine productivity. The quarterly report data are only as accurate as the crew entering the information. If crews are shown how to accurately document the quarterly reports one could realize a sharp increase in productivity based largely on the fact that the crews are doing a better job of documenting what they have been doing, but not getting credit for.

Another weakness was the fact that the quarterly reporting data concentrates on company outputs not outcomes. However, this is the prescribed manner in which our department has operationalized its definition for productivity.

It should be noted as well that while I did produce the survey instrument for my personnel, I delegated the administration of the survey to my management assistant. This

was done to reduce any potential bias, should a direct supervisor be administering a survey to determine the level satisfaction of the subordinates.

Results

Quarterly Report Findings (Appendix A)

Significant increases in productivity were found when compared to the first quarter's report. The numbers of post-incident analysis were up by 71%. Site surveys utilized to familiarize crews with commercial structures in their response district were up 59%. Previously there had been no documented goal setting for members during performance evaluations. Special work assignments were increased by some 86%. The number of service connected injuries and corresponding lost time resulting from such had decreased by 36% and 66% respectively. The number of accident free shifts was up by 10%. District training hours had increased by 56%. Visits to schools, recreation centers, and station tours were up 34%. The percentage increases were then added together and divided by the number of categories to reveal a net increase of productivity of 57.5%.

(Appendix B)

The scatterplot graph shows an undeniable positive correlation between the independent variable and dependent variable. This visual evidence adds further credence that improved morale will increase productivity. There is a clear influential observation made visually by witnessing the progress of the regression line. There were two visible negative relationships noted for lines 5 & 6, however these lines represent the number of injuries and the amount of lost time as a result of those injuries. Series 8 dealing with the increase in training had to be removed from this graph. The introduction of the third digit when on the same graph as the two digit series caused a profound flattening of the other

eight series'. This resulted in the only noticeable series as being the three digit series dealing with training. For the purposes of getting a more full affect on the regression line, series eight was removed.

Survey Findings (Appendices C & D)

In observing the first eight series or statements, the respondents clearly agreed that there are external factors that affect one's morale. Note series or statement number nine, which asks if the respondents agree that their morale has increased over the past twelve months. A clear pattern of agreement with this statement is evident. Of the twenty-five respondents only two disagreed somewhat that their morale had increased over the past twelve months. The other twenty-three either strongly agreed or somewhat agreed that their morale was up from a year ago. All the Captains who responded felt their morale was higher this year from last. Other findings included that the average age of District 4 "C" Platoon is 36.44. The average number of college hours for our members is 70. The average tenure for members in District 4 on the T.F.D. was 9.18 years of service.

As one looks at the survey results, the horizontal axis represents the number of respondents, while the vertical axis represents the degree to which the respondent agreed with the survey statement. Each statement if strongly agreed to, will take up 10% of the vertical axis. The legend indicating series 1 through 10 represents each statement that the respondents were asked to classify and the degree to which they agreed or disagreed. The longer the series, the more that respondent agreed with the survey statement. Conversely the shorter the series the more the respondent disagreed with the statement.

Research Questions Answered

1. Is there a relationship between the morale and productivity of an employee?

Yes, the literature review unequivocally supports the idea, that morale as an independent variable has a direct impact on the dependent variable productivity. The data from the T.F.D. District 4 "C" Platoon indicates a measurable increase in productivity coupled with clear indicators that members have experienced an increase in morale. Based on the available data and the reasonableness of the question, we can answer this question in the affirmative.

2. Can productivity increase within an employee group by increasing employee morale?

Yes, Both data and literature support the theory that an increase in the independent variable X, morale, will provide a commensurate increase in the dependent variable Y, employee productivity. Sufficeth to say at some point there will be an obvious point of diminishing return. One could not continue to indefinitely increase morale and expect a corresponding return.

3. What measures can a supervisor take to improve employee morale?

As was mentioned in both literature review and the survey, positive reinforcement, employee input, feedback, and empowerment are essential components to increase morale. Supervisors all the way up the chain of command as well as co-workers have influence in this area.

Discussion

The data provided from the T.F.D. District 4 "C" Platoon was on balance with the findings of others in the literature review. Extremely dated theorems of management, which treated the worker as a machine could have been cited to disagree with the

research questions such as Frederick Taylor's Scientific Management. However, these theories have all been proven wrong by all the post 1940s theorist, lending even further evidence to the affirm the original rationale.

The issue of morale in the workforce is often dodged, excused or minimized, it is clear however, that progressive leaders in both public and private sectors are embracing it with open arms, and in the process reaping the benefits. Just like the control group in the Hawthorne experiments, a workforce will produce a quality product if they are motivated to do so. Heavy-handed management may yield temporary results, but if the objective is long term and the concentration is on outcomes verses outputs, the wise manager will work to maximize the workforce through genuine measures that build morale.

The implications for our department to increase morale may very well be a time of great reflection on the part of many managers, should they find themselves part of the problem instead of part of the solution.

Recommendations

Based on the research findings it would be prudent at this juncture to survey the membership of the T.F.D. to determine as a whole where our department is morale wise. Those Districts experiencing morale deficits would commensurately be experiencing productivity lulls as well. Having identified the Districts in question the department should consider meeting with the supervisors in these areas to identify the external factors that may have led to this shortfall. Adoption of a formalized program designed to increase morale thereby increasing productivity could be implemented. The literature review identified several successful programs of this type, all of which included listening to the employees, honoring their contribution, and providing a feedback mechanism.

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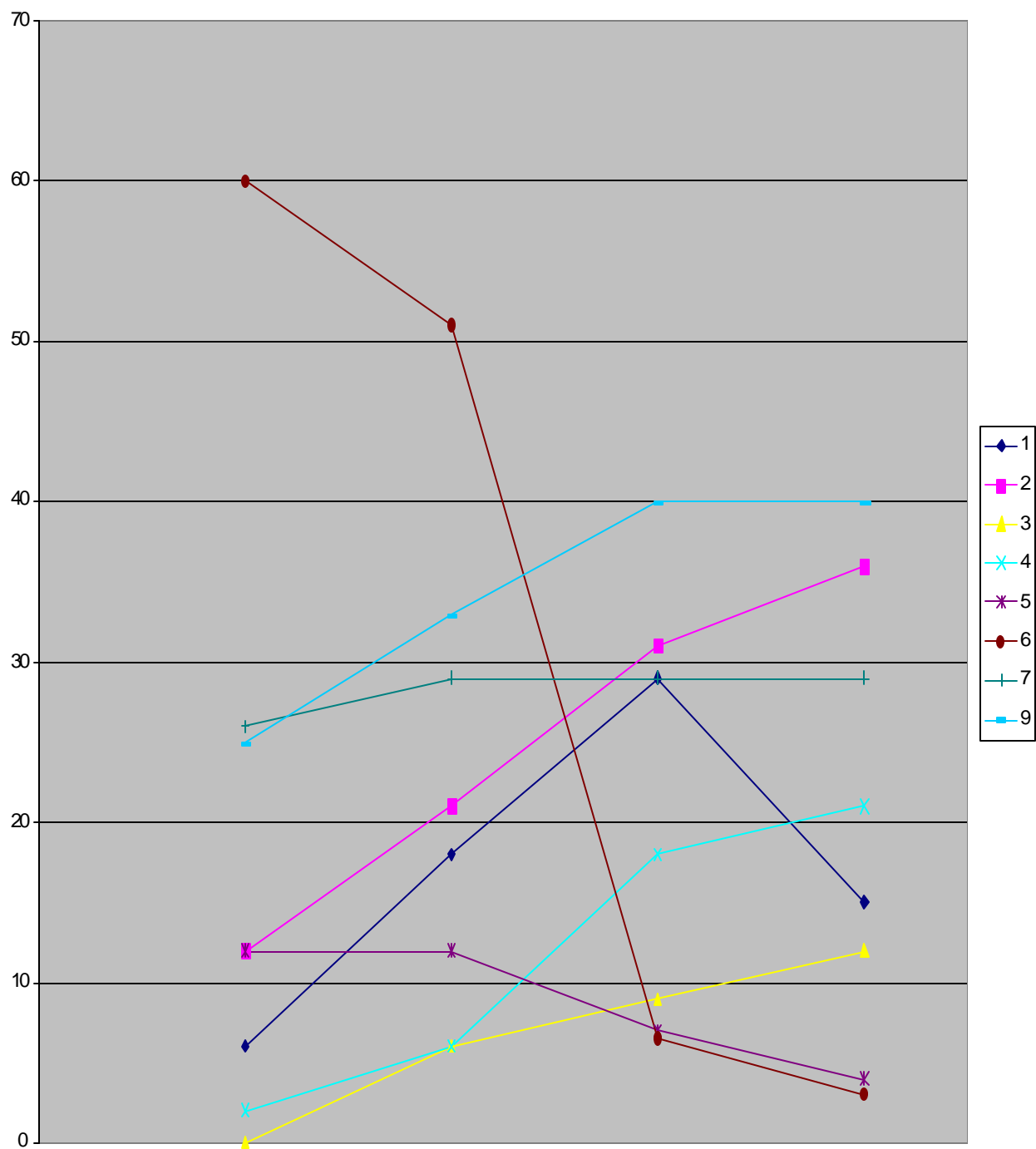
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Appendix A

District Four "C" Platoon Quarterly Report July 1997 to June 1998						
Measurement	* J, A, S	O, N, D	J, F, M	A, M, J	Ave.	%Diff.
1. Number Incidents Analyzed within two working shifts	6	18	29	15	20.67	+ 71%
2. Number of Pre-Incident Site Surveys	12	21	31	36	29.33	+ 59%
3. Number of members given professional development goal	0	6	9	12	9	+100%
4. Number of participants in special work assignments	2	6	18	21	15	+ 86%
5. Number of injuries	12	12	7	4	7.67	- 36%
6. Amount of time lost	60	51	6.5	3	20.16	- 66%
7. Number of accident free shifts	26	29	29	29	29	+ 10%
8. Number of man hours of in district training	200	266	511	594	457	+ 56%
9. Number of Community Contacts	25	33	40	40	37.6	+ 34%
Total						518%
Divided by 9 categories						57.5%
Net Increase in total productivity for the 9 month period Oct. 97 to June 98					57.5%	

* This quarter was the first quarter in the fiscal year representing months July, August, & September of 1997. Comparisons were made against this quarter, as it was the only quarter in which I was not the supervisor.

Appendix B



Appendix C

District 4 “C” Platoon Survey

Please take a moment to complete the survey ASAP. Please read the following statements and circle the answer that most closely resembles your opinion. Your identity is not required nor is it being sought. This survey is part of a research project.

Age____ Rank_____ Years on TFD_____ College (if any) # hours completed_____

1. One’s morale directly affects the individual’s personal work habits and productivity.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

2. Co-workers affect one’s morale.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

3. Direct supervisors affect one’s morale.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

4. Administrators of the department affect one’s morale.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

5. Morale is contagious and positively affects others.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

6. Morale is more than a personal decision to be upbeat.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

7. My morale increases when my input is appreciated.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

8. My morale increases when my contribution makes a difference.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

9. My morale over the past twelve months has increased.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

10. Morale across the department is not as high as my own.

I. Strongly Agree II. Agree Somewhat III. Disagree Somewhat IV. Strongly Disagree

Appendix D

