The Impact of Employee Position and Company Size on Workplace Stress in the Commercial Construction Industry

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While stress is commonly experienced in the construction field, there is a lack of understanding regarding how employee rank and company size contribute to this phenomenon. This paper investigates the impact of employee rank and company size on stress levels in the construction industry. To address the gap of information, a qualitative survey was conducted among employees of a small commercial company, focusing on stress levels according to employee ranking. This would be part one. The findings shed light on the relationship between employee position and stress. Additionally, an indirect comparative analysis was performed, comparing the results of this study with those of a similar study conducted on a large construction company, for part two. The analysis of each part determines whether company size influences the amount of stress experienced by individuals in the commercial construction industry. The study reveals that generally, Senior Management employees experience a higher level of stress. Additionally, it demonstrates that, overall, large and small commercial construction companies experience similar levels of stress, except for variations in the formal management of stress.

Key Words: Workplace stress, Commercial Construction, Company Size, Employee Position, Mental Health

Introduction

Being a strenuous and demanding industry, construction can be stressful to those involved in it. It has been found that workplace stress in the construction industry is harmful to not only the employees but also the projects and the companies. There are many general factors that contribute to work related stress. These factors have been explored and many of them have processes to help mitigate them. The objective of this paper is two parts. The first part is to discover how differently the stress is received based on employee position. This will be executed with a quantitative survey. 32 surveys will be distributed to employees of a small commercial company. The results will be analyzed to determine the difference in stress receival per position. The following part will be to find if company size affects how the stress is received. This will be completed by taking the completed quantitative survey and indirectly comparing it to a similar study completed on a large commercial company previously by Dr. Paige M. Hull (Hulls, 2022).
Literature Review

The dynamic nature of the construction industry creates a fast-paced, ever-changing environment for its employees. This labor-intensive industry emphasizes physical health at work and has created a plethora of guidelines to ensure the physical safety of each industry person. However, the same concern is not effectively made about mental health. As defined by Sartorius, “mental health as a state of the organism which allows the full performance of all its functions or as a state of balance within oneself and between an individual and his or her physical, social (and cultural) environment” (Bhurga, 2018). This highlights the important role that mental health plays in the workplace environment and productivity. Currently, 4% of the world population is suffering from mental health issues (Rees-Evans, 2020). 96% of industry people involved in a study conducted by The Chartered Institute of Building claimed to have experienced mental health issues at work to the point of fatigue (Rees-Evans, 2020).

According to the Chartered Institute of Building, stress is the most common mental health issue felt in the construction industry (Rees-Evans, 2020). This may be accredited to the nature of this “cut-throat industry” (Hulls, 2022). The common theme in the reviewed literary sources revolves around this. Rees-Evans discusses how tight deadlines, limited hours, and completing projects within budget can all contribute to the workplace stress being experienced by industry people (Reese-Evans, 2020). These parameters leave very little room for error, therefore inducing negativity and poor mental health throughout the industry. The expected turnaround time and expected adjustment period is very quick, another factor that contributes to substandard mental health (Hulls, 2022). The process of construction is notably a stressful one. Why is workplace stress important? It is found that stress kills productivity and performance in employees (Foy, 2019). Not only does it cause emotional exhaustion to employees, but it also causes a significant economic cost to the company or organization. In “Managing job performance, social support and work life conflict to reduce workplace stress” by Tommy Foy, it was found that workplace stress can cause more absenteeism (Foy, 2019). Absenteeism costs a lot of money. The costs include replacement, training, and sick leave. These are only monetary costs faced by the companies. Non monetary costs include lowered performance caused by the absenteeism disruption, lowered morale due to absenteeism, and increased workplace stress due to absenteeism (Foy, 2019). According to Foy, workplace stress has been increasing since the mid 80’s and continues to do so (Foy, 2019). On average in the USA, workplace stress costs about $300 billion per annum (Foy, 2019).

What factors contribute to workplace stress in the construction industry? According to “Occupational stress management for UK construction professionals” by Saheed O. Ajayi, there are three main causes of stress experienced in the construction industry (Ajayi, 2019). These three factors are work and information dependency, inadequate information, and information that is of poor quality. Discussed is the impracticality of waiting for others to complete their work before other work can be started. The communication between teams or phases is lacking or inadequate, which increases time lost and inefficiency. In addition to decreasing productive time, inadequate information can become dangerous. Making decisions or creating plans based on poor information can lead to risky actions (Ajayi, 2019). Another factor mentioned by Dr. Hulls in “We are our own worst enemy”, points out the repercussions of a male-dominated industry (Hulls, 2022). Male-dominated industries are at an increased risk of poor mental health due to stigmas surrounding hyper masculinity on the jobsite (Nwaogu, 2019). Conversations about mental health amongst industry men are not normalized, and this could be due to the “embedded macho culture” (Rees-Evans, 2020). This culture makes it hard for employees to bond with their teammates and use camaraderie to form friendships (Hulls, 2022). All of these factors lead to workplace stress and with the addition of the hyper masculine culture, it leads to poor performance and unhealthy practices. One prominent coping mechanism found in the construction industry is substance abuse (Deria, 2020). Construction workers are utilizing substances to deal with the demanding nature of the construction industry (Deria, 2020). Being a dangerous industry with 21.1% of all work-related fatalities, construction workers should always be in their best form during work.

Methodology
The research for this paper was conducted in two parts. The first part collected data utilizing a quantitative survey. The survey consisted of 7 statements, and was administered in a Likert Scale format. These statements aimed to capture the stress experienced by employees in different positions of a small commercial company. The survey was distributed to 32 employees. The breakdown of distribution is as follows: 4 Senior Management, 8 Middle Management, and 18 Junior Employees. The purpose of this specific breakdown is to closely mimic Dr. Paige M. Hulls’ methodology in “‘We are our own worst enemy’: a qualitative exploration of work-related stress in the construction industry” as closely as possible to allow for an indirect comparison of studies (Hulls, 2022). Dr. Paige M. Hulls’ study measured the stress levels of 32 employees of a large commercial company; therefore the methodology of survey distribution for this paper will be based on Dr. Hulls’ study (Hulls, 2022). The results found in that study will be indirectly compared to the findings of this study, for a part two. It is important to note that in Dr. Paige M. Hulls’ study, the original survey statements used were not included in the appendix, therefore no direct comparison can be made (Hulls, 2022). After data collection, the results were analyzed to determine the difference in stress levels received by small commercial company employees of different positions. This will conclude part one. Part two will take Dr. Hulls’ results of the stress received by large commercial company employees and the results from part one to produce an indirect comparative analysis (Hulls, 2022).

Results & Analysis

Part 1: Results of the distributed survey conducted for this study.

The results of the survey were received and sorted into groups. The groups are as described above, Senior Management (4), Middle Management (8), and Junior Management (18). Generally, statements #1, #2, #3, and #6 received similar responses. statements #4, #5, and #7, however, received a more polarized response. The distribution of all 30 responses per statement is shown in Figure 1. Each statement will be further broken down to analyze the results.
Statement #1: Stress is an inevitable factor of the construction industry.

The Senior Management group as a whole responded 75% in agreement with this statement. 50% of the 75% answered “Strongly Agree” and 25% answered “Agree”. The remaining 25% of responses from Senior Management answered with “Disagree”. Middle Management responded with a total of 87.5% agreeing with Statement #1. 62.50% of the 87.50% answered “Agree” and 25% answered “Strongly Agree”. 12.50% of responses from Middle Management responded with “Undecided”. Junior Management is in 77.78% agreement with the statement. 66.67% answered with “Agree”, 11.11% answered with “Strongly Agree”, another 11.11% answered with “Undecided”, and the remaining 11.11% responded “Disagree”. Out of all survey groups, Middle Management had the highest percentage of agreement in response to Statement #1. ¾ Middle Management Employees answered in agreement and the remaining ¼ answered “undecided”. Middle Management was the only category that had zero responses in disagreement. Senior Management had ¾ people respond in disagreement and Junior Management had 2/18 people respond in disagreement. While generally all groups responded in agreement with Statement #1, we see that Middle Management agrees the most with the statement. Although both Senior and Junior Management had some responses in disagreement, Senior Management had the highest percentage of disagreement at 25%. From this, we can draw that a vast majority of Middle Management feels that stress is an inevitable factor of the construction industry.

Statement #2: Stress is received in a healthy manner within Quincon Inc.

In agreement with this statement, the Senior Management group responded with 50% “Strongly Agree”, 25% “Agree”, and 25% “Undecided”. Middle Management responded with 37.50% “Strongly Agree” and 62.50% “Agree”. Junior Management responses varied more with 11.11% “Strongly Agree”, 50% “Agree”, 22.22% “Undecided”, 11.11% “Disagree”, and 5.56% “Strongly Disagree”. Neither Senior or Middle Management had responses in disagreement with Statement #2. However, amongst Junior Management, 3 people answered disagreeing. 2 of which answered “Disagree” and 1 answered “Strongly Disagree”. Middle Management had the highest percentage of agreement, with all 8 people answering either “Strongly Agree” or “Agree”. From these responses, we can conclude that Middle Management most highly agrees with stress being received healthily within their company, Quincon Inc. We can also conclude because Senior and Middle Management had no responses in disagreement, that Junior Management disagrees the most with the statement “Stress is received in a healthy manner within Quincon Inc”. Overall, the three groups generally responded in agreement with the statement.

Statement #3: I can rely on team members to help mitigate work related stress.

Generally, both Senior and Middle Management responded in agreement with this statement. Senior Management had 50% answer “Strongly Agree” and the other 50% responded with “Agree”. Middle Management responded with 50% “Strongly Agree”, 37.50% “Agree”, and 12.50% “Undecided”. Junior Management was 61.11% in agreement, with 16.67% “Strongly Agree” and 44.44% “Agree”. 27.78% were undecided, and 11.12% responded in disagreement. The 11.12% is split equally between “Disagree” and “Strongly Disagree”. While there were some responses in disagreement, the overall consensus was in agreement with statement #3, as seen in Figure 1. The disagreement, as mentioned above, came from 2 out of 18 Junior Management employees. Senior Management had the highest percentage for agreement, with 4 of 4 employees answering similarly. Both Middle and Junior Management had undecided employees, 5 of 18 in Junior and 1 of 8 in Middle. Junior Management presented the most opposition or uncertainty about statement #3 while Senior Management only presented an agreement.

Statement #4: I experience an overwhelming amount of stress often.
While statements #1-#3 had some variance, they generally leaned towards one side of the Likert Scale. Any variance was little and overwhelmed by the majority response. In statement #4 we begin to see a more spread out, split decision. 75% of Senior Management responded with “Agree” to this statement and the remaining responded “Disagree”. Middle Management is 12.50% “Strongly Agree”, 25% “Undecided”, 50% “Disagree”, and 12.50% “Strongly Disagree”. Junior Management presented 27.78% “Agree”, 16.67% “Undecided”, 33.33% “Disagree”, and 22.22% “Strongly Disagree”. All groups presented some response in agreement. Senior Management with the highest presented 75%, Middle Management reported 12.50%, and Junior Management responded with 27.78%. In disagreement, Senior Management responded 25%, Middle Management 62.50%, and Junior Management 55.55%. These numbers show that Middle Management feels an overwhelming amount of stress the least out of all three pools. The highest percentages in agreement are reported from Senior Management, at 1 of 4. However, Junior Management had 5 of 18 respond in agreement as well, but at a 27.78% percentage. For statement #4, we can conclude that Middle Management feels the least amount of overwhelming stress.

*Statement #5: I often experience residual stress from work after hours.*

Following statement #4, statement #5 inquires about work stress experienced by employees after hours. 75% of Senior Management stated that they do experience residual stress from work. 50% “Agree” and 25% “Strongly Agree”. The remaining 25% of Senior Management “Disagree” with the statement. 37.50% of Middle Management “Agree” with the statement. 12.50% are “Undecided”, 37.50% “Disagree”, and 12.50% “Strongly Disagree”. Junior Management’s responses were slightly more varied. 11.11% “Strongly Agree”, 22.22% “Agree”, 16.67% “Undecided”, 44.44% “Disagree”, and 5.56% “Strongly Disagree”. A higher majority of Senior Management feels they experience residual stress from work after hours. Middle and Junior Management are close in percentage, with 3 of 8 in Middle and 6 of 18 Junior responding in agreement. In regards to statement #5, Senior Management agrees at the highest percentage and overall seem to experience the most residual work stress.

*Statement #6: I have healthy coping mechanisms for stress.*

Referring back to Figure 1, we see that statement #6 received mostly answers in agreement. Senior Management answered with the following: 75% “Strongly Agree” and 25% “Agree”. Middle Management answered 37.50% “Strongly Agree”, 50% “Agree”, and 12.50% “Strongly Disagree”. Junior Management “Strongly Agreed” at 22.22%, 50%, “Agree”, 22.22% “Undecided”, and 5.56% “Strongly Disagree”. Senior Management had no responses in disagreement, so the conclusion that all members of that group have healthy coping mechanisms for stress is reasonable. Middle Management had one of eight members of their group respond with “Strongly Disagree” with the above statement. Junior Management also had one of eighteen members respond with “Strongly Agree” as well as four for “Undecided”. With all the responses to statement #6, the conclusion that Junior Management and Middle Management have poorer healthy coping mechanisms for stress can be made.

*Statement #7: Most of the stress I experience is work related.*

Within Senior Management, 50% chose “Agree”, 25% chose “Disagree”, and the remaining 25% chose “Strongly Disagree”. Middle Management had 75% “Disagree”, 12.50% “Agree”, and 12.50% “Strongly Disagree”. Junior Management had the most variance, with 5.56% “Strongly Agree”, 16.67% “Agree”, and 16.67% “Undecided”, 50% “Disagree”, and 11.11% “Strongly Disagree”. A majority of the responses were in disagreement with this statement. Middle Management however, disagreed at the highest rate. Junior Management had the lowest rate of disagreement. Senior Management and Junior Management had 25% and 22.23% in agreement. From this, the assumption that Senior Management experiences the most work related stress can be made.

Part 2: Indirect Comparison to Paige M. Hull’s *Qualitative Exploration of Work Related Stress in the Construction Industry* findings (Hulls, 2022).
Hulls finds in her study that “participants generally viewed construction as an inherently high-stress occupation” (Hulls, 2022). Her participants described stress as “an inevitable and expected part of working in the construction industry” (Hulls, 2022). Reflecting on Statement #1, we see that employees of the small commercial construction company agree with this consensus as well. Hulls’s study also touches on the topic of Statement #2, regarding how stress is received by a company. It was concluded by Hulls’s study that formal steps were taken to help manage employee stress but that there was no real impact (Hulls, 2022). The staff “recognized the importance of addressing mental health issues” but that it was like putting “a sticker on a dam that’s leaking” (Hulls, 2022). In contrast, the employees at Quincon Inc. feel strongly that the company’s formal management of stress is effective and well received. The employees at Quincon Inc. also generally believe that the informal management of stress amongst coworkers is healthy and available. Referring to Statement #3, the majority of surveyed employees agreed that they “can rely on team members to help mitigate work-related stress. Hulls’s subjects agree, explaining that the banter and camaraderie within the company was an "important way of managing stress within teams” (Hulls, 2022).

However, the subjects also “expressed a reluctance to talking about their feelings which some related to the gendered nature of the workforce” (Hulls, 2022). Some of Quincon Inc. employees feel that they experience an overwhelming amount of stress often, per Statement #4. The group that expressed this in the highest percentage was Senior Management, but all groups expressed some form of agreement. Hulls’s participants also explained they have experienced “periods of intense pressure…at crunch points” (Hulls, 2022). After discussing formal and informal management of stress, Hulls analyzes the participants’ personal experience and management of stress. Many participants acknowledged the existence of work related stress after work hours. They talked about “disturbed sleep as deadlines approached” and one participant even “developed a stomach ulcer and gall stones which they related to work stress” (Hulls, 2022). To mitigate work related stress after hours and avoid health issues, participants of Hulls’ study talked about “different ways of managing their own personal levels of stress” (Hulls, 2022). They listed a few methods, such as exercise, healthy competition, and writing (Hulls, 2022). Looking back at Statement #5 and #7, it is shown that Quincon Inc.’s participants also experience residual stress from work after hours. In terms of coping mechanisms for the residual stress they experience, Quincon Inc. generally agrees that they all possess the necessary skills and resources to do so.

Based on Part 1, it is shown that overall, Quincon Inc.’s employees of all rankings feel similarly about stress. The further breakdown of the responses show that some groups of responders feel strongly about certain statements more than other groups. Generally, the data shows that Senior Management experiences the most stress between the 3 groups, followed by Junior Management. This is not to say that Middle Management experiences a significantly less amount of stress than the others. In regards to Part 2, it seems that there are not many significant differences between the stress levels of employees in a large commercial construction company and small commercial construction company. The notable differences are shown in employees’ views on formal management of stress. Hulls’s subjects do not believe that the formal management of stress within their company is entirely effective, while Quincon Inc.’s employees do. Excluding this difference, no other disagreements are shown between the data.

Conclusions & Future Research

From Part 1 of this study, it can be concluded that there are differences in stress levels received between different levels of management within a small commercial construction company. It is not clear from the results to say whether or not any of the differently ranked employees experience more overall stress than others. However, in certain categories that pertain explicitly to stress levels, Senior Management employees reported at the highest percentage in agreement. Middle and Junior Management are about the same regarding those categories, with Junior Management being slightly higher. From Part 2 indirect comparison, it is shown that most employees from both the large and small commercial construction company experience the same stresses, during and after work hours. The largest discrepancy between the two is within formal management of stress. Many employees in Dr. Hulls’s study,
feels as if the company does not utilize effective stress mitigation strategies (Hulls, 2022). This researcher believes that, from the indirect comparison, that a smaller commercial construction company may fair better in attempting to mitigate work related stress. In the future, a further breakdown of what factors influence stress level differences between management levels should be analyzed. From that new knowledge, companies can create new, specific, more targeted tactics to mitigate stress in their employees. This would help increase the effectiveness in such programs, and could be applied to companies of all sizes, large or small. Another topic for future research could also be personal management of stress in the construction industry. Reflecting on Statement #6, there were a few respondents that did not believe they had excellent stress coping mechanisms. Analyzing this further could help equip employees of all trades with tools to manage stress at home as well as at work.
References


