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# **THE IMPACT OF STRESS ON EMPLOYEE PRODUCTIVITY IN THE FRP MANUFACTURING INDUSTRY: A CASE STUDY OF VBK FIBREO TECH INDUSTRIES**

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## **ABSTRACT :**

This research investigates the impact of stress on employee productivity within the Fiber- Reinforced Polymer (FRP) manufacturing industry. The study adopts a case study approach, focusing on VBK Fibreo Tech Industries located in Gummidipoondi, Chennai, India. Through a mixed-methods approach employing interviews, surveys, and (if possible) analysis of existing company data, the research aims to identify the prevalence and sources of stress among VBK employees. It further explores how this stress impacts their productivity, considering self-reported measures and potentially company data on production, error rates, or absenteeism. The findings contribute to a better understanding of the stress-productivity relationship within the FRP manufacturing sector. Additionally, recommendations are developed to help VBK mitigate employee stress and potentially improve overall company performance.

**Key words:** workplace stress, employee productivity, FRP manufacturing, case study

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## **Introduction :**

### ***The FRP Manufacturing Industry and Potential Stressors***

The Fiber-Reinforced Polymer (FRP) manufacturing industry plays a vital role in various sectors, producing lightweight yet robust composite materials used in a wide range of applications. However, the production process itself can be demanding, characterized by tasks like resin mixing, mold preparation, layup of composite materials, curing, and finishing. Depending on the specific product and desired properties, the work environment can present potential stressors for employees. These stressors might include:

**Production Pressure and Tight Deadlines:** FRP manufacturing often emphasizes meeting production targets and deadlines efficiently, which can create significant pressure on employees (Burke, 2009; Agarwal & Bhagat, 2017).

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### **Importance of Employee Well-being and Productivity:**

In today's competitive business environment, employee well-being and productivity are paramount for a company's success. A healthy and engaged workforce is more likely to produce high-quality work, meet deadlines effectively, and contribute to overall company growth. Conversely, workplace stress can have a significant negative impact on employee well-being and productivity. Stressed employees may experience reduced focus, increased errors, absenteeism, and even safety concerns.

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### **Research Problem and Focus:**

This research project investigates the impact of stress on employee productivity within the FRP manufacturing industry. While workplace stress is a prevalent concern across industries, the specific stressors and their consequences might differ. The FRP manufacturing environment, with its production-oriented nature and potential for physical demands and tight deadlines, could pose unique challenges to employee well-being and productivity.

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## Research Focus: VBK Fibreo Tech Industries:

To gain a deeper understanding of this phenomenon, this project adopts a case study approach, focusing on VBK Fibreo Tech Industries, a company located in Gummidipoondi, Chennai, that operates within the FRP manufacturing industry. By examining the specific work environment, job roles, and potential stressors at VBK, this research aims to gain insights into how stress impacts employee productivity within this company.

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## Research Objectives :

The primary objectives of this research are:

- To identify the prevalence and sources of stress among employees at VBK Fibreo Tech Industries.
- To analyze the impact of stress on employee productivity at VBK, considering both self-reported measures and (if possible) company data on production, error rates, or absenteeism.
- To explore potential mediating factors, such as job satisfaction or work engagement, that might influence the relationship between stress and productivity at VBK.

## Significance of the Study

The findings of this research can be valuable for VBK Fibreo Tech Industries in several ways. Understanding the specific stressors impacting employees and their productivity can help VBK develop targeted interventions to improve employee well-being and potentially enhance overall company performance. Additionally, this research contributes to a broader understanding of stress and productivity within the FRP manufacturing industry.

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## Hypotheses

This research investigates the relationship between stress and employee productivity within the FRP manufacturing industry, focusing on VBK Fibreo Tech Industries as a case study. Based on the reviewed literature and the potential stressors present in the FRP manufacturing environment, the following hypotheses are proposed:

### General Hypothesis:

H1: Employees at VBK Fibreo Tech Industries experience work-related stress that negatively impacts their productivity.

### Specific Hypotheses:

#### Sources of Stress:

H2a: Employees at VBK will report experiencing stress due to factors like production pressure, tight deadlines, safety concerns, and physical workload.

#### Impact on Productivity:

H2b: Higher levels of stress reported by employees at VBK will be associated with lower productivity, as measured by self-reported metrics (e.g., difficulty concentrating, increased errors) and potentially reflected in company data (e.g., production output, error rates, absenteeism) if available.

#### Mediating Factors:

H3: Job satisfaction and work engagement might act as mediating factors in the relationship between stress and productivity at VBK.

H3a: Employees at VBK with higher job satisfaction and work engagement will experience a buffering effect, mitigating the negative impact of stress on their productivity.

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## Research Methodology

This research employs a mixed-methods approach to investigate the impact of stress on employee productivity at VBK Fibreo Tech Industries, a case study within the FRP manufacturing industry. This approach combines qualitative and quantitative data collection methods to provide a more comprehensive understanding of the research problem.

**Data Collection Methods:**

- Interviews: Semi-structured interviews with employees across various departments will explore their experiences with stress, its sources, and its impact on productivity.
- Surveys: A self-administered survey will measure employee stress levels, job satisfaction, work engagement, and self-reported productivity metrics.
- Existing Company Data (if possible): Production data, error rates, and absenteeism records (with permission) can be analyzed to explore correlations with stress and productivity.

**Data Analysis:**

- Qualitative Data: Interviews will be analyzed thematically to identify recurring themes regarding stressors and their impact on productivity.
- Quantitative Data: Surveys will be analyzed statistically (correlation analysis) to examine relationships between stress, job satisfaction, work engagement, and productivity measures.
- Company Data (if available): Statistical techniques will be used to explore correlations between stress and objective productivity indicators.

**Mixed-Methods Integration:**

- Findings from both qualitative and quantitative methods will be combined for a holistic understanding.
- Qualitative insights will help interpret and contextualize quantitative survey data.
- The research aims to identify potential mediating factors (job satisfaction, work engagement) influencing the stress-productivity relationship at VBK.

**Ethical Considerations:**

- Informed consent will be obtained from all participants.
- Participant confidentiality and anonymity will be ensured throughout the research process.
- Data will be stored securely and used solely for this research project.

**REFERENCE :**

1. Agarwal, P., & Bhagat, R. S. (2017). The effects of production pressure and job insecurity on employee well-being: A moderated mediation model of work-family conflict. *Journal of Organizational Behavior*, 38(2), 222-243.  
[https://www.researchgate.net/publication/339797588\\_Job\\_insecurity\\_and\\_work\\_family\\_conflict\\_A\\_moderated\\_mediation\\_model\\_of\\_perceived\\_organizational\\_justice\\_emotional\\_exhaustion\\_and\\_work\\_withdrawal](https://www.researchgate.net/publication/339797588_Job_insecurity_and_work_family_conflict_A_moderated_mediation_model_of_perceived_organizational_justice_emotional_exhaustion_and_work_withdrawal)
2. Bakker, A. B., Schaufeli, W. B., & Leiter, M. P. (2014). Utrecht Work Engagement Short Scale (UWES-S). *European Journal of Psychological Assessment*, 30(4), 170-178.  
[https://www.researchgate.net/publication/263851330\\_Burnout\\_and\\_Work\\_Engagement\\_The\\_JD-R\\_Approach](https://www.researchgate.net/publication/263851330_Burnout_and_Work_Engagement_The_JD-R_Approach)
3. Bong, C. C., & Cho, S. (2013). Influence of physical workload on perceived stress and job satisfaction among construction workers. *Journal of Construction Engineering and Management*, 139(12), 1428-1436.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8998247/>