

Causes of stress in vehicle manufacturing employees and perceptions of the effectiveness of a stress management intervention programme

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ABSTRACT

Background: Stress has become a part of everyday life for most employees. Studies have shown the negative effect that stress has on employee wellbeing. Stress management intervention (SMI) programmes are commonly implemented by organisations to reduce work-related stressors, as well as to assist employees to cope with and minimise the impact of stress.

Objectives: We aimed to explore the causes of stress at a vehicle manufacturing company, and the perceptions of employees about the effectiveness of an SMI programme.

Methods: A qualitative interpretive approach was followed, using a case study design. The research was conducted at a vehicle manufacturing company in Pretoria, South Africa; eleven purposively sampled permanent white- and blue-collared employees who had participated in an SMI programme were included. Data were collected from personal interviews and a focus group discussion. The data were analysed using the ATLAS.ti software.

Results: Some of the causes of stress in the workplace, identified by the participants, were company ethics and culture, interpersonal conflict, management style, deadlines, workload, type of job, job profiles, job insecurity, incompetence of employees, lack of resources, and remuneration. Most participants (90.9%) evaluated the SMI as being very effective.

Conclusion: The causes of stress amongst workers are multifactorial. Effective SMIs can assist to alleviate stress and to equip employees with skills to manage stress. This promotes a healthy workforce and increases productivity. If SMIs are not implemented effectively, there might be loss in productivity, increased absenteeism, and deteriorating health in the workforce.

INTRODUCTION

Stress is part of everyday life for most employees. Technology, social habits, values and company structures are constantly changing; individuals, organisations and governments have to adapt, accordingly.^{1,2} Many studies have shown the negative effects of stress on employees' physical and psychological wellbeing.¹⁻⁴ Organisations may experience an increase in absenteeism and reduced productivity when stress is not effectively managed.^{3,4} To prevent these negative effects, stress management intervention (SMI) programmes can be implemented, which focus on reducing work-related stressors and assisting employees to minimise the negative impacts of stress.⁵

The SMI construct belongs within the broader concept of employee wellness.⁶ The wellness model has increased in popularity as a positive, strengths-based, holistic approach to understanding human functioning,⁷ and is based on the theory of positive psychology which helps people to not only exist, but to flourish.⁷ Job stress, however, forces the employee to deviate from normal functioning.⁸ Severe long-term stress can lead to burnout, and can be defined as a constant negative, work-related state of mind.⁹ This exhibits as exhaustion, distress, loss of motivation, reduction of effectiveness, and the development of attitudes that are personally and socially dysfunctional.¹⁰

No single factor can be highlighted as the sole cause of work stress.¹¹ Stress increases when employees observe a situation

to be too difficult to manage, and a threat to their wellbeing.¹¹ Distress (negative stress) can originate from a condition where the demands of a job are in conflict with the resources provided to get the job done.¹¹ The job demand resources (JDR) model^{12,13} clarifies some of the causes of work stress, such as the influence of personal characteristics, and allows the identification of mutual and moderating influences that link employee characteristics, demands and resources. These, in turn, determine outcomes such as work performance and engagement.¹³

Causes of work stress include competitiveness, internationalisation, and performance management.¹³ Other potential causes are inadequate office space, insufficient equipment (e.g. computers), and heavy workload in terms of the work-staff ratio.¹⁴ Personal life stressors also play an important role.

Stress in the work environment is a major health problem for both employees and the organisation, and can lead to illness, burnout, absenteeism and labour turnover.¹⁵ Chronic stressors, resulting in more than just initial discomfort, are the most influential causes of stress for an employee. Mental health disorders associated with work-related stress, such as anxiety and depression, contribute the most to sick leave.¹⁵ Stress also influences a person's decision-making capability which could result in poor choices and outcomes.¹⁶

STRESS MANAGEMENT INTERVENTIONS

Stress management interventions follow three main strategies, namely prevention (primary level strategy), treatment (secondary level strategy) and rehabilitation (tertiary level strategy).^{5,17}

Stress can be prevented by altering the source of stress and the risk to employees.¹³ Interventions include redesigning jobs, changing work time schedules, providing co-worker support groups, and increasing employee decision-making authority.^{10,18}

Stress management training (treatment) is designed to help individuals cope with stress in the work environment. The individual takes responsibility for resolving his/her stress issues.¹⁹ Treatment can be divided into somatic, cognitive and multimodal types.^{20,21} Somatic treatment refers to relaxation methods and breathing techniques, progressive relaxation, and visualisation.²¹ Cognitive treatment includes mindfulness, affirmations and thought stopping, with a focus on the specifics of the stress-generating situation, and an attempt to alter its interpretation.¹⁰ The source of stress is eliminated by providing training in conflict resolution, assertiveness, time management, anger management, and/or problem solving.²² Multimodal treatment combines somatic and cognitive treatments with other techniques, such as a relaxation response, self-hypnosis, meditation, and refuting irrational ideas.²⁰

Rehabilitation, as a stress intervention, takes place after an employee has been diagnosed as suffering from the effects of stress. The focus is on assisting him or her to return to work.¹⁰ The most common form of rehabilitation is case management, where different service providers coordinate a programme to get the employee back to work.¹⁰

The employees of a vehicle production company in Pretoria, South Africa, attended an SMI training workshop eight months before the data were collected. As an SMI, the company made use of treatment (secondary-level strategy) to assist some of their stressed employees, in the form of a one-day workshop, where a facilitator guided the employees on identifying stress and building resilience to stress. Some of the elements of the multimodal treatment were used, namely, relaxation methods, breathing techniques, visualisation, thought stopping, conflict resolution, assertiveness, time management and problem solving. The training focused on anti-stress information, application exercises and behaviour change.

The purpose of this study was to identify causes of work-related stress and to determine employees' perceptions of the effectiveness of the company's SMI.

METHODS

The study was conducted over a period of five months in 2013. Eleven study participants were purposively selected from 22 employees. All eleven had participated in the SMI programme.

Interviews and a focus group discussion were conducted to gain insight into participants' subjective experiences of the SMI programme. Similar information was elicited from both sources. Semi-structured interviews included questions such as, "Were there any areas in the work situation that caused you stress before the SMI? Please give some examples", and "Was there any improvement in your handling of stress after the SMI? Please elaborate."

Informed consent was obtained from the participants and the company, and ethical clearance from the University of Pretoria Department Postgraduate Committee.

The data were analysed using ATLAS.ti, a computer-based qualitative analysis programme. Predetermined coding was based on the interview and focus group guides. Other codes were emergent,

i.e. concepts, actions or meanings that evolved from the data. The relationship between the concepts was explored, using axial coding based on content analysis. This analysis is dependent on creating labels (codes) that can be applied to the data to identify meaningful categories for analysis and interpretation. Themes were identified from these categories.

RESULTS

As shown in Table 1, most of the 11 participants were male ($n = 8$; 72.7%), and most were black ($n = 8$; 72.7%). Ages ranged from 25 to 64 years with a mean of 31 years. There were four blue-collared and seven white-collared participants.

Table 1. Demographic characteristics of study participants

| Race | Age | Sex | Blue/white collar | Job title |
|--------|-----|--------|-------------------|----------------------|
| Black | 26 | Female | White | Logistics student |
| Black | 26 | Female | White | Buyer |
| Black | 28 | Female | White | Economic officer |
| Black | 25 | Male | Blue | Student |
| Black | 26 | Male | White | Lab assistant |
| Black | 29 | Male | White | Logistics student |
| Black | 30 | Male | Blue | Student |
| Black | 64 | Male | Blue | Foreman inbound PDC |
| Indian | 28 | Male | Blue | Process engineer |
| Indian | 32 | Male | White | Senior buyer |
| White | 30 | Male | White | Manager: after sales |

PDC: parts distribution centre

PERSONAL STRESS FACTORS

Personal life causes of stress were identified as family relationships, finances, study commitments, physical health, mental health, and death:

"I was expecting my first child and so also that transition could have been stressful" and "... relationship wise I think I had my share of stress"

"I think money brings stress" and "... the salary when I began, it was not good at all and I remember I almost didn't come to the site"

"... that is a very hard thing to juggle actually studying and working at the same time"

"In 2000 I lost a son, my first born, in a car accident ... I still have sleeping problems ... I also don't eat".

JOB-RELATED STRESS FACTORS

Several themes as causes of job-related stress were identified. Some employees indicated that company ethics and culture played a significant role in increasing stress in the work environment. For example, issues related to the black economic empowerment (BEE) policies of the company included the policy of recruiting 'cheap' workers rather than focusing on quality. There were also references to an "uncomfortable environment" and "management style and resources" by some of the participants as reasons for experiencing stress. In addition to lack of resources, "contract non-renewal", "slow computers" and "restricted

computer networks" were mentioned. The handling of authority was also perceived to be a stressor:

"I always speak my mind even if I go to the Director" and "... you find that your own line manager he has given you the task and he wants it before the end of shift and two managers have come, they want something from you before the end of shift and at the end of the day you are confused, which one is the priority, which one should I do first?"

Some of the employees said that they were not recognised as decision makers and that there was a lack of respect for decisions they made. Other issues raised were not solving problems and communication:

"If you're stressed, you're just over thinking about a lot of things and you're not working up to your optimum level" and "... I told her listen, I don't like what you are doing and not like agree with what you are doing" (an employee communicating with her line manager)

"... you find it so hard to like communicate with those people".

Job profiles and the absence of guidance in getting acquainted with a new job also caused stress:

"... a certain supplier or an individual is not doing their proper job. You really get frustrated because you cannot do your part of your job"

"So in terms of information ... I had to discover things by myself so to speak".

Further stressors were difficulties in prioritising, working overtime, not enjoying the work, and difficulties with work-life balance:

"... understanding other individuals having the pressure to actually commit to a deadline" and "This manager wants that, this manager wants this, the GM wants that"

"There is a lot of overtimes that I did ... so that I can finalise my work" and "... sometimes we're leaving at one o'clock just to make sure that everything gets finished"

"Working with production it can be quite stressful and you feel like, you know what, it is better for me to just get out of the gate" and "... many times I don't like the work".

THE EFFECTIVENESS OF THE STRESS MANAGEMENT INTERVENTION

The study participants indicated that their stress management improved after participating in the SMI workshop:

"I got everything under control. I managed to bring my stress levels down" and "I did exercising" and "I maybe sometimes just go out and walk"

"I now learned ... proven techniques on how to manage stress so ... now I'm able to give informed advice" and "... you destress by just laughing and joking, making things exciting".

Handling of authority improved, productivity increased, and the employees learned to prioritise tasks:

"You don't just rush into things and say things how you used to say it" and "... [whenever] I tell somebody to do something, I explain to them what we are doing and ... I hand them the bigger picture"

"... start with your manager, explain your problem"

"I managed to bring my stress levels down. So that is when I started to be productive again"

"... now I could identify areas that I needed to tackle".

They were able to master their time management, be more assertive and help others, and experienced better health:

"I noticed that the stress of time management was now alleviated, by that practical thing of writing things down"

"I'm always making my point heard"

"Over the year I've learned to be more assertive"

"If my friend is not feeling well or stressed out at work or whatever, I would say whatever works for me that I can recommend"

"... backaches and pain ... it does happen less frequently now, yes".

Benchmarking salaries against the wrong industrial sector also caused some concern:

"They benchmark my salary against somebody sitting at Pick n Pay doing a buyers job ... whereas I'm bearing a horrible stress ...".

Some participants also highlighted remuneration and budget-related issues:

"If you look at the average person's salary here compared to somebody outside, we are below par".

The SMI programme that was implemented in the company was experienced as positive and effective by the majority of the participants (n = 10; 90.9%), in terms of personal stress management, ability improvement, authority management, time management, improved assertive behaviour, meaningful personal counselling sessions, and improved personal health:

"Definitely over time ja, it was a helpful course, it was definitely worthwhile" and "... two colleagues are head on head ... I know using humour as well just lighten the situation and tends to help just to defuse the tension a bit".

In addition, effectiveness was mostly indicated in terms of relatively successful applications, meaningful exercises, effective use of work

tools, increased productivity, prioritising learning, and mastering time management:

"I've got a lot of workload most of the time, I just take my time off. I just walk around just to be out of the office".

There were, however, some reservations about the effectiveness of the SMI programme in the company. One of the participants indicated that he/she could not apply what had been taught during the workshop.

Employees had suggestions for future SMIs in the company, viz. role-play exercises, use of company examples (case studies), providing knowledge on how to identify stress, teaching employees how to measure stress, one-on-one counselling sessions, annual refresher courses, sharing with others, an assessment centre, and aiding in programme operations.

DISCUSSION

The company's use of a multimodal form of treatment for their stressed employees appeared to have some positive impact and to reduce employee stress.

Stressors exist in organisations and management should empower employees and effectively enhance their occupational stress handling capabilities by implementing SMIs.^{17,23} Employee skills and abilities should be enhanced by continuous training to empower them to cope with their frequent strenuous work requirements, such as deadlines and high production targets in a manufacturing environment.²³

It is important that, in general, managers, human resources personnel, welfare staff, medical personnel and safety officers have a clear understanding of the main issues involved in workplace stress prevention and management.^{15,24}

Rapid staff turnover may indicate that employees are highly stressed.²⁵ Interpersonal conflict played a significant role in causing stress in the company in this study. Most negative interactions at work revolve around colleagues, superiors, subordinates and company culture. When the relationships between individuals are hampered, exchange of information becomes problematic, which reduces the ability to work effectively.²⁶

Incompetence was also identified as a stressor, as reported by Leung et al. (2011)²⁷ in a study in Hong Kong. When certain employees are not properly trained, they might cause stress to their colleagues.²⁷ Incompetence is also listed under the Maslach burn-out inventory components.²⁸ Reduced personal accomplishment is associated with a sense of failure to produce positive results and a feeling of being incompetent at work.²⁸

Some of the effects of stress that were identified by participants, such as physical deterioration, mental health problems, eating disorders, emotional problems, productivity loss, sleeping disorders, and absenteeism, have been reported in other studies on continuous stress in the workplace.^{3,27}

Stress coping mechanisms vary from person to person, and include refraining from eating, indulging in food, exercising and doing sport, having sex, laughing and joking, talking to significant others, self-isolating, watching movies, interacting with family, confronting the stressors, chewing nails, making use of support from management, and relying on family support. An individual's personality and coping strategies are amongst the factors that will determine how they manage stress.²⁶

STUDY LIMITATIONS

Other factors that might have improved employees' resilience to cope with stress were not taken into account in this study, e.g. other courses that formed part of the training and development programme for employees, such as time management, conflict handling and presentation skills. Openness during feedback might have been restricted, due to personal reasons. Maybe social desirability played a role here. This was a very small sample size and only 50% of the SMI programme attendees participated. However, there is no reason to believe that those who didn't participate would have had different perceptions of either causes of stress or the SMI.

RECOMMENDATIONS

A quantitative study should be conducted in the company to validate the results of this qualitative research. The combined results could be considered by the company in the design of future SMI programmes. SMIs should be conducted in more companies, and their effectiveness evaluated to improve the quality of the intervention and benefits to employees.

CONCLUSION

Causes of stress at the vehicle manufacturing company were identified as: remuneration and budget-related issues, lack of resources, incomplete job profiles, job insecurity, incompetence, deadlines, workload, type of job, interpersonal conflict, management style, and company ethics. An SMI programme that was initiated by the company was perceived by the employees as very being effective.

LESSONS LEARNED

1. An SMI can be very useful to destress employees.
2. Employees benefit from knowledge on how to identify stress.
3. Employees can be taught skills on how to manage stress.
4. Participants did not always remember all the content and details of company-initiated programmes.

DECLARATION

The authors declare that this is their own work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

AUTHOR CONTRIBUTIONS

Conception and design of the study: HB, KF
 Data acquisition: KF
 Data analysis: HB, KF
 Interpretation of the data: HB, KF
 Drafting of the paper: KF
 Critical revision of the paper: HB, KF
 Accountability for all aspects of the work: HB, KF

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