

A Strategic Program For Overcoming Stress Through Time Management In Work Places

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Abstract—Stress is a state in which individual are forced with the need to make difficult or undesirable changes, in order to adapt to undesirable changes in order to adapt to undesirable events and situations. Stress may lead to negative emotions or motivating to do the best. In this study, it is attempted to consider simultaneously the major cause to stress is due to lack of time management so an effective strategic time management program is being applied to overcome stress. This study deals majorly with the techniques to be applied in the day to day's activities of an individual in the work place to manage the stress. The cause of stress is due to unusual, inflexible working schedules, lack of time management skills and effective stress management strategies would result in reducing the stress, which results in improvement in the productivity.

Key Words:- Work time design, Stress, Time Management, flexibility, money supplements, night duty, shifts, rota design, and time supplements.

I. INTRODUCTION

Stress is a natural part of every person's life. Stress is any change, internal or external, positive or negative, to which a every person must adapt; simply, "stress is anything that causes physical and/or mental wear and tear on the body and mind" [13] every persons stress is usually related to everyday experiences, worries and challenges at workplace, home, in the community and within their peer group. For example, young people may experience stress resulting from bullying, name calling, social isolation, not getting what they want, body image, career difficulties, and unsafe neighbourhoods. While each person will respond to and resolve stress differently, the impact of ongoing and/or unresolved stress can lead to feelings of anxiety, depression, irritability, poor concentration, aggression, physical illness, fatigue, sleep disturbance and poor coping skills such as tobacco, drug and/or alcohol use. Therefore, young people, like adults, can benefit from learning and practicing stress management skills. Employees who develop stress reduction skills learn how to feel and cope better without hurting themselves or others and managing their duty. Identifying and acknowledging the causes of stress and expressing feelings about them are usually the most effective tools people have to reduce stress, in addition to learning practical stress reduction skills. The attached classroom activities are designed to teach students a variety of practical and fun stress reduction techniques. These activities may be used to address a stressful situation in the moment (such as: during a lockdown, before and/or after a morning full of testing, or following difficult transitions). It is important to practice these skills prior to the onset of a stressful event (for example: incorporate as part of health lessons, use as an activity for morning circle/carpet time). Scientists have long

puzzled over the fact that many heart attacks occur in persons apparently free of risk factors such as high blood pressure, smoking, and high cholesterol. What, they ask, accounts for these heart attacks? The answer, according to some, may lie not merely in physiology but in behaviour. In the last 30 years or so, a small group of scientists has held steadfastly to the hypothesis that the way people think, feel, and act as they cope with the daily stresses of life can have a profound and sometimes deadly effect on their hearts. Through thousands of interviews with heart attack patients, these researchers have discerned common traits, behavioural responses, and stress reactions that appear to be associated with increased risk for heart disease. By following individuals with evidence of such patterns, they have been able to amass enough evidence to support the idea that stress and how we react to it plays an important, albeit controversial, role in the risk factor profile. In the working atmosphere the major source of stress the employees face is due to lack of time management. Due to the globalization people are expected to work all round the clock at unusual working shifts which can also result for stress.

II. LITERATURE REVIEW

Most of the researchers have addressed the problems caused due to stress and problems associated with stress, only few researchers have emphasized the importance of time management in reducing the stress. Time management plays an important role in managing the stress and overcoming it. [11] J.Garter et all has designed the work time model optimally suited to company's interest has well as employees need increasingly becomes a standard issue which explains the designing of shift rotas developing simple shift rotas designing, flexible rota method and quantitative frameworks and accountancy of absences due to leave. Source of stress the employees face is due to lack of time management. Due to the globalization people are expected to work all round the clock at unusual working shifts which can also result for stress. [3] Professor Annette Nellen has suggested few tips for managing time and getting ahead under stressed conditions, these tips suggest how to be more organised for any situation, by following these tips in our daily activities an individual can practice better stress management skills and can reduce the stress facing situations

III. WHAT IS STRESS?

For some people, stress is the feeling of being stretched to the breaking point, like a rubber band about to snap. For others, it is the events that lead to muscle tension, tightened fists, and clenched jaws. Dr. Hans Selye, a pioneer stress researcher in the 1930s, described it as the response of the body to any of a variety of demands, such as extremes of

temperature. Later researchers have defined it as the state in which individuals are faced with the need to make difficult or undesirable changes in order to adapt to events and situations in their lives. Under this definition, stress includes not only the body's response to physical and psychological demands, but the mental, emotional, and behavioral responses as well. (See box below for, "Signs and Symptoms of Mental Stress.") The demands may be highly significant—a death in the family, for example, or the loss of a job, or taking part in armed combat. But more often they are the ordinary hassles we all experience in the course of our daily routine—a traffic jam, a disagreement with a colleague, a deadline at work, a day that just does not go as planned. It is the way we handle these demands that has a profound impact on our health and well-being. Not all stress is detrimental. Indeed, a certain amount of stress in life is desirable. It relieves monotony, spurs people toward worthwhile goals, and is an integral part of many pleasurable activities: the joy experienced with successful accomplishments, for example. Selye coined the word "eustress" (good stress) to refer to stress of this kind, and to distinguish it from distress, which is prejudicial to health and well-being. How can an individual tell whether the Stress experienced during a difficult task is eustress or distress? The most apparent distinguishing characteristics are emotional: Eustress is associated with joy, exhilaration, a feeling of a job well done; distress is associated with frustration, anger, anxiety, fatigue, or a general feeling that something is wrong.

A. How Stress Works Mental, Emotional, And Behavioral Responses?

A person faced with a particular situation assesses it to determine whether it calls for anything special that is, he or she interprets the event. These mental responses lead the individual to take the action. This behavioural response may be disturbing, calm or, if the situation is perceived as highly demanding and upsetting, it may be associated with negative emotions such as irritation or anxiety. For example, some people faced with deadline experience a sense of dread and foreboding. They perceive the situation as insurmountable and become virtually paralyzed. Others are motivated by deadlines, and do their best work "against the clock." Some people can study in a crowded subway car; others find they need quiet and solitude, or concentration is impossible. Another factor affecting how people react is their sense of having or not having control. One study found that assembly-line workers who could control the pace of work or select their work station on the line were able to work more effectively than colleagues on a "set" assembly line. The workers with some flexibility felt better at the end of the work day and had fewer stress-related problems. Other studies have found that a lack of autonomy is one of the major characteristics of a stressful job. It also seems that people with "stress-buffering" resources—including a social support network, good overall health, and a clear sense of self-worth—are better able than others to deal with the stress in their lives. It appears that these resources enable a person to keep things in perspective and not become stressed as easily. They also enable a person to have a sense of being able to handle whatever comes along during the day. Last, they provide a sense of belonging.

1) Possible Factors Causing Stress At Work

-workload	too much/little
-work priorities	deciding priorities
-job design	could it be
improved?	
working environment	calm & comfortable
use of skills	used as much as
possible	
ability to decide	need to consult on
decisions	
active support	regular help/advice
when required	
background support	encouragement,
cultural/social acceptance	
resolving conflicts	tackling bullying,
personality clashes	
Stress is not caused by a single factor. Often it is a combination of work-related factors, together with influences from home	
Life that combine to cause stress.	

When introducing the concept of stress management to employees in an organisation, it is useful to suggest the following general behaviours and techniques that will help employees manage stress regularly in their day to day work.

- Eat healthy meals with plenty of fruits and vegetables
- Maintain daily routine and schedule
- Exercise regularly
- Avoid caffeine (can increase feelings of anxiety and agitation)
- Do things you enjoy (for example: art, listening to music, being outdoors, dancing, writing poetry, reading, etc.)
- Get good amounts of rest and sleep
- Avoid alcohol, tobacco and drugs
- State feelings in a clear way (for example: "I feel angry when you yell at me.")
- Decrease negative self talk think optimistically
- Be with friends who help you cope in a positive way
- Learn relaxation techniques (such as: deep breathing, muscle relaxation, meditation)
- Talk to caring adults, senior managers, and colleague.

IV. STRATEGIES TO REDUCE STRESS

To overcome stress [11] Le Blanc et al has explained clearly that proper time management could help an individual more effectively and [4] provides tips for Managing Your Time and Getting Ahead. [2] T.Gartner et al has suggested few techniques for time management through flexible working hours called work time model, by developing 'simple' shift rotas.

A. Seven Suggestions For Effectively Managing Your Time

1) Be Organized

- Have an organized workplace (don't waste time constantly looking for your work).
- Use your appointment calendar for everything, including listing study time.
- Use "to do" lists for both long-term and for each day/week.

- 2) *Plan Ahead (Schedule It And It Will Happen!)*
 - Determine how long your tasks will take (do this before agreeing to take on a task!)
 - Consider whether any activities can be combined.
 - Determine if big tasks can be broken down into smaller tasks that may be easier to schedule (such as studying for exams and visiting the library as part of an assignment to write a term paper).
- 3) *Prioritize Your Tasks*
 - Use an A-B-C rating system for items on your "to do" lists with a items being highest priority.
 - Set goals for both the short term and long term as to what you want to accomplish.
 - Look at all of your "to do"s to gauge the time requirement and whether additional resources will be needed to
 - Accomplish them (if yes, schedule time to obtain those resources). Don't postpone the small tasks (a sense of

- accomplishment is good and overlooked small tasks can become larger tasks).
- 4) *Avoid Overload*
 - Include time for rest, relaxation, sleep, eating, exercise, and socializing in your schedule.
 - Take short breaks during study and work periods.
 - Don't put everything off until the last minute (for example, don't cram for exams).
 - Learn to say "no" when appropriate and to negotiate better deadlines when appropriate.
 - 5) *Practice Effective Learning Techniques*
 - Split large tasks into more manageable tasks.
 - Be prepared to ask questions as they come up during study, rather than waiting until just before an exam.
 - Do the most difficult work first, perhaps breaking it up with some easier tasks?
 - Don't wait until the last minute to complete your projects.

3.1.2 Signs and Symptoms of Mental Stress	
Following is a partial list of common stress indicators. Not all of these indicators are due solely to stress. Some may have other causes while others may be exacerbated by stress.	
Emotional Indicators	Physical indicators
<p>Anger some (particularly the physical ones) may have Frustration other causes, while others may be exacerbated by Withdrawal, lack of emotional feeling stress. If you experience a number of them, confusion Excessive crying, especially without obvious cause time pressure</p>	<p>Impatience facial tautness overreaction to events difficulty concentrating Muscle aches, stiffness, or tension Forgetfulness, Profuse sweating or facial flushing Feeling of</p>
<p>however, it may be an indication that the mental Depression stress you are under is being manifested in how Anxiety eye you feel and the way you behave. Fears, phobias, panic attacks raising eyebrows, etc. Rapid speaking, Excessive talking or inability to express self Irritability.</p>	<p>Cold, clammy hands facial tics : rapid eye blinking or horizontal movement, repeatedly retracing eyelids.</p>
Behavioural Indicators	
<p>Tapping foot or drumming fingers ,Headaches , Rapid walking ,Chain-smoking ,Sleep problems , Dizziness , Excessive drinking ,Teeth grinding , Gastrointestinal symptoms: nausea, stomach pains, Doing two things at once cramps, diarrhea, constipation, indigestion, heartburn ,Restlessness, pacing, inability to sit still , Coughing ,Nail-biting , Picking at skin on face or around nails , Fatigue Hair-twisting ,Skin disorders: rashes, hives, acne ,Asthma ,Eating other than when hungry ,Sexual problems ,Back pain ,Dry mouth or throat ,Short-fuse reactions ,Change in appetite (increase or decrease) , Palpitations</p>	

- 6) *Be Able To Be Flexible*
 - The unexpected happens (sickness, car troubles, etc.); you need to be able to fit it into your schedule.
 - Know how to rearrange your schedule when necessary (so it doesn't manage you - you manage it).
 - Know who to ask for help when needed.
- 7) *Have A Vision (Why Are You Doing All Of This?)*
 - Know what is important to you.
 - Have a positive attitude

B. Work Time Model

The designing of work time models, which are better or optimally suited to a company's interests as well as the employees' needs is increasingly becoming a standard issue. It is a regular concern for those with responsibility in a company, including also the systematic improvement and management of working time models. In the course of establishing the issue of working time design and working time models innovation is of importance. The designing of effective work time models, which are better or optimally suited to a company's interests as well as the employees' needs is increasingly becoming a standard issue which can minimize the stress on the workers/employees. It is a regular concern for those with responsibility in a company,

including also the systematic improvement and management of working time models. In the course of establishing the issue of working time design and working time models innovation is of importance. The papers in this collection are contributions to the issue of working time management in the sense outlined above. Therefore tried and tested as well as newer techniques within sections of the greater field of working time management are introduced. In accordance with the main service of our company – the designing of shift rotas – the question of rotas plays an important role. Nevertheless the articles address interesting. The chapter 'Developing 'simple' shift rotas' introduces planning techniques for basic tasks within shift rota designing. Accordingly, elements for flexible rota models, which will be discussed further down, are developed. The following paper 'Flexibility, and how to achieve it: quantitative frameworks – there's no doing without them' deals with the often underestimated significance of quantitative frameworks and provides some important illustrations. Quantitative frameworks are key factors in the design of working time models, whether shift rotas or not. The issue 'Time vs. money supplements' intends to expand the possible scope action.

V. DEVELOPING 'SIMPLE' SHIFT ROTAS

Shift duties are commonly introduced when the working time of one person or group of persons does not suffice to cover the time required for production or for the service rendered. Generally when talking about shift duty, industrial plants come to mind first. In the sense of the above definition, however, the term has to be taken much wider. It covers hospitals, call centres - even large sections of trade. There are classic solutions for dealing with the disparity of operation hours and individual working time, namely the formation of groups.

- Better correspondences between desired operating hours and working time can be achieved.
- Furthermore a greater choice of solutions is available.
- Elements for flexible models are developed (if it is for instance necessary to change between high and low phases, the planning task can be divided for the development of 2 separate plans, one for high phases and one for low phases).

A. Plan Structures

For a particular planning task different plan structures can be applied to a certain extent. Plan structures differ fundamentally from each other in their group structure. The three plan structures for plans with uniform staffing are:

- Classic groups each shift is covered with exactly one group. The size of the group is unvarying and corresponds to the shift staffing (Number of staff present per shift).
- Group combination: In each shift two or more groups, each of a size smaller than the total shift staffing, are linked in order to take account of the required shift staffing. These group combinations can be changed day by day. As a consequence not the same two groups will always work together in one shift.
- Oversized groups: For the plan structure 'oversized groups' groups larger than the total shift staffing are formed. A part of the group is given leave (e.g.: 2 groups are formed with 5 subgroups each, of which one is given leave).

The functioning of these plan structures has been portrayed schematically in Fig. 1. By adding half a group ('group combination') or by one additional person in each group ('oversized groups') it is possible in this example to extend the operating hours by 25% as well as to keep the number of shift duties (and as a consequence the average working time) constant.

Thus, operating hours can only be multiples of the target weekly working time of one group:

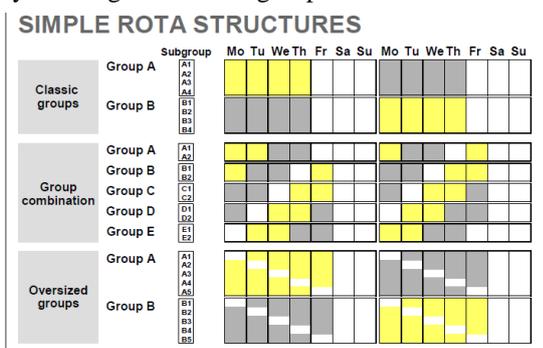


Fig.1: Simple Plan Structure

B. Classic Groups

Classic groups can be implemented if the number of groups (1, 2, 3 ... groups) cover the operating hours exactly and the shift staffing (= number of staff per shift) is unvarying.

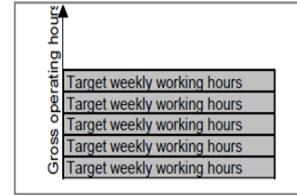


Fig. 2: Correlation between operating hours and target weekly working hours of classic groups

C. Group Combination

This technique has been common for a long time in some areas of trade. Several smaller groups or individual persons are combined to one larger shift group out of which new groups are formed. Their size does not correspond to the shift staffing (number of staff per shift) and their combination varies. Examples from publications include Knauth (1986) and Hoff, Knebel et.al. (1987) quoted in Knauth and Schönfelder (1992). The combination of groups is appropriate if the gross operating hours do not allow for the formation of groups corresponding to the shift staffing.

Example 2: Given a gross of 128 operating hours and a target weekly working time of 38,5 hrs, 3 groups in the size of the shift staffing are not enough whereas 4 such groups would be too many. In each shift 6 persons are needed (shift staffing).

If the structure 'group combination' is chosen it becomes possible to cover the 128 hrs of gross operating time so that each employee works for an average of 38,4 hrs per week. 10 Groups of 2 persons are formed. 3 groups work in each shift, thus $2 * 3 = 6$ persons per shift. One possible solution can be portrayed in vertical representation as follows:

D. Oversized Groups

Oversized groups can be used mainly

- If the gross operating hours do not allow the formation of small aggregate groups
- If changing shift staffing needs to be taken into consideration
- If the mixing of groups should be avoided

Example 3: If gross operating hours of 90 hrs need to be covered 'oversized groups' are a suitable plan structure. 2 groups are formed comprising 5 subgroups (or persons) each. The working week is running from Monday to Friday in 2 shifts. For each shift 4 persons are present, 1 person is given leave. The day off is rotating in each group. The characteristics of the plan structure 'oversized groups' are:

- Gross operating hours can be planned more flexibly than in the plan structure 'classic groups'.
- Different working time models can be combined.
- Different shift staffing (for instance reduced staffing for Sunday nightshifts) can easily be taken into consideration.

E. Time And Money Supplements

1) Supplements For Atypical Work Hours

In most cases atypical work hours (afternoons, night shifts and weekends) are paid in the form of supplements. The rate of these supplements varies from one area of trade and one

company to the other. Usually they are paid either as set amounts (per hour, per shift, per month,) or in percentages added to the normal hourly wage. The latter can nowadays be redeemed as time bonus.

Example: The supplement for Sunday work is 75%. For each work hour on a Sunday employees can then choose between an additional 75% on their base hourly wage or 45 minutes credited to their time bonus account.

2) Money Supplements Vs. Time Supplements

In most companies in which work times have long been common and there is no possibility of redeeming them in the Atypical form of time supplements the employees have oriented their private financial planning on such supplementary pay and have for instance taken up loans accordingly. Where the hourly pay is rather low the introduction of a time supplement scheme - especially when it is made mandatory for all - usually meets considerable resistance.

Companies extending their operating hours and/or making them more flexible, and therefore introducing new forms of supplements, have a real chance of reducing work hours (and also of improving the leisure situation by degrees in relation to their Starting position) while maintaining the level of income and keeping the costs neutral. Of course, it is required that new supplements (independent of the rate negotiated) are not paid but redeemed in time bonuses. The regular level of income is not altered work hours are shortened to compensate for the additional burden caused by changed shifts. The reduction of working time (directly or via time supplements) allows the development of over-proportionally-improved rotas. This is especially true for rotas including night shifts. In order to illustrate such rotas, the basic sequence DDAANN with a number of free days following shall be used as example (cf. chapter 2.6.1). Fig. 10 shows the effects of reducing work hours on the basis of DDAANN-- on the number of free weekends within the cycle and the number of days off per week. The tables in Fig. 10 show that for instance with a reduction of work hours by 11% the number of free weekends can be increased by 78%, even by 140% taking a reduction of 20%. The effects on the number of days off are also over-proportional. The actual effect of a reduction of work hours depends of course on the specific rota. The basic dynamic however is similar.

sequence	duration	wH	cycle	reduction
FFSSNN--	8 days	42,00 hours	8 weeks	
FFSSNN---	9 days	37,33 hours	9 weeks	11,12%
FFSSNN----	10 days	33,60 hours	10 weeks	20,00%

sequence	weekends off per cycle (Saturday and Sunday without start of shift)	% within cycle	improvement
FFSSNN--	1	12,50%	
FFSSNN---	2	22,22%	77,78%
FFSSNN----	3	30,00%	140,00%

sequence	Free days per week (without the beginning of a shift)	% within cycle	improvement
FFSSNN--	1,75 days	25,00%	
FFSSNN---	2,33 days	33,33%	33,33%
FFSSNN----	2,80 days	40,00%	60,00%

Fig. 4: Over –proportional improvement of the leisure situation through work hour reduction

5.7 Deciding on supplement systems

For nightshifts a supplement of 10% has been agreed on, which is converted into a time calculation as follows: (8 hrs per day * 10%) * 7 days = 5, 6 hrs per week and work place These 5.6 hrs are converted. Thus a slight time credit of a bit more than one shift (10.6 hrs – cf. Fig.4) accumulates throughout the year.

operation hours	168 hours
time supplement	5,60 hours
shift duration	8,00 hours

phase duration given a	length in weeks	groups	presence	weekly work hours	balance by target weekly work hours of
high	20 weeks	9 groups	2 groups	38,85 hours	36,00 hours 35,00 hours 34,00 hours
middle	32 weeks	5 groups	1 groups	34,72 hours	51,56 hours 71,56 hours 91,56 hours
sum	52 weeks				10,60 hours 62,60 hours 114,60 hours

Fig. 5: frame work for annual working time model including time supplement.

F. Designing Flexible Elements

The rota design is divided into 2 tasks. For each type of phase a separate rota plan has to be generated:

- One rota for the workers in medium phases (throughout the year)
- One rota for the workers in high phases (during vacation periods)

1) Rota For Workers In Medium Phases 20 persons are calculated. Those 20 are organised into 5 groups, each one made up of 4 people working 33.6 hrs per week. Adding the time supplements for night shifts the credited working time is raised to 34.72 hrs per week. A section of the plan of about 4 weeks, based on the sequence DDAANN---- is shown in Fig 6 below shows. The upper third shows the plan for each group in horizontal presentation. In its complete length the plan covers 10 weeks. The achieved shift staffing is illustrated in the middle section. Below the information concerning work hours and number of duties for each group is given.

2) Rota For Workers During Vacation Periods

18 persons are calculated making it possible to give leave to two. Two persons are marked ‘U’ for vacation in the matrix. The other 18 are organised into 9 groups, each with including 2 persons working 37.33 hrs. Consequently the remaining workers are able to collect bonus hours. A 4-week section of the plan based on the sequence DDAANN-- - DDAANN--- is illustrated in Fig. 7.

The upper fig. shows each group in horizontal presentation. The plan covers 9 weeks altogether. The achieved shift staffing is illustrated in the middle section. Below the information concerning work hours and number of duties for each group is given. The distribution of leaves is extremely flexible.

Per.	Defined wH	Net wH	+/- h	Gross wH	+/- h	All duties	D	A	N
A	4	36,00	-24,00	34,720	-12,00	42	14	14	14
B	4	36,00	-24,00	34,720	-12,00	42	14	14	14
C	4	36,00	-24,00	34,720	-12,00	42	14	14	14
D	4	36,00	-24,00	34,720	-12,00	42	14	14	14
E	4	36,00	-24,00	34,720	-12,00	42	14	14	14

Fig.6 shift plan for workers throughout the year

Prev	Def Fixed	Net cost	+ve h	Gross cost	-ve h	All duties	D	A	N
A	2	35,000	37,333	21,000	38,578	32,200	42	14	14
B	2	35,000	37,333	21,000	38,578	32,200	42	14	14
C	2	35,000	37,333	21,000	38,578	32,200	42	14	14
D	2	35,000	37,333	21,000	38,578	32,200	42	14	14
E	2	35,000	37,333	21,000	38,578	32,200	42	14	14

Fig. 7: shift plan for workers during vacation period

VI. CONCLUSION

A careful study from the above observations shows an improvement in the number of cycles and percentage improvement by proper time management strategies which provide flexible working hours by convenient shifts and over proportional improvement of the leisure situation through work hour reduction. So an effective time management techniques would reduce the stress and improve the productivity of the firm. Hence effective time management strategies with stress management skills in an employee favourable flexi working hours will improve the productivity.

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