



Promoting Good Practices and Standards

# BUREAU OF POLICE RESEARCH AND DEVELOPMENT



Proceedings of the Workshop on

## MANAGEMENT OF **STRESS** IN POLICE FORCES

29 September 2020 | BPR&D Hqrs. New Delhi



पुलिस अनुसंधान एवं विकास ब्यूरो, गृह मंत्रालय  
BUREAU OF POLICE RESEARCH & DEVELOPMENT  
MINISTRY OF HOME AFFAIRS

# FOUNDATION DAY

28<sup>th</sup> AUGUST 2019

INDIAN HEADQUARTERS NEW DELHI

Guest : **Shri Amit Shah**, Hon'ble Union Home Minister  
of Home Affairs, Government of India

Program

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वरुण सिंधु कुल कौमुदी, भा.पु.से  
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**Bureau of Police Research & Development**  
**Ministry of Home Affairs, Govt. of India**  
National Highway-8, Mahipalpur  
New Delhi-110037

## Message



Rising levels of Mental Stress in Police Forces is a matter of grave concern as it not only adversely affects their overall health but also affects their performance. Thus, it is important to address and resolve various issues linked with the stress-causing factors.

With a view to evolve simple, practical, operationally convenient and effective strategies to mitigate mental stress in Police Forces, the Modernization Division of the BPR&D conducted an online workshop on '**Management of Stress in Police Forces**' at the BPR&D Headquarters, New Delhi, on September 29, 2020. This workshop was organized in collaboration with the Department of Psychiatry, AIIMS, New Delhi. The distinguished faculty from AIIMS and the Indian Police Foundation delivered talks on important aspects of Mental Stress and its causative factors. This was followed by a very useful demonstration on **Desktop Yoga and Meditation** by Prof. Anju Dhawan from AIIMS, New Delhi wherein she exhibited unique and easy methods of Yoga and Meditation.

I congratulate Shri Karuna Sagar, IPS, IG/Director, Modernization Division, and his team of dedicated officials, comprising Dr. Ajit Mukherjee, PSO (LS), and Shri John Thomas, SSO (LS), on successful conduct of this important workshop.

I believe, the proceedings of the workshop will be very useful for our Police Forces and will go a long way in de-stressing them and ensuring their overall health and well-being.

(V. S. K. Kaumudi)



संतोष मेहरा, भा.पु.से  
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## Message



Police Forces in our country often work under highly challenging and stressful environment. From scenes of crime to places of mass agitation to court hearings, their presence is required everywhere. Frequent exposure to highly stressful work environment leaves them with very little or no time for self-care and family. This also leads to irregular and improper eating habits. As a result, our police forces become highly vulnerable to certain mental disorders and their general health also gets badly affected.

Keeping in view the need to improve their stress coping behavior and to enable them to adopt healthy lifestyle, an online workshop on "Management of Stress in Police Forces" was organized by the Modernization Division at BPR&D Headquarters, New Delhi on September 29, 2020 in collaboration with Department of Psychiatry, AIIMS, New Delhi. 160 Police Officials from CAPFs and other States/ Uts attended the workshop. The experienced faculty from AIIMS and IPF dwelt on various important issues related to factors causing stress. Effective interaction with the participants by addressing their queries and concerns was a key feature of the workshop. During the course of the workshop, some simple and practical approaches were discussed which could be easily adopted by our Police Forces.

I compliment and warmly congratulate Shri Karuna Sagar, IPS, IG/Director, Modernization Division and his team of dedicated officials comprising Dr. Ajit Mukherjee, PSO (LS) and Shri John Thomas, SSO (LS) on successful conduct of this important workshop.

I hope that the proceedings of the workshop will be very useful for our Police Forces and will help them adopt a stress free and healthy lifestyle leading to good overall health.

  
(Santosh Mehra)

"Promoting Good Practices and Standards"



करुणा सागर, भा.पु.से  
महानिरीक्षक / निदेशक (आधुनिकीकरण)

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## Executive Summary



Realizing the need to evolve effective strategies for mitigating ever rising levels of mental stress in Police Forces, the Modernization Division of BPR&D organized a three-hour workshop on "Management of Stress in Police Forces" from 10AM-1PM on September 29, 2020 at the BPR&D Headquarters, New Delhi in virtual mode. The workshop was organized in collaboration with Department of Psychiatry, AIIMS, New Delhi. 160 Police Officials from CAPFs and other Police Forces from States/ UTs joined the workshop online.

The workshop was divided in to six Technical Sessions followed by a common Q/A Session. Distinguished faculty from AIIMS and Indian Police Foundation (IPF) delivered talks on various aspects of Stress Management and interacted with the participants.

Shri Santosh Mehra, ADG, BPR&D opened the meeting with his inaugural remarks wherein he emphasized the importance and necessity of holding such a workshop. He also wished that the deliberations during the workshop will help resolve many issues linked with mental stress of Police Forces.

Prof. Rakesh Chadda, Head, Department of Psychiatry, AIIMS introduced topic of the workshop and its need. He mentioned about some factors causing stress and felt that there were high expectations from the immediate superiors and public from the Police Forces. He introduced his fellow faculty members.

Shri N Ramachandran, Head, IPF delivered his talk on "Management of Mental Health in Police and CAPFs." He emphasized the need for holistic approach by integrating physical, emotional and organizational factors for ensuring overall wellbeing of the Police personnel. He also talked at length about the prevention strategies to be targeted at four levels viz., personnel, minimizing suicides/fratricides, organizational and research based policies.

A small group discussion on "First Person Narrative related to stress among Police Personnel" moderated by Shri karuna Sagar, IG/Dir (Mod) and Prof. Rakesh Chadda, was organized and Police Officials among the participants shared their experiences. Shri Santosh Mehra and Prof. Rakesh Chadda clarified some of the points raised by them.

"Promoting Good Practices and Standards"



Dr. Kaushik Sinha Deb, AIIMS spoke extensively on "Genesis of Stress among Police Personnel". He dealt in depth with the phenomenon as to how the human body reacts to various stressors and said that acute symptoms of stress could be muscle tension, headache, tremor and weakness. He concluded by saying that stress is not the stressor, stress is not what is happening but stress is how we are responding.

Dr. Gauri Shankar, AIIMS looked at stress in terms of demand and resources and explained how the human body regulates its limited tolerance by the weight of various resources and demands. He also described and explained different ways of coping stress which included problem solving skills, time management, self-observation and self-monitoring, restructuring of thoughts, anger management and relaxation and lifestyle modification.

The last technical session of the workshop was taken up by Prof. Anju Dhawan, AIIMS who talked about "Mindfulness-based Intervention and Stress Reduction." She mentioned that last 18-20 years of research has established meditation as an effective tool for ensuring good mental health. Meditation leaves a positive impact on attention, ability to handle emotions, stress and self-awareness. She also gave a 15 minutes-demonstration of some hands on techniques including "Yoga at Work place" for reduction of stress which was widely appreciated by all. A question-answer session was also organized in the end.

Overall, it was an excellent three-hour session on knowledge and awareness about stress and its causative factors. The "Yoga at Work place" was a big take away message from the workshop.



(Karuna Sagar, IPS)  
IG/Director, (Modernization)

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## **WEBEX-Workshop Management of Stress in Police Forces**

**Modernization Division, BPR&D, NH-8, Mahipalpur, New Delhi in collaboration with  
Department of Psychiatry and NDDTC, AIIMS, New Delhi**

### **Minute to Minute Programme**

**Date: 29<sup>th</sup> September 2020  
Venue: BPR&D Hqrs., New Delhi**

<b>Time</b>	<b>Topic</b>	<b>Speaker/Moderator</b>
10 am	Welcome, Introductory remarks and Inaugural address	Shri Santosh Mehra, ADG,BPR&D
10.15am	Introduction of the Topic and Need for the Workshop	Prof. Rakesh Chadda, AIIMS
10.25am	Stress among the Police Forces	Shri N Ramachandran, Indian Police Foundation
10.35am	First-person narratives related to stress among police personnel	Participants – Moderated by Shri Karuna Sagar, Director & IG(Mod)/ Prof. RakeshChadda
11.05am	Stress among police personnel: Looking into the Genesis	Dr. Koushik Sinha Deb, AIIMS
11.25am	Understanding Stress and methods of coping – some hands-on techniques	Dr. Gauri Shankar Kaloiya, AIIMS
11.55am	Mindfulness based interventions and stress reduction Hands on technique based on yoga for reducing stress (Desktop Yoga, Discussion on Nature of the mind, breathing techniques, meditation)	Prof. Anju Dhawan, AIIMS
12.40pm	Q/A - Session	Shri Karuna Sagar
12.50	Concluding Remarks	Shri Karuna Sagar
1.00 pm	Vote of thanks	Dr. Ajit Mukherjee

**Proceedings of the WEBEX-Workshop on "Management of Stress in Police Forces", organized by Modernization Division, BPR&D, NH-8, Mahipalpur in collaboration with Department of Psychiatry and NDDTC (National Drug Dependence Treatment Centre), AIIMS, New Delhi, September 29, 2020**

With a view to evolving effective, operationally feasible, and practical solutions for stress management, an online workshop on the WEBEX platform on "**Management of Stress in Police Forces**" was organized by the Modernization Division of the BPR&D in collaboration with the Department of Psychiatry and NDDTC, AIIMS, New Delhi on September 29, 2020, which ran from 10 AM to 1 PM at BPR&D Headquarters, New Delhi.

Nearly 160 Police Officials from CAPFs, States/ UTs, CDTIs from across the country, and other officials from BPR&D and NCRB participated online in the workshop.

Shri Neeraj Sinha, IG (Training) and Shri Tajender Singh Luthra, IG (NPM) were among the other distinguished dignitaries who attended the workshop.

A session-wise summary of the proceedings is given below:

**Shri Santosh Mehra, ADG, BPR&D**, welcomed all the participants who attended the workshop and delivered the inaugural address. In his keynote remarks, he said that police forces often work in stressful environments that encompass everything from the crime scene to the court hearing. Long working hours and irregular eating habits not only make them physically unfit but also affect their lifestyle adversely. He hoped that the deliberations centered on varied vital aspects would help police personnel adopt a proper and healthy lifestyle and enable them to discharge their duties more efficiently.

**Prof. Rakesh Chadda, Head, Department of Psychiatry, AIIMS**, introducing the topic of the workshop and its need, said that stress has become a part of life. The frontline workers such as Police Forces, Defence Personnel, and Health Workers are exposed to a little more stressful work environment in their day-to-day life for they often have to work in difficult situations for long hours. The work in the police forces, is quite challenging as the expectations from their superior officers as well as from the public are quite high. Several factors such as long duty hours, no leave or refusal to get leave, unable to discharge their social responsibilities and obligations are among the reasons causing stress. He introduced his fellow experts and speakers from the Department of Psychiatry, AIIMS, New Delhi who were scheduled to give a talk on various aspects of stress. **Shri N. Ramachandran, Head, Indian Police Foundation (IPF)**, the next speaker delivered the talk on the topic of "**Management of Mental Health in Police and CAPFs**". He emphasized the need for a holistic approach to ensuring the overall wellbeing of the police personnel by integrating physical, emotional, and organizational factors elaborately. He categorically mentioned that the stress level in police personnel is five times higher than the general population. Giving reference to the National Conference on Occupational Stress and Mental Health Issues in Police/Uniformed Personnel held jointly by IPF/IIPHG/ BPR&D from October 10-11, 2019 at Indian Institute of Public Health, Gandhinagar, he said that as per the analysis of IPF, stress could be attributed to four major factors namely occupational, systemic/ structural, personal and family.

The strategies to prevent such disorders are targeted at the four levels viz., personnel, by minimizing cases of suicide and fratricide, organizational and research-based policies. Personnel level includes - providing adequate rest, liberal approach to granting leave, rotational duties, appreciation for good work, more family accommodation, improve coping and conflict- resolution skills, regular assessment of mental health through interaction to check if there is any negativity brewing up. For minimizing the cases of suicide/ fratricide, he proposed to hold meetings in confidence with subordinates for free expression of views/ thoughts on family/marital discord or financial insecurity. As an organization, long-term and sustainable policies including workshops on sensitization for addressing the issues of stress and mental health should be dealt with. Research-based policies on occupational and mental health should be encouraged. He strongly stressed the concept of Emotional Intelligence and added by saying that every Police Organization should have a written policy on mental health management.

Shri Santosh Mehra wanted to know if any draft related to mental health management policy was available; if not, he suggested that a committee comprising officials from BPR&D, IPF, and AIIMS faculty should formulate such a policy.

## **MANAGEMENT OF MENTAL HEALTH IN POLICE & CAPFs**

Need for a holistic approach ensuring overall  
well-being of personnel –

integrating  
physical, emotional and organisational factors.

BPR&D WORKSHOP  
29 SEPT 2020

## Areas of concern

- Increasing prevalence of anxiety, depression, alcoholism & other substance abuse
- Impaired – physical & psychological well being & interpersonal relationships.
- Low productivity, irritability & frustration, anger, insensitive & brutal behaviour with public
- Suicides / fratricides
- Stress levels in police personnel are 5 times higher than the general population, PTSD is 15 times higher.

## National Conference on Occupational stress and Mental Health Issues

in Police / Uniformed Personnel held jointly by IPF / IIPH G / BPR&D 2019  
October 10-11

### Conference Objectives

Creating awareness,

Identification of common stressors & causative factors,  
Preventive and promotive measures

Strategies to reduce stress / address mental health issues.

- 29 speakers. representatives from State / Central forces, psychologists, psychiatrists, distinguished professors, scientists, motivational speakers, public health and policy makers from various parts of India.
- About 650 participated from States / CAPFs



## **OCCUPATIONAL FACTORS**

- Irregular, unpredictable workhours, Shift work, oppressive workload
- Life threatening occupational situations
- Low citizen trust levels, extraneous interference

## **SYSTEMIC / STRUCTURAL FACTORS**

- Poor leadership, ill treatment by seniors
- Unsatisfactory grievance-redressal system
- Frequent, unjustified transfers, denial of leave

## **PERSONAL FACTORS**

- Boredom, loneliness, conflicts with co-workers, alcoholism, drug dependence, impaired work life balance
- Lack of personal growth opportunities

## **FAMILY FACTORS:**

- Long separation from families
- Marital discord, financial issues, other family issues / conflicts

## **Preventive strategies – focused on personnel**

- Ensure adequate rest and sleep opportunities after duty hours
- Liberal grant of leave, ensuring a weekly day off in civil police
- Timely rotations from forward posts / high stress jobs
- Ensure robust interpersonal communication at police station / field level - buddy pairing, small group formations.
- Focus on growth opportunities / appreciation for good work
- Pay attention to living conditions – more family accommodation

## **Preventive strategies – focused on personnel**

- Promote awareness
- Relaxation training, coping skills, conflict resolution skills, sleep and hygiene education
- Yoga / meditation / sports / recreation
- Focus on positive emotions enhances well being, resilience and adaptability that help in better coping strategies.

## **Need to train supervisory officers like Sub Inspectors and Inspectors to interact with sensitivity and supporting attitude**

- To regularly interact with their subordinates and in assessment of mental health
- Alert supervisors can always spot any negativity brewing up and can give timely report

## **Preventive strategies to minimise suicide / fratricides**

- Liberal sanctioning of leave
- Keep a watch on personnel returning from leave – for signs of unusual behaviour, complaining of marital / family discord, financial insecurity
- Suicide prevention helplines – with assured confidentiality
- Arrange meetings in confidence, encourage the person to express himself and choose to reveal as much as he / she wants to;
- Have follow up meetings and seek external support where necessary.
- Mobile phones and internet has disrupted social interactions and buddy pair system etc. – so, encourage social interactions

## **Preventive strategies – organizational level**

- Acknowledge the existence of stress & mental health issues
- Avoid ad-hocism – embrace long-term, sustainable measures.
- Open channels of communications, interactions – formal and informal
- Activate redressal mechanisms
- Set up mental health helplines
- Organise mental health sensitization workshops,
- Mental health assessment – for early detection of potential mental health issues.
- Dedicated psychologists.

## Preventive policy strategies

- Need to invest in research: Research studies to investigate occupational stress and mental health issues are very limited.
- Psychological assessment of stress and emotional intelligence at recruitment stage.
- Promote a working environment that is conducive to good mental health,
- Promote management styles that treat police personnel with dignity
- Value their opinions and eliminate harassment and ill treatment.
- Promote social and teambuilding events that are inclusive and open to all and encourage all personnel to contribute ideas
- Encourage volunteering for out-of-work activities that can improve mental health.

## Preventive policy strategies

- Every Police Organisation should have a written policy on mental health management.
- Designate a senior officer as having overall responsibility for the policy.
- Promote a culture of appreciation and encouragement
- Preventive models are more effective than curative models
- Therefore, police leadership needs to be proactive and not reactive to this problem.



**LET US  
BREAK THE SILENCE**

**DISCUSS OCCUPATIONAL STRESS IN  
POLICE & MENTAL HEALTH ISSUES**

A small group discussion on “First-person narrative related to stress among police personnel” was moderated by **Shri Karuna Sagar, IG/Dir (Mod)** and **Prof Rakesh Chadda**.

The first participant, **Shri Vinay Kajla, DIG, CISF RTC, Arakkonam** shared his experience on how Shirsasana helped him get good sleep, reduce tension, calm nerves, and treat migraine.

The second participant who shared his experience was **Shri S.P.Singh, Commandant, CISF, Punjab, and Haryana Secretariat**. He wished there could be no gap between teachings at seminars and workshops and their actual practice. He further added, all communications are marked as urgent and felt that some kind of prioritization of various communications was needed to avoid unnecessary stress and tension. He also mentioned that non-sanction of leave, sometimes lead to social obligations remaining unfulfilled.

Shri Santosh Mehra agreed that a lot of redundant and duplication of reports existed. A detailed study conducted by his team revealed that about 50% of all the reports (weekly, monthly, or fortnightly) sent by a particular unit to Headquarters were redundant. A regular exercise to eliminate redundancy should be made at the DIG/Commandant level. Shri Mehra pointed out that a detailed procedure has been laid down for the sanction of leave. It is incumbent on the Commanding Officer to maintain a register and scrutinize it so that one may get leave as per entitlement.

**Shri Mahendra Nath Tiwari, DIG, NCRB** in the participants, expressed the opinion that micromanagement was the reason for stress. Micromanagement destroys the decision-making capacity of the officer. Hence, the officer loses his interest/pleasure in work. In reply to the question, Shri Mehra said that there was a tendency for upward delegation of duties and responsibilities. Junior officers should be encouraged even if mistakes are committed as long as there was no malafide intention.

Prof. Rakesh Chadda summed up the discussion by thanking the three participants for sharing their experiences and said that it would help in further deliberations. He felt that some administrative and police reforms along with optimum utilization of resources are needed to address the grievances shared by the participants.

**Dr. Koushik Sinha Deb, Associate Professor, Department of Psychiatry, AIIMS, New Delhi** in his talk dealt at length with the genesis of stress among police personnel. He said the human body wants to remain in a state of homeostasis. A stressor is an event or environment that an individual considers as demanding or threatening. Stress is the response of our body and mind to a stressor. Stress causes wear and tear of our mind and body. As per Hans Seyle’s adaptation syndrome, the first stage of the stress response is a stage of alarm (shock phase) followed by a stage of resistance (counter shock phase). At the stage of resistance, the body functions at a higher level to quell the stressor. However, if the stressor continues, the internal body resources get depleted and then reach a stage of exhaustion. Acute stress for a short period may not be bad as a person can be trained to handle acute stress. The burn out in chronic stress may result in serious illnesses. Stress can be of two types, Eustress and Distress. Some amount of stress helps in improving one’s performance, is described as good. For example, when taking an examination there is a strong sense of competition among peers to get more marks, and the stress thus created can lead to an improvement in the performance. The feel to do better to get a promotion can help in performing better. Some amount of stress within the system as you see from the above examples is good. But after a certain point in time when entering

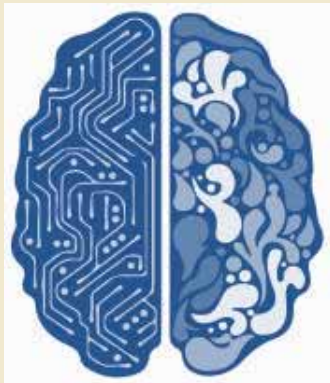
the distress phase, the person's functioning starts deteriorating. It is for the leaders to understand that at what stage the person's functioning starts coming down. At this stage of distress, the intended performance reduces and the actual performance will be less than optimum. Further stress will take the person to a panic zone when the person cannot work the way he can and should, and absenteeism and committing silly mistakes unexpected of the person begin to occur. The final stage of distress will lead to a serious breakdown. Therefore, it is important to know whether the person is working in the Eustress zone or in the Distress zone. When a person is in the Eustress zone he is motivated, energy is focussed, feels excited, he is within the range of coping with stress and he will have improved performance. The person in the Distress zone causes anxiety, shows concern, feels unpleasant; he is outside the range of coping with stress, and his performance decreases.

Stress affects various organs and systems of the body. These include skin, immune system, hormones, bones, brain, heart, gut, and muscles. Acute symptoms of stress may be physical like muscle tension, headache, body ache, tremor, and weakness.

Symptoms affecting the body-systems include the fullness of the stomach, palpitation, tachycardia, difficulty in breathing, and gastric hurrying. The mental symptoms of acute stress can be seen at the level of vigilance, attention, concentration, registration, and recall. The long-term consequences of stress on the body are depression, hypertension, infection, ulcer, diarrhea, arthritis loss of libido, and osteoporosis.

The sources of stress can be classified into external sources and internal sources. The external sources of stress include stress due to the physical environment, social environment, organizational environment, major lifestyle events, and daily hassles. The internal sources of stress include lifestyle choices, personality traits, mind traps/beliefs, perceptions, memories, and illnesses. Tackling and controlling internal sources of stress are relatively easy. Lifestyle modifications, coping strategies, yoga, and meditation are the essential tools for managing internal sources of stress and its reduction. Quoting a study on stress in Police Personnel, Dr. Koushik observed that sources of stress affecting Police Officers, Inspectors, and Constables varied widely from organizational to environmental stress. In conclusion, he emphasized that stress is not a stressor, stress is not what is happening but stress is how we are responding to it.

AIIMS  
PSYCHIATRY



## **Stress among Police Personnel: Looking into the Genesis**

**DR KOUSHIK SINHA  
DEB**

Associate Professor

# Why?

**THE TIMES OF INDIA**  
CITY

Chandigarh

THIS STORY IS FROM APRIL 11, 2019

## Stress killed 135 Chandigarh cops out of 204 in eight years

By Pooja Tewari | 11th April 2019, 06:23 IST

**CHANDIGARH:** Battling shootouts and arresting armed suspects may be the deadliest part of police duty but what cops in the city fear the most is the silent killer: Stress has claimed the lives of 135 out of 204 cops of the ranks from constable to inspectors from January 1, 2010, to March 31, 2019, according to information sought under the RTI Act.

The application was filed by a head constable of the UT police department. The RTI reply said the 135 cops died due to stress-related diseases like high blood pressure and high sugar and cardiac arrest. Eighteen cops died due to cardiac arrest, while 11 had committed suicide. These deaths were not included in the stress category in the RTI reply.

**Hindustan Times**

## Stress, apathetic attitude taking toll on policing: Study

More than one-third of police personnel would be willing to give up their profession if they were given a choice to join another job with the same salaries and perks, the survey found.

A survey conducted across 21 Indian states by non-governmental organisations Common Cause and Lokniti - Centre for the Study of Developing Societies (CSDS), has found police personnel to be under stress due to workload, poor work-life balance, and deficiency of

**INDIA TV**

BUSINESS ENTERTAINMENT HEALTH EDUCATION TEC

AIIMS  
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## Stress:

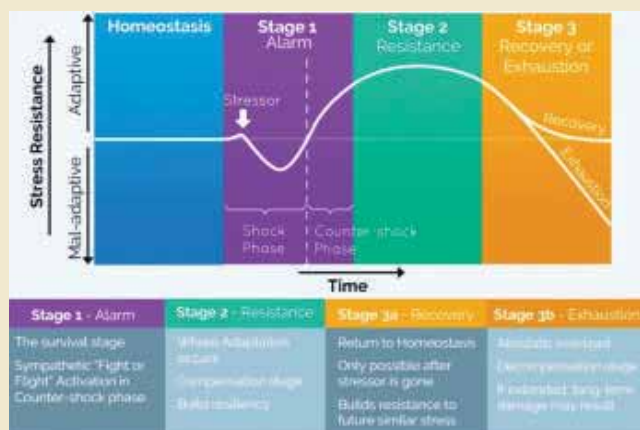
- **Stressor:** Events or environment that an individual would consider **demanding** and or **threatening**
- **Stress:** Response of the mind & body to a stressor
- **Coping:** Adjusting to the increased demands
- Stress causes **wear and tear** of our **mind and body** as we try to **cope** with our continuously changing environment.



AIIMS  
PSYCHIATRY

## Stress:

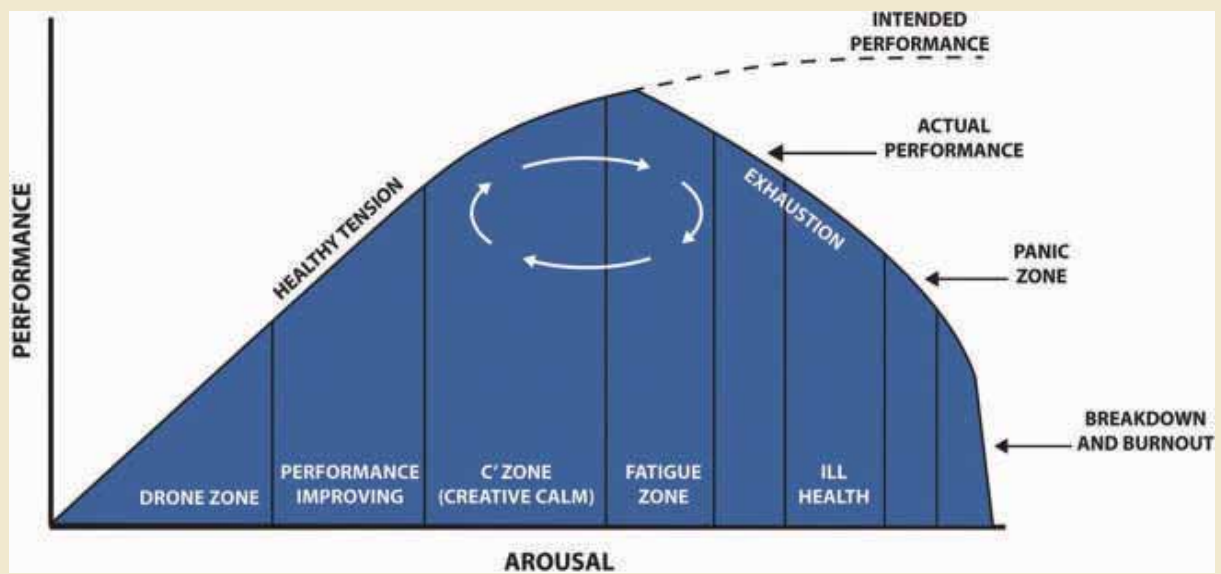
- **Hans Selye's: General Adaptation Syndrome**
  - **The alarm reaction:** Hypothalamic-pituitary-adrenal axis and sympathetic nervous system
  - **The stage of resistance:** Homeostasis or physiological establishment of balance
  - **Exhaustion:** Resource depletion



## Stress: The Human Function Curve

EUSTRESS

DISTRESS



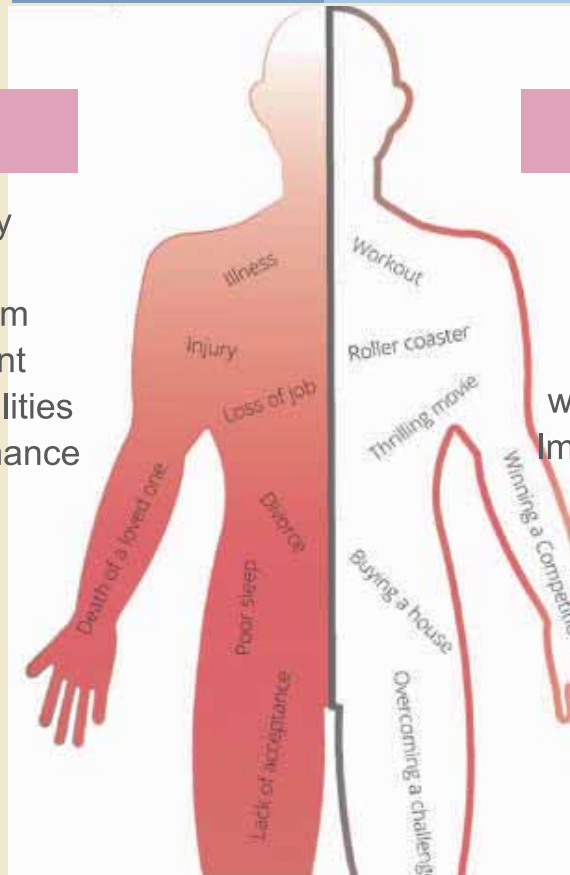
AIIMS  
PSYCHIATRY



# STRESS

## Distress

Causes anxiety  
Concern  
Short or long term  
Feels unpleasant  
Outside coping abilities  
Decreases performance



## Eustress

Motivates  
Focuses energy  
Short term  
Feels exciting  
within coping abilities  
Improved performance

## EFFECTS OF STRESS ON THE BODY



### SKIN:

Changes in Skin Texture.  
Loss of Skin Tone. Loss of  
Moisture, Thinner & More  
Silicate Skin



### BRAIN:

Fatigue. Reduced  
Con-centration.  
Decreased Mood



### IMMUNE SYSTEM:

Decreased Immunity



### HEART:

Increased Hean Rote,  
Elevoted Blood Pressure



### HORMONES:

Hormonal Imbalances,  
Incr eased Cortisol



### GUT:

Decreased Nutrient  
Absorption, Alte ations in  
Gut Motility. Changes in  
Microbiome, Lead Gut



### BONES:

Decreased Calcium  
Absorption, Weakened  
Bones



### MUSCLE:

Muscle Protein Breakclown

## HOW DOES STRESS MODIFY US

### Consequences of Stress on the Body



Depression

Hypertension

Infection

Ulcer, Diarrhea

Loss of Libido

Arthritis

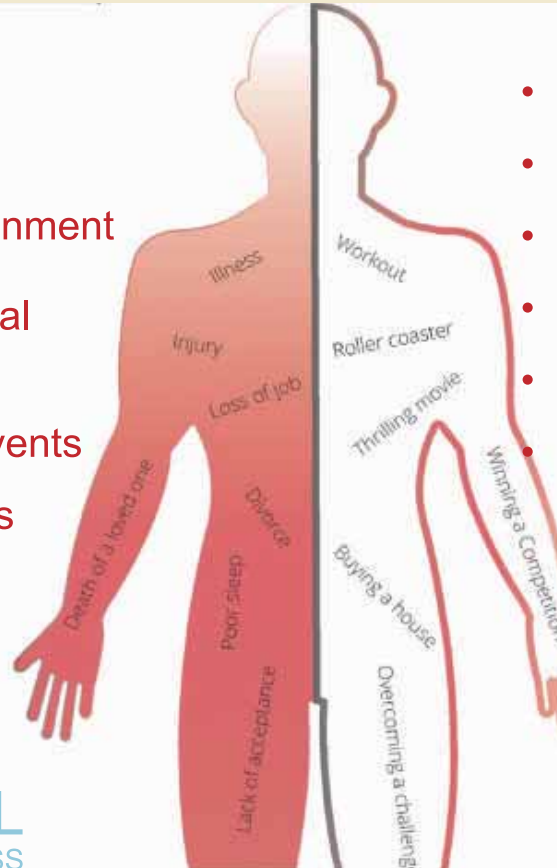
Osteoporosis

- **Stress** is part of everything we do. It often motivates us to change and do something in a different way.
- It's not the stress itself that is harmful; it's our **response** to the stress that creates changes in our bodies.
- Our personal **perception** of stress has a much larger impact on us.
- The stress causes us to change our **lifestyle** that brings **physiological** changes

AIIMS  
PSYCHIATRY

# STRESS

- Physical environment
- Social environment
- Organizational environment
- Major Life Events
- Daily Hassles



- Lifestyle choices
- Personality traits
- Mind traps/Beliefs
- Perceptions
- Memories
- Illnesses

EXTERNAL  
SOURCES OF STRESS

INTERNAL  
SOURCES OF STRESS

# STRESS

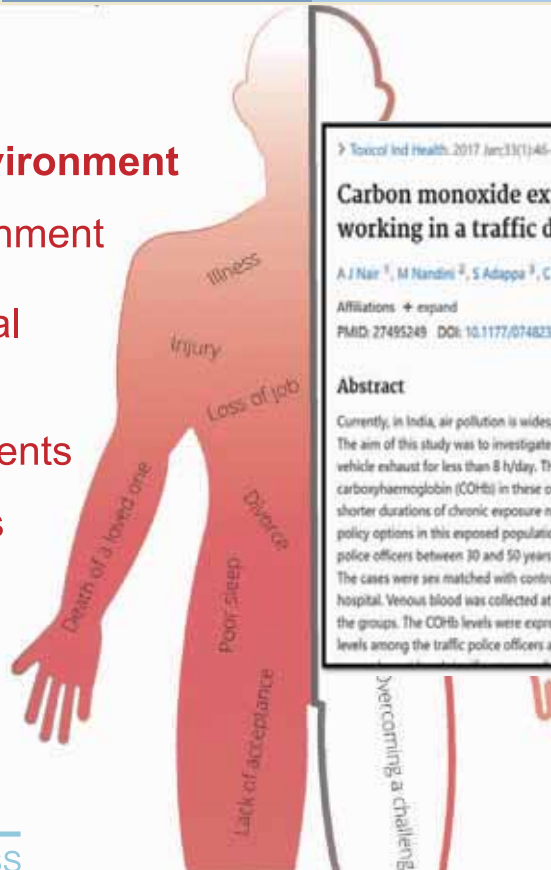
- Physical environment
- Social environment
- Organizational environment
- Major Life Events
- Daily Hassles



EXTERNAL  
SOURCES OF STRESS

# STRESS

- **Physical environment**
- **Social environment**
- **Organizational environment**
- **Major Life Events**
- **Daily Hassles**



> Toxicol Ind Health. 2017 Jan;33(1):46-52. doi: 10.1177/0748233716654071. Epub 2016 Aug 19.

## Carbon monoxide exposure among police officers working in a traffic dense region of Southern India

A J Nair <sup>1</sup>, M Nandini <sup>2</sup>, S Adappa <sup>3</sup>, C Mahabata <sup>4</sup>

Affiliations + expand

PMID: 27495249 DOI: 10.1177/0748233716654071

### Abstract

Currently, in India, air pollution is widespread in urban areas where vehicles are major contributors. The aim of this study was to investigate the level of exposure in traffic police officers exposed to vehicle exhaust for less than 8 h/day. The specific objective of the study was to determine the levels of carboxyhaemoglobin (COHb) in these officers. The effect of exposure for 8 h/day is known, but shorter durations of chronic exposure need to be investigated, and there is a need to explore the policy options in this exposed population. This cross-sectional study, included non-smoking traffic police officers between 30 and 50 years of age working for more than 2 years in busy traffic junctions. The cases were sex matched with controls of same age group, working in offices at a teaching hospital. Venous blood was collected at the end of 3 h of duty for estimation of COHb among both the groups. The COHb levels were expressed as percentage values. Differences between the COHb levels among the traffic police officers and office workers were analysed using the Mann-Whitney U

EXTERNAL  
SOURCES OF STRESS

# STRESS

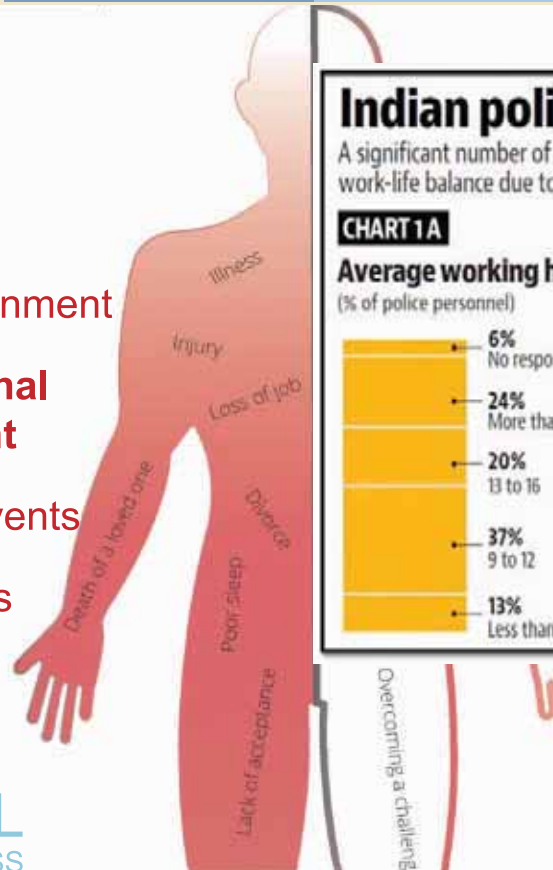
- Physical environment
- **Social environment**
- Organizational environment
- Major Life Events
- Daily Hassles

**EXTERNAL**  
SOURCES OF STRESS



# STRESS

- Physical environment
- Social environment
- **Organizational environment**
- Major Life Events
- Daily Hassles



EXTERNAL SOURCES OF STRESS

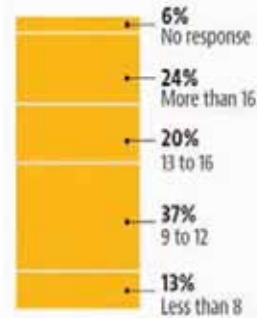
## Indian police under stress

A significant number of police personnel experience poor work-life balance due to workload, lack of rest days

**CHART 1 A**

### Average working hours

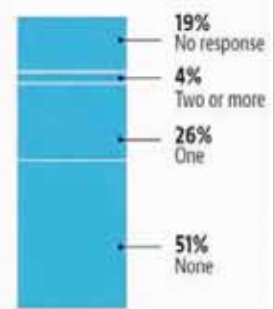
(% of police personnel)



**CHART 1 B**

### Offs per week

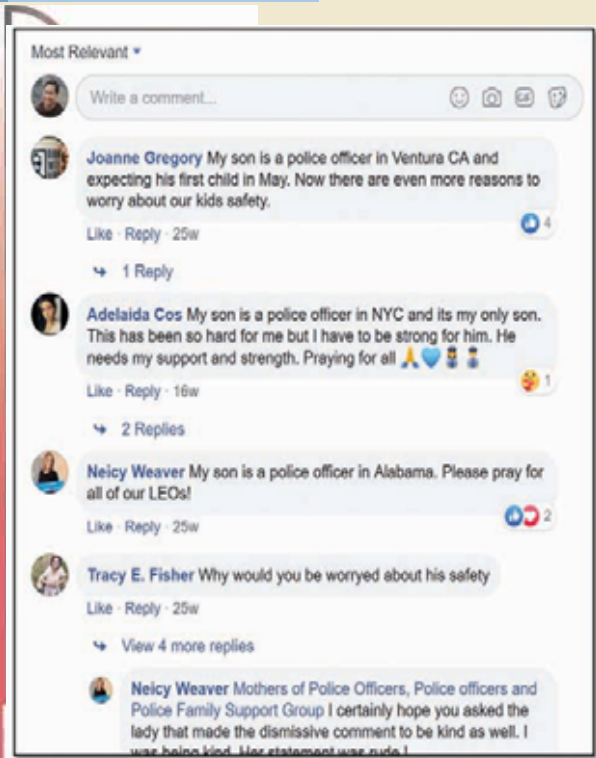
(% of police personnel)





# STRESS

- Physical environment
- Social environment
- Organizational environment
- Major Life Events
- Daily Hassles



EXTERNAL  
SOURCES OF STRESS



AIIMS  
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**THANK YOU**

**DR KUSHIK SINHA DEB**  
koushik.sinha.deb@gmail.com

The next speaker, **Dr. Gouri Shankar, Additional Professor, Department of Psychiatry, AIIMS, New Delhi** further elaborated on stress and discussed methods of coping with stress by using some hands-on techniques. He looked at stress in terms of demands and resources. The human body has limited tolerance, which is regulated by the weight of various resources and demands. When demand outweighs available resources, the limit of tolerance is broken down which strains our body. There are two types of stress - physical and psychological.

External causes of stress can be enumerated as occupational, financial, relational, familial, and social.

Internal causes (self-generated) of stress are self-criticism, unrealistic expectation, worries, perfectionism, low self-esteem, and unmanaged anger. Various ways of coping with stress include problem-solving skills, time management, self-observation and self-monitoring, restructuring of thoughts, anger management, relaxation, and lifestyle modification.

Emotion-focussed coping skills are intended to reduce negative responses (embarrassment, fear, anxiety, depression, and frustration) associated with stress. This is useful when the stressor is something that cannot be changed. Emotion-focussed coping skills include distraction, physical exercise, meditation, cognitive reappraisals, and humour. Problem-solving skills target the causal factor or problem which is responsible for generating distress. In a problem-solving strategy, the problem is broken into small bits to handle with ease. Alternative strategies are generated to deal with the problem. One can select the best feasible option and identify the issues in implementation. When faced with a problem, the best way is to deal with it rather than avoiding it. Never engage in self-blaming or blaming others. Strategies vary from person to person. Try to use problem-solving and emotion-focused stress-coping methods as far as possible. At times, one may have to think out of the box to solve the problem.

Another way to cope with stress is by time management. It is the process of planning and setting a time frame to undertake various activities in life. Keep a check on wastage of time; according to the demand; divide time for work, family, social commitments, and for yourself. Management of time is important as we have limited time but can efficiently manage various tasks and move a few rungs up the career ladder, can manage quality time for family and friends, and reduce stress due to less procrastination. Time should be managed depending on the importance and urgency of the task at hand. If the task is important and urgent, do it immediately. If the task is important but not urgent then decide when to carry out. Delegate the task to subordinates if the task is not important but urgent. A task that is neither important nor urgent can be put on hold. One should be aware of various time-wasting factors such as improper planning, procrastination, spending more time on socialization, lack of interest, and interruption amidst work.

The fourth method of coping with stress is by observation and monitoring. Suppose, you are given a particular job by your boss to execute within the stipulated time. Certain negative thoughts might creep into your mind such as the boss always picks on you by assigning a task when you are engaged in more important familial matters and that you are already preoccupied and cannot complete the task. Due to the aforementioned negative thoughts, feelings like anger, frustration, depression, and anxiety run high. This more often than not results in behaviours like shouting at others, unable to concentrate on work, and a

fallacious and baseless argument with the boss. The consequence of the above scenario leads to an altercation with the spouse over the phone and unable to work productively. Dr. Gauri Shankar felt it was important to restructure the thought pattern which can be achieved by converting negative thoughts into rational ones. For example, a negative thought like “I have no control over this situation” can be converted into a rational thought like “it is true that I have no control over what happened to me” but, “I can control how I respond”. Thinking is not in our hand but is automatic. We can restructure our thinking. What we think and do, affect the way we feel. We can cope with stress by managing our anger. The 1-2-3-4- turtle concept is a good way to manage anger viz., 1- Go inside the shell, 2-Take three deep breaths, 3-Think, and 4- Come back and talk about it but, skilfully. Relaxation is a process of easing stress. For relaxation, one can talk to a close friend, can take up a deep breathing exercise, do yoga and meditation, and listen to music or follow some artistic pursuits.

Stress can also be managed by bringing about a lifestyle change. We must accept what we cannot change. A helping attitude towards colleagues and subordinates, dedicated towards work and family, the mantras of ‘forget and forgive’, healthy food, regular exercise, sports, yoga and meditation, and spiritual activities are a few changes we can make to reduce stress.

# Understanding Stress & Methods of Coping

## Some Hands-on Techniques

## Some Hands-on Techniques

GS Kaloiya  
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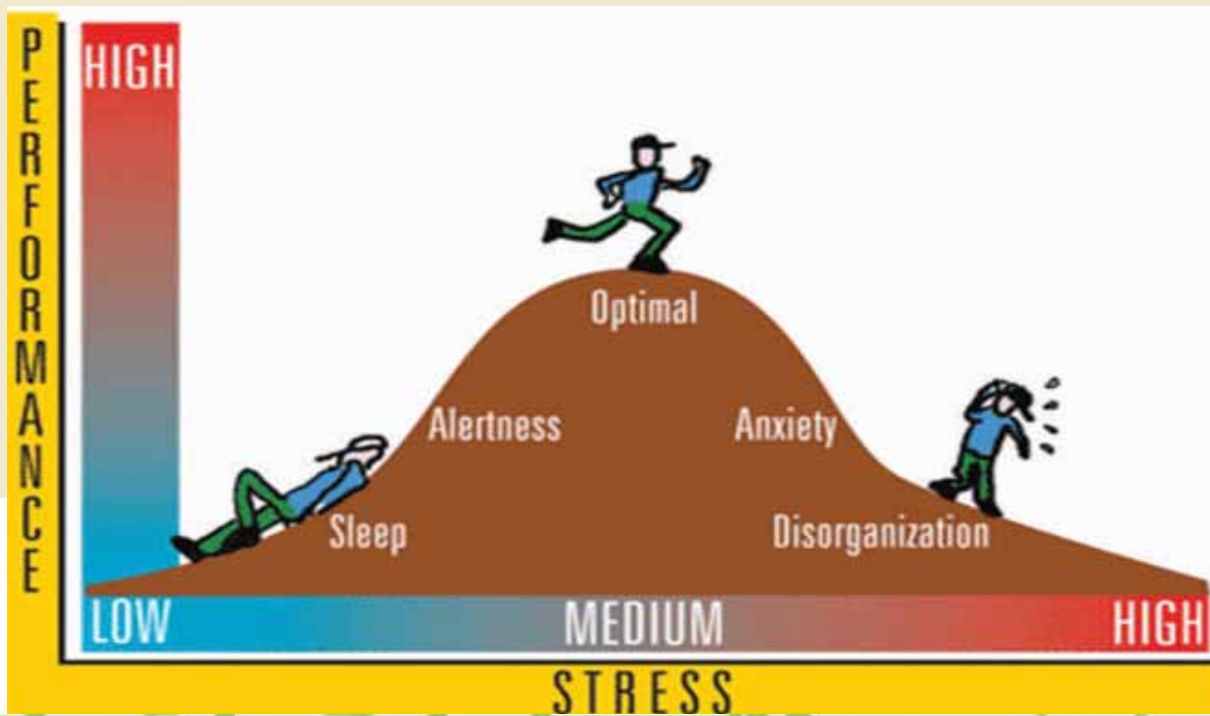


## Concept of Stress

- Stress is generally seen in terms of demands & resources.
- Our body has a limit of tolerance which is regulated by the weight of various resources & demands.
- When the demands outweigh the resources available then the limit of tolerance is broken down which causes stress in the human body.



## Stress-Performance Curve





## Types of Stress

Physical  
Stress

Psychological  
Stress



- Development of stress is related to the perception of the antecedent factors, that is, stress is generated as per the **perceptions** which are formulated as per the situation.



## Causes of the Stress

External

Internal



## External Causes of Stress

- Occupational
- Financial
- Relational
- Familial
- Socia



## Internal Causes of Stress

Not all stress is caused by external pressures and demands, some of it can be self-generated.

- Self-criticism
- Unrealistic expectations or beliefs
- Uncertainty or worries
- Perfectionism
- Low self-esteem
- Excessive or unmanaged anger



## Coping with Stress

1. Coping Skills
2. Problem Solving Skills
3. Time Management
4. Self Observation & Self Monitoring
5. Restructuring of Thoughts or Thinking Styles
6. Anger Management
7. Relaxation
8. Life Style Modifications



## Major Coping Strategies

**Emotion  
focussed  
coping**

**Problem  
focussed  
coping**



## Emotion-Focussed Coping

It is intended to reduce negative emotional responses (Embarrassment, Fear, Anxiety, Depression & Frustration) associated with stress.

Useful when a stressor is something that you cannot change.

It includes:

- Distraction
- Physical exercise
- Meditation
- Cognitive reappraisals
- Humour





## Problem-Focussed Coping

- It mainly targets the causal factor or the problem which is responsible for generating distress.
- Various strategies are-
- Problem-solving
- Time-management
- Anger Management



## Problem Solving

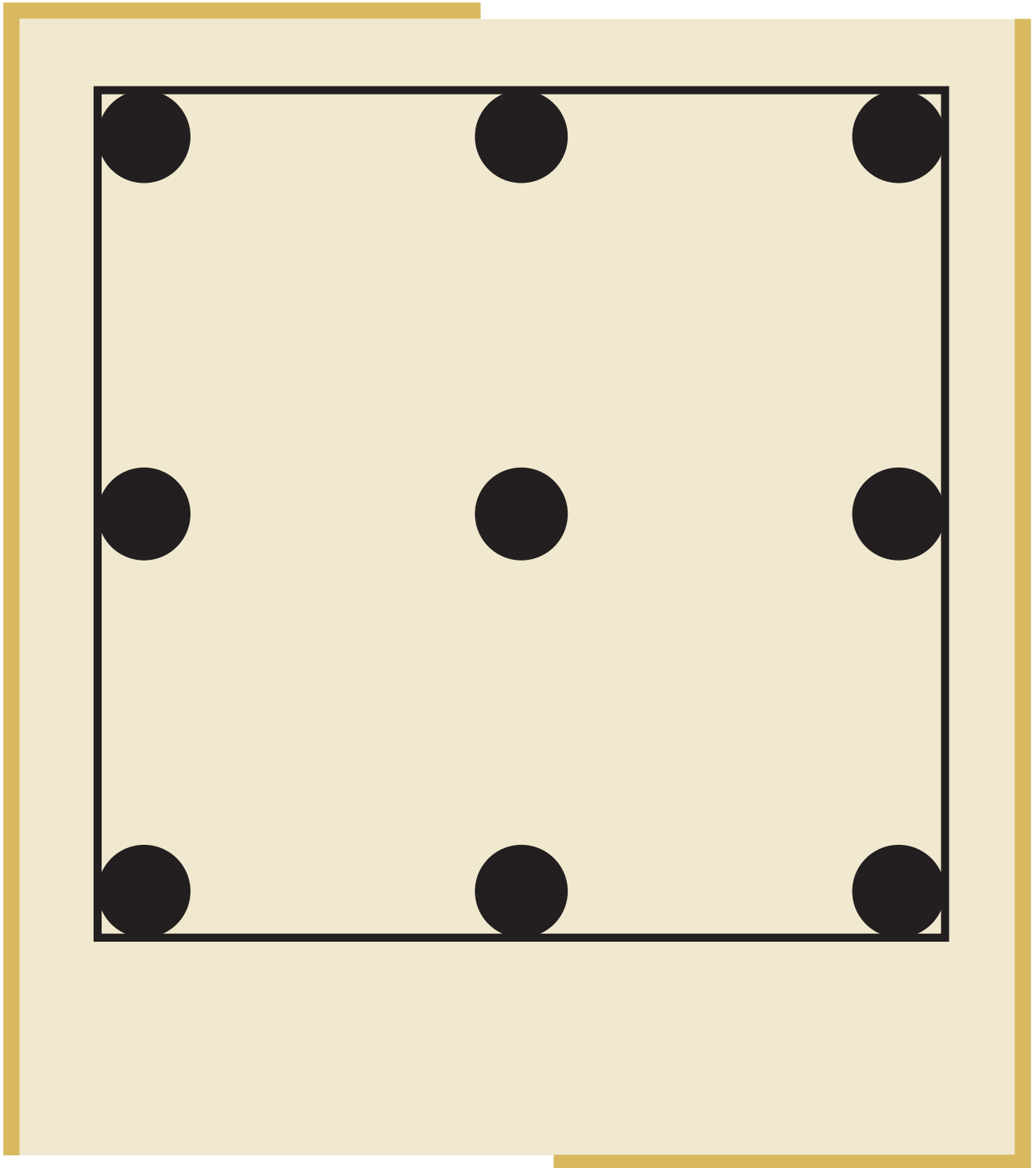
- Break a problem into several small steps
- Generate alternative/strategies to deal with it
- Choose the best & feasible option
- Identify issues in implementation

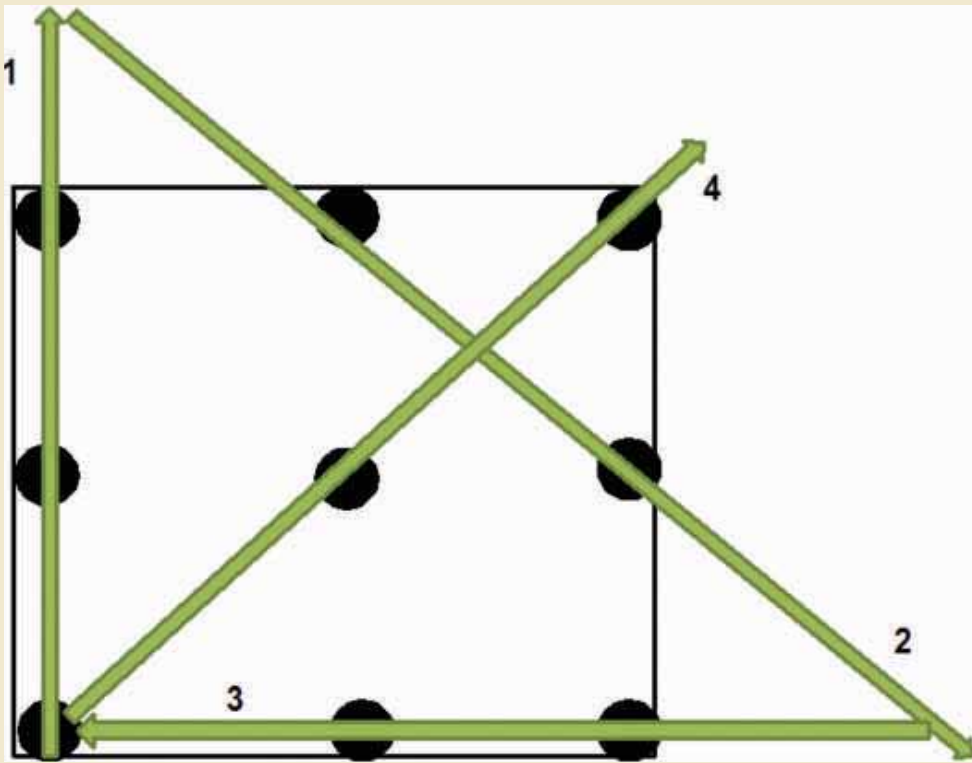


## Problem Solving

- Better to deal with the problem effectively rather than **avoiding** it
- Never engage in self-blaming or others
- Each person has his/her own strategies
- Use both problem solving & emotion- focussed coping methods as far as possible







## Time Management

- Process of planning & assigning available time to certain daily life activities.
- Stop wastage of time. Once a moment is gone then it will not return.
- According to the demand divide the time for work, family, social & self.



## Why To Manage Time?

- Limited time
- Efficient management of various tasks at a moment
- Becoming more successful at the career front
- Managing quality time for family & friends
- Reduced stress due to less procrastination



	High	<b>URGENCY</b>		Low
<b>IMPORTANCE</b>		<b>1</b> Urgent <b>and</b> important <b>Do it now</b>	<b>2</b> Important not urgen Decide when to do it	
		<b>3</b> Urgent <b>not</b> important Delegate it	<b>4</b> Not Important not urgen Dump it	
	Low			





	High	<b>URGENCY</b>		Low
<b>IMPORTANCE</b>		<b>1</b> Urgent <b>and</b> important Do it now	<b>2</b> Important not urgen Decide when to do it	
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	Low		



	High	<b>URGENCY</b>	Low
<b>IMPORTANCE</b>		<b>1</b> Urgent <b>and</b> important  Do it now	<b>2</b> Important not urgen Decide when to do it
		<b>3</b> Urgent <b>not</b> important  Delegate it	<b>4</b> Not Important not urgen  <b>Dump it</b>
	Low		



## Time Wasting Factors

- Ineffective planning
- Procrastination
- Too much socialization
- Lack of interest or anticipated skill set
- Interruptions between the work



# Self Observation & Monitoring




<b>SITUATION</b>	- Given a work with a deadline
<b>THOUGHT, FEELING &amp; BEHAVIOUR</b>	<p><b>Thought:</b></p> <ul style="list-style-type: none"> <li>• It is always happens to me whenever I have other familial things to attend</li> <li>• Boss deliberately picks upon me in order to humiliateme</li> <li>• I am inadequate, cannot do this.</li> </ul> <p><b>Feeling:</b></p> <ul style="list-style-type: none"> <li>• Anger, frustration, depressed, anxious</li> </ul> <p><b>Behaviour:</b></p> <ul style="list-style-type: none"> <li>• Start shouting at others, unable to concentrate, Argument with boss</li> </ul>
<b>CONSEQUENCES</b>	<ul style="list-style-type: none"> <li>- Lead to altercation with spouse over phone,</li> <li>- Unable to work productively</li> </ul>



# Restructuring Thinking Styles or Thought Patterns



NEGATIVE THOUGHT	RATIONAL THOUGHT
I have no control over this situation	It is not true that I cannot control what happened to me, but I can control how I respond
It is not fair that I am being treated like this way	Life is not always fair, sometimes things go my way, sometimes they don't





## Common Negative Thinking Patterns

- **All-or-Nothing Thinking:** “I have to do things perfectly & anything less is a failure.”
- **Focusing on the Negatives:** “Nothing goes my way. It feels like one disappointment after another.”
- **Negative Self-Labeling:** “I’m a failure. If people knew the real me, they wouldn’t like me. I am flawed.”
- **Catastrophizing:** “If something is going to happen, it’ll probably be the worst-case scenario.”



## Common Negative Thinking Patterns

- **Excessive Need for Approval:** “I can only be happy if people like me. If someone is upset, it’s probably my fault.”
- **Mind Reading:** “I can tell people don’t like me because of the way they behave.”
- **Should Statements:** “People should be fair, and when they are not fair they should be punished.”
- **Disqualifying the Present:** “I’ll relax later. But first I have to rush to finish this.”
- **Dwelling on the Past:** “If I dwell on why I’m unhappy and what went wrong, maybe I’ll feel better.”
- **Pessimism:** “Life is a struggle. I don’t think we are meant to be happy. I don’t trust people who are happy. If something good happens in my life, I usually have to pay for it with something bad.”

Event



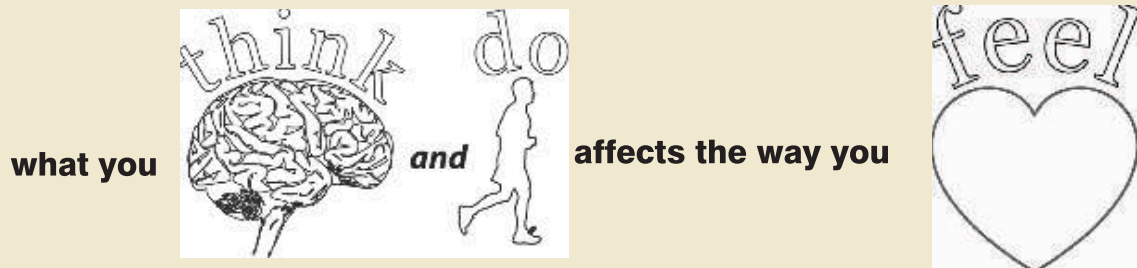
Emotions

*Friend walks  
past you on the  
street without  
saying hello*

*worried  
upset*

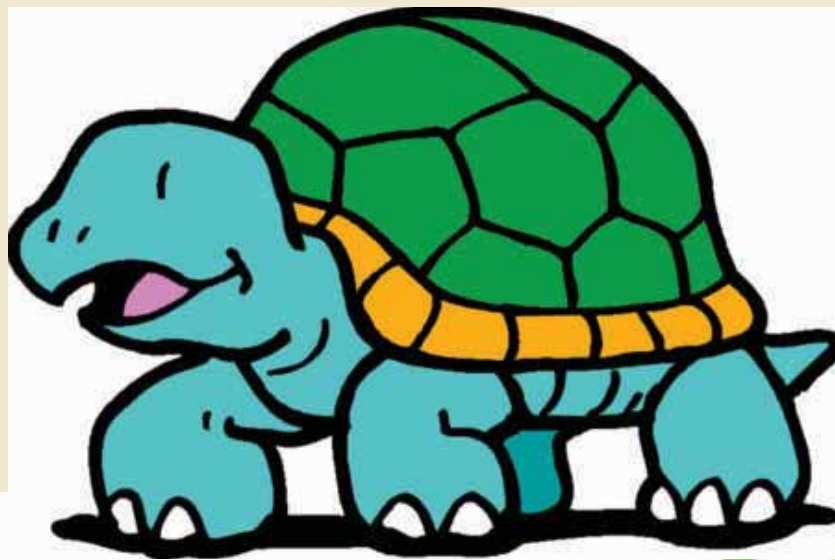


The basic message of CBT: what you think and do affects the way you feel.

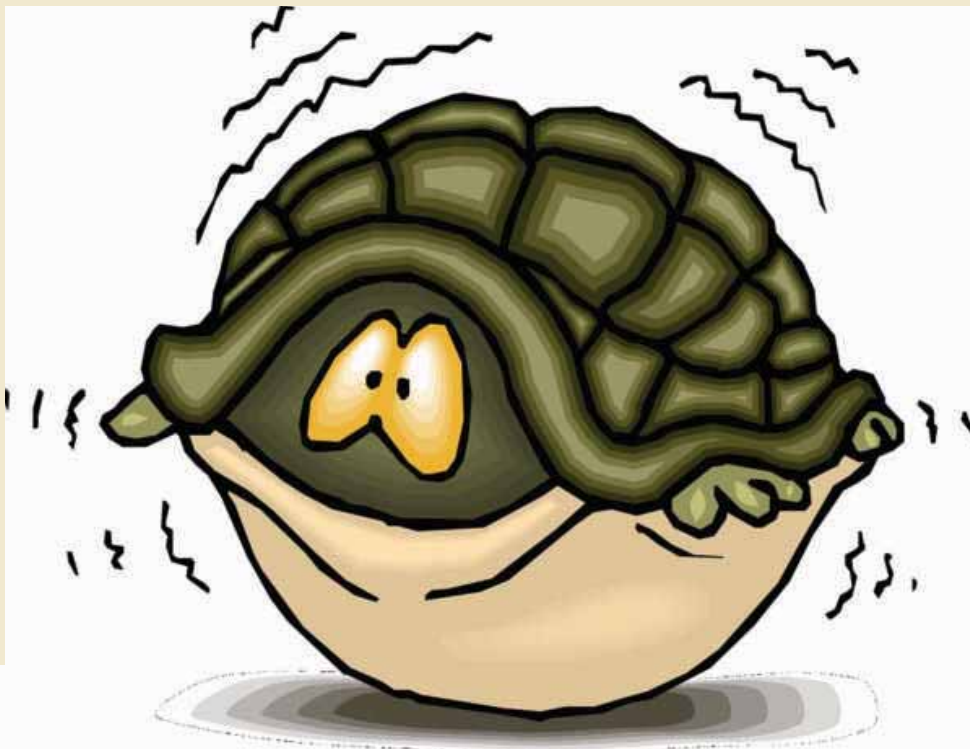


## Dealing with Anger

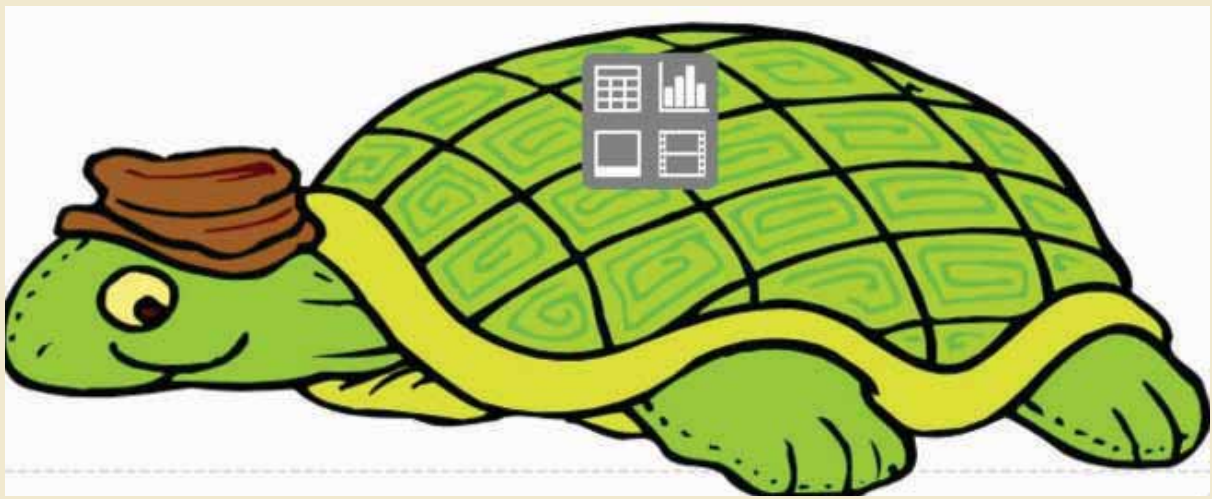
- Ponder the TURTLE concept
- 1-2-3-4 TURTLE



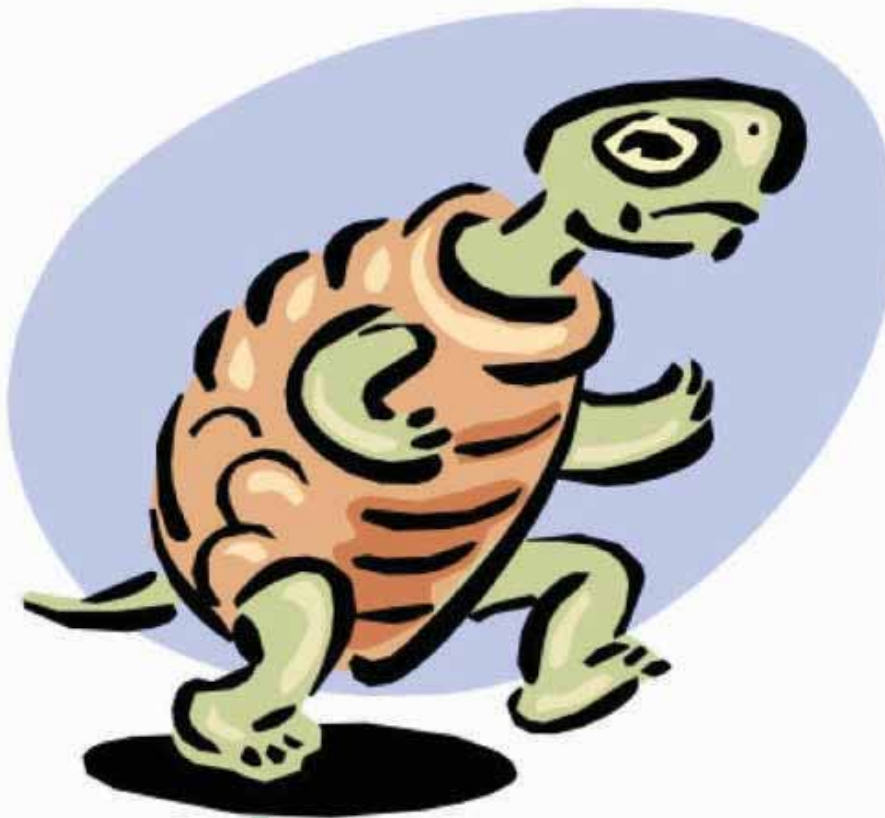
# 1- Go Inside Your Shell



## 2- Take Three Deep Breaths



## 3-Think





## 4- Come Back & Talk About it but Skilfully



# Relaxation

Process of reducing the effects of stress.

Handful activities available for relaxing:

- Talking to a friends or closed one (in family).
- Deep breathing
- Yoga & Meditation
- Music & Art Therapy



## Life Style Changes & Stress Management

- Accept what you cannot change
- Helping attitude towards colleagues & subordinates
- Dedication towards your work & family
- Realistic expectations - two mantras: forget & forgive
- Avoid substance use
- Healthy Food
- Regular physical exercise & sports activities
- Yoga, meditation & spiritual activities

The last session of the workshop was taken up by **Prof. Anju Dhawan, Department of Psychiatry, AIIMS, New Delhi**. She talked about the role of mindfulness-based interventions and stress reduction and also demonstrated some hands-on techniques based on Yoga for alleviating stress. Prof. Dhawan mentioned that the last 18-20 years of research on meditation has gained impetus and several articles have been published on it. Universities across the world are now researching techniques of meditation concerning mental health. The origin of these meditation techniques can be found in Hindu literature. The Vedas and Bhagwat Gita talk about Yoga. Meditation is one of the eight limbs of yoga as described by Maharishi Patanjali. The interest of people in meditation and mental health has increased over the years, as meditation is emerging as an important tool to handle stress and negative emotions like anxiety or anger.

When we are exposed to stress there is what is called the Fight and the Flight response where a part of the brain gets triggered leading to an increase in blood pressure, increase in heart rate, increase in oxygen metabolism and increase in respiratory rate. Opposite to the fight and the flight is the Relaxation Response. The relaxation response is what gets triggered by meditation. The effects of meditation are acute; as soon as you start meditation, the value of the parameters indicated above like blood pressure, oxygen metabolism, etc. starts reducing. The effects of meditation in regular practitioners are more sustained and the effects persist throughout the day thus increasing their resistance to stress and the ability to handle negative mood swings. Another important measure noticed is the heart rate variability; this is the variation in the heart rate that occurs between two beats. It has been seen that people with higher heart rate variability shows reduced stress. They are more resilient to stress and it is a kind of measure of psychological flexibility. Many studies have suggested that heart rate variability occurs by following a yoga and meditation regimen. More than 60 studies with 2000 plus participants have shown that with a regular practice drill of meditation, the heart rate variability increases. At a physiological level, in terms of mood shifts, there is a reduction in anxiety and depression. There are several meditation programs (Mindfulness-based program which originated from the Buddhist tradition, mantra meditation) and other meditation programs on physiological stress and wellbeing. These programs should be popularized as an effective preventive mental health strategy to improve quality of life. With regular practice sessions of meditation, mindfulness or awareness is developed. There is a reduction in repetitive negative thinking (including worries about the future and rumination about the past). Regular practice of meditation reduces cognitive and emotional reactivity which refers to the activation of negative thinking in response to stress. One can distance oneself from thoughts and feelings and view them as a transient mental event.

Further, keeping yoga in view, a lot of importance is given to the pranayama technique. Our breathing is related to our emotions. The emotional states can affect the respiratory rate, depth, and pattern. When a person is happy, the inhaling process will be relaxed. When the person is angry, the breath is hot and fast. When a person is in fear, the breath gets cold and shaky and when he is in depression the exhaling process will be long. A voluntary change in the pattern of breath can result in a change in feelings of joy, anger, fear, and sadness. Voluntary control of breath as in the case of pranayama can modulate autonomic nervous system functions including cardiac vagal tones as measured by heart rate variability. Studies have shown that alteration in brain structure occurs due to mindfulness meditation. There are three major aspects in which meditation brings about a change in the brain. They are attention or concentration, the ability to handle emotions, and self-awareness. Prof. Dhawan concluded her presentation by saying that, the areas of the brain involved in meditation and those involved in emotions are similar. Meditation has a positive

impact on attention, ability to handle emotions, stress, and helps in staying vigilant.

Prof. Dhawan also gave a 15-minutes demonstration of some hands-on techniques including **Desktop Yoga and Meditation** for reduction of stress which was widely appreciated by all.

A question-answer session began at the end of all the sessions. In response to a question from a participant, Prof. Dhawan elaborated on Patanjali Yoga and Meditation and said that people with an active and healthy lifestyle can easily adopt “**Dhyana and Meditation**”.

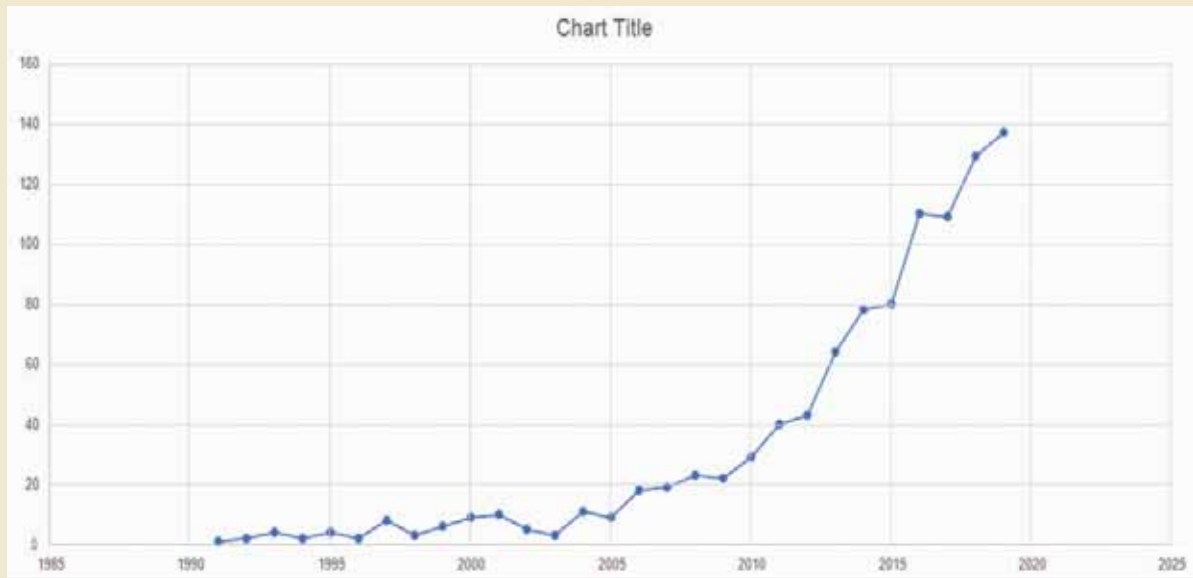
# Meditation Based Intervention and Stress Reduction

Anju Dhawan

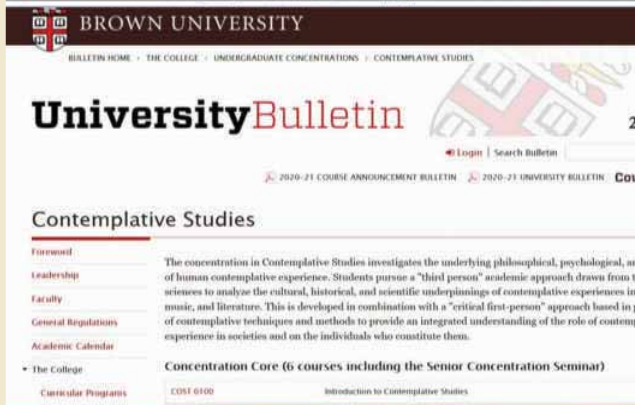
Professor, Department of Psychiatry  
and NDDTC AIIMS, New Delhi

## Meditation and Mental Health- Research

About 1000 articles and more than 200 reviews



# International Universities with Meditation Research Departments





## Origin and Associated Philosophy

- Veda and Bhagwat Gita
- Eight limbs of Yoga – Patanjali
  - Yama
  - Niyama

Western researchers - techniques without the underlying philosophy



## Why the interest in meditation and mental health?

- Handle Stress and negative emotions
- In pursuit of happiness and well being



## Fight or Flight Response

<https://www.youtube.com/watch?v=mtRrxNTnyh8>



## Meditation – Physiological Effects

- Meditation has an opposite effect to the “Fight and Flight Response”
- Conscious triggering of the parasympathetic systems resulting in a “**Relaxation response**”
- Acute and sustained effects



# Heart Rate Variability



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Home » Harvard Health Blog » Heart rate variability: A new way to track well-being - Harvard Health Blog

## Heart rate variability: A new way to track well-being

POSTED NOVEMBER 22, 2017, 10:00 AM, UPDATED OCTOBER 22, 2019, 3:53 PM



Marcelo Campos, MD

Contributor

Information is knowledge, and big tech companies know how important it is to collect and track data. When it comes to your health, it is now easy to measure and track all kinds of information. In the comfort of our homes we can check our weight, **blood pressure**, number of steps, calories, heart rate, and blood sugar. Recently some researchers have started to use an interesting marker for resilience and behavioral flexibility. It is called heart



## Heart Rate Variability and Meditation

- Heart rate variability (HRV) - with **reduced stress, negative mood states, improves resilience to stress, psychological flexibility**
- Almost 60 studies - > 2000 participants assessed in laboratory - yoga including asanas, different meditation techniques
- **Increased HRV**
- **Increased vagal tone at rest** compared to non-yoga practitioners



## Psychological Stress and Well-being

Goyal et al. (2014) - Systematic review

- Formal meditation programs (Mindfulness-based programs, mantra meditation and other meditation programs) on psychological stress and well-being
- The review included 47 studies with active control conditions - 3515 participants
- **Moderate evidence of improved anxiety and depression**
- Should be popularized as an effective preventive mental health strategy and to improve quality of life



## How does it act?

### Mediators

- Mindfulness or Present moment awareness
- Reduced Repetitive Negative Thinking (RNT) (includes worry about the future and rumination about the past)
- Self-compassion
- Reduced Cognitive and emotional reactivity - refers to activation of negative thinking in response to stress

*Ability to relate to thoughts and feelings as transient mental events, rather than reflection of self or a definitive reflection of reality*

# Relationship between Breath and Emotion

Emotional states can affect respiratory rate, depth, and pattern

## State of Mind vs Rhythm of Breath

**HAPPY**  
Long Incoming  
breath



**ANGRY**  
Hot and Fast  
breath



**FEAR**  
Cold and Shaky  
breath



**DEPRESSED**  
Long outgoing  
breath





## Reciprocal Relationship between Breath and Emotion

- Voluntarily changing the pattern of breath can account for some of the variance in feelings of anger, fear, joy, and sadness
- Breathing is controlled by both voluntary and involuntary mechanisms with complex feedback
- **Voluntary control of breath can modulate** autonomic nervous system functions including cardiac vagal tone as measured by heart rate variability



# EEG findings in different kinds of meditation

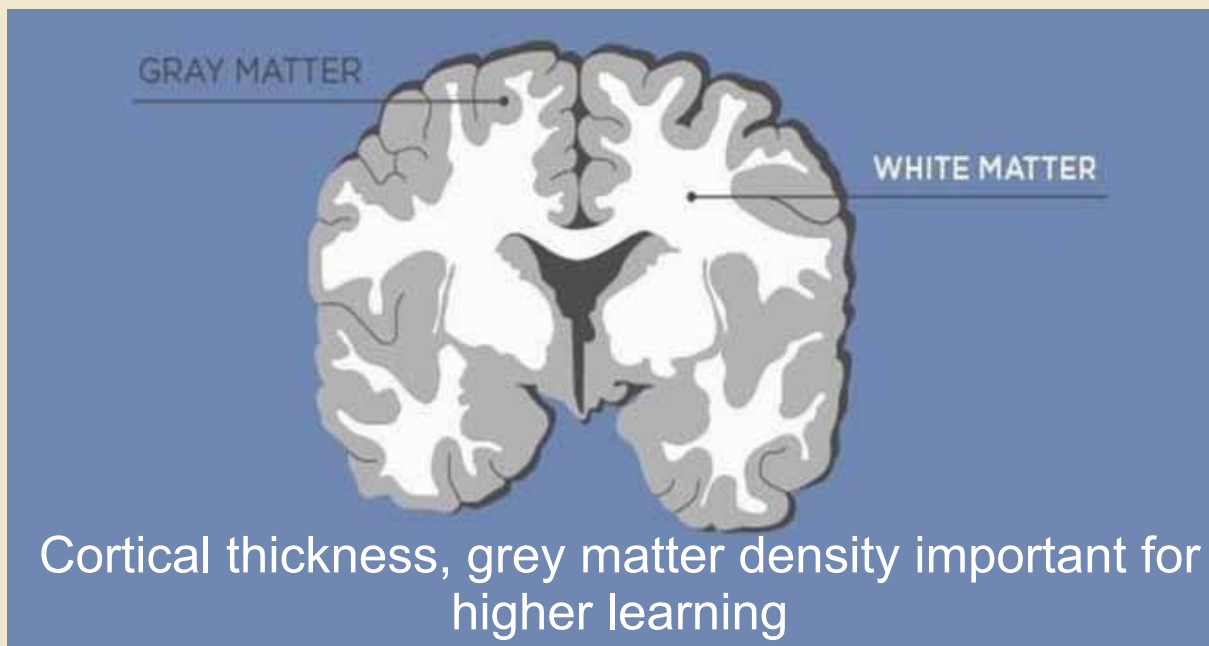


## Studies on Mindfulness and Brain Structure

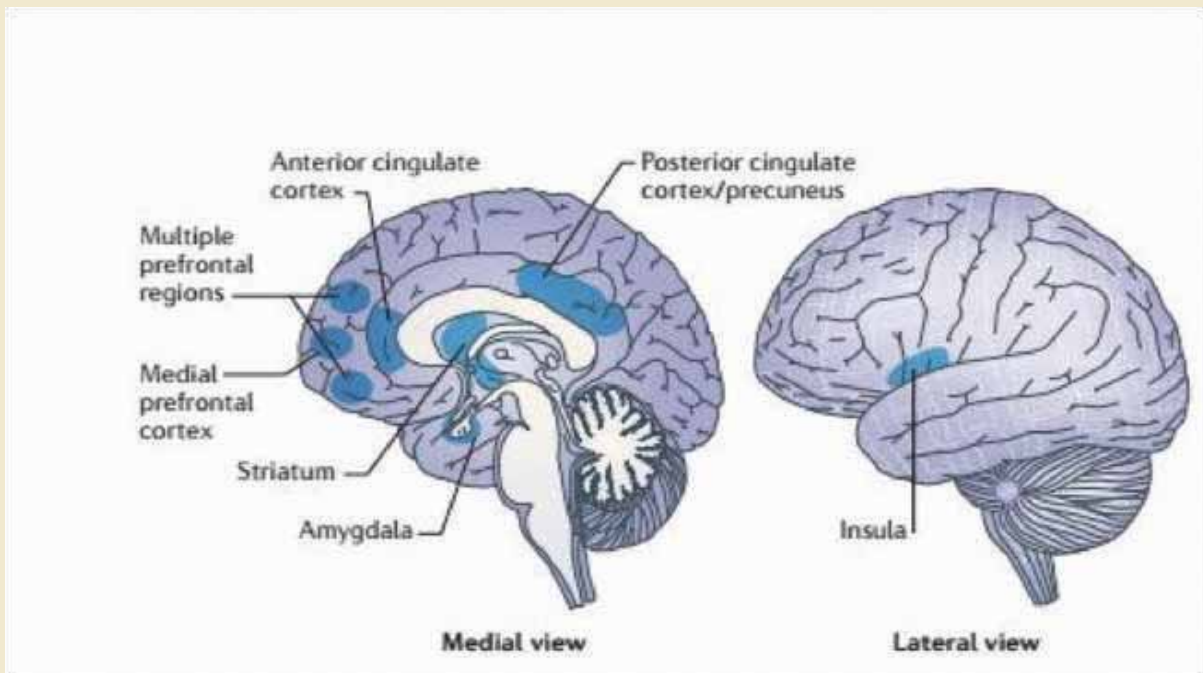
- Studies have investigated alterations in brain structure related to **mindfulness meditation**
- Most cross-sectional comparisons between experienced meditators and controls
- Some have studied longitudinal changes in novice practitioners
- Effects of meditation might involve large-scale brain networks



## Studies on Mindfulness and Brain Structure



# Studies on Mindfulness and Brain Structure

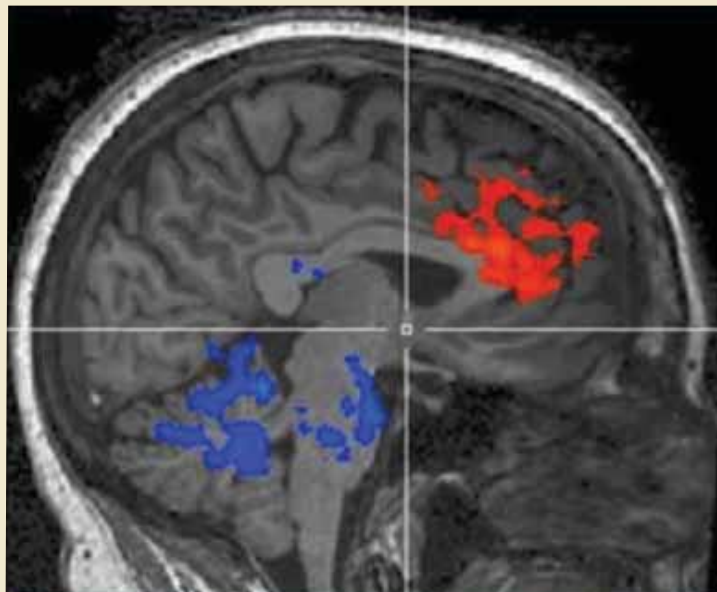


## Functional Studies on Meditation

- **Effects on Attention, Emotional Regulation and Self Awareness**
- Varies with duration of practice and different stages of meditation



- Increased blood flow in frontal part of the brain (executive control)



# Emotional Regulation

- Present study participants with emotional pictures, words, statements and instruct them to encounter these with a state of mindfulness/baseline state
- Diminished activation of the amygdala in response to emotional stimuli during mindful states as well as in a resting state, suggesting a decrease in emotional arousal





## Self Awareness

- fMRI studies -Default Mode Network
- Regions of the DMN showed relatively **little activity in meditators compared to controls - indicating diminished self-referential processing**



## Summarise

- Areas of the brain involved in meditation and those involved in emotions are very similar
- Has impact on attention, emotional self regulation, self awareness among other aspects
- Associated with reduced stress and negative emotions





THANK YOU

Attention	Anterior cingulate cortex (ACC) and striatum
Emotional regulation	Fronto-limbic network (decreased activation in PFC and amygdala to emotional cues) anterior cingulate cortex (ACC), mid-cingulate cortex
Default mode network	mid-line prefrontal cortex, posterior cingulate cortex
Present moment aware	Insula with PFC, connectivity between precuneus and dorso-lateral PFC
Memory processes	Hippocampus

In his concluding remarks, Shri Karuna Sagar expressed his happiness and said that it was an excellent three-hour-long session. All police officers understand the importance and role of stress and its effect on health. It was good to notice the causes of stress and their management. The knowledge gained from the workshop will help us adopt a healthy lifestyle with family and friends. He also pointed out; “**Desktop Yoga and Meditation**” was a takeaway message from the workshop.

In the end, Dr. Ajit Mukherjee, PSO(LS) proposed a vote of thanks to the honorable chair and other dignitaries.

The workshop concluded at 1 PM.



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