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Impact of physiological and psychological stress on students

Sangya Singh and Dr. Aditi Vats

Abstract

Stress affects all of us. One may notice some of the symptoms of stress during busy times at work place, when managing your finances, or when coping with a challenging relationship. Stress is everywhere. Human bodies are designed to handle small doses of stress at a time. But, we are not equipped to handle long-term, chronic stress without ill consequences. Stress symptoms may be affecting your health, even though you might not realize it. Indeed, stress symptoms can affect your body, your thoughts and feelings, and your behavior. Being able to recognize common stress symptoms can help you manage them. Stress that's left unchecked can contribute to many health problems, such as high blood pressure, heart disease, obesity and diabetes. Stress, Illness and the Immune System. When we're stressed, the immune system's ability to fight off antigens is reduced. That is why we are more susceptible to infections. The stress hormone corticosteroid can suppress the effectiveness of the immune system (e.g. lowers the number of lymphocytes).

Keywords: immune system, susceptible, antigens and unchecked

Introduction

Psychologists in the field of "psychoneuroimmunology" have shown that state of mind affects one's state of health.

In the early 1980s, psychologist Janice Kiecolt-Glaser, PhD, and immunologist Ronald Glaser, PhD, of the Ohio State University College of Medicine, were intrigued by animal studies that linked stress and infection. From 1982 through 1992, these pioneer researchers studied medical students. Among other things, they found that the students' immunity went down every year under the simple stress of the three-day exam period. Test takers had fewer natural killer cells, which fight tumors and viral infections. They almost stopped producing immunity-boosting gamma interferon and infection-fighting T-cells responded only weakly to test-tube stimulation.

Those findings opened the floodgates of research. By 2004, Suzanne Segerstrom, PhD, of the University of Kentucky, and Gregory Miller, PhD, of the University of British Columbia, had nearly 300 studies on stress and health to review. Their meta-analysis discerned intriguing patterns. Lab studies that stressed people for a few minutes found a burst of one type of "first responder" activity mixed with other signs of weakening. For stress of any significant duration - from a few days to a few months or years, as happens in real life - all aspects of immunity went downhill. Thus long-term or chronic stress, through too much wear and tear, can ravage the immune system.

Methodology

An effective research methodology is grounded in the overall approach of the study – whether qualitative or quantitative – and adequately describes the methods the researcher used in the study. It is a body of methods, rules, and postulates employed by a discipline: a particular procedure or set of procedures.

Two scales are used to determine the level of physiological stress as well as the psychological stress among the male and female respondents. Scoring of each are:-

Physiological stress

Always	2
Sometimes	1
Never	0

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Psychological stress

Always 2
Sometimes 1

Never

0

Results**Table 1: Physiological Problems of the Students**

N=120

S No.	Physiological Problems	Female			Male		
		Always	Sometimes	Never	Always	Sometimes	Never
1.	Headache	10 (16.67)	38 (63.34)	12 (20)	8 (13.33)	36 (60)	16 (26.67)
2.	Blood pressure problems	2 (3.34)	30 (50)	28 (46.67)	7 (11.66)	31 (51.67)	22 (36.67)
3.	Stomach disorders and ulcer	3 (5)	50 (83.34)	7 (11.67)	10 (16.66)	48 (80)	2 (3.34)
4.	Chest pain	2 (3.34)	30 (50)	28 (46.67)	4 (6.66)	32 (53.34)	24 (40)
5.	Back pain	8 (13.34)	30 (50)	22 (36.67)	12 (20)	28 (46.67)	20 (33.34)
6.	Skin irritation and allergies	5 (8.34)	42 (70)	13 (21.67)	10 (16.67)	38 (63.34)	12 (20)
7.	Asthma	6 (10)	28 (46.67)	26 (43.34)	4 (6.67)	33 (55)	23 (38.34)
8.	Fatigue	8 (13.34)	36 (60)	16 (26.66)	14 (23.34)	34 (56.67)	12 (20)
9.	Sleep disturbance	16 (26.67)	38 (63.34)	6 (10)	16 (26.67)	40 (66.67)	4 (6.67)
10.	Frequent cold and infections	6 (10)	35 (58.34)	19 (31.66)	8 (13.34)	33 (55)	19 (31.67)

The total 120 respondents of the study agreed on maximum problems which they face in their lives. In case of female students, the major physiological problem which they face always was sleep disturbance (26.67%) and headaches (16.67%). In addition to that 83.34 per cent female said that they sometimes have problem related to stomach and 70 per cent agreed on problems related to skin and allergies. Problems related to blood pressure and breathing problems were not faced by 46.67 per cent and 43.34 per cent female

respectively.

In case of male respondents, the major physiological problems which they always face were sleep disturbance 26.67% per cent and fatigue 23.34 per cent. The problems which they face sometimes were headaches (60%), infections (55%) and pains specifically pain in the back which accounts to a total of 46.67 per cent and chest pain as reported by 53.34 per cent of male.

Table 2: Psychological Problems of the Students

N=120

S.No.	Psychological Problems	Always	Sometimes	Never	Always	Sometimes	Never
1	Anxiety/anger/moodiness	16 (26.67)	34 (56.67)	10 (16.67)	16 (26.67)	34 (56.67)	10 (16.67)
2	Depression	2 (3.34)	30 (50)	28 (46.67)	2 (3.34)	30 (50)	28 (46.67)
3	Poor concentration	2 (3.34)	38 (63.34)	20 (33.34)	16 (26.67)	38 (63.34)	6 (10)
4	Decreased alertness	4 (6.67)	40 (66.67)	16 (26.67)	10 (16.67)	40 (66.67)	10 (16.67)
5	Tendency to remain alone/ isolation	6 (10)	42 (70)	12 (20)	14 (23.34)	42 (70)	4 (6.67)
6	Memory problems	8 (13.34)	34 (56.67)	18 (30)	10 (16.67)	34 (56.67)	16 (26.67)
7	Poor thinking	6 (10)	30 (50)	24 (40)	10 (16.67)	30 (50)	20 (33.34)
8	Obsessive compulsive disorder	8 (13.34)	30 (50)	22 (36.67)	14 (23.34)	30 (50)	16 (26.67)
9	Irregular meals	6 (10)	28 (46.67)	26 (43.34)	10 (16.67)	33 (55)	17 (28.34)
10	Eating disorders	6 (10)	40 (66.67)	14 (23.34)	12 (20)	40 (66.67)	8 (13.34)
11	Excessive consumption of fast food	12 (20)	38 (63.34)	10 (16.67)	16 (26.67)	38 (63.34)	6 (10)
12	Sense of hopelessness	4 (6.67)	40 (66.67)	16 (26.67)	12 (20)	40 (66.67)	8 (13.34)
13	Feeling overwhelmed	10 (16.67)	42 (70)	8 (13.34)	6 (10)	42 (70)	14 (23.34)

Psychological problems can affect any individual at any stage of their life. These types of problems can be developed after the respondent has experienced a stressful life event. In case of female respondents, the problem that they always face and tops the list is anxiety/ moodiness as reported by 26.67 per cent. Decreased alertness (66.67%), eating disorders (66.67%) and sense of hopelessness (66.67%) were other major problems that were sometimes faced by the female respondents of the study.

In case of male respondents, the problems are almost same but poor concentration (26.67%) is above all others. Some problems other than these which occur sometimes in male was tendency to remain alone/in isolation under which almost 70 per cent of the total respondents reported. After these problems some other which were reported by the students were poor concentration as reported by sixty seven per cent of the respondents and nearly fifty seven per cent reported of memory problems.

Ranking of physiological problems by total respondents

(N=120)

S No.	Physiological Stress	Weighted Mean	Rank
1.	Headache	1.18	1
2.	High blood pressure	0.45	9
3.	Stomach disorders and ulcer	0.85	6
4.	Chest pain	0.49	8
5.	Back pain	0.93	4
6.	Skin irritation and allergies	0.80	7
7.	Diabetes	0.31	11
8.	Asthma	0.32	10
9.	Fatigue	0.99	3
10.	Sleep disturbances	1.16	2
11.	Frequent cold and infections	0.85	6
12	Heart diseases	0.30	12

Among the physiological causes of stress in total 120 respondents, the statement which ranked first is headache. Sleep disturbance ranked second. The statement which ranked

last among this was heart disease, and it ranked 12.

**Ranking of psychological problems by total respondents
(N=120)**

S No.	Psychological Problems	Weighted Mean	Rank
1.	Anxiety/anger/moodiness	1.20	2
2.	Depression	0.89	6
3.	Poor concentration	1.21	1
4.	Decreased alertness	1.00	3
5.	Tendency to remain alone/ isolation	0.91	4
6.	Memory problems	0.90	5
7.	Poor thinking	0.66	12
8.	Lack of self care	0.83	8
9.	Obsessive compulsive disorder	0.58	15
10.	Irregular meals	0.85	7
11.	Eating disorders	0.65	13
12.	Substance abuse	0.41	17
13.	Excessive consumption of fast food	0.79	11
14.	Sense of hopelessness	0.80	10
15.	Feeling overwhelmed	0.81	9
16.	Panic attacks	0.65	14
17.	Impaired speech	0.53	16

Among the psychological causes of stress in 120 respondents, the statement which ranked 1 was poor concentration. Anxiety/anger/moodiness ranked second. The statement which ranked last (17) among these was substance abuse,.

Summary and Conclusions

Modern humans rarely encounter many of the stimuli that commonly evoked fight-or-flight responses for their ancestors, such as predation or inclement weather without protection. However, human physiological response continues to reflect the demands of earlier environments. Threats that do not require a physical response (e.g., academic exams) may therefore have physical consequences, including changes in the immune system. The newest findings on social stress underscore the value of good friends; even just a few close friends can help someone feel connected and stay strong. Social ties may indirectly strengthen immunity because friends - at least health-minded friends -- can encourage good health behaviors such as eating, sleeping and exercising well. Good friends also help to buffer the stress of negative events.

Findings

There were 18 per cent of male students and 22 per cent female students who were not satisfied with their academic performance.

When it comes to the academic workload most of the students thought that either it is extremely high or high.

The major cause of stress among female students were personal appearance and body type and after that high expectations from parents. Competition among peers and change in health of any of their family members also caused stress to a major group of female respondents.

The major cause of stress among male students was loan taken for the degree, followed by giving speeches in front of their batch mates or class mates. Some other problems like competition among peers, high expectations from the parents' side and having a heavy workload or too much responsibility also caused stress in students.

The most frequent physiological problem faced by the

respondents were stomach disorders, headaches and sleep disturbances. Pain was also reported by some of the students specifically in the regions like neck, back and in chest.

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