



Table - 1 Demographic distribution of Normal Subjects (N=117) and subjects with somatic ailments (N=223).

	Normals		Somatic ailment group	
	No	%	No	%
<u>SEX</u>				
1. Male	70	59.83	119	53.36
2. Female	47	40.17	104	46.64
<u>AGE</u>				
1. Below 30 yrs.	42	35.90	50	22.42
2. Between 31 - 45 yrs.	64	54.70	133	59.64
3. Above 45 yrs.	11	9.40	40	17.94
<u>EDUCATION</u>				
1. Graduation and more	99	84.62	190	85.2
2. Undergraduates	18	15.38	33	14.8
<u>INCOME</u>				
1. Medium	91	77.78	168	75.34
2. High	26	22.22	55	24.66
<u>MARITAL STATUS</u>				
1. Married	68	58.12	160	71.75
2. Unmarried	46	41.88	63	28.25
<u>OCCUPATION</u>				
1. Service	44	37.61	101	45.29
2. Business	19	16.24	48	21.52
3. Executives	7	5.98	11	4.93
4. Students	30	25.64	30	13.45
5. Not working	15	12.82	33	14.80

Table - 1 showing the demographic distribution of normal subjects and the subjects with somatic ailments, includes sex, age, education, income, marital status and occupation. The proportions of male and female subjects show little difference. Females are more in somatic ailment group than normals. With regard to age, subjects with more than 45 years of age are nearly double in proportion and of age below 30 years are less; in somatic ailment group than normals, while subjects of age between 31 years to 45 years do not differ much in proportion. Both the groups are matching in levels of education and income. Percentages of married subjects are more in somatic ailment group than normals. Occupationwise distribution shows that service class people and business persons are more in somatic ailment group.

Table - 2 Distribution of ailments reported by the subjects of somatic ailment group

	No.	%
1. Low back pain (83) + Arthritis (18)	101/223	45.29
2. Headache (71) + Migraine (18)	89/223	39.91
3. Upper Respiratory tract infection (71) + Asthma (21)	92/223	41.26
4. Hypertension (41) + Heart related problem(7)	48/223	21.52
5. Skin problems	46/223	20.63
6. GIT related problems (24) + Ulcer (12)	36/223	16.14
7. Sexual problems	10/223	4.48
8. Diabetes	11/223	4.93

In the group of subjects with somatic ailments, ailments reported by the subjects were : low back pain (n = 83), headache (n = 71), upper respiratory tract infection (n = 71), skin problems (n = 46), hypertension (n = 41), gastrointestinal tract related problems (n = 24), asthma (n = 21), migraine (n = 18), ulcers (n = 12), diabetes (n = 11), sexual problems (n = 10) and heart troubles (n = 7) (Table - 2).

Table - 3 % Distribution of individual stressor in normals V (N=117) and somatic ailment group (N=223)

Stressor	% for Normals	N 117	% for somatic ailment	N 223	SE	Z	Signi- ficance
<u>Physical</u>							
1. Excessive Heat	25.64	(30)	45.29	(101)	5.24	3.75	P<.001
2. Excessive Cold	11.97	(14)	22.87	( 51)	4.11	2.65	P<.01
3. Excessive noises	26.50	(31)	47.53	(106)	5.28	3.99	P<.001
4. Excessive Vibrations	6.84	( 8)	15.25	( 34)	3.35	2.51	P<.05
5. Personal Illness, accidents of viction	23.93	(28)	54.26	(121)	5.17	5.87	P<.001
6. Any other	1.71	( 2)	4.48	( 10)	1.83	1.51	P>0.05
<u>Family</u>							
1. Sharing of workload	9.4	(11)	26.9	( 60)	4.01	4.36	P<.001
2. Different Values	14.53	(17)	36.77	( 82)	4.59	4.85	P<.001
3. Different life stayles	8.5	(10)	31.39	( 70)	4.04	5.67	P<.001
4. Distribution of Money/ Assets.	2.56	( 3)	13.9	( 31)	2.74	4.14	P<.001
5. Key position in the family	5.13	( 6)	19.28	( 43)	3.34	4.24	P<.001
6. Lack of recognition	15.38	(18)	30.94	( 69)	4.55	3.42	P<.001
7. Short tempored nature of any family member	20.51	(24)	38.12	( 85)	4.95	3.56	P<.001
8. Illness or death of any family member	18.8	(22)	40.81	( 91)	4.89	4.5	P<.001
9. Staying away from family	15.38	(18)	27.8	( 62)	4.49	2.77	P<.01
10. Any other	3.42	( 4)	8.07	( 18)	2.48	1.87	P>0.05

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Job & Career  
Related

1. Examination	29.06	(34)	34.94	( 78)	5.27	1.12	P>0.05
2. Interview	7.69	( 9)	21.08	( 47)	3.68	3.64	P<.001
3. Training	2.56	( 3)	6.73	( 15)	2.22	1.87	P>0.05
4. Overwarte	13.67	(16)	34.53	( 77)	4.50	4.64	P<.001
5. Pending work	30.77	(36)	52.91	(118)	5.42	4.08	P<.001
6. Deadlines	6.48	( 8)	27.80	( 62)	3.8	5.51	P<.001
7. Poor Promotion chances	5.13	( 6)	17.04	( 34)	3.24	3.68	P<.001
8. Competition	5.98	( 7)	26.46	( 59)	3.68	5.57	P<.001
9. Power struggle	3.42	( 4)	11.21	( 25)	2.7	2.89	P<.01
10.Conflicts with superior/subordinates /colleagues	9.4	(11)	23.77	( 53)	3.92	3.66	P<.001
11.Luck of recognition	15.38	(18)	32.29	( 72)	4.57	3.7	P<.001
12.Transfer	---	(--)	6.73	( 15)	1.68	4.01	P<.001
13.Any other	1.71	( 2)	3.14	( 7)	1.67	0.85	P>0.05

SEPE

1. Unemployment	3.42	( 4)	8.07	( 18)	2.48	1.88	P>0.05
2. Less Income against demands	9.4	(11)	26.9	( 60)	4.01	4.36	P<.001
3. Technical change	5.13	( 6)	13.9	( 31)	3.09	2.84	P<.01
4. High cost of living	6.84	( 8)	22.42	( 50)	3.64	4.28	P<.001
5. Public Speaking	16.24	(19)	32.73	( 73)	4.64	3.56	P<.001
6. Taxes	0.85	( 1)	9.42	( 21)	2.13	4.02	P<.001
7. Poor services	4.27	( 5)	22.42	( 50)	3.36	5.4	P<.001

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8. Beurocracy	6.84	( 8)	22.87	( 51)	3.65	4.39	P<.001
9. Pollution	12.82	(15)	34.98	( 78)	4.44	4.99	P<.001
10. Any other	0.85	( 1)	1.79	( 4)	1.23	0.76	P>0.05
<u>Emotional</u>							
1. Insecurity, Guilt, Fear	29.91	(35)	51.57	(115)	5.77	3.76	P<.001
2. Deprivation of love hate	13.67	(16)	28.25	( 63)	4.38	3.33	P<.001
3. Dissotisfaction	19.66	(23)	49.78	(111)	4.97	6.06	P<.001
4. Short tempored Nature	31.62	(37)	52.47	(117)	5.45	3.82	P<.001
5. Lack of assertiveness/ self expression ness	17.09	(20)	43.95	( 98)	4.81	5.58	P<.001
6. Any other	---	(--)	2.69	( 6)	1.08	2.48	P<.05

Table - 3 shows the percentage distribution of individual stressors (on the basis of subjective assessment of stress) in normals and somatic ailment group. The physical stressors like, excessive heat, excessive noise, and personal illness-accident-victim of violence are very significantly high ( $P < 0.001$ ) in somatic ailment group compared to the normals, while, excessive cold and excessive vibrations are significantly high in somatic ailment group when compared with normals.

Family stressors like, sharing of workbad, different values, different life styles, distribution of money/assets, key position in the family, lack of recognition, short tempored nature of any

family member and illness/death of any family member, are very significantly high ( $P < 0.001$ ) in somatic ailment group; while staying away from the family is significantly more at  $P < 0.01$  level.

From the group of job and career related stressors, the reporting of examination and training are not significantly different in the two groups; while occurrence of stressors like, interview, over work, pending work, deadlines, poor promotion chances, competition, conflicts with superior/subordinates/colleagues, lack of recognition, transfer and power struggle, are significantly higher in somatic ailment group when compared to normals.

Un employment, as a stressor is reported by both the groups almost equally, but less income, technological change, high cost of living, public speaking, taxes, poor services, beurocracy, pollution are found to be very significantly ( $P < 0.001$ ) high in somatic ailment group when compared with normals.

Emotional stressors like, insecurity-guilt-fear, deprivation of love/hate, dissatisfaction, short tempored nature, and lack of assertiveness/ self-expressiveness are very significantly high in the subjects with somatic ailments compared to normals.

Table - 4 % Distribution of individual stress reactions in normals (N=117) and somatic ailment gp (N=223)

Stressor	% for Normals	N 117	% for somatic ailment	N 223	SE	Z	Signi- ficance
<u>Psychological</u>							
1. Sleep disturbance	58.12	(68)	79.37	(177)	5.2	4.04	P<.001
2. Easy fatiguability	28.20	(33)	42.15	( 94)	5.31	2.63	P<.01
3. Loss of appetite	24.79	(27)	36.96	( 82)	4.57	2.66	P<.01
4. Excessive eative	7.69	( 9)	10.48	( 23)	3.21	0.87	P>0.05
5. Excessive smoking	3.42	( 4)	3.59	( 8)	2.09	0.08	P>0.05
6. Excessive drinking	1.71	( 2)	4.48	( 10)	3.36	0.83	P>0.05
7. Excessive indulgence in Sex	2.56	( 3)	3.14	( 7)	1.87	0.31	P>0.05
8. Loss of libids	1.71	( 2)	15.25	( 34)	2.68	5.03	P<.001
9. Frigidity	0.85	( 1)	3.59	( 8)	1.51	1.82	P>0.05
10. Impotence	1.71	( 2)	4.04	( 9)	1.78	1.31	P>0.05
11. Absenteesm	5.13	( 6)	9.86	( 22)	2.04	0.37	P>0.05
12. Nervousness	31.62	(37)	43.50	( 97)	5.43	2.19	P<.05
13. Tension	58.12	(68)	70.85	(158)	5.48	2.32	P<.05
14. Irritability/short temper	44.44	(52)	74.89	(167)	5.43	5.6	P<.001
15. Fear	17.95	(21)	32.73	( 73)	4.4	3.12	P<.01
16. Anger	35.04	(41)	53.81	(120)	5.53	3.39	P<.001
17. Dissatisfaction	26.64	(31)	43.05	( 96)	5.26	3.12	P<.01
18. Depression/crying	29.06	(34)	44.84	(100)	5.36	2.94	P<.01
19. Restlessness	23.08	(27)	47.53	(106)	5.13	4.76	P<.001

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20. Poor concentration	38.46	(45)	54.26	(121)	5.13	3.08	P<.01
21. Poor memory	18.8	(22)	34.08	( 76)	4.81	3.18	P<.01
22. Poor decision power	20.51	(24)	38.12	( 85)	4.95	3.56	P<.001
23. Thought block	11.97	(14)	24.66	( 55)	4.16	3.05	P<.01
24. Too many thought at a time	27.35	(32)	51.12	(114)	5.31	4.48	P<.001
25. Inferiority	12.82	(15)	27.35	( 61)	4.3	3.38	P<.001
26. Frequent mistakes	14.53	(17)	21.97	( 49)	4.28	1.74	P>0.05
27. Poor interpersonal relationship	14.53	(17)	30.94	( 69)	4.49	3.65	P<.001

Physiological

1. Headache	23.08	(27)	43.95	( 98)	5.11	4.08	P<.001
2. Throbbing pain in head	6.84	( 8)	27.80	( 62)	3.8	5.51	P<.001
3. Heavyness in head	10.26	(12)	34.08	( 76)	4.24	5.62	P<.001
4. Pain/watering in eyes	6.84	( 8)	11.56	( 26)	3.17	1.49	P>0.05
5. Blurring of vision	2.56	( 3)	10.31	( 23)	2.51	3.09	P<.01
6. Dryness of mouth	11.11	(13)	34.53	( 77)	4.31	5.43	P<.001
7. Increased respiration	6.84	( 8)	21.52	( 48)	4.07	3.61	P<.001
8. Increased pulse	16.24	(19)	34.08	( 76)	5.59	3.19	P<.01
9. Feeling heart beats	23.13	(28)	39.46	( 88)	5.09	3.21	P<.01
10. Increased Sweating	5.13	( 6)	26.90	( 60)	3.6	3.24	P<.01
11. Cold hands /feet	15.38	(18)	19.38	( 41)	4.26	1.02	P>0.05
12. Pain in Chest	5.98	( 7)	18.38	( 41)	3.4	3.65	P<.001
13. Belching	6.84	( 8)	11.21	( 25)	3.14	1.39	P>0.05
14. Tremors in hands/feet	9.4	(11)	26.46	( 59)	4.05	4.26	P<.001
15. Twitching of eyelids	1.71	( 2)	6.73	( 15)	2.07	2.43	P<.05

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16.Muscular stiffness	5.13	( 6)	34.53	( 77)	3.78	7.78	P<.001
17.Muscular pains	2.56	( 6)	46.16	(103)	3.91	10.49	P<.001
18.Teeth grinding	4.27	( 3)	8.52	( 19)	2.37	2.51	P<.05
19.Heavyness in limbs	4.27	( 5)	24.21	( 54)	3.43	5.82	P<.001
20.Unsteady Voice	11.97	(14)	29.60	( 66)	4.28	4.12	P<.001
21.Speech difficulty	10.26	(12)	17.04	( 38)	3.77	1.8	P>0.05
22.Hot & Cold flushes	3.42	( 4)	17.94	( 40)	3.07	4.73	P<.001
23.Ringing in ears	2.56	( 3)	13.9	( 31)	2.74	4.14	P<.001
24.Pricking Sensations	0.85	( 1)	18.83	( 42)	2.75	6.53	P<.001
25.Nausea, vomitting	2.56	( 3)	17.04	( 38)	2.91	4.97	P<.001
26.Disturbance in abdomen	6.84	( 8)	32.29	( 72)	3.9	6.52	P<.001
27.Loose Motion	9.4	(11)	21.08	( 47)	3.84	3.04	P<.01
28.Costipation	12.82	(15)	29.60	( 66)	4.35	3.86	P<.001
29.Frequent micturition	3.42	( 4)	13.9	( 31)	2.86	3.66	P<.001
30.Urgency of micturition	1.71	( 2)	7.14	( 16)	2.1	2.59	P<.01
31.Amenorrhoea	--	(--)	4.04	( 9)	1.32	3.06	P<.01
32.Menarrhagia	--	(--)	4.48	( 10)	1.39	3.23	P<.01

Psychological and physiological stress reactions reported by normals and somatic ailment group are shown in table - 4. Psychological stress reactions like, sleep disturbance, loss of libids, irritability/short temper, anger, restlessness, poor decision power, too many thoughts at a time, inferiority and poor

interpersonal relationship are very significantly more ( $P < 0.001$ ) in somatic ailment group than normals. Easy fatiguability, loss of appetite, poor memory, thought block, nervousness, and tension are also significantly higher in somatic ailment group than in the normals, while excessive eating, drinking, smoking, and indulgence in sex, frigidity, impotence, absenteeism and frequent mistakes are the psychological stress reactions, not significantly different as reported by both the groups.

Physiological reactions to stress, like, headache, throbbing pain in head, heaviness in head, dryness of mouth, increased respiration, pain in chest, tremors in hands/feet, muscular stiffness muscular pains, heaviness in limbs, unsteady voice, hot and cold flushes, ringing in ears, pricking sensations, nausea-vomiting, disturbance in abdomen, constipation and frequent micturation, are very significantly ( $P < 0.001$ ) high, and, blurring of vision, increased pulse, feeling of heart beats, increased sweating, loose motion, urgency of micturition, amenorrhoea and menorrhagia, twitching of eye lids and teeth grinding are also significantly more in somatic ailment group. While, pain/watering in eyes, cold hands/feet, belching and speech difficulties are not significantly different in the two groups.

Table - 5 % Distribution of stressors in normals (n = 117) and in different somatic ailment groups (Total = 223)

Stressors	Normals (n=117)	Total Subjects of SA group (N=223)	LBP/ Arthritis (n=102)	Headache/ Migraine (n=89)	URI/ Asthma (n=92)	Hyper- tension & HT Problems (n=48)	Skin Related Problems (n=46)	Ulcer/ GIT Problems (n=36)	Sex Related Problems (n=10)
Physical	19.32	37.58 <sup>***</sup>	40.00 <sup>***</sup>	40.22 <sup>***</sup>	38.26 <sup>**</sup>	32.08	36.09 <sup>*</sup>	28.89	36.00
Family	12.54	30.34 <sup>***</sup>	32.34 <sup>***</sup>	31.71 <sup>***</sup>	36.71 <sup>***</sup>	27.31 <sup>*</sup>	31.40 <sup>**</sup>	21.91	40.00
JCR	11.75	24.81 <sup>**</sup>	23.68 <sup>*</sup>	24.34 <sup>*</sup>	25.91 <sup>**</sup>	22.92	24.28	30.56 <sup>*</sup>	18.33
SEPE	7.41	22.32 <sup>***</sup>	22.66 <sup>***</sup>	21.10 <sup>**</sup>	22.58 <sup>**</sup>	21.53 <sup>***</sup>	24.88 <sup>**</sup>	22.53 <sup>*</sup>	32.22
Emotional	22.39	45.83 <sup>***</sup>	46.76 <sup>***</sup>	45.17 <sup>***</sup>	45.22 <sup>***</sup>	47.5 <sup>**</sup>	38.70 <sup>*</sup>	42.78 <sup>*</sup>	42.00

\* = P < 0.05; \*\* = P < 0.01; \*\*\* = P < 0.001

Table - 5 shows the percentage distribution of stressors and stress reactions in normals (n=117) and subjects with different somatic ailments. Physical stressors are very significantly more (P < 0.001) in case of subjects with low back pain and/or arthritis, and, headache and/or migraine. Percentages of physical stressors in subjects with URI and/or asthma, skin related problems and diabetes, are significantly more than normals. While the same are not significantly different in hypertension and/or heart problems, ulcer and/or GIT problems and sex-related problems from those in normals.

Family stressors are very significantly high in LBP and/or arthritis, headache/migraine, and URI and/or asthma subjects. Hypertension and/or heart problems, skin related problems and diabetes subjects also have significantly more family stressors.

Though family stressors are more in subjects with ulcer and/or GIT problems and sex related problem, they are non significant.

Percentages of job and career related stressors are significantly more in LBP and/or arthritis, headache and/or migraine, URI and/or asthma, and ulcer and/or GIT problems, while that of hypertension and/or heart problems, skin related problems, sex related problems and diabetes subjects are found non-significant when compared with normals.

Percentages of socio-economic, political and environmental stressors are very significantly more in subjects with LBP and/or arthritis and hypertension and/or heart problems. In subjects with headache and/or migraine, URI and/or asthma, skin related problems, ulcer and/or GIT problems, and diabetes, the percentage is significantly more. It is non-significant in subjects with sex-related problems, though percentage is more than normals.

Emotional area of stress show significantly more ( $P < 0.001$ ) percentages in subjects with LBP and/or arthritis, headache and/or migraine and URI and/or asthma. It is also significant in subjects of hypertension and/or heart problems, skin related problems, ulcer and/or GIT problems and diabetes, while percentages of this in subjects with sex related problems show non-significant when compared with normals.

Table - 6 % Distribution of Stress Reactions in normals (n = 117) and in different somatic ailments (Total = 223)

Stress Reactions	Normals (n=117)	Total Subjects of SA group (N=223)	LBP/Arthritis (n=102)	Headache/Migraine (n=89)	URI/Asthma (n=92)	Hyper-tension & HT Problems (n=48)	Skin Related Problems (n=46)	Ulcer/GIT Problems (n=36)	Sex Related Problems (n=10)
Psychological	20.77	34.21**	35.72*	34.12*	33.86*	33.72	37.20*	36.93	39.26
Physiological	7.32	22.04***	24.60***	24.89***	22.66**	23.18**	20.38*	22.74*	23.13

\* = P < 0.05; \*\* = P < 0.01, \*\*\* = P < 0.001

Table - 6 shows the percentage distribution of stress reactions in normals and different somatic ailment groups. Psychological stress reactions are significantly more in LBP and/or arthritis, headache and/or migraine, URI and/or asthma and skin related problems while other groups show non-significance.

Physiological stress reactions are very significantly high percentages in subjects with LBP and/or arthritis and headache and/or migraine. Percentages of these are significantly more in URI and/or asthma, hypertension and/or heart problems, skin related problems, and ulcer and GIT problems, while those are not significantly different in sex problems and diabetes subjects when compared with normals.

Table - 7 Sexwise Basal (pre-training) physiological parameters of Normals &amp; Somatic ailment group

	Normals		Somatic ailment group		't'	Significance
	(M=61, F=41)		(M=169, F=134)			
	Mean	Sd	Mean	Sd		
<u>Weight (kg)</u>						
Male	58.96	10.54	64.26	11.29	2.98	p<.01
Female	52.16	9.42	57.50	10.30	3.47	p<.001
<u>Pulse (per min.)</u>						
Male	78.67	7.04	78.01	7.69	0.55	P>0.05
Female	77.96	3.33	79.57	7.15	2.24	p<.05
<u>SBPs (mmHg)</u>						
Male	117.29	9.47	125.64	10.52	5.19	p<.001
Female	111.4	8.43	118.65	12.78	4.71	p<.001
<u>DBPs (mmHg)</u>						
Male	77.22	6.48	86.49	7.88	8.20	p<.001
Female	75.20	5.92	80.63	9.14	4.98	p<.001
<u>PPs (mmHg)</u>						
Male	39.88	6.29	38.89	6.91	0.93	P>0.05
Female	37.82	8.42	37.64	7.89	0.17	P>0.05
<u>SBP1 (mmHg)</u>						
Male	113.14	9.19	121.82	11.30	5.36	p<.001
Female	108.08	8.31	114.85	12.79	4.45	p<.001

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DBP<sub>1</sub> (mmHg)

Male	73.37	6.44	81.85	8.70	7.19	p<.001
Female	71.16	5.90	75.44	9.32	4.00	p<.001

PP<sub>1</sub> (mmHg)

Male	39.57	6.66	39.96	8.5	0.33	P>0.05
Female	36.88	5.72	39.21	8.33	2.28	p<.05

RR (per min.)

Male	16.67	3.24	18.05	3.5	2.51	p<.05
Female	18.24	3.51	19.17	3.61	1.55	P>0.05

TV (ml)

Male	519.12	79.94	501.65	92.77	1.26	P>0.05
Female	443.40	106.66	447.04	88.03	0.24	P>0.05

RMV (lt/min.)

Male	8.59	1.53	9.03	1.94	1.63	P>0.05
Female	8.04	1.89	8.39	1.68	1.21	P>0.05

VC (lt)

Male	3.14	0.49	2.86	0.53	3.5	p<.001
Female	2.84	0.32	2.48	0.36	6.4	p<.001

FEV (lt)

Male	2.51	0.45	2.14	0.37	5.29	p<.001
Female	2.10	0.3	1.94	0.32	3.2	p<.001

FEV%

Male	79.81	5.15	75.11	6.54	5.11	p<.001
Female	79.39	4.85	77.24	6.32	2.59	p<.01

PEFR (lt/min.)

Male	552.16	89.09	509.77	94.91	2.83	p<.01
Female	443.40	63.36	400.71	67.36	4.16	p<.001

MBC (lt/min.)

Male	98.00	20.6	87.01	21.68	3.19	p<.01
Female	90.1	21.46	73.37	17.06	5.07	p<.001

BHT (sec.)

Male	47.16	14.16	46.29	15.31	0.36	P>0.05
Female	38.24	11.25	37.84	12.47	0.33	P>0.05

40mm (sec.)

Male	35.43	19.69	31.43	13.77	1.33	P>0.05
Female	25.60	8.7	23.46	7.97	0.64	P>0.05

MEP (mmHg)

Male	105.14	33.59	107.73	32.15	0.48	P>0.05
Female	73.48	19.42	70.73	20.94	0.87	P>0.05

Table - 7 shows the means and SDs of basal (pre-training) physiological parameters in males and females of normals (N = 102) and somatic ailment group (SAG-N=303). Males of somatic ailment group show very significantly higher values in, systolic and diastolic blood pressures in both the postures, sitting as well as lying down, and lower values in vital capacity, forced expiratory volume in one second and its percentage.

Significantly higher values in weight and respiratory rate, and lower values in maximum breathing capacity and peak expiratory flow rate are also found in male subjects with somatic ailments than normal male subjects. Parameters like pulse rate, pulse pressure, tidal volume, respiratory minute volume, breath holding period, 40 mmHg endurance and maximum expiratory pressures do not show significant differences.

In case of females of normals and of somatic ailment groups, higher values of weight; systolic and diastolic blood pressures in both the postures and lower values in vital capacity, maximum breathing capacity and peak expiratory flow rate are very significant in somatic ailment group, when compared with normals. Higher pulse rate and pulse pressure (in lying down posture) and lower FEV<sub>1</sub> and FEV<sub>1</sub>% of SAG females also show significance. While parameters like pulse pressure (in sitting posture), respiratory rate, tidal volume, respiratory minute volume, breath holding period, 40 mm Hg endurance and maximum expiratory pressure are not significantly different than normals.

Table - 8 Agewise Physiological Parameters in Normals (N=102) and Somatic ailment group (N=303)

		Normals		Somatic ailment group		't'	Significance
		Mean	Sd	Mean	Sd		
<u>Weight (kg.)</u>							
Below	30 yrs.	50.59	8.57	52.43	10.31	1.34	P>0.05
Between	31-45 yrs.	62.35	9.38	61.87	10.71	-0.29	P>0.05
Above	45 yrs.	59.71	7.57	64.24	9.58	1.49	P>0.05
<u>Pluse (per min.)</u>							
Below	30 yrs.	77.14	7.00	81.04	2.13	2.13	p<.05
Between	31-45 yrs	77.24	7.7	78.16	6.96	0.66	P>0.05
Above	45 yrs.	82.29	8.9	78.3	6.75	1.16	P>0.05
<u>SBPs (mm Hg.)</u>							
Below	30 yrs.	111.97	9.13	115.21	11.17	1.86	P>0.05
Between	31-45 yrs	117.68	7.34	119.77	13.66	1.24	P>0.05
Above	45 yrs.	120.29	12.57	127.68	11.96	1.52	P>0.05
<u>DBPs (mm Hg.)</u>							
Below	30 yrs.	73.93	5.8	78.46	7.76	3.91	p<.001
Between	31-45 yrs	79.19	5.12	83.27	8.3	3.71	p<.001
Above	45 yrs.	81.14	9.15	86.83	9.25	1.58	P>0.05
<u>PPs (mm Hg.)</u>							
Below	30 yrs.	37.86	6.38	37.48	6.64	0.34	P>0.05
Between	31-45 yrs	39.14	6.27	37.07	7.25	0.83	P>0.05
Above	45 yrs.	40.29	7.06	40.67	8.32	0.14	P>0.05
<u>SBP1 (mm Hg.)</u>							
Below	30 yrs.	108.21	8.93	111.77	11.54	2.03	p<.05
Between	31-45 yrs	114.32	6.9	117.15	11.12	1.91	P>0.05
Above	45 yrs.	115.14	12.27	124.14	12.58	1.65	P>0.05

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DBP<sub>1</sub> (mm Hg.)

Below 30 yrs.	69.76	5.69	73.16	8.02	2.91	p<.01
Between 31-45 yrs	75.95	4.45	78.61	8.62	2.56	p<.05
Above 45 yrs.	75.43	6.7	82.35	8.8	2.56	p<.05

PP<sub>1</sub> (mm Hg.)

Below 30 yrs.	38.17	6.5	38.81	7.51	0.53	P>0.05
Between 31-45 yrs	38.38	6.2	38.57	7.82	0.16	P>0.05
Above 45 yrs.	39.71	6.58	41.75	9.49	0.76	P>0.05

RR (per min.)

Below 30 yrs.	17.8	3.37	19.01	3.88	1.95	P>0.05
Between 31-45 yrs	17.41	3.51	18.63	3.32	1.91	P>0.05
Above 45 yrs.	15.14	4.3	18.21	3.68	1.84	P>0.05

TV (ml.)

Below 30 yrs.	479.66	98.88	465.19	87.51	0.89	P>0.05
Between 31-45 yrs	483.11	83.64	467.01	99.16	1.00	P>0.05
Above 45 yrs.	532.14	65.7	471.5	100.34	5.51	p<.001

RMV (lt. per min.)

Below 30 yrs.	8.37	1.78	8.67	1.77	1.00	P>0.05
Between 31-45 yrs	8.39	1.86	8.79	1.77	1.18	P>0.05
Above 45 yrs.	7.97	1.96	8.33	1.63	0.47	P>0.05

VC (lt)

Below 30 yrs.	2.86	0.43	2.68	0.47	2.00	P>0.05
Between 31-45 yrs	2.90	0.51	2.67	0.48	2.56	p<.05
Above 45 yrs.	3.01	0.51	2.6	0.45	2.06	P>0.05

FEV<sub>1</sub> (lit)

Below 30 yrs.	2.29	0.39	2.09	0.37	2.86	p<.01
Between 31-45 yrs	2.03	0.47	2.02	0.35	2.75	p<.01
Above 45 yrs.	2.37	0.40	1.97	0.37	2.67	p<.01

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FEV<sub>1</sub>%

Below 30 yrs.	79.89	4.78	77.99	7.08	1.88	P>0.05
Between 31-45 yrs	79.05	5.34	75.73	5.42	3.35	p<.001
Above 45 yrs.	78.8	4.4	75.95	6.84	1.56	P>0.05

PEFR (lit/min)

Below 30 yrs.	484.48	85.08	475.65	95.72	1.73	P>0.05
Between 31-45 yrs	515.14	101.04	444.95	95.71	3.79	p<.001
Above 45 yrs.	504.29	125.28	441.49	105.87	1.29	P>0.05

MBC (lit/min)

Below 30 yrs.	97.76	19.25	85.91	21.43	3.39	p<.001
Between 31-45 yrs	87.68	24.06	77.64	18.22	2.36	p<.05
Above 45 yrs.	94.43	10.28	76.29	21.67	4.00	p<.001

BHP (sec.)

Below 30 yrs.	40.43	13.4	41.15	15.03	0.3	P>0.05
Between 31-45 yrs	44.97	12.36	41.61	15.12	1.4	P>0.05
Above 45 yrs.	50.45	15.60	41.79	12.58	1.43	P>0.05

40 mm Hg. Endurance (sec)

Below 30 yrs.	27.48	14.39	27.29	14.76	0.08	P>0.05
Between 31-45 yrs	35.14	18.29	26.54	10.4	2.75	p<.01
Above 45 yrs.	29.29	10.23	26.82	8.89	0.62	P>0.05

MEP (mm Hg.)

Below 30 yrs.	80.38	26.90	79.85	28.77	0.11	P>0.05
Between 31-45 yrs	101.57	32.77	83.98	30.04	2.95	p<.01
Above 45 yrs.	101.14	35.59	95.84	35.36	0.38	P>0.05

Normals : Below 30 yrs. (n=48)  
 Between 31-45 yrs (n=47)  
 Above 45 yrs. (n=7)

Somatic : Below 30 yrs. (n=79)  
 Ailment Between 31-45 yrs (n=137)  
 Group Above 45 yrs. (n=87)

Table - 8 shows agewise basal (pre-training) physiological parameters in normals and somatic ailment group.

In age group below 30 years of age, diastolic blood pressure (in sitting posture) is very significantly higher ( $p < 0.001$ ) in SAG subjects than normals. Other parameters like pulse rate, systolic and diastolic blood pressure (lying down posture) show significantly higher values and  $FEV_1$  and MBC show significantly lower values in subjects with somatic ailments. While, parameters like weight, SBP (sitting posture). Pulse pressure in both the postures, respiratory rate, tidal volume, RMV, vital capacity  $FEV_1\%$ , PEFr, BHP, 40mm Hg. endurance and MEP are not significant when compared with normals.

In groups of subjects with age between 31-45 years of age in normals and subjects with somatic ailments, higher values of diastolic blood pressure is very significant ( $p < 0.001$ ) in sitting posture while it is significant at  $p < 0.05$  level in lying down posture in subject of SAG. PEFr is also very significantly low in SAG than normals. Other parameters like RR, VC,  $FEV_1$ ,  $FEV_1\%$ , MBC, 40 mm Hg. endurance and MEP are significantly low in subjects of SGA; while differences in parameters like, weight, PR, SBP(s), PP(s), SBP(l), PP(l), TV, RMV, BHP are not significant when compared with normals.

Diastolic blood pressure in lying down posture is significantly more in subjects of age above 45 years of SAG than of same age group of normals. Lower value in MBC is very significant in SAG than normals. TV &  $FEV_1$  are also significantly low, while other differences of parameters are not significant.

Table - 9 Mean (SD) values of basal (pre-training) physiological parameters in normals (N=102) and in subjects with different somatic ailment (Total N=303)

	Normals (N=102)	Total Subjects of SA group (N=303)	LBP/ Arthritis (n=72)	Headache/ Migraine (n=52)	URI/ Asthma (n=63)	Hyper- tension & HT Problems (n=52)	Miscella- neous (n=64)
Weight (kg)	55.59 (10.53)	60.45 <sup>***</sup> (11.16)	57.70 (11.71)	61.79 <sup>**</sup> (11.94)	59.89 <sup>*</sup> (11.27)	66.96 <sup>***</sup> (10.64)	57.62 (10.24)
Pulse rate (per min.)	78.32 (6.67)	78.89 (7.49)	79.03 (6.77)	78.35 (6.48)	78.06 (7.47)	79.42 (8.49)	79.56 (8.31)
SBPs (mm Hg)	114.38 (9.4)	121.39 <sup>***</sup> (12.06)	116.85 (13.71)	119.27 <sup>*</sup> (12.27)	117.32 (12.72)	139.23 <sup>***</sup> (9.09)	117.56 (11.83)
DBPs (mm Hg)	76.22 (6.26)	83.19 <sup>***</sup> (8.8)	78.79 (9.77)	80.92 <sup>**</sup> (8.32)	79.29 <sup>*</sup> (8.29)	100.59 <sup>***</sup> (8.44)	79.49 <sup>**</sup> (8.9)
PPs (mm Hg)	38.86 (7.46)	38.15 (7.47)	38.23 (7.00)	38.35 (8.81)	37.63 (8.34)	38.58 (6.35)	38.06 (6.97)
SBP1 (mm Hg)	110.63 (9.01)	117.89 <sup>***</sup> (12.35)	114.17 (13.17)	116.54 <sup>**</sup> (12.98)	113.34 (13.55)	134.08 <sup>***</sup> (7.93)	114.32 (13.37)
DBP1 (mm Hg)	72.28 (6.25)	78.24 <sup>***</sup> (9.29)	73.89 (9.34)	76.65 <sup>**</sup> (9.63)	73.35 (9.68)	96.04 <sup>***</sup> (7.88)	74.57 (9.71)
Pp1 (mm Hg)	38.24 (6.33)	39.54 (8.36)	40.06 (7.88)	39.88 (9.88)	39.58 (8.18)	38.27 (7.71)	39.67 (8.35)
RR (per min.)	17.45 (3.45)	18.68 <sup>**</sup> (3.61)	18.96 <sup>**</sup> (3.64)	18.12 (3.23)	18.82 <sup>*</sup> (3.66)	18.73 (4.06)	18.63 (3.48)
TV (ml.)	481.63 (101.08)	470.82 (93.72)	455.92 (93.13)	488.75 (86.33)	485.40 (84.19)	473.37 (106.92)	456.35 (98.96)
RMV (l/min.)	8.32 (1.73)	8.67 (1.81)	8.46 (1.91)	8.82 (1.79)	9.21 <sup>**</sup> (2.15)	8.55 (1.41)	8.35 (1.73)
VC (lt)	2.9 (0.48)	2.65 <sup>***</sup> (0.48)	2.6 <sup>***</sup> (0.37)	2.71 <sup>*</sup> (0.58)	2.64 <sup>**</sup> (0.52)	2.69 <sup>**</sup> (0.42)	2.63 <sup>***</sup> (0.55)
FEV <sub>1</sub> (lt.)	2.31 (0.43)	2.03 <sup>***</sup> (0.37)	2.06 <sup>***</sup> (0.32)	2.1 <sup>**</sup> (0.41)	1.84 <sup>***</sup> (0.38)	2.07 <sup>***</sup> (0.34)	2.07 <sup>***</sup> (0.40)
FEV <sub>1</sub> %	79.6 (4.98)	76.32 <sup>***</sup> (6.43)	78.83 (6.14)	77.71 <sup>**</sup> (6.92)	69.39 <sup>***</sup> (6.32)	76.82 <sup>**</sup> (5.33)	78.73 (7.36)

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MBC (lt/min)	94.09 (21.3)	79.33 <sup>***</sup> (20.62)	82.21 <sup>***</sup> (19.53)	79.44 <sup>***</sup> (20.2)	72.76 <sup>***</sup> (22.88)	82.71 <sup>**</sup> (18.72)	79.65 <sup>***</sup> (21.56)
PEFR (lt/min)	498.32 (94.46)	448.33 <sup>***</sup> (97.28)	439.01 <sup>***</sup> (78.78)	430.38 <sup>***</sup> (118.29)	456.94 <sup>***</sup> (99.66)	464.42 (107.42)	451.9 <sup>**</sup> (89.39)
BHP (sec.)	42.74 (13.73)	41.36 (14.5)	42.41 (14.72)	40.40 (16.68)	39.29 (14.63)	42.27 (10.97)	42.24 (15.22)
40 mm End. (sec.)	30.56 (15.98)	26.94 <sup>*</sup> (11.74)	24.93 <sup>**</sup> (8.98)	25.98 <sup>*</sup> (10.1)	27.61 (12.54)	30.19 (8.26)	26.65 (18.28)
MEP (mm Hg)	89.47 (31.65)	86.88 (32.28)	82.14 (31.65)	87.96 (31.63)	87.29 (34.18)	92.38 (32.67)	86.41 (31.32)

\* = P < 0.05; \*\* = P < 0.01; \*\*\* = < 0.001

Table - 9 shows the mean and SD value of basal (pre-training) physiological parameters in normals (n = 102) and subjects with different somatic ailment (Total N = 330). Weight of total subjects with somatic ailments, and of hypertension and/or ht. problems is very significantly (P < 0.001) more than normals. Subjects with headache and/or migraine, and, URI and/or asthma also have significantly more weight, while that of the subjects of LBP and/or arthritis and miscellaneous group do not have significant difference. Pulse rate is the parameter, which has non significant difference in subjects with all the types of somatic ailments as well as total SAG when compared with normals.

Systolic blood pressure in both posture of subjects of hypertension and/or heart problem and total subjects is very significantly higher (P < 0.001) than normals. It is also significantly more in headache and/or migraine group, while in other groups like LBP and/or arthritis, URI and/or asthma and

miscellaneous, values of SBP are not significantly higher. Similarly high diastolic blood pressure of total subjects of SAG and hypertension and/or heart problems is very significant ( $P < 0.001$ ) when compared with normals in headache and/or migraine and miscellaneous subjects values DBP in both postures are significantly more, while subjects with URI and/or asthma have higher DBP values in sitting posture than normals. Value of diastolic blood pressure (in sitting posture) is not significantly different in subjects with LBP and/or arthritis. It is also non significant in lying down posture in this group, URI and/or asthma and miscellaneous group. There is no significant difference in pulse pressure of subjects of all the groups of somatic ailments when compared with normals.

Respiratory rate of subjects of SAG (total), LBP and/or arthritis and URI and/or asthma, is significantly more than the normals. Tidal volume does not differ significantly in subjects with somatic ailments. RMV is significantly more in subjects with URI and/or asthma while in other groups difference is non significant. VC & FEV<sub>1</sub> values are significantly less in all the groups compared to normals. Difference in FEV<sub>1</sub> % is non significant in subjects with LBP and/or arthritis and miscellaneous ailments, while in other groups such is significantly less than normals. Lower MBC of subjects of all the different types of ailments are significant, when compared with normals. It is also true for the peak expiratory flow rate except in hypertensive subjects.

Differences in breath holding period of subjects of all the ailments and normals are not significant. Similarly maximum expiratory period is also non significantly different in subjects of different ailments. 40 mm Hg endurance values are significantly less than normals, in subjects with LBP and/or arthritis headache and/or migraine and in total SAG subjects, while in other groups like, URI and/or asthma hypertension and/or heart problems and miscellaneous do not have significant difference than normals.

Table - 10 Basal (pre-training) Galvenic Skin Resistance (GSR in KOhms) in normals (n=30) and subjects with somatic ailment (n=39).

	Normals	Subjects with somatic ailments
Mean	471.71	340.26
SD	177.10	172.28
SEP		42.50
't'		3.09
P		< 0.01

Basal values of Galvenic Skin Resistance of normals (n=30) and subjects with somatic ailments (n=39) are shown in table 10. In this table GSR value of subjects with somatic ailments show significantly than normal subjects.

Table - 11 Basal (pre-training) Fasting Blood Glucose (FBG in mg%) and Serum Cholesterol (SCh in mg%) levels in normals (NS - n=42) and Subjects with Somatic Ailments (SAG - n=42).

	FBG		SCh	
	NS	SAG	NS	SAG
Mean	109.0	151.05	119.17	148.36
SD	26.30	57.89	38.07	41.92
SEP		3.6		3.64
't'		11.68		8.01
P		< 0.001		<0.001

Table - 11 shows basal fasting blood sugar and serum cholesterol levels in normals (NS - n=42) and somatic ailment group (SAG - n=42). There is a very significantly ( $P < 0.001$ ) high levels of both the biochemical parameters when compared with normals, as the somatic ailment group consisted mainly hypertensive and diabetic subjects.

Table - 12 Showing influence of yogic techniques on various parameters in normals after 1 month (N=102), 2 month (N=71) and 3 months (N=54).

	Normals			Mean Diff.	Sd	(SE)	't'	Significa- nce
	Mean	Sd	(SE)					
<u>Weight :- in Kg</u>								
I	55.59	10.52	(1.05)					
II	55.37	10.16	(1.01)	0.23	3.69	(0.37)	0.62	P>0.05
I	58.35	9.33	(1.11)					
III	57.87	9.78	(1.16)	0.48	3.43	(0.41)	1.17	P>0.05
I	59.35	8.85	(1.2)					
IV	58.19	8.42	(1.14)	1.16	3.52	(0.48)	2.42	p<.05
<u>PLUSE RATE : PER MIN</u>								
I	78.32	6.67	(0.66)					
II	76.42	4.96	(0.49)	1.90	4.26	(0.42)	4.49	p<.001
I	77.95	7.74	(0.92)					
III	46.37	4.95	(0.59)	1.58	3.88	(0.46)	3.43	p<.001
I	77.7	7.1	(0.97)					
IV	75.15	4.88	(0.66)	2.55	3.82	(0.52)	4.9	p<.001
<u>Systolic Blood Pressure (S) mm Hg.</u>								
I	114.37	9.41	(0.94)					
II	113.9	8.86	(0.88)	0.47	4.37	(0.44)	1.09	P>0.05
I	116.36	8.41	(1.00)					
III	115.44	7.55	(0.9)	0.92	5.73	(0.68)	1.35	P>0.05
I	116.66	8.06	(1.1)					
IV	116.33	7.71	(1.05)	0.33	5.14	(0.7)	0.47	P>0.05

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Diastolic Blood Pressure (S) mm Hg.

I	76.12	6.26	(0.62)					
II	75.52	5.95	(0.59)	0.69	3.88	(0.39)	1.79	P>0.05
I	77.5	5.48	(0.54)					
III	76.05	5.61	(0.56)	1.41	4.41	(0.52)	2.71	p<.01
I	77.81	5.76	(0.57)					
IV	76.0	5.75	(0.57)	1.81	4.48	(0.61)	2.96	p<.01

Pluse Prossure (S) mm Hg.

I	38.86	7.49	(0.74)					
II	38.38	5.32	(0.53)	0.48	6.62	(0.66)	0.74	P>0.05
I	39.3	6.46	(0.77)					
III	39.38	3.91	(0.46)	0.8	5.73	(0.68)	0.12	P>0.05
I	39.44	6.22	(0.85)					
IV	40.15	3.15	(0.43)	0.71	5.22	(0.71)	1.01	P>0.05

Systolic Blood Pressure (L) mm Hg.

I	110.63	9.01	(0.9)					
II	110.38	8.65	(0.86)	0.26	5.00	(0.5)	0.52	P>0.05
I	112.31	7.86	(0.93)					
III	111.75	7.32	(0.87)	0.56	4.38	(0.52)	1.08	P>0.05
I	113.22	7.74	(1.05)					
IV	112.30	6.78	(0.92)	0.92	4.48	(0.61)	1.51	P>0.05

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Diastolic Blood Pressure (L) mm Hg.

I	72.28	6.25	(0.62)					
II	70.95	6.12	(0.61)	1.33	4.35	(0.43)	3.07	p<.01
I	73.72	4.93	(0.57)					
III	72.28	5.19	(0.62)	1.44	4.47	(0.53)	2.72	p<.01
I	74.56	4.93	(0.67)					
IV	72.30	4.84	(0.66)	2.26	4.63	(0.63)	3.59	p<.001

Pulse Pressure (L) mm Hg.

I	38.24	6.33	(0.63)					
II	39.00	5.66	(0.56)	0.56	5.86	(0.58)	0.96	P>0.05
I	38.51	6.63	(0.79)					
III	39.30	4.22	(0.5)	0.79	6.15	(0.73)	1.08	P>0.05
I	38.7	6.6	(0.9)					
IV	40.0	3.56	(0.48)	1.3	6.1	(0.83)	1.57	P>0.05

Respiratory Rate per min

I	17.45	3.45	(0.34)					
II	15.82	2.71	(0.27)	1.62	2.81	(0.28)	5.81	p<.001
I	17.41	3.67	(0.43)					
III	15.27	2.97	(0.35)	2.14	2.86	(0.34)	6.23	p<.001
I	17.63	3.66	(0.5)					
IV	13.93	2.61	(0.35)	3.70	3.45	(0.42)	7.8	p<.001

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Tidal volume in ml.

I	481.63	101.08	(10.05)						
II	528.71	84.8	(8.43)	47.79	104.90	(10.44)	4.51		p<.001
I	471.11	82.19	(9.75)						
III	514.79	68.48	(8.12)	37.68	60.95	(7.23)	5.21		p<.001
I	476.85	79.14	(10.77)						
IV	536.20	57.09	(7.77)	59.35	75.08	(10.21)	5.81		p<.001

Respiratory Minute Volume lit./min.

I	8.32	1.73	(0.17)						
II	8.35	1.67	(0.17)	0.04	1.65	(0.16)	0.22		P>0.05
I	8.28	1.81	(0.21)						
III	7.76	1.25	(0.15)	0.52	1.69	(0.29)	2.67		p<.01
I	8.28	1.88	(0.25)						
IV	7.40	1.14	(0.15)	0.88	1.69	(0.23)	3.83		p<.001

Vital Capacity in lit.

I	2.89	0.48	(0.05)						
II	3.07	0.52	(0.05)	0.17	0.45	(0.04)	3.8		p<.001
I	2.92	0.48	(0.06)						
III	3.02	0.48	(0.06)	0.20	0.42	(0.05)	4.0		p<.001
I	2.89	0.48	(0.97)						
IV	3.09	0.44	(0.06)	0.20	0.41	(0.055)	3.64		p<.001

contd...

Forced Expiratory Volume in one Sec. (in lit).

I	2.30	0.43	(0.04)						
II	2.54	0.43	(0.04)	0.23	0.47	(0.05)	5.0		p<.001
I	2.31	0.43	(0.05)						
III	2.49	0.41	(0.05)	0.18	0.40	(0.047)	3.83		p<.001
I	2.27	0.39	(0.05)						
IV	2.54	0.41	(0.05)	0.27	0.37	(0.05)	5.4		p<.001

Forced Expiratory Volume in one Sec (%)

I	79.6	4.98	(0.49)						
II	82.35	4.95	(0.49)	2.74	5.29	(0.53)	5.21		p<.001
I	79.18	5.02	(0.59)						
III	82.48	4.53	(0.54)	3.30	5.14	(0.61)	5.41		p<.001
I	78.73	4.65	(0.63)						
IV	82.63	4.17	(0.57)	3.9	4.63	(0.63)	6.19		p<.001

Peak Expiratory Flow Rate (lit/min).

I	498.32	94.46	(9.4)						
II	535.84	100.05	(9.96)	37.52	72.13	(7.18)	5.23		p<.001
I	501.18	95.99	(11.59)						
III	557.18	101.88	(12.26)	56.99	83.05	(9.85)	5.65		p<.001
I	512.78	104.98	(14.42)						
IV	561.68	96.06	(13.19)	48.9	67.55	(9.19)	5.32		p<.001

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contd...

Maximum Breathing Capacity (lit/min).

I	94.09	21.3	(2.12)						
II	106.45	23.75	(2.36)	12.01	19.16	(1.91)	6.51	p<.001	
I	92.97	21.01	(2.49)						
III	104.61	20.5	(2.41)	11.64	19.37	(2.3)	5.06)	p<.001	
I	90.39	20.44	(2.70)						
IV	105.71	20.36	(2.77)	15.37	17.82	(2.42)	6.34	p<.001	

Breath holding Period (in Sec).

I	42.74	13.73	(1.37)						
II	49.25	14.89	(1.48)	6.51	10.91	(1.09)	5.99	p<.001	
I	43.03	12.27	(1.46)						
III	51.37	12.71	(1.51).	8.34	11.49	(1.39)	6.12	p<.001	
I	44.07	12.73	(1.73)						
III	52.04	13.37	(1.82)	7.98	12.01	(1.63)	4.9	p<.001	

40 mm Hg Endurance test (in Sec.)

I	30.56	15.98	(1.59)						
II	35.88	13.41	(1.33)	5.32	12.37	(1.23)	4.32	p<.001	
I	33.45	17.07	(2.03)						
III	40.45	12.52	(1.49)	7.0	12.61	(1.49)	4.68	p<.001	
I	35.91	18.25	(2.98)						
IV	40.87	12.84	(1.76)	5.66	11.47	(1.56)	3.63	p<.001	

contd...

Maximum Expiratory Pressure (in mm Hg).

I	89.47	31.65	(3.15)	13.49	17.81	(1.77)	7.61	p<.001
II	102.95	34.56	(8.44)					
I	95.09	31.52	(3.74)	16.88	18.97	(2.25)	7.5	p<.001
III	111.97	33.93	(4.03)					
I	100.33	32.90	(4.48)	17.69	21.17	(2.88)	6.14	p<.001
III	118.04	35.82	(4.88)					

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Table - 12 shows mean and SD values of basal (pre-training, n = 102) physiological parameters and changes in them after one month of structured yoga training (post-training II follow-up, n=102), one month practice (after 2 months III follow-up n=71) and two months of yoga practice (after 3 months - IV follow-up, n=54) in normal subjects (N=102).

The mean body weight demonstrated a tendency to decrease in subjects, reaching to a significant level of reduction after 2 months of practice (IV - follow-up). The pulse rate demonstrated highly significant fall (P<0.001) within one month follow-up and the fall continued steadily during the follow-up periods (viz. after 2 months and 3 months).

There is no significant change in systolic blood pressure in either posture, but the diastolic blood pressure measured in sitting posture shows significant reduction after 2 and 3 months of practice. In lying down posture the DBP demonstrated significant decrease even after one month (II follow-up), as

compared to the pre-training basal data of the same subjects. There are no significant alteration in pulse pressure through out the follow-up period of 3 months.

Respiratory parameters like respiratory rate and tidal volume show very significant changes within one month practice of yogic techniques. After a month of practice of yogic techniques a highly significant decrease in respiratory rate (RR) and increase in tidal volume are found, with no change in RMV. After 2 and 3 months of practice even RMV shows significant decrease.

There is highly significant increase in vital capacity (VC) even within one month of yoga practice. Similarly other respiratory parameters like Forced Expiratory volume in one second and its percentage ( $FEV_1$  and  $FEV_1\%$ ), Maximum Breathing Capacity (MBC), Peak Expiratory Flow Rate (PEFR), Breath Holding Period (BHP), 40 mm Hg Endurance and Maximum Expiratory Pressure (MEP) are also highly significantly increased within one month of practice of yoga in these normal subjects.

Table 13 : Showing influence of yogic techniques on various parameters in somatic ailment group after 1 month (303), after 2 months (230) & after 3 months (189).

	Normals			Mean Diff.	Sd	(SE)	't'	Significa- nce
	Mean	Sd	(SE)					
<u>Weight in kg.</u>								
I	60.43	11.16	(0.64)					
II	60.01	11.07	(0.64)	0.42	1.84	(0.11)	3.82	p<.001
I	61.30	11.37	(0.75)					
III	60.19	10.75	(0.71)	1.11	4.13	(0.27)	4.11	p<.001
I	62.89	11.25	(0.82)					
IV	61.29	9.83	(0.71)	1.6	2.52	(0.18)	8.88	p<.001
<u>Pulse Rate (per min.)</u>								
I	78.84	7.48	(0.43)					
II	76.21	5.92	(0.34)	2.68	4.43	(0.25)	10.72	p<.001
I	79.28	7.46	(0.49)					
III	74.98	4.57	(0.29)	4.3	5.47	(0.36)	11.94	p<.001
I	79.25	7.73	(0.56)					
IV	73.31	4.67	(0.34)	5.94	6.58	(0.48)	12.37	p<.001
<u>Systolic Blood Pressure (s) mmHg</u>								
I	121.35	12.07	(0.69)					
II	120.48	11.37	(0.65)	0.87	5.43	(0.31)	2.81	p<0.01
I	123.08	12.11	(0.80)					
III	121.72	9.66	(0.64)	1.36	6.10	(0.40)	3.4	p<0.001
I	124.36	12.53	(0.91)					
IV	121.79	8.72	(0.63)	2.57	7.21	(0.52)	4.94	p<0.001

contd...

Diastolic Blood Pressure (S) mm Hg.

I	83.15	8.80	(0.51)	1.23	4.77	(0.27)	4.55	p<.001
II	81.92	8.09	(0.46)					
I	84.16	8.93	(0.59)	2.51	5.45	(0.36)	6.97	p<.001
III	81.65	7.75	(0.51)					
I	85.20	9.14	(0.66)	3.32	5.62	(0.41)	8.10	p<.001
IV	81.88	6.63	(0.48)					

Pulse Pressur (S) mm Hg.

I	38.15	7.47	(0.43)	0.77	5.21	(0.3)	2.57	p<.05
II	38.92	6.94.	(0.4)					
I	38.83	7.79	(0.51)	1.16	5.49	(0.36)	3.22	p<.01
III	39.99	5.68	(0.37)					
I	39.06	8.03	(0.58)	0.83	5.94	(0.43)	1.93	P>0.05
IV	39.89	4.78	(0.35)					

Systolic Blood Pressure (L) mm Hg.

I	117.85	12.36	(0.71)	1.19	5.89	(0.34)	3.5	p<.001
II	116.66	10.97	(0.63)					
I	119.68	12.47	(0.82)	2.22	6.94	(0.46)	4.83	p<.001
III	117.46	9.87	(0.65)					
I	121.18	12.66	(0.92)	3.52	7.64	(0.56)	6.29	p<.001
IV	117.66	8.71	(0.63)					

Diastolic Blood Pressure (L) mm Hg.

I	78.2	9.29	(0.53)	1.21	5.15	(0.3)	4.03	p<.001
II	76.99	8.01	(0.46)					

contd...

I	79.32	9.45	(0.62)					
III	77.27	7.74	(0.51)	2.05	6.08	(0.45)	4.56	p<.001
I	80.56	9.51	(0.69)					
IV	77.69	7.01	(0.51)	2.78	6.02	(0.44)	6.52	p<.001
<u>Pulse Pressure (L) mm Hg.</u>								
I	39.54	8.35	(0.48)					
II	39.42	6.97	(0.4)	0.12	5.52	(0.32)	0.37	P>0.05
I	40.30	8.63	(0.57)					
III	40.42	5.85	(0.39)	0.12	6.45	(0.42)	0.29	P>0.05
I	40.46	8.88	(0.39)					
IV	40.09	5.10	(0.37)	0.37	6.92	(0.5)	0.74	P>0.05
<u>Respiratory Rate per min.</u>								
I	18.68	3.61	(0.21)					
II	16.33	2.75	(0.16)	2.35	2.47	(0.14)	16.79	p<.001
I	19.04	3.61	(0.24)					
III	14.91	2.73	(0.18)	4.13	2.78	(0.18)	22.94	p<.001
I	19.27	3.61	(0.26)					
IV	13.59	2.84	(0.21)	5.68	3.28	(0.24)	23.67	p<.001
<u>T.V. (in ml)</u>								
I	470.66	93.68	(5.38)					
II	508.53	81.57	(4.69)	37.87	74.00	(4.25)	8.91	p<.001
I	464.14	92.85	(6.12)					
III	533.58	69.78	(4.6)	69.44	81.5	(5.37)	12.93	p<.001

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I	463.36	92.59	(6.73)						
IV	563.49	75.24	(5.47)	100.13	93.12	(6.77)	14.79	p<.001	

Respiratory Minuty Volume in lit/min.

I	8.67	1.62	(0.1)						
II	8.21	1.49	(0.09)	0.46	1.44	(0.08)	5.75	p<.001	

I	8.74	1.89	(0.12)						
III	7.86	1.19	(0.08)	0.88	1.73	(0.11)	8.00	p<.001	

I	8.81	1.91	(0.14)						
IV	7.51	1.08	(0.08)	1.3	1.79	(0.13)	10.00	p<.001	

Vital Capacity in liters

I	2.65	0.48	(0.03)						
II	2.80	0.48	(0.03)	0.15	0.35	(0.02)	7.5	p<.001	

I	2.64	0.5	(0.03)						
III	2.86	0.44	(0.03)	0.22	0.38	(0.025)	8.8	p<.001	

I	2.63	0.52	(0.04)						
IV	2.94	0.41	(0.03)	0.31	0.37	(0.027)	11.48	p<.001	

Forced Expiratory Volume in 1 sec.

I	2.02	0.37	(0.021)						
II	2.22	0.40	(0.023)	0.20	0.317	(0.018)	11.11	p<.001	

I	2.01	0.36	(0.023)						
III	2.32	0.37	(0.024)	0.31	0.32	(0.02)	15.5	p<0.001	

I	2.00	0.37	(0.027)						
IV	2.40	0.34	(0.025)	0.4	0.33	(0.024)	16.67	p<.001	

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FEV<sub>1</sub>%

I	76.30	6.43	(0.37)						
II	79.31	5.63	(0.32)	3.01	5.99	(0.34)	8.85	p<.001	
I	76.19	6.24	(0.41)						
III	80.71	4.57	(0.30)	4.55	6.49	(0.43)	10.58	p<.001	
I	76.44	6.21	(0.45)						
IV	81.76	4.25	(0.31)	5.32	6.81	(0.49)	10.77	p<.001	

PEFR (lt/min.)

I	448.34	97.2	(5.59)						
II	490.38	94.45	(5.43)	42.04	59.47	(3.42)	12.29	p<.001	
I	448.51	97.37	(6.42)						
III	526.86	97.85	(6.45)	78.35	74.67	(4.92)	15.92	p<.001	
I	455.82	99.21	(7.21)						
IV	545.82	94.08	(6.84)	90.00	68.87	(4.86)	18.52	p<.001	

MBC (lt/min.)

I	79.30	20.63	(1.18)						
II	90.78	19.08	(1.1)	11.48	17.25	(0.99)	11.59	p<.001	
I	79.02	20.55	(1.36)						
III	98.48	20.41	(1.35)	19.46	20.48	(1.35)	14.41	p<.001	
I	77.62	19.66	(1.43)						
IV	102.44	18.33	(1.33)	24.82	20.92	(1.52)	16.33	p<.001	

BHP (in sec.)

I	41.52	14.5	(0.83)					
II	45.86	13.42	(0.77)	4.38	8.59	(0.49)	8.94	p<.001
I	41.53	14.34	(0.95)					
III	49.39	11.79	(0.78)	7.86	10.89	(0.72)	10.92	p<.001
I	42.37	14.48	(1.05)					
IV	51.56	11.55	(0.84)	9.19	11.27	(0.82)	11.21	p<.001

40 mm Hg Endurance test (in sec.)

I	26.94	11.74	(0.68)					
II	31.96	11.08	(0.64)	5.02	7.15	(0.41)	12.24	p<.001
I	27.57	12.04	(0.8)					
III	34.87	10.76	(0.71)	7.30	9.42	(0.62)	11.77	p<.001
I	28.64	12.33	(0.90)					
IV	39.27	11.03	(0.80)	10.63	10.31	(0.75)	14.17	p<.001

Mean Expiratory Pressure mm Hg.

I	86.83	32.21	(1.85)					
II	101.23	30.73	(1.77)	14.40	16.19	(0.93)	15.48	p<.001
I	89.53	32.18	(2.13)					
III	114.03	31.17	(2.06)	24.5	20.3	(1.34)	18.28	p<.001
I	91.49	32.83	(2.39)					
IV	121.13	31.67	(2.30)	29.64	24.46	(1.78)	16.65	p<.001

Changes in physiological parameters after the practice of yogic techniques for varied period of time, in somatic ailment group, are shown in table - 13.

There is significant reduction in weight consistently starting from one month practice to 3 months practice of yogic techniques in this group. Pulse rate is also consistently reduced with practice of yogic techniques. There is highly significant gradual decrease in systolic and diastolic blood pressure in sitting as well as lying down postures with the practice of yogic techniques for one, two and three months. There is significant increase in pulse pressures in sitting posture with practice of yogic techniques but in lying down posture there is no significant alteration registered in pulse pressure throughout the follow-up period of three months.

The changes in respiratory parameters in somatic ailment group found to be highly significant upon their practice of yogic techniques within a month, which continued over the 3 months follow-up period. There is highly significant decrease in respiratory rate (RR) and increase in tidal volume (TV) with overall significant decrease in respiratory minute volume (RMV). The rise in vital capacity (VC),  $FEV_1$  and  $FEV_1\%$  are highly significant as compared to their pretraining values. Similarly there is highly significant increase in Peak Expiratory Flow Rate (PEFR) and Maximum Breathing Capacity (MBC). The respiratory efficiency is also improved significantly, indicated by improvement in Breath Holding Period (BHP), 40 mm Hg Endurance and Maximum Expiratory Pressure (MEP), following one month practice of yogic techniques, which consistently improved during the follow-up period of 3 months.

Table - 14      Effect of practice of yogic techniques on Galvenic Skin Resistance (GSR in KOhms) in normals (n=30).

	Initial	After 3 months
Mean	471.71	530.71
SD	177.10	163.03
MD		55.22
SDd		87.75
SEd		16.02
't'		3.44
P		<0.01

This table shows the effect of practice of yogic techniques on Galvenic Skin Resistance (GSR) in normal subjects. The increase in GSR level (from 471.71  $\pm$  177.10 KOhms to 530.71  $\pm$  163.03 KOhms) is significant (P<0.01), after 3 months of practice of yogic practice.

Table - 15      Effect of practice of yogic techniques on Galvenic Skin Resistance (GSR in KOhms) in subjects with somatic ailments (n=39).

	Initial	After 3 months
Mean	340.26	470.00
SD	172.28	163.30
MD		129.73
SDd		107.92
SEd		17.28
't'		7.51
P		<0.001

The table shows the effect of practice of yogic techniques on Galvenic Skin Resistance (GSR) in subjects with somatic ailments. There is very significant increase in GSR level (from  $340.26 \pm 172.28$  KOhms to  $470.00 \pm 163.30$  KOhms) after 3 months of practice of yogic techniques.

Table - 16 Effect of practice of yogic techniques Fasting Glucose (FBG in mg%) and serum cholesterol (SCh in mg%) levels in normals (n=42).

I = Initial

II = After 3 months

	FBG		SCh	
	I	II	I	II
Mean	109.00	95.69	119.17	109.02
SD	26.30	21.56	38.07	22.52
MD		13.31		55.22
SDd		26.89		20.20
SEd		4.15		3.12
't'		3.21		3.03
P		<0.01		<0.01

This table shows effect of practice of yogic techniques on fasting blood glucose (FBG) and serum cholesterol (SC) levels, in normal subjects. Decreases in FBG (from  $109.00 \pm 26.30$  to  $95.69 \pm 21.56$  mg%) and SC (from  $119.17 \pm 38.07$  to  $109.02 \pm 22.52$  mg%) after 3 months of practice of yogic techniques are significant ( $P < 0.01$ ).

Table - 17 Effect of practice of yogic techniques - Fasting Blood Glucose (FBG in mg%) and serum cholesterol (SCh in mg%) levels in subjects with somatic ailments (n=42).

I = Initial

II = After 3 months

	FBG		SCh	
	I	II	I	II
Mean	151.05	131.57	148.36	133.02
SD	57.89	54.02	47.96	41.92
MD		15.58		15.34
SDd		27.86		29.96
SEd		4.3		4.62
't'		4.53		3.32
P		<0.001		<0.001

The above table shows the effect of practice of yogic techniques on fasting blood glucose and serum cholesterol levels in subjects with somatic ailments. There are decreases in fasting blood sugar (FBG) from  $151.05 \pm 57.89$  mg% to  $131.57 \pm 54.02$  mg% ( $P < 0.001$ ) and serum cholesterol (SC) from  $148.36 \pm 47.96$  mg% to  $133.02 \pm 41.92$  mg% ( $P < 0.01$ ) after 3 months of practice of yogic techniques.

Table - 18 Effect of examination stress on some of psychophysiological parameter in medical students (n=42).

	I = Pre Exam		II = Post Exam				
	M	SD	MD	SD	(SE)	't'	Significance
<u>PR = Pulse Rate (per min.)</u>							
I	90.67	7.86					
II	83.15	8.90	7.52	7.71	(1.19)	6.32	p<0.001
<u>SBP = Systolic Blood Pressure (mm Hg)</u>							
I	115.85	9.28					
II	111.52	6.72	4.33	6.7	(1.03)	4.2	p<0.001
<u>DBP = Diastolic Blood Pressure (mm Hg)</u>							
I	78.71	7.41					
II	75.33	5.68	3.38	5.95	(0.92)	3.61	p<0.01
<u>Temp. = Temperature (°F)</u>							
I	98.66	0.60					
II	98.24	0.81	0.42	0.69	(0.11)	3.82	p<0.001
<u>GSR = Galvenic Skin Resistance (KOhms)</u>							
I	176.85	88.50					
II	281.36	177.35	-104.51	129.86	(20.04)	5.22	p<0.001
<u>RT = Reaction Time (mSec)</u>							
I	249.53	66.39					
II	311.86	81.49	-62.33	80.30	(12.39)	5.03	p<0.001
<u>RR = Respiratory Rate (per min.)</u>							
I	19.72	3.58					
II	18.79	3.64	0.93	3.3	(0.51)	1.82	p<0.05

Table 18 shows some of psychophysiological parameters affected by situational (Examination) stress in medical students (n=42). The results demonstrated that pulse rate (PR), systolic and diastolic blood pressures (SBP & DBP) and temperature are significantly ( $P < 0.001$ ) higher in pre-exam compared to post exam period. GSR and RT are found to be highly significantly low ( $P < 0.001$ ) in pre-exam than that in post-exam period; while the respiratory rate (RR) is not significantly altered.

Table - 19 Effect of yogic techniques on some of psychophysiological parameter in medical students (n=36).

	I = Pre-training		II = Post-training				
	M	SD	MD	SD	(SE)	't'	Significance
<u>PR = Pulse Rate (per min.)</u>							
I	91.47	14.48					
II	81.42	10.28	10.05	9.53	(1.59)	6.33	p<0.001
<u>SBP = Systolic Blood Pressure (mm Hg)</u>							
I	116.50	11.35					
II	111.17	10.14	5.33	8.21	(1.37)	3.89	p<0.001
<u>DBP = Diastolic Blood Pressure (mm Hg)</u>							
I	80.66	8.31					
II	76.11	6.01	4.55	6.79	(1.13)	4.02	p<0.001
<u>Temp. = Temperature (°F)</u>							
I	98.41	1.07					
II	98.31	0.77	0.1	0.96	(0.16)	0.63	p>0.05
<u>GSR = Galvenic Skin Resistance (KOhms)</u>							
I	197.77	103.26					
II	335.02	191.24	135.25	184.01	(30.67)	4.47	p<0.001
<u>RT = Reaction Time (mSec)</u>							
I	324.58	91.96					
II	280.83	81.41	43.75	82.40	(13.73)	3.19	p<0.01
<u>RR = Respiratory Rate (per min.)</u>							
I	18.64	2.71					
II	16.03	2.72	2.61	2.56	(0.43)	6.07	p<0.001

Table 19 shows the effect of yoga practice for a month on some of psychophysiological parameters in medical students (n=36). Post-training measurements demonstrated highly significant reduction in their pulse rate, systolic and diastolic blood pressure, and, respiratory rate, but no change in their body temperature compared to the pre-training values. There is significant increase ( $p < 0.001$ ) in Galvenic skin resistance (GSR) and significant decrease ( $p < 0.01$ ) in Reaction Time (RT) after one month yoga practice.

Table - 20 Pre-training Mean and SD values of percentages of subjective feelings (on visual analog scale) in normals (N=78) and subjects with somatic ailments (N=159).

	NS		SAG		SEP	't'	Signi- ficance
	Mean	SD	Mean	SD			
General physical health	71.61	19.79	58.41	26.78	3.09	4.28	P<0.001
Appetite	72.44	6.46	60.22	19.32	1.70	7.19	P<0.001
Sleep	69.24	20.81	53.28	23.29	2.99	5.34	P<0.001
Pain problem	59.71	24.07	69.49	20.13	3.16	3.1	P<0.01
Thinking	79.80	19.9	56.26	25.2	3.01	7.82	P<0.001
Mood/Emotion	57.77	22.1	41.88	23.69	3.13	5.08	P<0.001
Mental state	75.17	23.06	52.46	24.01	3.23	7.02	P<0.001
Self-confidence	76.07	21.77	55.18	25.18	3.17	6.58	P<0.001
Motivation & interest	72.19	25.16	64.30	24.31	3.44	2.29	P<0.05
Concentration	70.89	19.96	57.67	31.51	3.37	3.92	P<0.001
Memory	74.09	20.48	61.69	22.73	2.94	4.22	P<0.001

Table 20 shows the level of initial assessment of subjective feelings on parameters like, general physical health, appetite, sleep, pain problem, thinking mood/emotion, mental state, self-confidence, motivation & interest, concentration and memory. The differences in levels amongst two groups are highly significantly (P<0.001) in all parameters except pain problem (P<0.01) and motivation & interest (P<0.05).

Table - 21 Shows mean percentages of improvement in various subjective feelings (feedback after 3-6 months) in Normals (NS - N=78) and somatic ailment group (SAG - N = 159)

(N = Total number of subjects who returned feedback proforma)  
(n = number of subjects who had shown improvement in particular area)

	NS (N=78)			SAG (N=159)		
	Mean	SD	(n)	Mean	SD	(n)
General physical health	41.92	21.56	36	49.48	24.31	58
Pain	42.03	17.17	27	58.08	24.19	39
Appetite	40.97	21.68	17	50.61	30.27	33
Sleep	46.74	24.43	25	55.38	29.27	33
Thought process	51.67	19.46	67	53.82	24.61	131
Mood	55.00	19.29	39	51.36	24.02	88
Anxiety/tension/nervousness	49.48	29.41	58	48.69	22.93	103
Confidence	63.18	19.79	44	46.62	24.59	109
Motivation	58.21	19.08	28	50.13	26.00	80
Concentration	50.53	16.49	37	47.78	26.45	106
Memory	56.5	15.82	23	45.43	26.28	58
Emotional balance	54.57	14.37	49	47.24	23.37	85
Absenteesm	60.00	17.32	6	51.25	36.98	12
Smoking	25.00	21.21	4	50.83	20.90	6
Clumsiness	30.00	26.46	3	52.00	22.80	5
Interpersonal relations	48.21	28.2	20	60.20	24.75	51

contd...

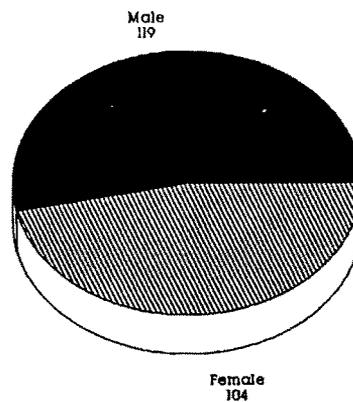
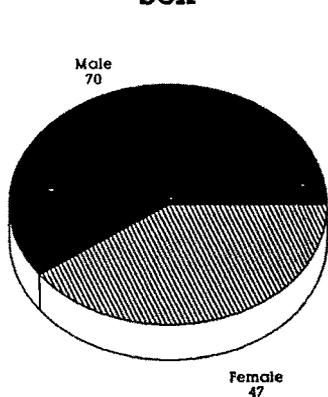
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Any other							
i. Belief	40	0	1	50	35.35	2	
ii. Relaxation	70	0	1	25	0	1	
iii. Speech	10	0	1	10	0	1	
iv. Faith in God	75	0	1	-	-	-	
v. Self awareness	-	-	-	80	-	1	
vi. Scrembling	-	-	-	60	-	1	
vii. Tension of journey	-	-	-	80	-	1	
viii. Thought Disturbing	-	-	-	50	-	1	
ix. Organization	10	-	1	70	-	2	
x. Fear	-	-	-	50	-	1	
xi. Tobacco	-	-	-	20	-	1	
xii. Body weight	5	-	1	10	-	2	
xiii. Drug reduction	-	-	-	34.23	22.98	46	

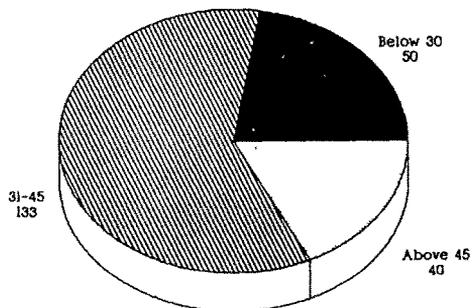
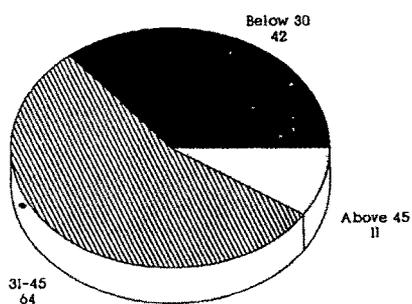
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Demographic distribution of normal subjects (N=117)  
and subjects with somatic ailments (N=223)

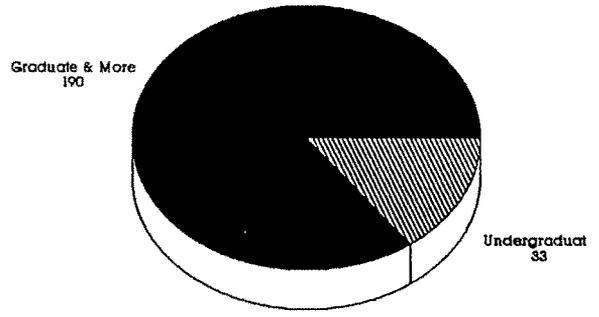
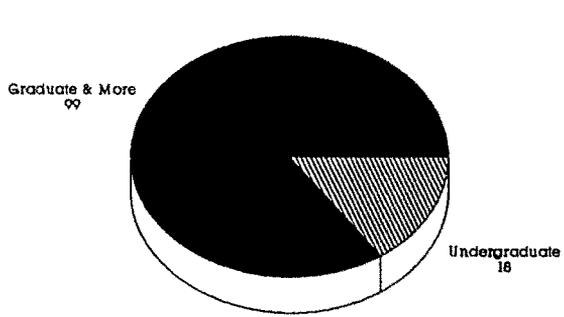
Sex



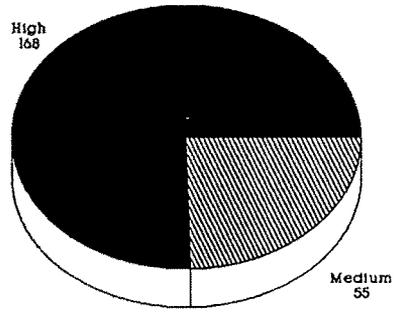
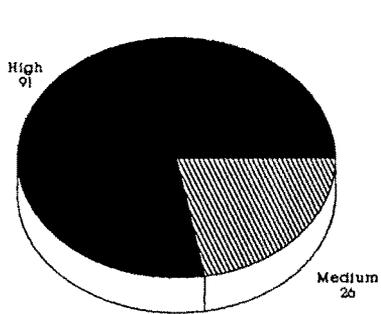
Age



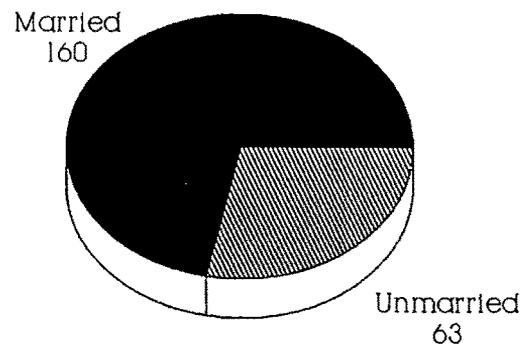
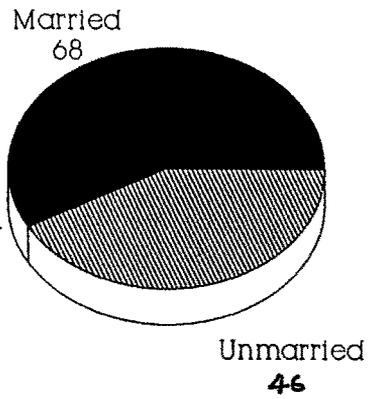
### Education



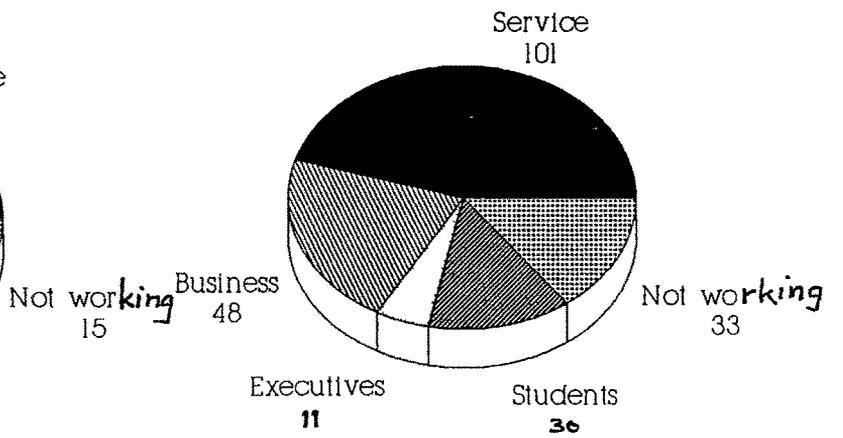
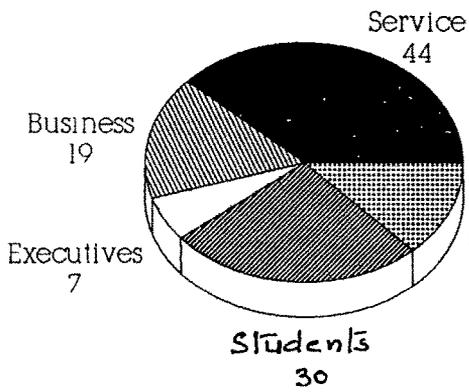
### Income



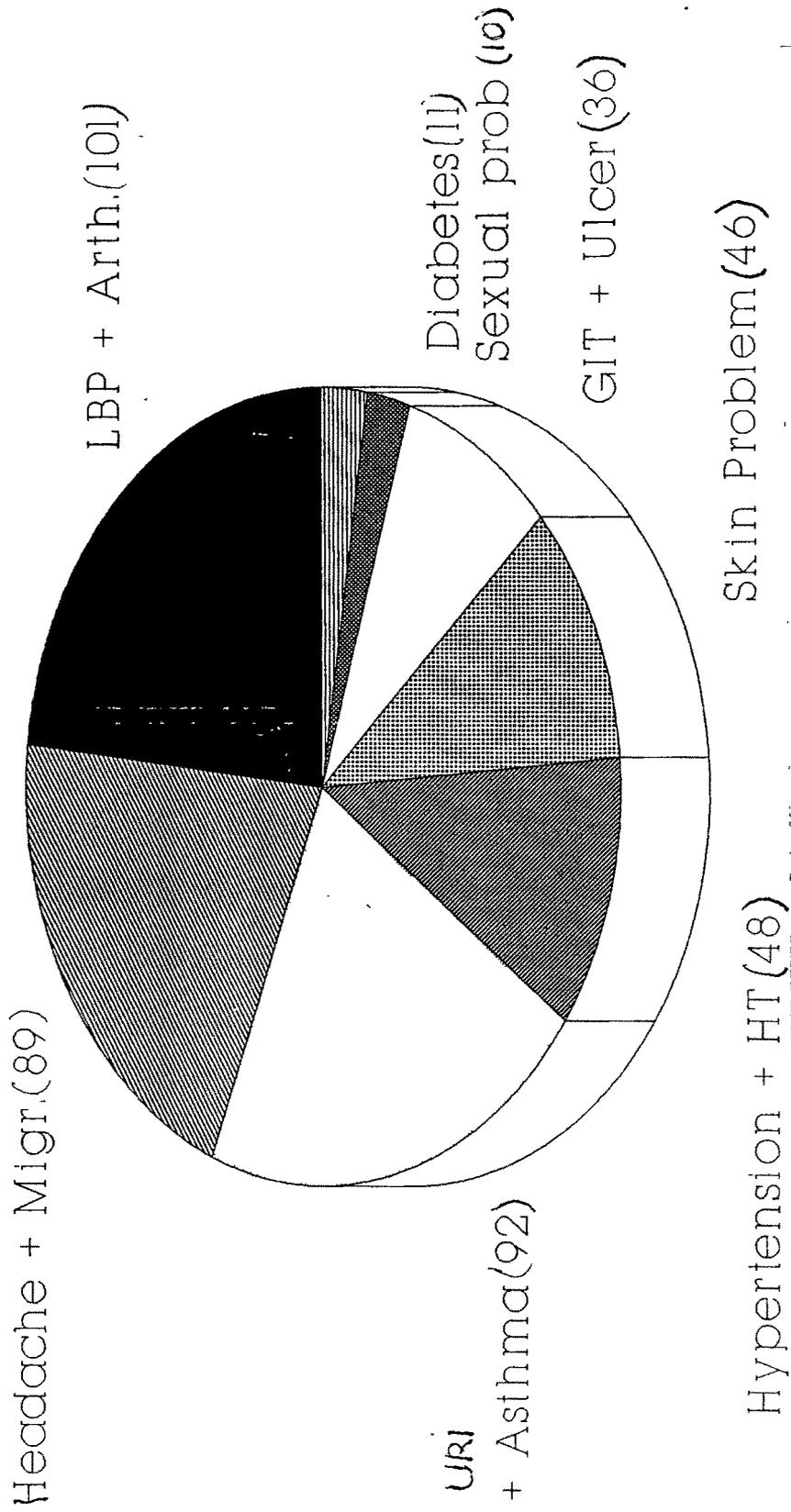
### Marital Status



### Occupation

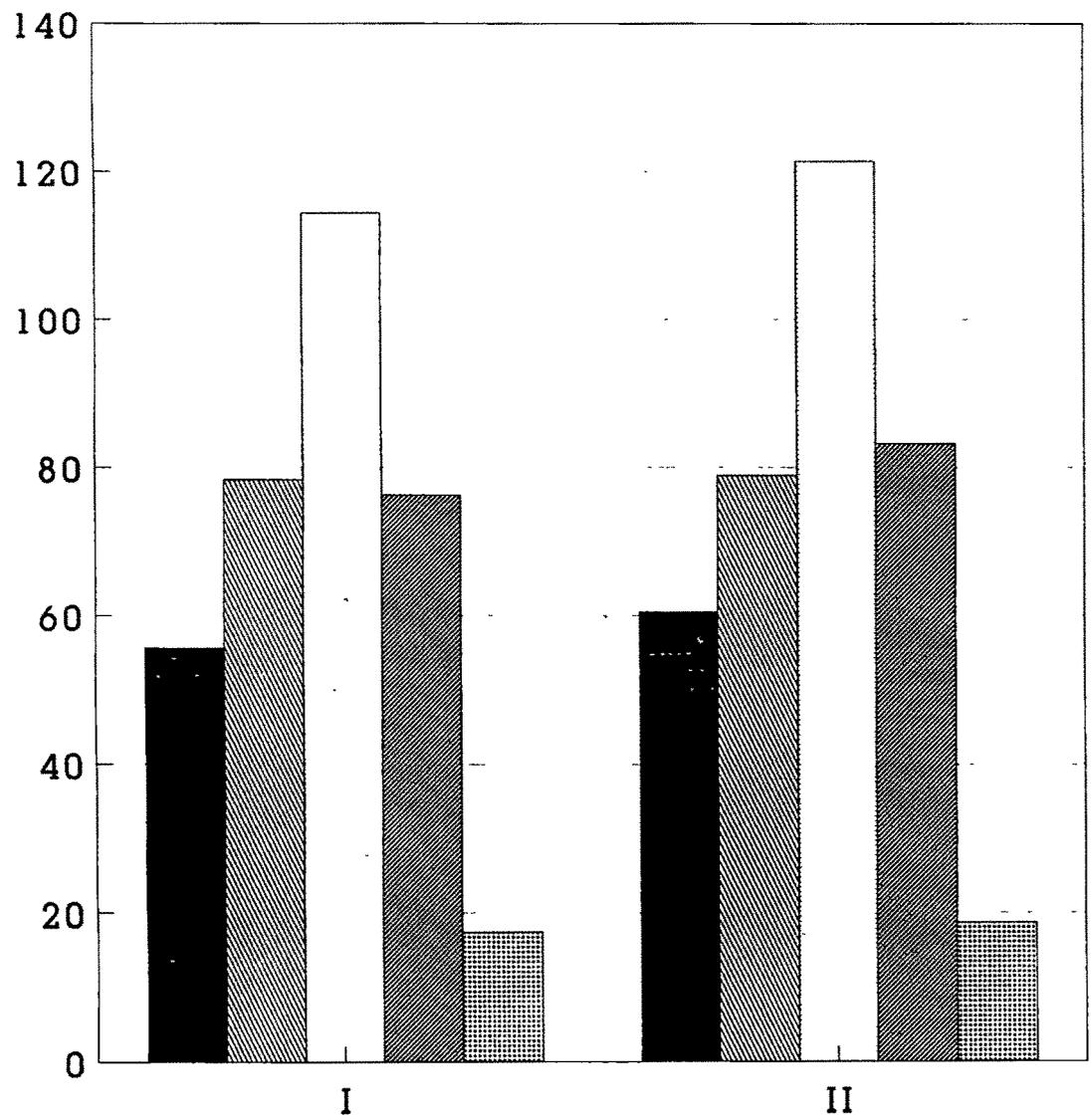


Distribution of complaints reported by the subjects of somatic ailment group



Note : Number in parenthesis indicate number of subjects reporting the particular ailment.

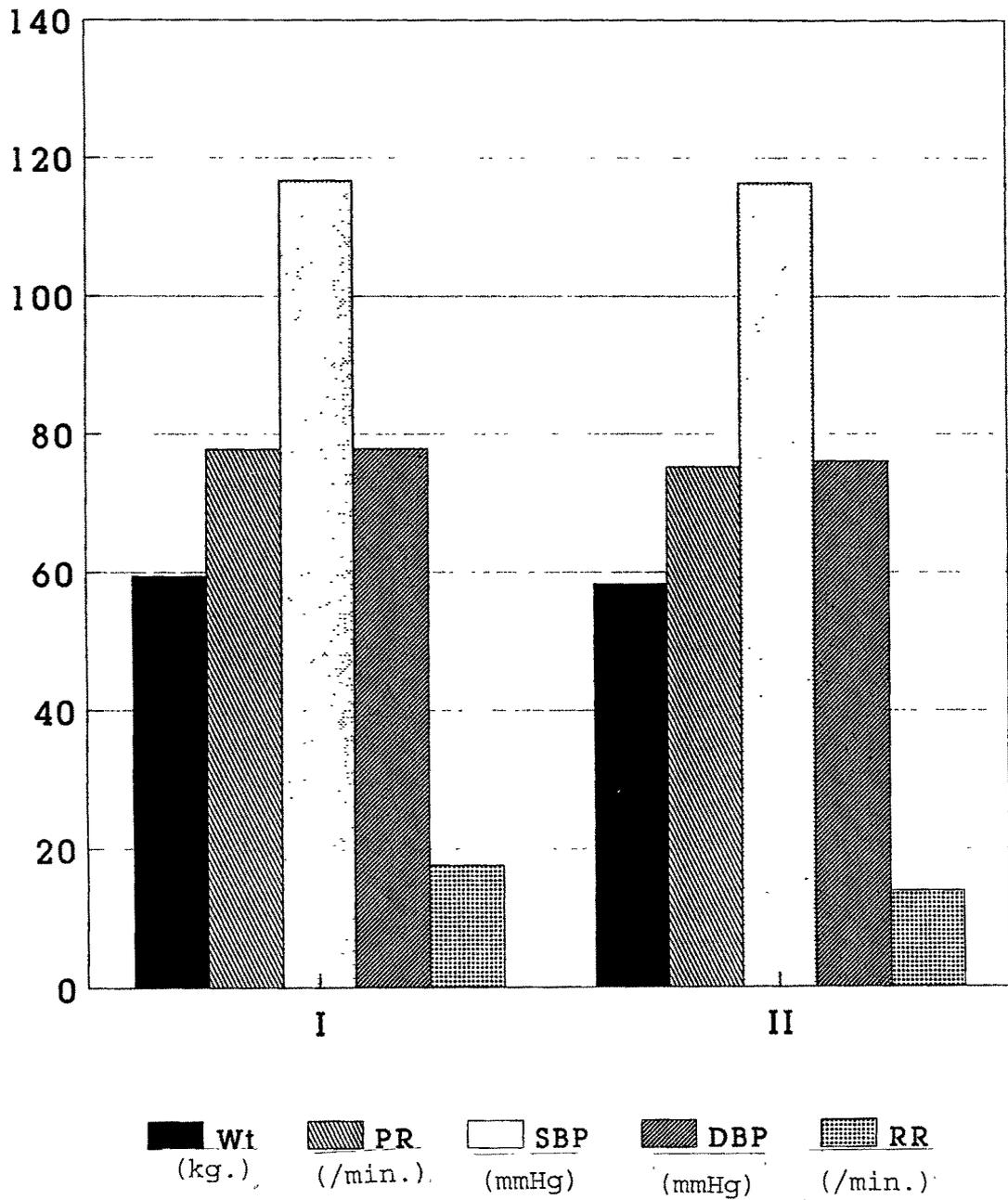
### Comparison of Some Physiological parameters in normals and somatic group



■ Wt (kg.)    ▨ PR (/min.)    □ SBP (mmHg)    ▩ DBP (mmHg)    ▤ RR (/min.)

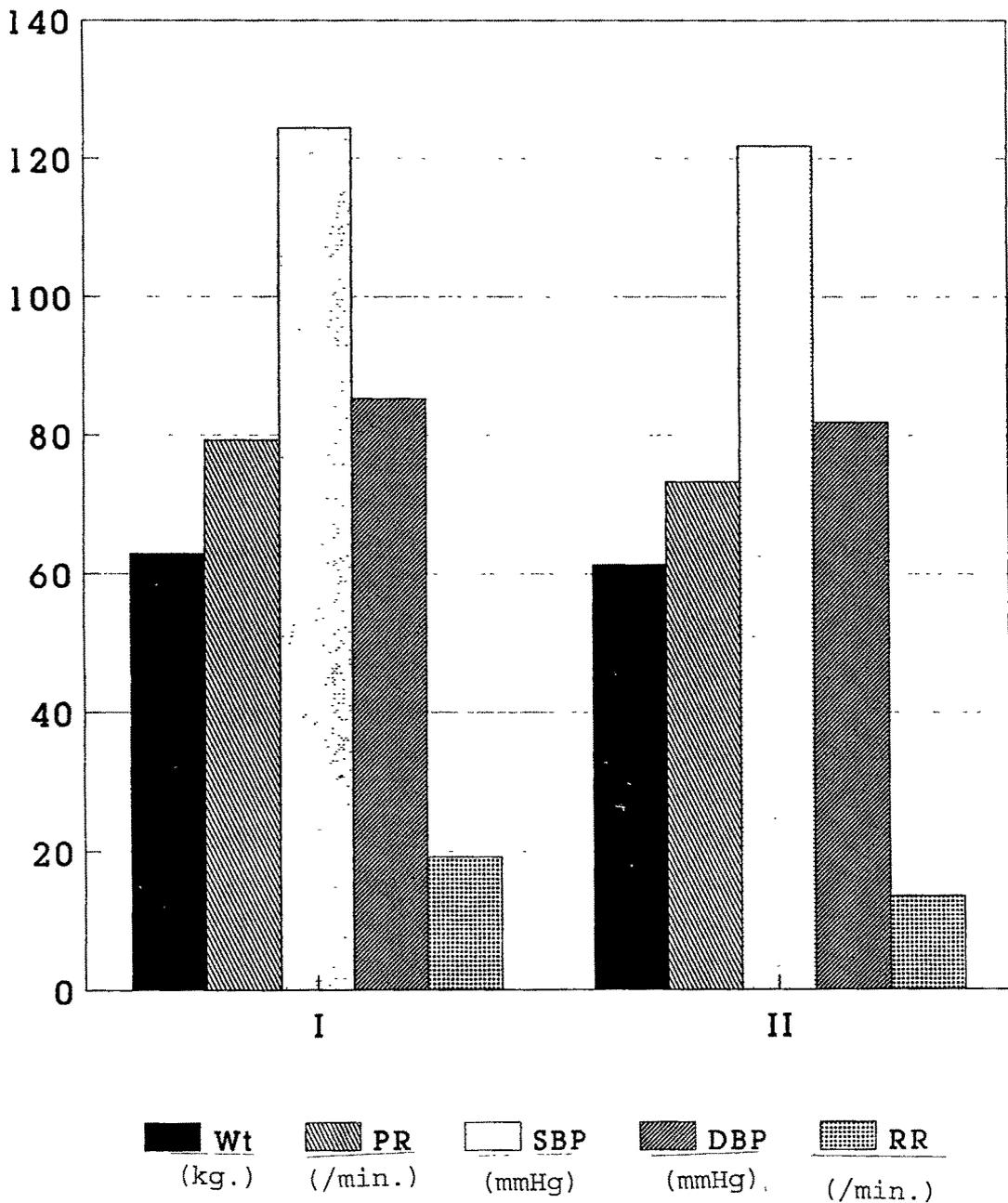
I = Normals(N=102); II = SAG (N=303)

## Effect of Yoga on Some Physiological parameters in Normals (N=54)



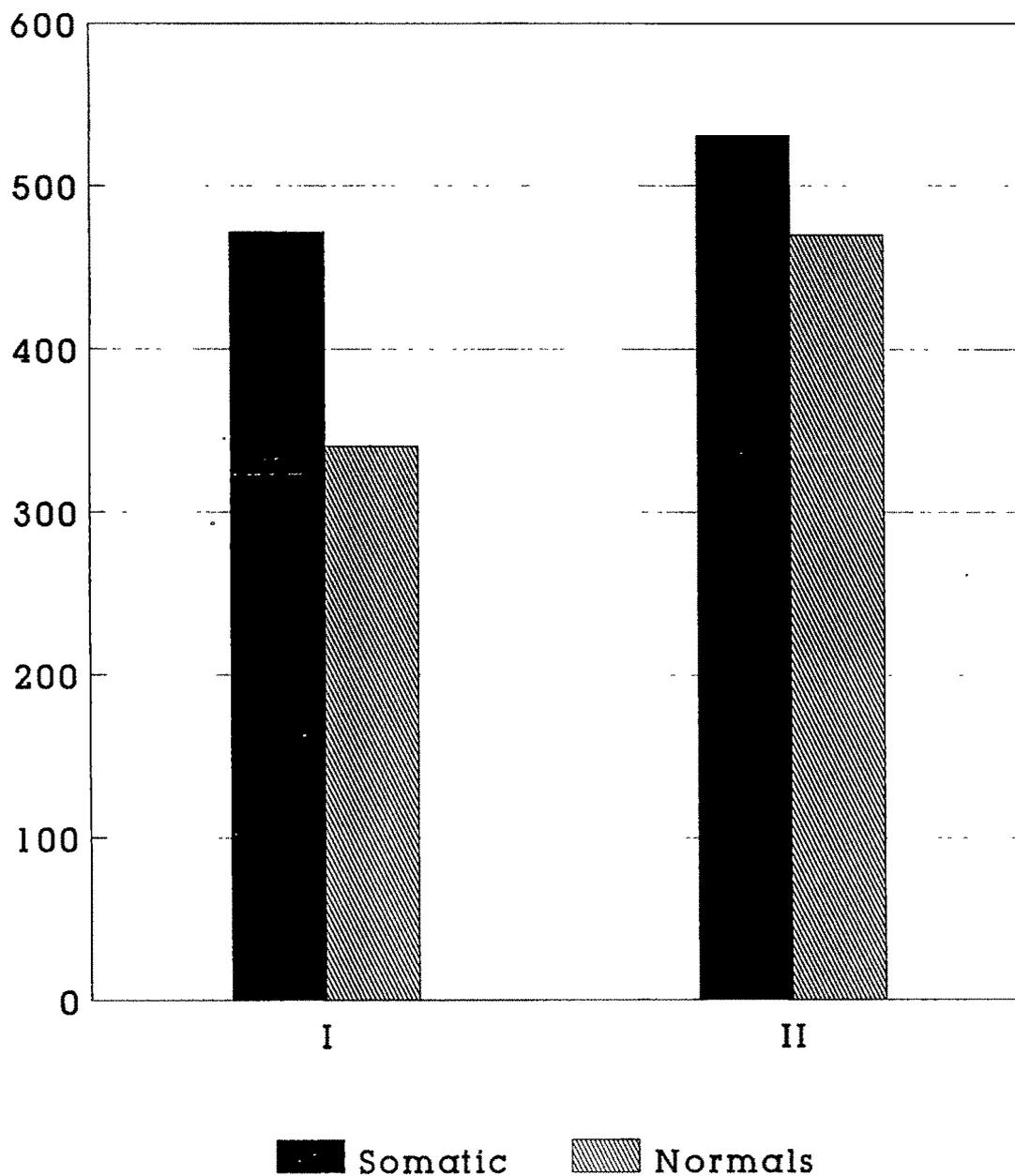
I = Initial; II = After 3 months

## Effect of Yoga on Some Physiological parameters in Somatic ailment group



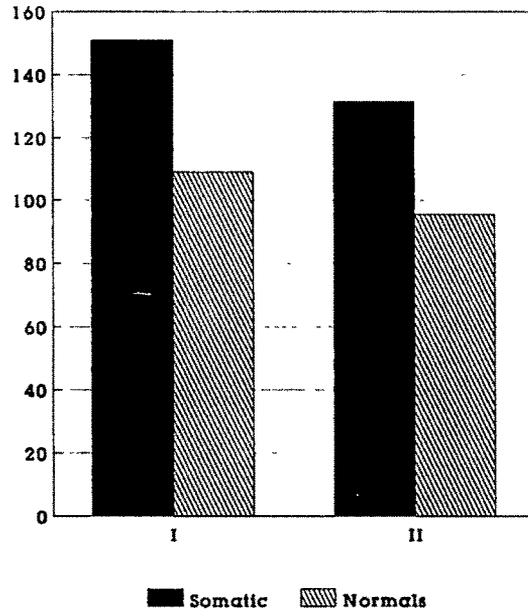
I = Initial; II = After 3 months (N=189)

### GSR values in normals and subjects with somatic ailment and effect of yoga

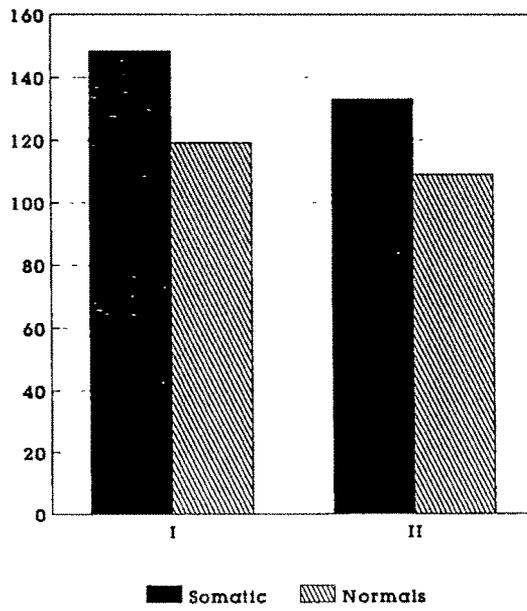


I = Initial; II = After 3 months

Influence of yoga technique on fasting blood glucose (mg%)

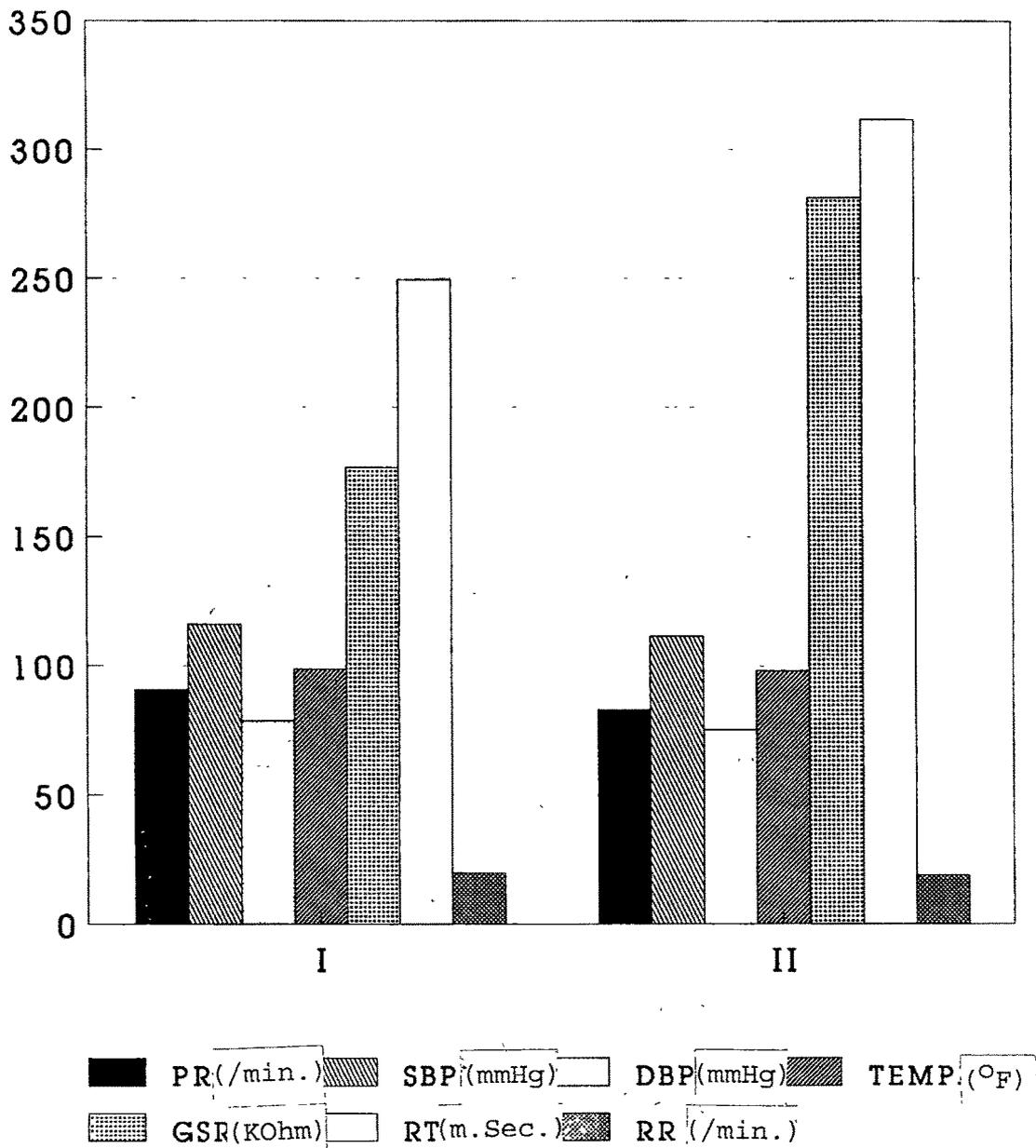


Influence of yoga technique on serum cholesterol (mg%)



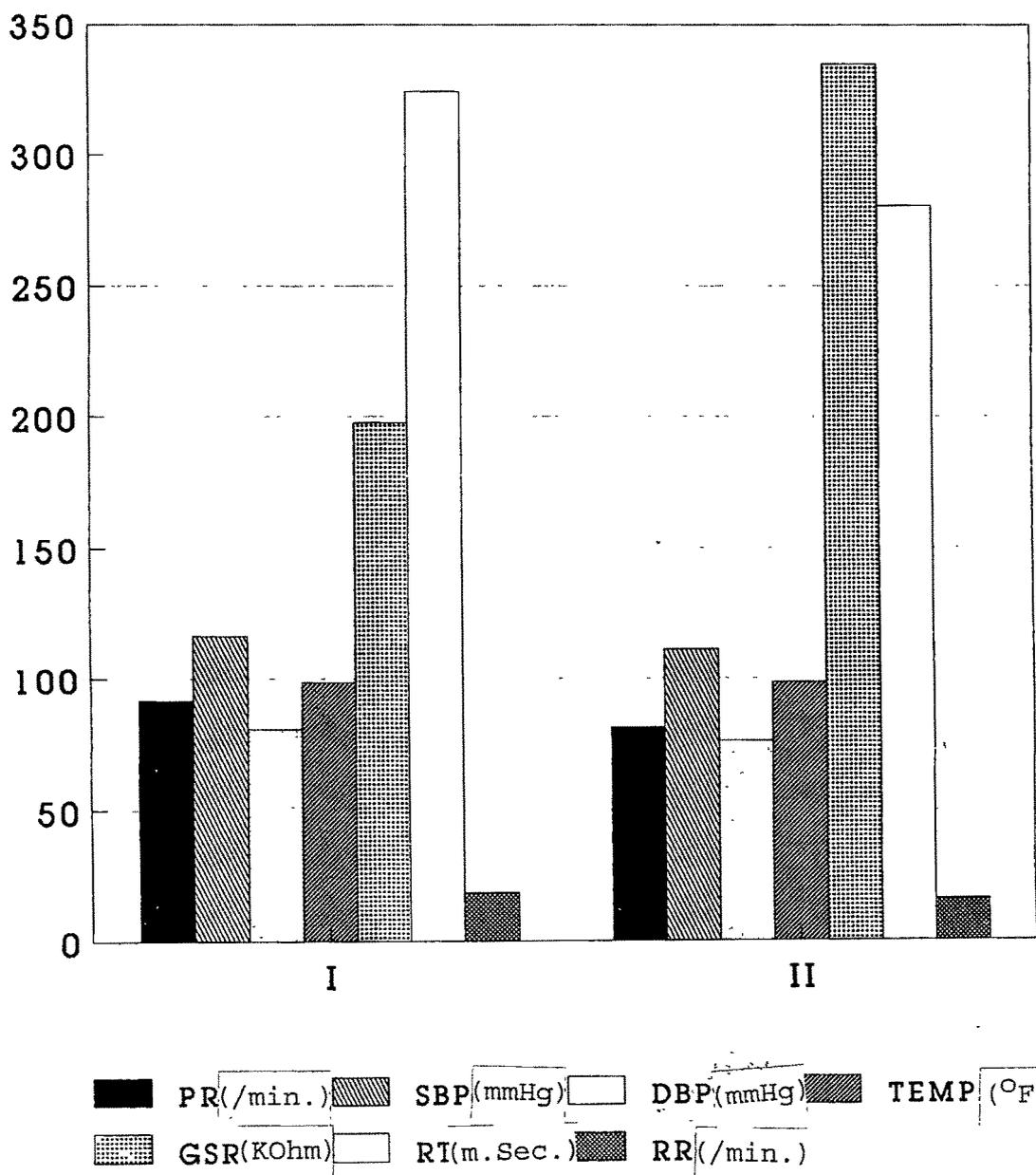
I - Initial; II - After 3 months

## Effect of Stress on Some of psychophysiological parameters in medical students



I = Pre Exam; II = Post Exam (n=42)

## Effect of yoga on Some of psychophysiological parameters in medical students



I = Pre; II = Post (n=36)