A COMPARATIVE ANALYSIS ON VARIOUS PHYSICAL CHARACTERISTICS OF GYM PRACTITIONERS OF DHARWAD DISTRICT

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ABSTRACT

Physical inactivity is regarded as a serious public health problem, owing to its link to the primary causes of mortality, sickness, and disability, including coronary heart disease, colon cancer, breast cancer, stroke, respiratory disease, & diabetes. Increasing teenage physical activity to satisfy health-related physical activity standards is a serious public health concern. Physical activity drops precipitously during adolescence, according to studies. Although the research agrees that physical activity drops significantly during adolescence, the findings on the timing of the reduction are inconsistent. The paper's purpose is to conduct a study on variety of physical characteristics among Gym professionals in the Dharawad District so the research paper entitled "A comparative analysis on various physical characteristics of gym practitioners of dharwad district."

KEYWORDS: **Gym practitioners, physical characteristics, BMI, pulse rate etc.**

INTRODUCTION

Physical fitness is a significant indicator of children's & teenagers' health, as well as a good predictor of health later in life. It is especially important in current society because of the effect of globalisation and technical improvements that contribute to a better way of life. Physical fitness may be regarded of as an integrated assessment of most, if not all, of the physiological processes involved in everyday physical activity and/or physical exercise (skeletonmuscular, cardiorespiratory, hematocirculatory, psycho-neurological, and endocrine–metabolic). As a result, when physical fitness is assessed, functioning condition of all of these systems ialso assessed (Ortega , et. al., 2008).

The American College of Sport Medicine (2009) recommended at least Thirty minutes of moderate physical activity per day, 3 times per week, to reap major health advantages, whereas the World Health Organization (2010) recommends at least 10,000 walking step counts per day for health promotion. Despite these guidelines, many individuals throughout world remain inactive, contributing to an increase in the prevalence of cardiovascular and metabolic disorders. This trend is exacerbated further by globalisation, which has led to expansion of fast food franchises, the majority of which serve unhealthy items. As a result, poor food habits combined with physical inactivity & other unhealthy lifestyle factors raise risk of cardiovascular & metabolic illness in both adolescents and adults.

Reduced physical activity and/or fitness are linked to genesis & incidence of various non communicable illnesses, including cardiovascular disease, diabetes, & cancer, as well as its risk factors (high blood pressure, raised blood sugar, and obesity), impacting individuals worldwide.

Physical inactivity is regarded as a serious public health problem, owing to its link to the primary causes of mortality, sickness, and disability, including coronary heart disease, colon cancer, breast cancer, stroke, respiratory disease, & diabetes (Booth &Chakravarthy,

2002). Increasing teenage physical activity to satisfy health-related physical activity standards is a serious public health concern. Physical activity drops precipitously during adolescence, according to studies. Although the research agrees that physical activity drops significantly during adolescence, the findings on the timing of the reduction are inconsistent (Caspersen, Periera and Curran, 2009).

Physical fitness may be defined as a comprehensive evaluation of the majority, if not all, of the biological systems engaged in everyday physical activity &/or exercise. As a result, when physical fitness is assessed, all of these systems' functioning is evaluated. This is why physical fitness is now regarded as one of the most essential health indicators, as well as a predictor of sickness and death from heart disease and other causes. Genetics have a role in physical fitness, but environmental variables can also have a substantial impact. (Shivakumar, Prakash & Gajanana, 2014).

Adolescence and childhood are essential phases in life because they include significant physiological and psychological changes. Similarly, lifestyle and healthy/unhealthy behaviors evolve during time, which can have an influence on adult behavior & health. Healthy behaviors are developed at this age (Kelder et al., 1994). There is solid evidence that physical activity drops significantly throughout early adolescence, particularly among economically disadvantaged groups (Kimm et al., 2002).

Caspersen, Powell, & Christianity (1985) describe physical fitness as aset of natural or learned human characteristics associated with capacity to participate in physical activity and/or exercise. Physical fitness is an essential indicator of health in children & adolescents, according to previous research (Sardinha et al. 2008). Health-related fitness has been linked to cardiovascular disease risk factors (Anderssen et al., 2007), overweight and obesity, & bone health (Fonseca, França, and Praagh, 2008).

Several study findings along with experience show that physical shape is a crucial indicator of health of gym practitioners & others, as well as a predictor of health later in life (Ruiz et al., 2009). Monitoring general population's level of fitness and physical activity on a regular basis should be considered a matter of national importance (World HealthOrganization, 2010). Continuously monitoring &/or predicting (collectivetest) the individual's levels of exercise & fitness, as well as analyzing the data, is what monitoring includes.

More than 15 battery tests are currently in use across the world for testing gym practitioners' and others' physical fitness, as well as different key components of physicalfitness (Castro-Pinero et al., 2010). Many nations have come to understand the need of measuring & assessing physical fitness & have incorporated a series of exams into their educational systems.

Aside from the UK, which uses the 'Eurofit' test batteries inschools, and UnitedStates, which uses 'Fitnessgram' test battery, India lacks a well-defined strategy for testing physical fitness of gym practitioners & teenagers.

LITERATURE REVIEW

Premakumara and Riyaz (2010) examined Karnataka state's regional differences in educationaldevelopment as a backdrop to inclusivegrowth strategy. Gulbarga is proven to be the most backward region in terms of education among the four regions chosen for investigation. Literacy rates are poor in compared to other regions, and dropout rates are high. However, while the government's educational programs have increased enrolment in region, students are unable tocomplete their education due to a high drop-outrate. It is stated that the

situation requires the government's prompt response.

Cruz et al. (2011) investigated association b/w physical fitness, physical activity, & body massindex in secondary school-aged adolescents. The study included 131 healthystudents (49 males and 82girls) aged 14 to 18 years (M=161). A questionnaire was used to measure physical activity, which was based on frequent participation in organized and unorganized physical exercise. The Pacer test measured physical fitness level and allowed participants to be labeled as 'not fit' or 'fit' accordance to Fitnessgram. Individuals were also characterized depending on their fat levelsas 'not fat' or 'fat' using Fitnessgram. The chi-square and t-test were used to examine connection b/w physical fitness, physical activity, and BMI. Separate studies were conducted on boys and females. Based on results of a physical fitness test, 66% of the males and 38% of the girls were deemed fit.

Toriola and Monyeki (2012) investigated teenage learners' health status, body type, and levels of physical activity. The study included 283 teens (111 men & 172 women) from Physical Activity & Health Cohort Study, with a median age of 14.900.72 years. The International Organization for the Progress of Kinanthropometry developed techniques for measuring and delivering the composition of the body, health-related physical fitness using the Eurofit protocol test, and activity level using the Global Physical Activity Survey. It is encouraged to use community-based initiatives to support successful and long-term physical activity intervention programs in schools.

Gisladottir, Haga, and Sigmundsson (2013) assessed physicalfitness in teenagers aged 15 to 16 who had both high & low motor ability. From aninitial sample of 94adolescents, 18 were assessed as having good or low motor competence using Movement Evaluation Battery forChildren 2. The poor motor skill group had eight adolescents (3 females & 5 boys), whereas high motor ability group included 10 minors (five girls & five boys). Physical fitness was assessed using four tests: endurance, power, speed (Test of Physical Fitness), & suppleness (EUROFIT). Aone-wayANOVA found significantdifferences in all tasks b/w poor & high motor skills groups, with the exception of endurance task (ReducedCooper Test). According to data, physicalfitness characteristics have a negative relationship with inadequate motor skill. However, the fact that the Reduced Cooper Test showed no significant difference b/w 2 groups implies that kids with low motor skills can improve the condition of their hearts with their poor movement synchronization.

Mota et al. (2014) explored the links between cardiorespiratory fitness, body mass index (BMI), and adolescent girls' perceived health. The study comprised 533 teenage females varying in age from 10 to 18 years. The maximal multistage 20-m shuttle-run test, defined in FITNESSGRAM, was used to calculate aerobic capacity. The International Obesity Task Force graded the girls' obesity status, and an instrument was used to measure their self-rated health. The data revealed that 23.2% of teenage females had bad self-rated health. Unfit girls were more likely to report low self-rated health inboth basic logistic (OR: 3.05; CI: 1.91-4.87; P <.05) and multivariate (OR: 2.93; CI: 1.82-4.72; P <.05) regressionanalyses compared to fit peers. Obesegirls had a higher likelihood of having negative self-rated health (OR: 2.30; CI: 1.14-4.62; P <.05) than theirnormal-weight peers. However,such a relationship was abolished inmultivariate analysis, demonstrating that cardiovascular health had an impact. Negative health perception was linked to decreased cardio-respiratory fitness and weight status, albeit this link is mediated through cardio-respiratory fitness level.

Muhammad Tahir Nazeer et al. (2016) explore impact offitness knowledge on park visitors' physical fitness & good behavior. Everyone must understand the significance of

physical fitness, exercise, and health. Descriptive statistical methods were employed to evaluate the test variables. To determine the trend of variable links, the correlation approach was used. The T-testwas used to assesseffects of education programs on fitness & visitor health. The 600m run and 100m dash were shown to be substantially (p<0.05) linked to the other test parameters. Physical fitness awareness had a substantial and beneficial effect on health and activity (p≤0.001). It will also assist people enhance their physical fitness and workout routines.

Dr. Shivakumar S and P Buvanendiran (2018) investigate the impact ofhealth awareness among highschool males in the state of Karnataka. To carry out this research, A total of 800 male pupils were picked from four educational divisions of Karnataka State in each of Gulbarga (N=200), Belgaum (N=200), Mysore (N=200), & Bangalore (N=200), with topics ranging in age from 12 to 16 years. A questionnaire with forty (40) items was used to test health awareness. To compute and interpret findings, ANOVA and LSD post hoc tests were utilised. The findings suggest that there are considerable inequalities in health awareness among females from various educational divisions in Karnataka State. Mysore education division has the greatest level of health awareness among Karnataka's 3 education divisions.

Harleen Kaur et al. (2020) investigate the different perspectives of exercise enthusiasts amid the COVID-19 shutdown. The COVID-19 pandemic has come to an end in our fast-paced culture. The consequences of this pandemic are enormous, and the only way to avoid the disease from spreading is to preserve social isolation. They were able to overcome emotional and physical difficulties during the lockdown by exercising at home on a daily basis.

Nandagopal Dharmarajan et al. (2021) explore physical fitness components' responses to effect of various physicalactivities in schoolgirls. To meet the study's goal, forty-five(N = 40) schoolgirls were chosen fromKatary hamlet in Nilgiri District. The current study discovered that varied physical activities resulted in considerable improvements in flexibility, muscular strength, and balance among schoolgirls.

According to the National Institutefor Occupational Health and Safety (NIOSH), constructionworkers face a higher risk than those in other sectors. Jaya Bharti overall Megha Singh (2021) analyze the physical,environmental, & mental health of constructionworkers of both genders. Previous study has indicated that construction workers aremore prone to incur workplace injuries and accidents. The study's findings provide a framework for future research into construction workers' physical, environmental, and mental health, as well as a foundation for improving construction employees' physical, ecological, and psychological health.

According to Kapoor et al. (2022), there is a saying that " earlier we start, sooner we achieve good health." Health is a condition of whole physical,mental, & social well-being, not only absence of sickness. Fitness is defined as capacity to do everyday functional tasks with maximum efficiency, stamina, & power while minimizing illness, weariness, stress, and inactive behavior. With technological advancements, the erosion of physical exercise has resulted in a significant decline in health and fitness. In June 2018, World Health Organization (WHO) reported that one in every five adults & four out of every five young people have reduced their physical activity due to the current pandemic. In 2016, the global rate of physical inactivity among adults was reported to be 27.5%, and competition among students and professionals for marketing, incentives, and advantages has distracted people's focus away from their health. Physical activity provides several health advantages, including

increased cardiovascular and strength training, bone and metabolic health, weight management, and mental and social well-being.

Kalra S, Verma M, Kapoor N. (2023) define exercise diversity and exercising diversity. Exercise/physical activity diversity, like nutritional diversity and variation, is part of a holistic target of optimum health, an objective metric to track one's progress towards such a goal, and a way of achieving it. This idea is defined as number of exercise kinds, number of limbs & body parts trained or muscle groups engaged, the intensity range, or the number of changes in exercise techniques employed. A non-weighted score can be assigned to each exercise, limb, and groups of muscles to gain a sense of diversity.

According to Thomson and Walter (2023), the COVID-19 pandemic affected the 2021 survey and persisted into 2022, but in 2023, certain current patterns are developing while others fade as the globe recovers from the COVID-19 quarantine. Wearabletechnology is top trend for 2023, as itwas in 2022. Home fitness gyms were rankedsecond in 2022, but dropped to 13th in 2023. Fitnessprograms for the elderly will return in 2023, entering the top10 at #4. Functional sport, a popular kind of exercise for elderly, is the #5 trendfor 2023. This essay should help readers grasp the following concepts: Explain distinction amongst the exercise craze and a wellness movement. To encourage more physical activity, incorporate global fitness trends into the advertising, business, clinical (including clinical fitness), and public health and fitness industries. Examine expert perspectives on predicted dietary behaviors for 2023.

RESEARCH METHODOLOGY

Respondents for study were gym practitioner and high school boys and girls in the ninth and tenth grades in Dharwad district. Their ages varied from 14 to 16 years old. 200 respondents from various Gyms representing Dharwad districts selected talukas of Dharwad, Hubli, Navalgund and Kundgol participated. The general physical fitness variables are selected for study is -

1. **Age:** The chronological age incompleted years was taken.
2. **Height:** Height recorded in stadiometer was recorded to the nearest centimeter.
3. **Weight:** Weight in kilograms was recorded by using standard ISI marked weighing machine.
4. **Pulse:** The radial pulse was recorded in completed beats per minutes.

The study's hypothesis was tested using 'analysis of variance' (ANOVA). Furthermore, the study's results were verified using Least SignificantDifference post-hoc test. To demonstrate results, tables, graphs, and appropriate charts are employed. Percentiles were used to create norms from the resulting data. Thedata was analysed using Statistical Package forSocial Science (version 29).

DATA ANALYSIS
DESCRIPTIVE DATA OF THE GYM PRACTITIONERS

Table 1 displays the descriptive data of the gym practitioners, which were described in terms of age.

TABLE 1: AGE WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF GYM PRACTITIONERS

TALUKA	N	MAEN	SD
DHARWAD	50	15	0.810
HUBLI	50	15	0.940
NAVALGUND	50	14	0.910
KUNDGOL	50	15	0.910
TOTAL	200		
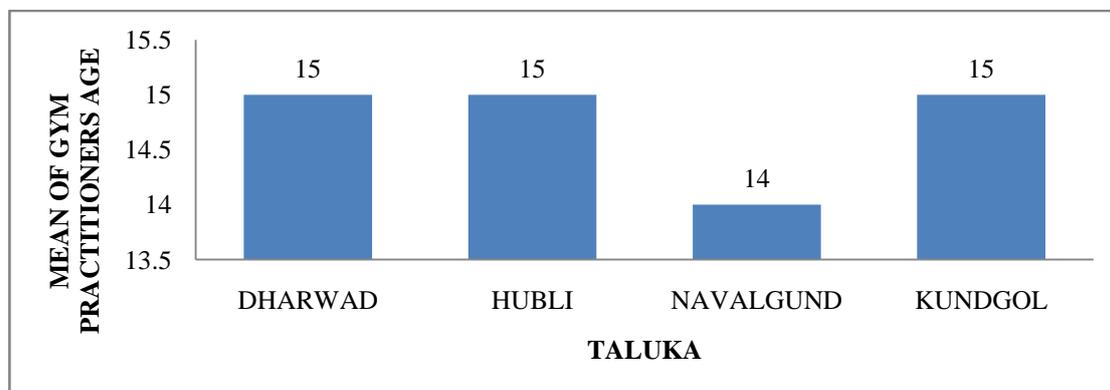
FIGURE 1: AGE MEAN VALUE OF GYM PRACTITIONERS

Table 2 displays descriptive data of gym practitioners, which were described in terms of height.

TABLE 2: HEIGHT WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF GYM PRACTITIONERS

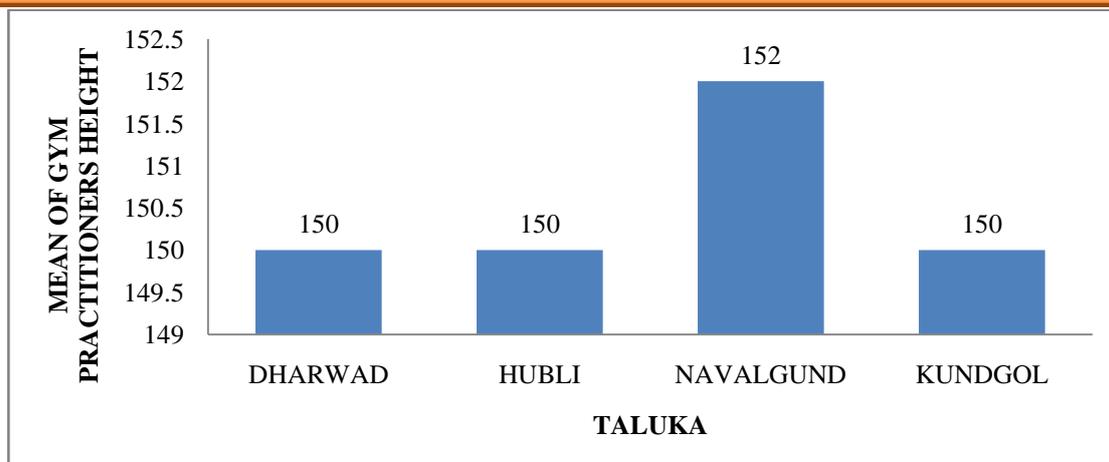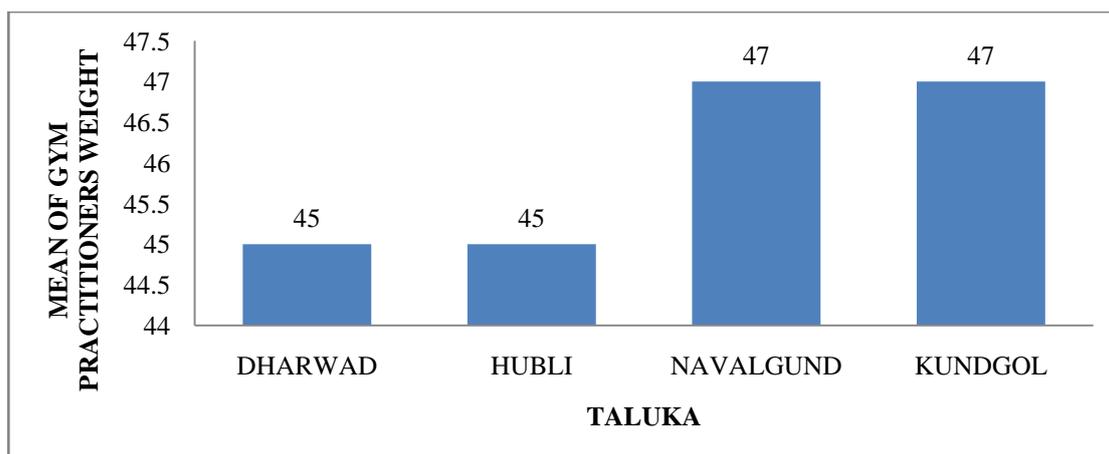| TALUKA	N	MAEN	SD
DHARWAD	50	150	8.730
HUBLI	50	150	12.230
NAVALGUND	50	152	8.630
KUNDGOL	50	150	11.050
TOTAL	200		

FIGURE 2: HEIGHT MEAN VALUE OF GYM PRACTITIONERS

Table 3 displays the descriptive data of the gym practitioners, which were described in terms of body weight.

TABLE 3: BODY WEIGHT WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF GYM PRACTITIONERS

TALUKA	N	MAEN	SD
DHARWAD	50	45	7.260
HUBLI	50	45	6.760
NAVALGUND	50	47	7.010
KUNDGOL	50	47	7.060
TOTAL	**200**		

FIGURE 3: BODY WEIGHT MEAN VALUE OF GYM PRACTITIONERS

Table 4 displays the descriptive data of the gym practitioners, which were described in terms of Body Mass Index (BMI).

TABLE 4: BMI WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF GYM PRACTITIONERS

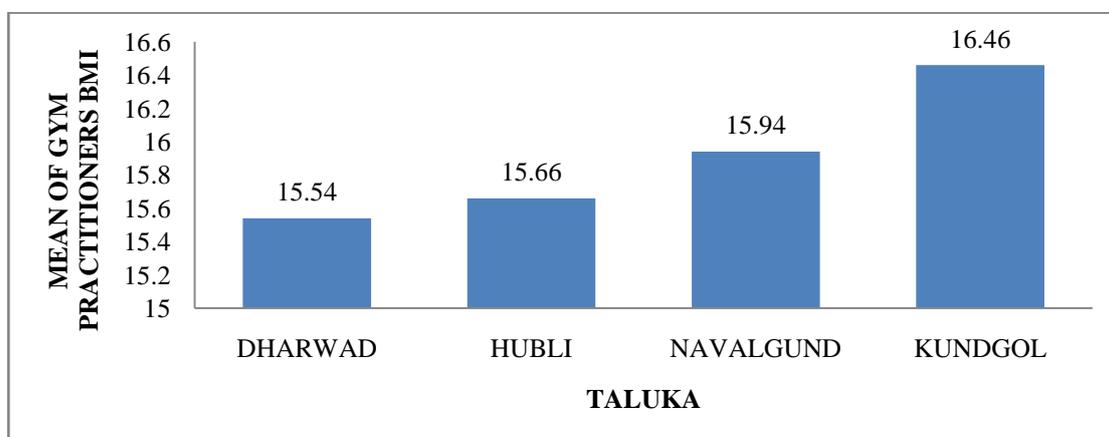| TALUKA	N	MAEN	SD
DHARWAD	50	15.54	2.030
HUBLI	50	15.66	3.510
NAVALGUND	50	15.94	2.020
KUNDGOL	50	16.46	4.620
TOTAL	200		

FIGURE 4: BMI MEAN VALUE OF GYM PRACTITIONERS

Table 5 displays the descriptive data of the gym practitioners, which were described in terms of resting heart rate.

TABLE 5: PULSE RATE WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF GYM PRACTITIONERS

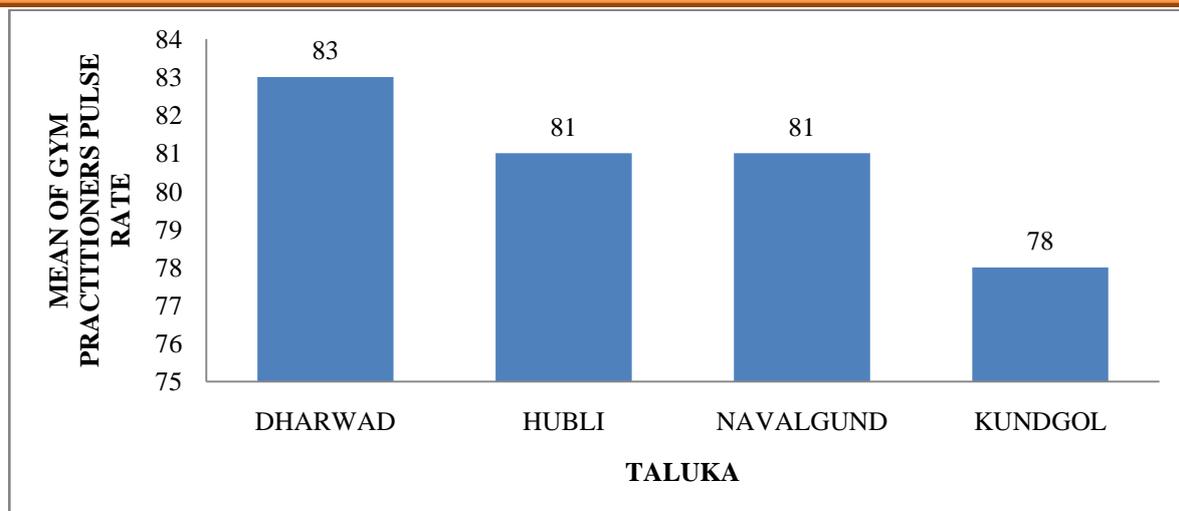| TALUKA	N	MAEN	SD
DHARWAD	50	83	12.220
HUBLI	50	81	11.830
NAVALGUND	50	81	11.260
KUNDGOL	50	78	12.66
TOTAL	200		

FIGURE 5: PULSE RATE MEAN VALUE OF GYM PRACTITIONERS

INTERPRETATION

Analysis of table 1 to 5 reveals that the Navalgund Taluka gym practitioners had mean age of 14 years (± 0.910) and all other divisions had the mean age of 15 years (Dharwad ± 0.810; Hubli ± 0.940; and Kundgol ± 0.910). Standing height of Navalgund Taluka gym practitioners (152 ± 8.630) was comparatively better than other three Talukas. Greater BMI was observed in gym practitioners from Kundgol Taluka (16.46 ± 4.620) as compared to that of other three divisions, indicating higher fat accumulation. Better pulse rate was observed in gym practitioners from Kundgol Taluka (78 ± 12.660) depicting higher endurance capacity as compared to that of other three divisions of Dharwad district. Subject features show that the pupils chosen for this study are normally distributed, and uniformity is acceptable in the gym practitioners section throughout four Talukas of the district.

DESCRIPTIVE DATA OF THE OTHER SCHOOL STUDENTS

Table 6 displays the descriptive data of the other respondents, which were described in terms of age.

TABLE 6: AGE WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF OTHER RESPONDENTS

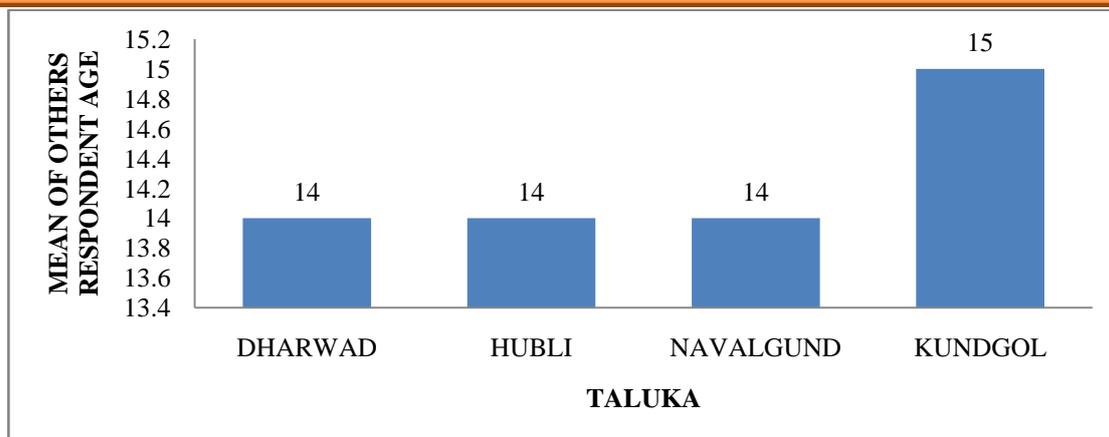| TALUKA	N	MAEN	SD
DHARWAD	50	14	0.950
HUBLI	50	14	0.940
NAVALGUND	50	14	0.920
KUNDGOL	50	15	1.080
TOTAL	**200**		

FIGURE 6: AGE MEAN VALUE OF OTHER RESPONDENTS

Table 7 displays the descriptive data of the other respondents, which were described in terms of height.

TABLE 7: HEIGHT WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF OTHER RESPONDENTS

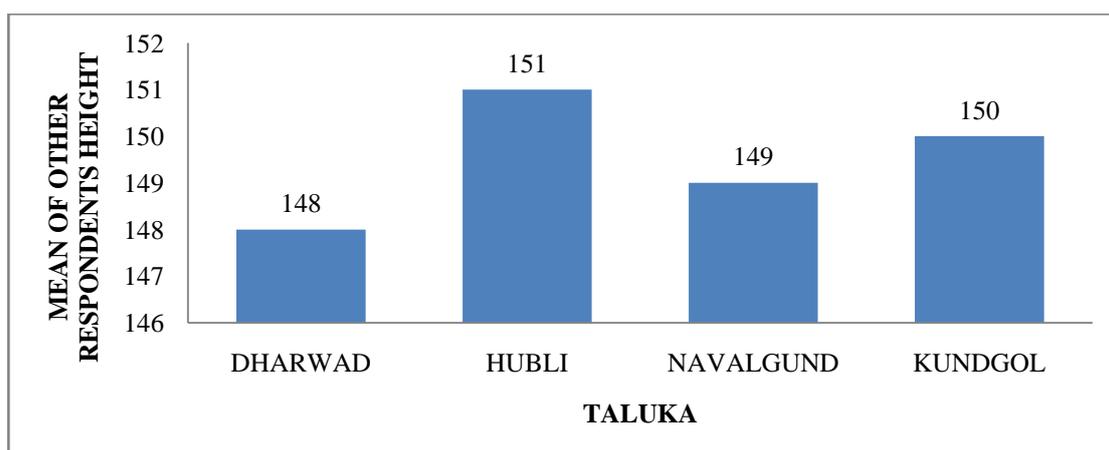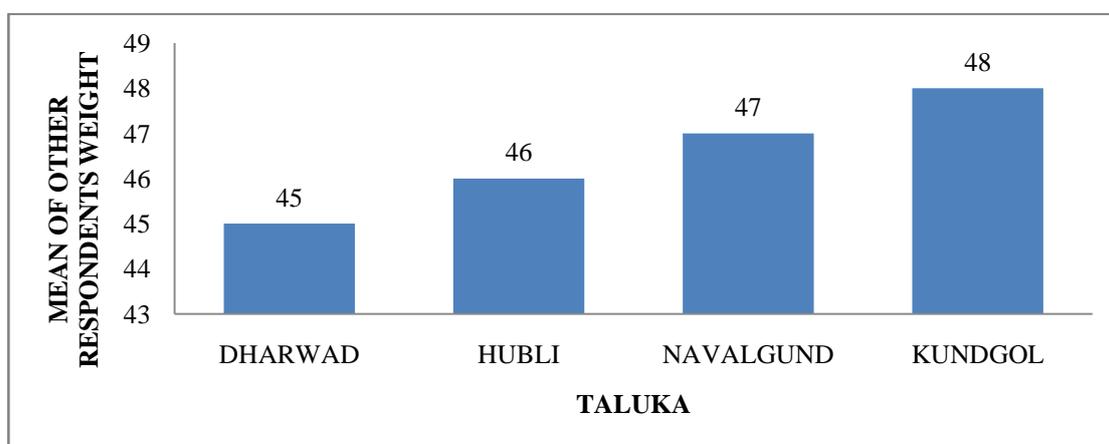| TALUKA	N	MAEN	SD
DHARWAD	50	148	6.160
HUBLI	50	151	10.840
NAVALGUND	50	149	9.710
KUNDGOL	50	150	6.970
TOTAL	**200**		

FIGURE 7: HEIGHT MEAN VALUE OF OTHER RESPONDENTS

Table 8 displays the descriptive data of the other respondents, which were described in terms of body weight.

TABLE 8: BODY WEIGHT WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF OTHER RESPONDENTS

TALUKA	N	MAEN	SD
DHARWAD	50	45	5.980
HUBLI	50	46	6.970
NAVALGUND	50	47	7.670
KUNDGOL	50	48	7.180
TOTAL	**200**		

FIGURE 8: BODY WEIGHT MEAN VALUE OF OTHER RESPONDENTS

Table 9 displays the descriptive data of the other respondents, which were described in terms of BodyMass Index (BMI).

TABLE 9: BMI WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF OTHER RESPONDENTS

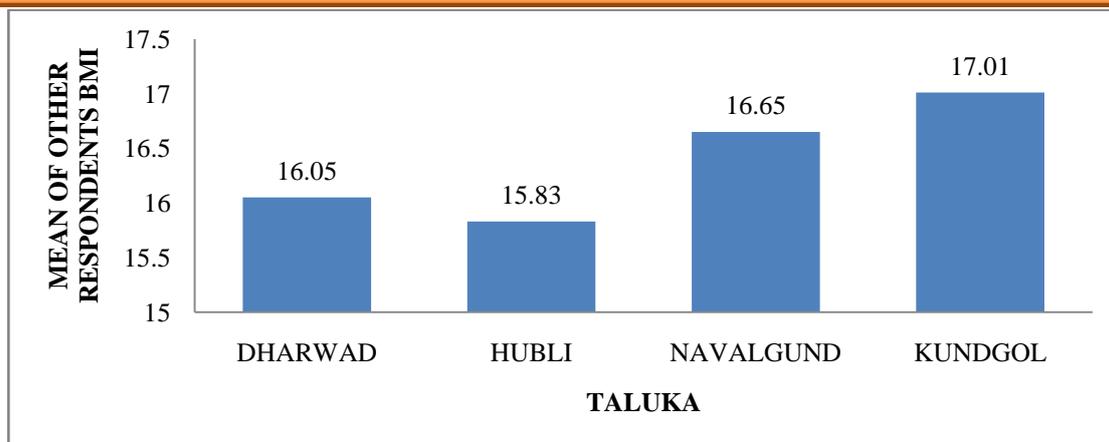| TALUKA	N	MAEN	SD
DHARWAD	50	16.05	2.260
HUBLI	50	15.83	3.470
NAVALGUND	50	16.65	3.530
KUNDGOL	50	17.01	2.730
TOTAL	**200**		

FIGURE 9: BMI MEAN VALUE OF OTHER RESPONDENTS

Table 10 displays the descriptive data of the other respondents, which were described in terms of resting heart rate.

TABLE 10: PULSE RATE WISE DESCRIPTIVE STATISTICS ON CHARACTERISTICS OF OTHER RESPONDENTS

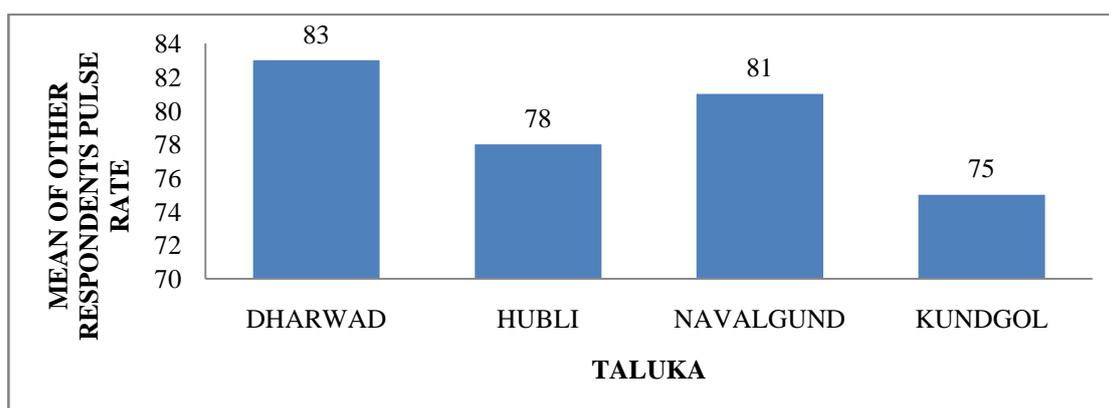| TALUKA	N	MAEN	SD
DHARWAD	50	83	12.910
HUBLI	50	78	12.250
NAVALGUND	50	81	11.650
KUNDGOL	50	75	11.930
TOTAL	**200**		

FIGURE 10: PULSE RATE MEAN VALUE OF OTHER RESPONDENTS

INTERPRETATION

Analysis of table 6 to 10 reveals that the Kundgol Taluka other respondents had mean age of 15 years (± 0.910) and all other Talukas had the mean age of 14 years (Dharwad ± 0.950; Hubli ± 0.940; and Navalgund ± 0.920). Standing height of Hubli Taluka other respondents (151 ± 8.630) was comparatively better than other three Talukas. Greater BMI was observed in other respondents from Kundgol Taluka (17.00 ± 2.730) as compared to that

of other three Talukas, indicating higher fat accumulation. Better pulse rate was observed in other respondents from Kundgol Taluka (75 ± 11.930) depicting higher endurance capacity as compared to that of other three Talukas of Dharwad district. According to the topic features, the students chosen for the current inquiry are generally distributed, and homogeneity is acceptable in the other respondents section with regard to the four Talukas of the district.

CONCLUSION

Physical fitness is an essential indicator of children's and teenagers' health and a good predictor of long-term health. Physical fitness may be defined as a comprehensive evaluation of the majority, if not all, of the bodily processes involved in everyday physical activity and/or exercise. It refers to a set of intrinsic or learned human qualities associated to physical activity and/or exercise abilities. Several studies and personal experience show that physical form is an essential predictor of children's and adolescents' health. Despite well-known benefits of physical activity & fitness, levels of physical activity tend to drop as people get older. Reduced physical activity &/or fitness have been connected to emergence and spread of a variety of noncommunicable diseases, including cardiovascular disease, diabetes, & cancer, as well as risk factors. Physical inactivity is frequently viewed as a severe public health concern due to its link to the leading causes of death, illness, and disability.

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