ISSN: 2581-8651

theshillonga

JHED

Journal of Humanities and Education Development

Cross Ref DOI: 10.22161/jhed

https://theshillonga.com/index.php/jhed

Volume - 5 | Issue - 2

Mar-Apr, 2023

TheShillonga Publication

Journal of Humanities and Education Development

(JHED)

(ISSN: 2581-8651)

DOI: 10.22161/jhed

Vol-5, Issue-2

March-April, 2023

Editor in Chief

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Publisher

TheShillonga Publication Group

Email: theshillonga.jhed@gmail.com
Web: https://theshillonga.com/index.php/jhed/index

FOREWORD

I am pleased to put into the hands of readers Volume-5; Issue-2: 2023 (March-April, 2023) of **"Journal of Humanities and Education Development (JHED) (ISSN: 2581-8651)",** an international journal which publishes peer reviewed quality research papers on a wide variety of topics related to, Humanities and Education development. Looking to the keen interest shown by the authors and readers, the editorial board has decided to release print issue also, journal issue will be available in various library also in print and online version. This will motivate authors for quick publication of their research papers. Even with these changes our objective remains the same, that is, to encourage young researchers and academicians to think innovatively and share their research findings with others for the betterment of mankind. This journal has DOI (Digital Object Identifier) also, this will improve citation of research papers.

I thank all the authors of the research papers for contributing their scholarly articles. Despite many challenges, the entire editorial board has worked tirelessly and helped me to bring out this issue of the journal well in time. They all deserve my heartfelt thanks.

Finally, I hope the readers will make good use of this valuable research material and continue to contribute their research finding for publication in this journal. Constructive comments and suggestions from our readers are welcome for further improvement of the quality and usefulness of the journal.

With warm regards.

Dr. Manoj Kumar
Editor-in-Chief
Journal of Humanities and Education Development (JHED) (ISSN: 2581-8651)
https://theshillonga.com/index.php/jhed/index
DOI: 10.22161/jhed
Date: May, 2023

Vol-5, Issue-2, March-April, 2023

(DOI: 10.22161/jhed.5.2)

ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.1
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Mitigation of Fluoride Contamination from Drinking Water through Fluoride Removal Techniques: A Review

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Received: 19 Jan 2023; Received in revised form: 25 Feb 2023; Accepted: 03 Mar 2023

Abstract

Water is the most vital natural resource for the survival of human being and environment on the earth surface. But Fluoride contamination of water has become a widespread and serious problem all over the world including India. Supplying the right amount of fluoride to drinking water protects the teeth from decay and reduces the risk of cavities. Exposure to fluoride beyond the recommended level for longer duration causes both dental and skeletal fluorosis. Health is the most important issue for the citizens of any country and consequently healthy citizens are the perfect and biggest assets for a nation. This paper reveals the techniques of Eradication of excessive fluoride from water. Various alleviation programmes and strategies to regulator the fluorosis and to eliminate the fluoride from water have been piloted all over the world using defluoridation. Nalgonda procedure is one of the well-known strategies generally utilized for defluoridation of water as a part of developing nations, for example, India, Kenya, Senegal and Tanzania. Among different techniques utilized for defluoridation of water, the adsorption procedure is broadly utilized.

Keywords— Fluoride, Defluoridation , Adsorption, Reverse osmosis , Electro Dialysis

I. INTRODUCTION

Fluoride is non-biodegradable element that is the most phototoxic among contaminants. It accumulates in plants as well as in soil and water both from low to high concentration (Fornasiero, 2001). High concentration of fluoride is a serious issue in India also, as the main source of drinking water in India is groundwater in both urban and rural areas. Fluoride is a calcium seeking element that is considered to be a very beneficial for human health in minute quantity as it prevents dental carries. The fluoride intake in excess through air, water and food causes several health problems in human being including dental fluorosis and skeletal fluorosis. Major source of fluoride in human body is drinking water, that is why a maximum acceptable concentration of fluoride in drinking water has been determined by WHO i.e. 1.5 mg/l. Dental fluorosis may cause of mottled enamel and discoloration of teeth in children (Boulétreau et. al; 2006). Many natural and anthropogenic sources increase the fluoride contamination. It is produced in the water and soil naturally with the chemical degradation of the fluoride containing minerals. Volcano is the main natural source of fluoride in water and soil(Gaciri & Davies ,1993). The fertile structure of the soil is affected by high soil fluoride concentration by preventing decomposition of organic substances. After SO_3 and O_3, fluorine is generally regarded as the third most important air pollutant. The industrial sources of fluoride compounds are from the production and use of phosphate fertilizer and pesticide, the production of steel, glass, ceramic and glue, the processing of copper, nickel and phosphate and burning of coal. These industries emit the fluorine compound and these compounds reach the soil through many processes.

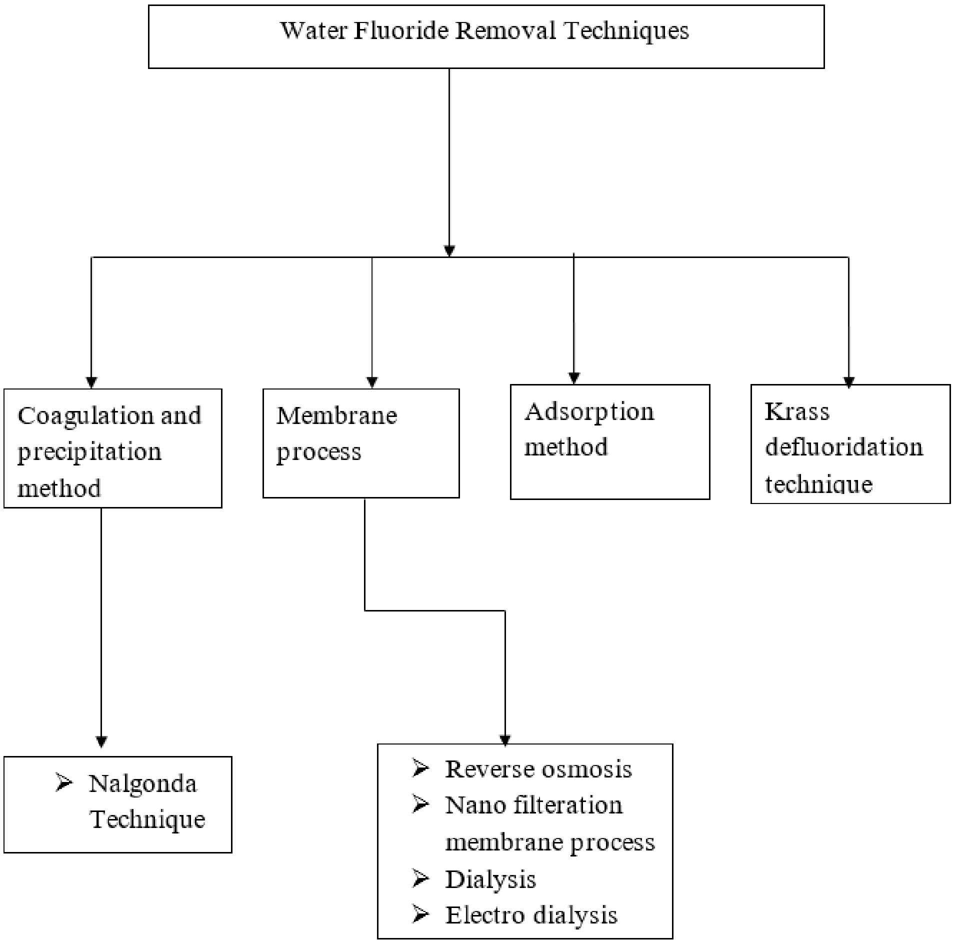
Steps to Remove Fluoride from water:

Defluoridation Techniques

The process of removal of fluoride ion from water is called defluoridation. Various methods are available for defluoridation to overcome the dangerous impact of fluorosis. Each approach has their limitations and advantages and worked effectively under perfect environment to remove fluoride.

There are some low costs methods for domestic use. On a community scale e.g.the Nalgonda process, Bone charcoal and Calcined clay. If a high fluoride removal is necessary then electrodialysis, activated alumina and reverse osmosis are preferred methods. For brackish water only reverse osmosis, electrodialysis and the Water Pyramid/Solar Dew method can be used (L.Feenstraet al.,2007)

Flow chart of different water fluoride removal techniques



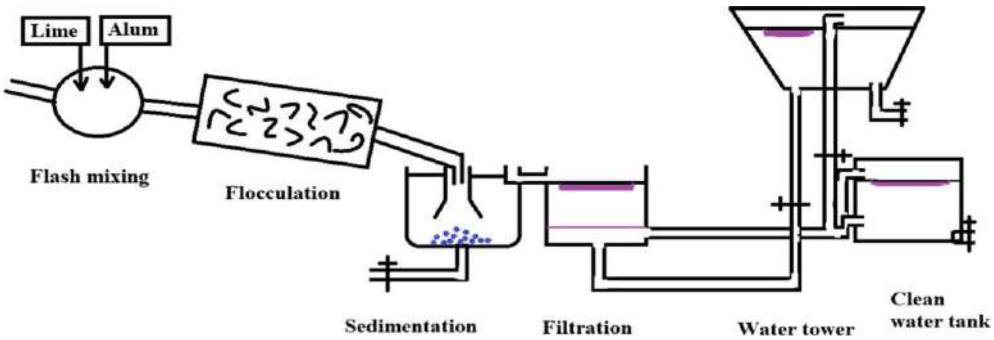


Fig. A conventional Nalgonda technique first time implemented in Andhra Pradesh, India (P Senthil Kumar,2019)

Nalgonda Technique (Nawlakhe et. al; 1978; Bulusu et.al; 1979)

In India, Nalgonda technique is a renowned technique to remove the fluoride ion from water. This is coagulation and precipitation method. National Environment Engineering Research Institute (NEERI) developed this technique in 1961 to serve at community and household level. Its low cost and simplicity makes it more useful. Aluminum salt, lime and bleaching powder are used in this method. Aluminum salt is responsible for the removal of fluoride from water. The bucket defluoridation system has also been designed for household utilizes. This process has capacity to defluoride 20 liters of water for one day utilization. After processing this method, the leftover fluoride in water ranges around 1 and 1.5 mg/l. This method should be adopted in case where alkanity seems high. This technique is a grouping of several processes which comprises flash mixing, chemical interaction, flocculation, sedimentation, filtration, disinfection and sludge concentration (Nawlakhe and Paramasivam 1993).

Membrane Process (Assefa, 2006; Gedam, 2012; Amor et. al; 1988)

The most normally utilized membrane processes are as:-

- Reverse Osmosis (RO)
- Nano Filtration Membrane Process
- Dialysis
- Electro Dialysis

Reverse Osmosis (RO) and Electro Dialysis are the most commonly adopted procedures for membrane process. In the late 1980s, reverse osmosis (RO) was considered as an alternative to conventional waste treatments due to its high removal capacities (Prihasto et al. 2009).Performance evaluation studies depict that the management of RO plants in rural areas of India is very difficult as it requires highly trained staff for maintenance and operation (Vasavada, 1998; Marriappan et. al; 2000). Electrodialysis is a simple and reasonable process with no defects, minimizing the precipitation risks of the bivalent salts present in the water during pre-treatment with low energy consumption (Inglezakis and Zorpas 2012), exhibiting removal of fluoride from brackish water.

Adsorption

Adsorption techniques have been quite accepted due to their ease of handling and accessibility of wide range of adsorbent materials. This method includes the water's entry through a contact bed where fluoride is removed by ion exchange or surface chemical reaction with the solid bed matrix. Activated charcoal, activated alumina, brick, bone char, fly ash, serpentine, red mud, clay, synthetic zeolites , neem bark powder, rice husk, kaolinite and ceramic etc. are some adsorbents capable of effectively removing of fluoride from groundwater. Adsorption is a process (Fig. 4) which is widely used for the defluoridation purpose in which materials like alumina, activated carbon, ion exchange resins, silica gel, natural materials like clay, mud and low-cost alternative adsorbents like fly ash, bone charcoal, etc., are employed (Johnston and Heijnen 2002; Joshi et al. 1992; Kalló 2001; Kamble et al. 2007).

Activated Alumina and activated carbon are the most utilized adsorbents. This method has capacity to remove fluoride upto 90% (Rubel & Woosely 1979). If alkanity is too high, Alumina activated method should not be adopted.

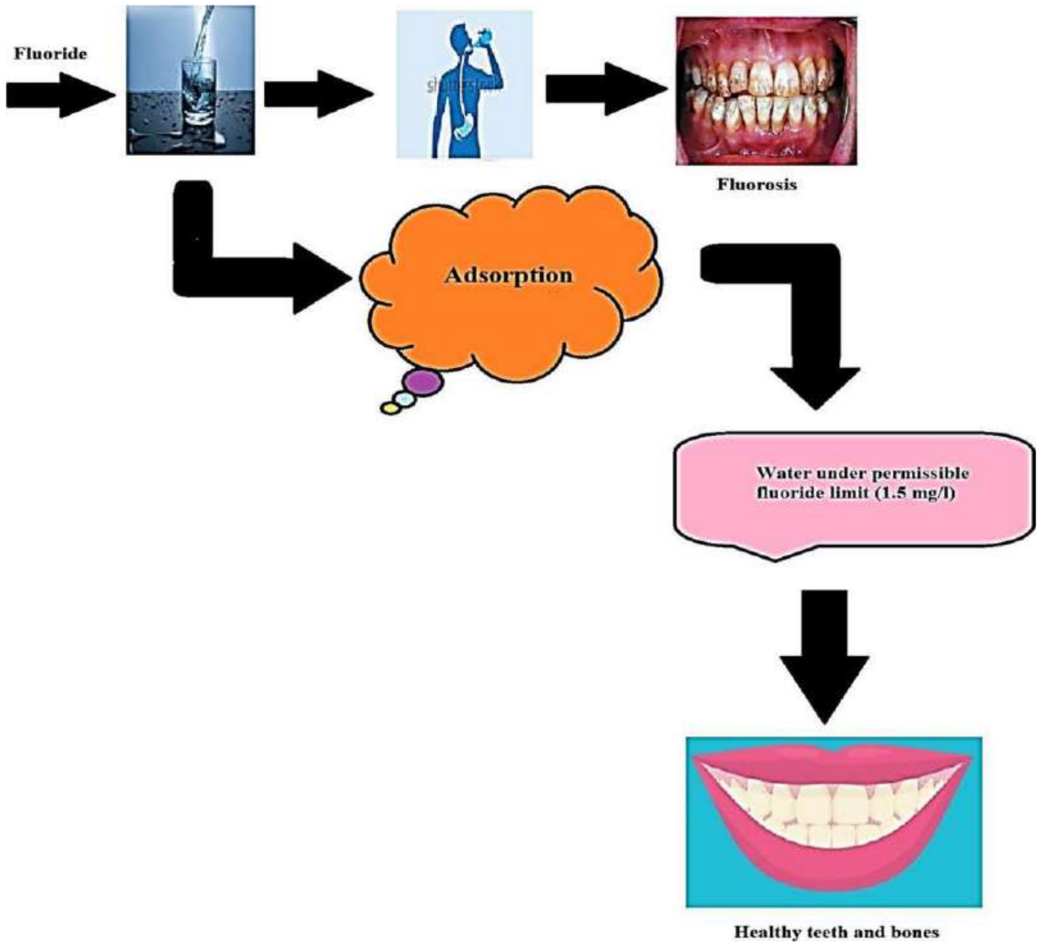


Fig. Adsorption—a simple technique for effective fluoride removal (P Senthil Kumar,2019)

In India, **KRASS Defluoridation Process** has been verified by CSIR and PHED of Rajasthan. Advanced Materials and Processes Research Institute, Bhopal has developed method of Nano Filter for the removal of fluoride from water that is based on Nano Adsorbent Technology. **(12May, 2018, Pioneer**) in this process, water filter modem is used for domestic defluoridation. This is very useful for rural areas in low cost. AMPRI has transferred it to M/s MWS Enterprises limited, Indore. In the first step, these filters are being provided to the residents of fluorosis affected Ashta village of district Sirauh in Madhya Pradesh.

CONCLUSION

Water fluoridation was initiated by few countries in order to prevent dental fluorosis caused by tooth decay. This is suggested that there are so many defluoridated techniques to remove the fluoride from water but only defluoridation of drinking water alone can not solve the problem.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.2
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Correlation between Distribution of Water Fluoride and Fluorosis in the villages of Mahendergarh district, Haryana- India

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Received: 17 Jan 2023; Received in revised form: 22 Feb 2023; Accepted: 05 Mar 2023

Abstract

Fluoride plays a very important role in preventing dental carries and is beneficial for dental enamel. But fluoride is valuable for health only when if it is used in a small amount within the allowable limit. Its excessiveness causes a number of side effects for human health such as fluorosis. According to WHO recommendation in 2011, fluoride level in drinking water is 1.5 mg/l. In everyday life, drinking water is considered as major source of fluoride. Most of the residents of Mahendergarh district of Haryana in India depend on ground water for their drinking purposes. This study has been conducted to examine the dental fluorosis among govt. school children in the villages of the study area. The fluorosis data were collected from different blocks of Mahendergarh district from school going children aged between 6 to 11 years old. A face-to-face interview of school children from class-3rd to class-5th has been carried out. A total of 43 villages were selected for dental fluorosis analysis. 25 villages were selected where the fluoride level is more than 1.5 mg/l and 18 villages were chosen where fluoride level was less than 1.5 mg/l. A survey was carried out among 1196 school going children for oral examination of dental fluorosis. School children were examined with the help of an expert of dental fluorosis. The study revealed that children of Sihma, Mahendergarh, Narnaul and Nangal Chaudhary blocks are the most affected with dental fluorosis. It was found that 33.3% children were affected with dental fluorosis in high fluoride zone, while only 7.36% children were suffering from dental fluorosis below permissible area (below 1.5mg/l). The study also reveals the positive correlation between water fluoride and fluorosis.

Keywords— Fluoride, Dental fluorosis, Drinking water, Correlation

I. INTRODUCTION

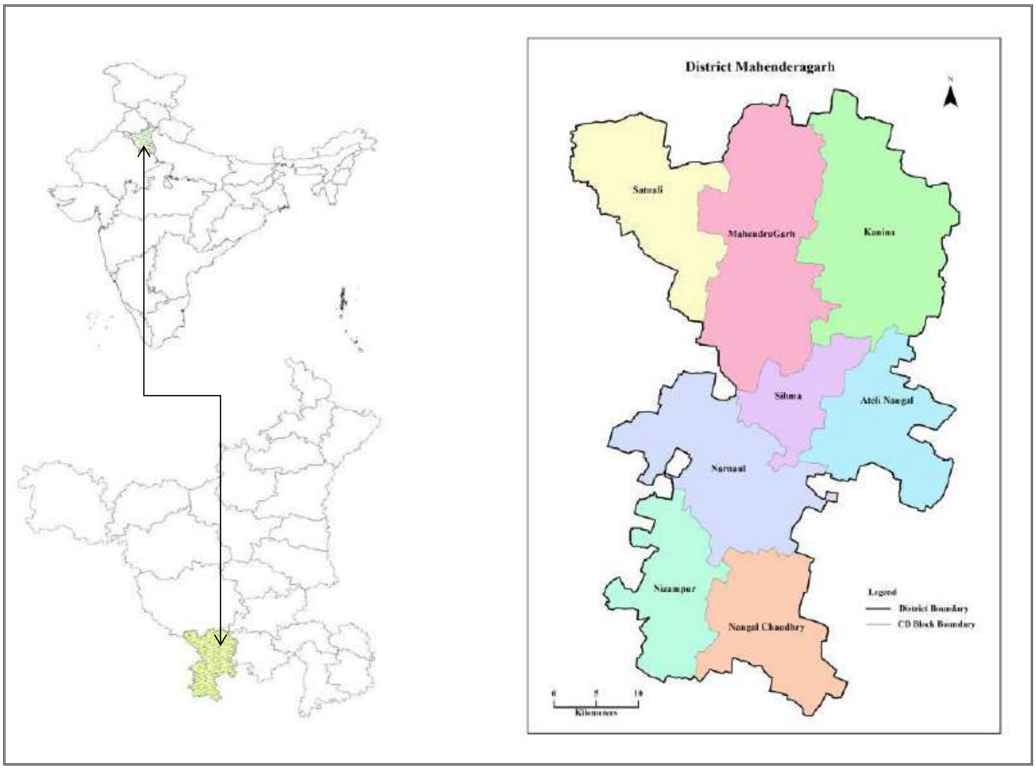
Water is one of the most precious and immeasurable resource of environment that is potentially useful for human being. It usually makes up 55 percent to 78 percent of the body. Roughly 71 percent surface of the earth is covered by water; despite it only freshwater that is only 3 percent (mostly available as a glacier) of total available water is suitable for living organisms (Kurunthachalam, 2014). Groundwater is the major source of water for supporting human existence on the earth. But unfortunately, from last few decades, these components of environment are deteriorating very fast due to some natural and anthropogenic processes. After discovery of fire and wheel, man entered into industrial stage but environment is becoming more contaminated by the various pollutants due to industrial revolution. The European Economic Community (EEC) has placed the various pollutants into two list –Black list and Grey list according their dangerousness. The study is mainly associated with one specific pollution, namely fluoride pollution that occurs in grey list of EEC at no.07 along with cyanides and less toxic than arsenic contaminant (Agarwal, 2001).

All over the world, 200 million people are consuming such water that is contaminated with high fluoride (Ayoob & Gupta, 2006). Fluoride is non biodegradable element that is the most phototoxic among contaminants. It accumulates in plants as well as in soil and water both from low to high concentration (Fornasiero, 2001). In the earth lithosphere fluoride is the 13th most abundant element (Gikunju et.al; 1992). Approximate 0.06 - 0.09 percent portion of the crust is represented by fluoride (Wedepohl, 1974). Fluoride is a calcium seeking element and approximately 96 percent of fluoride is mainly found in teeth and bones in the human body. Fluoride is a vital oligo – element and it plays a very important role in preventing dental carries and is beneficial for dental enamel. It is a key fundamental factor that develops the bones (McDonagh et. al; 2000; Boulétreau et. al; 2006; Messaïtfa, 2008). But there is a specific condition in the utilization of fluoride, that fluoride is valuable for health only when if it is used in a small amount within the allowable limit. Its excessiveness causes a number of side effects for human health such as fluorosis especially dental fluorosis is very common. In everyday life, drinking water is considered as major source of fluoride. Consumption of water by a person depends upon many factors in which climate is the most essential factor. As the world's population is distributed in various climatic zones, so many organizations have taken the ideal fluoride level in drinking water. According to WHO recommendation in 2011, fluoride level in drinking water is 1.5 mg/l. India has naturally high fluoride concentration zones, as a result of this in India, 1 mg/l fluoride level is recommended as national standard and according Bureau of Indian Standard, it is 0.6 mg/l to 1.2 mg/l.There are numerous sources of fluoride but the major source is intake of drinking water (Kumari and Rao 1993). In minute quantity, fluoride has beneficial effect on human health. Fluorosis is a disease in human being that is due to long intake of excessive amounts of fluoride. Main characteristics of fluorosis are mottling of teeth and soft and crumby bones. Fluorosis can be classified mainly into two types-dental fluorosis and skeletal fluorosis.

Fluorosis is a major health issue across the world, especially in developing countries like India. It has become a flaming problem of the 21^{th} century. More than 200 million people drink water exceeding the WHO limit i.e. 1.5 mg/l. These includes about 66 million people in India (Majumdar, 2011), 45million people in China (Wuyi et. al; 2002) & about 5 million people in Mexico (Díaz-Barriga et. al; 1997). Seventeen states have been identified as endemic for fluorosis in India and Haryana is one of these states. All over the world about 25 countries are facing the problem of endemic fluorosis. About 65 percent of endemic fluorosis across the world is mainly due to fluoride pollution of drinking water (Felsenfeld & Roberts, 1991; WHO, 2002). The occurrence of fluorosis in all over the world was noted to be about 32 percent (Mella et al; 1994). In India, approximately 177 districts have been identified as fluoride affected areas. Studies on correlation between water fluoride and fluorosis carried out by many researchers in all over the world. Grimaldo et. al; (1995) examined 11-13 years old children in San Luis Potosi, Mexico to find out endemic fluorosis. It was found that where the fluoride concentration was below 0.07 ppm, the prevalence of dental flourosis was 68%, whereas at fluoride concentration level higher than 2ppm, prevalence of dental fluoride among children was 98%. Samal & Naik (1988) conducted a survey among school children in the vicinity of aluminum factory in India and found that there was a strong correlation between dental flourosis in school going children and fluoride level in drinking water. Chand (1999) conducted the study of fluoride in relation to human health. He found that excess of fluoride caused many health problems in mankind Bardsen et. al; (1999) carried out a survey related to prevalence of dental fluorosis among persons in western Norway, Europe and found that the percentage of severity of fluorosis among the persons who were consuming low fluoride drinking water was 14.3% and among the persons who were consuming moderate to high fluoride drinking water was 78.8%. Choubisa et. al; (2001) conducted a study in 10 villages of Dungarpur district of Rajasthan where concentration of fluoride in drinking water varied from 1.22 ppm to 8.9 ppm. 70.6% children below 18 years at 1.7 mean fluoride concentration and 100% children at 6.1 mean fluoride concentration were found to be affected with dental fluorosis, 68% adults at 1.7 mean fluoride concentration and 100% adults at 6.1 means concentration were found to be affected with dental fluorosis. Kotecha et. al; (2012) evaluated 6093 permanent residents of 11 villages of Vadodara district, Gujarat to find out the dental fluorosis. It was found that 59.31% inhabitants were affected with dental fluorosis and 39.53% affected with dental caries in high fluoride area and 39.21% residents were affected with dental fluorosis and 48.21% affected with dental caries in normal fluoride area respectively. Some studies have been also carried out to find out correlation between water fluoride and fluorosis in Haryana (Meenakshi et al, 2004; Yadav & Lata, 2002; Yadav et al, 2009)

Study Area:

Mahendergarh district is situated in the south west of Haryana state, India. It is located between 75^0 56' to 76^0 51' East longitudes and 27^0 47' to 28^0 26' North latitude (Map-2.1). It consists of 370 villages and eight blocks namely Nangal Chaudhary, Ateli, Mahendergarh, Kanina and Narnaul, Nizampur, Satnali and Sihma. Mahendergarh district is located in very hot tropical and sub tropical climatic zone and gets less rainfall throughout the year. During the last decade (2004-2014), water table declined in all the blocks of the district. Fluoride bearing mineral rocks is found in the area. Mahendergarh district is the 4^{th} least populous district of Haryana. According to census 2011, the population of the district is 922,088.



II. METHODOLOGY

Water samples from different drinking water sources were collected from villages/sites of Mahendergarh district to determine the level of fluoride during Dec. 2016 to February 2017. Geographic locations of sampling sites were mapped by using Global Positioning System (GPS). Ion Selective Electrode (ISE) Method was used to calculate the fluoride content in drinking water.The fluorosis data was collected from eight blocks of Mahendergarh district from school going children aged between 6 - 11 years old. A total of 43 villages were selected for dental fluorosis analysis. 25 villages were selected where the fluoride level was more than 1.5 mg/l and 18 villages were chosen where fluoride level was less than 1.5 mg/l. A survey was carried out among 1196 school going children for oral examination of dental fluorosis.

III. RESULTS

Ground water fluoride concentration in different villages varied in different blocks of district Mahendergarh. Further,villages were divided into two categories-less than 1.5mg/l and above 1.5mg/l and fluorosis among 1196 school going children was observed and the results are tabulated below:

Table – 1.1 Distribution of Water fluoride and fluorosis in Low Fluoride Level Villages below 1.5 mg /l

Sr. no.	Villages	Fluoride concentration (mg/l)	N of individuals examined	No of affected individuals
1	Sohla	0.5	25	2(8%)
2	Satnali	0.9	40	Nil
3	Balana	1.1	50	2(12.5%)
4	Dongra Ahir	1.1	17	2(11.7%)
5	Dongra jat	1.0	20	2(10%)
6	Kalwari	1.4	16	Nil
7	Sareli	1.1	12	4(33.3%)
8	Bamnawas	1.3	15	2
9	Golwa	0.8	18	1

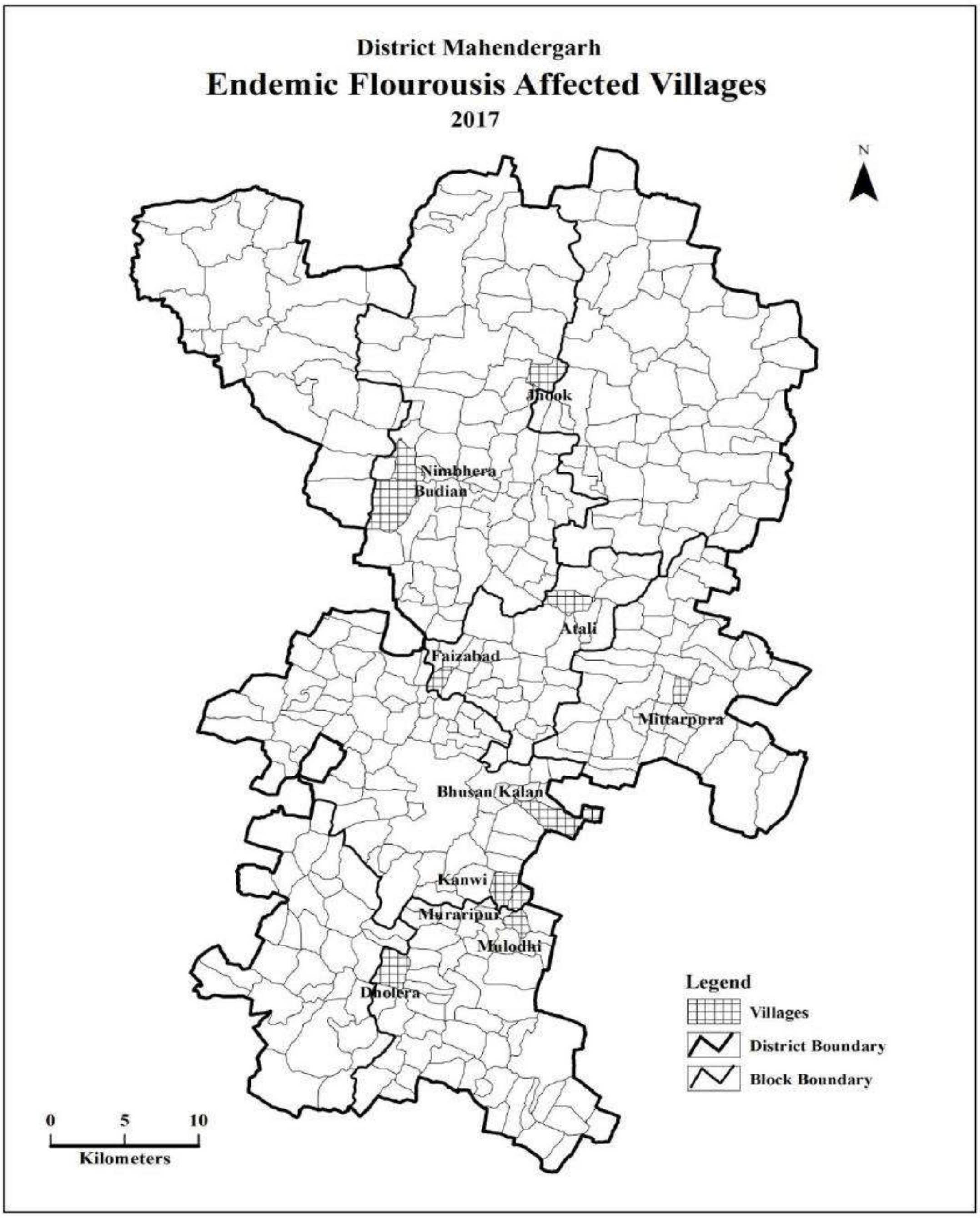
10	Chandpura	0.6	25	Nil
11	Rampura	0.8	32	Nil
12	Kanti	1.2	70	9(12.8%)
13	Aghihar	1.2	40	3(7.5%)
14	Bhagot	0.6	46	9(19.5%)
15	Gudha	0.4	50	Nil
16	Rewasa	1.1	25	Nil
17	Jat pali	0.6	38	4(10.5%)
18	Paiga	1.1	18	1(5.5%)

Table – 1.2 Distribution of Water fluoride and fluorosis in high Fluoride Level Villages above1.5 mg /l.

Sr. no.	Village	Fluoride concentration (mg/l)	No of individuals examined	No of affected individuals
1	Kanwi	5.8	22	15(68%)
2	Muraripur	6.9	10	5(50%)
3	Hamidpur	2.1	45	9(20%)
4	Badopur	1.7	35	6(17%)
5	Bhushan kalan	2.6	14	7(50%)
6	Atali	4.9	12	8(66.6%)
7	Faizabad	6.0	15	11(73.3%)
8	Mittarpura	5.8	30	16(53.3%)
9	Surana	3.1	20	4(20%)
10	Duloth Jat	2.2	13	4(30.7%)
11	Akoli	1.8	9	2(22.2%)
12	Dholera	2.3	20	10(50%)
13	Kamania	3.2	46	2(4.3%)
14	Meghot	2.3	19	4 (17.3)
15	Mulodhi	7.0	58	30(51.72%)
16	Notana	2.4	10	5(50%)
17	Pathera	2.5	70	12(17.4%)
18	Saina	2.2	35	5(14.2%)
19	Unchat	2.3	16	5(31.2%)
20	Chitroli	2.1	20	6(30%)
21	Basai	1.6	44	12(27.2%)
22	Bhagdana	2.2	20	05(25%)
23	Budian	1.7	22	11(50%)
24	Jhook	3.7	10	5(50%)
25	Nimbhera	4.2	24	13(54.16%)

Table 1.1 and 1.2 show that villages Kanwi, Muraripur, Bhushan Kalan, Atali, Fazibad, Mittarpura, Dholera, Mulodhi, Notana, Budian, Jhook and Nimbhera where the water fluoride is very high, fall under the endemic fluorosis range where the fluorosis was found from 50% to 70%

Map-1.2



Correlation between Water Fluoride and Fluorosis

Correlation was observed between level of water fluoride and affected individuals with fluorosis in the villages of different blocks of district Mahendergarh

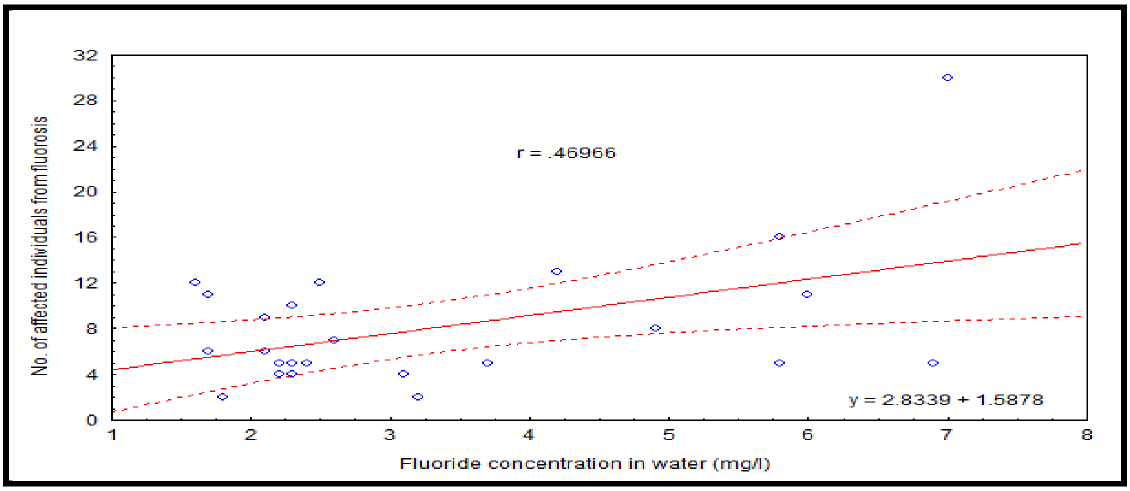


Figure -1.1 Correlations between fluoride content in water and No. of affected individuals with fluorosis (level of fluoride in water > 1.5 mg/l)

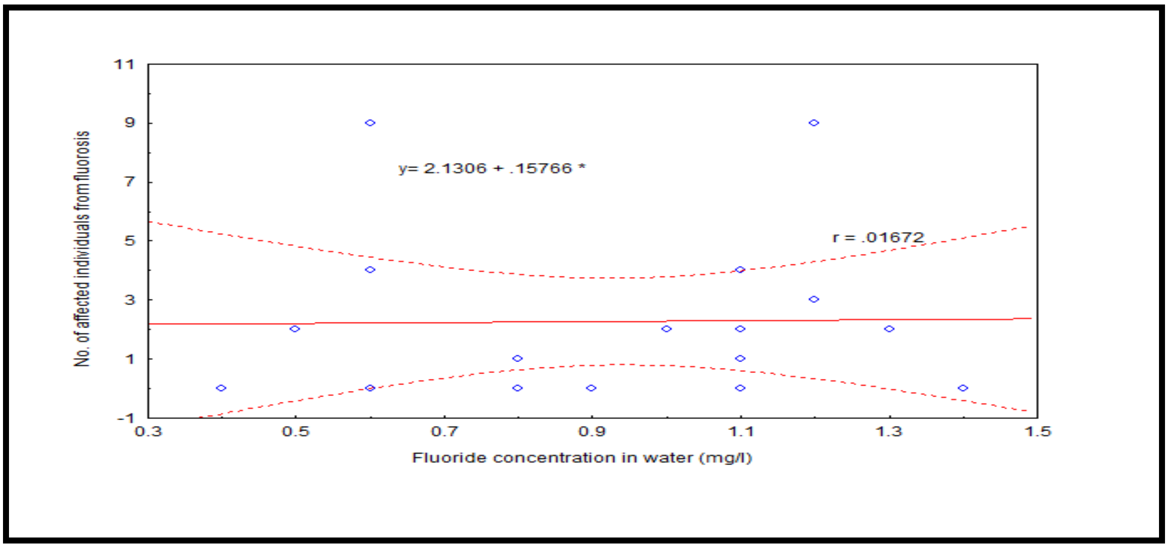


Fig.1.2 Correlation between fluoride content in water and No. of affected individuals suffer from fluorosis (level of fluoride in water < 1.5 mg/l)

The observed data indicates as the increases of fluoride content in water the increasement of fluorosis disease was observed in the villages of Mahendergarh district. We were analyzed the data of 43 villages in two categories, the 18 villages characterized as lower content of fluoride level (<1.5mg/l) and 25 villages characterized as higher content of fluoride level (>1.5mg/l). Figure 1.1 represents a positive correlation (r=0.4696) between 25 villages having with higher content of fluoride level (>1.5mg/l) and no. of affected individuals suffer from fluorosis diseases of Mahendergarh district of Haryana. On the other hand, very poor positive correlation (r=0.01672) between 17 villages having with lower content of fluoride level (<1.5mg/l) and no. of affected individuals suffer from fluorosis diseases of Mahendergarh district of Haryana (figure 1.2). A Comparative analysis of villages with higher content of fluoride level and lower higher content of fluoride level and No. of affected individuals suffer from fluorosis of Mahendergarh district in Haryana (figure 1.3)

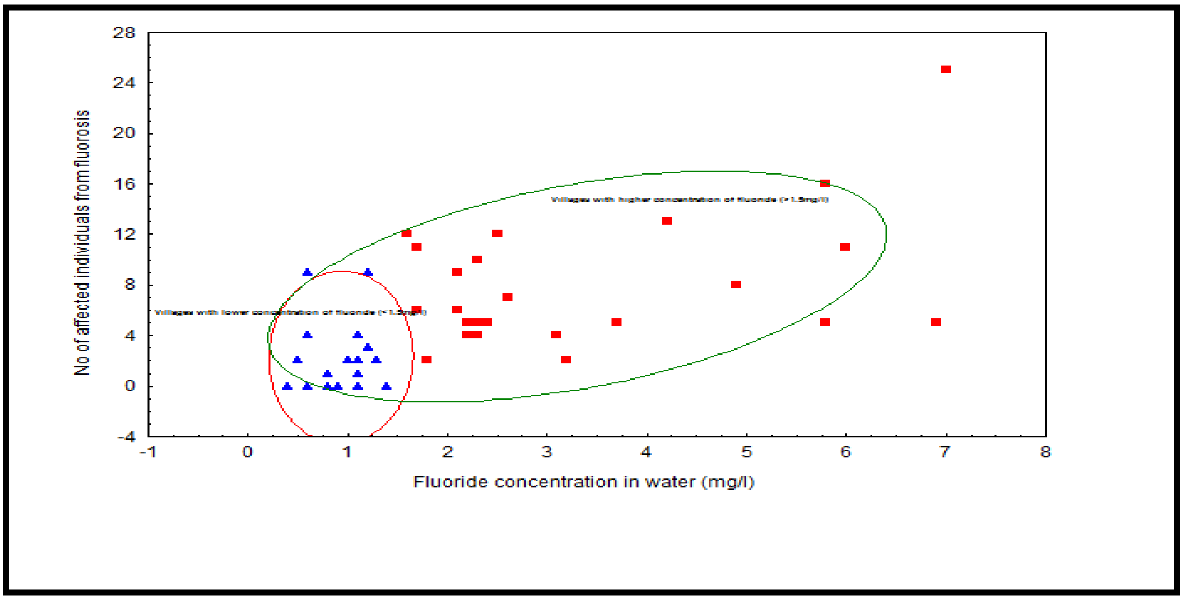


Fig.1.3 Comparison of villages with higher and lower fluoride content in water and No. of affected individuals suffer from fluorosis of Mahendergargh district.

IV. DISCUSSION

In this study, it was observed that 33.33% children among 639 were affected with dental fluorosis while remaining 66.67% were normal in a rich fluoride area, while only 7.36% of 557 children were abnormal and suffered from dental fluorosis and remaining 92.6% of children normal in the normal fluoride zone and had not sign of decline. Eating habits of the population of any region is directly affected by the climate of that region. Intake amount of drinking water by individuals are completely dependent on the atmospheric temperature. According to WHO 2006, fluoride concentration greater than 1.5 mg / l of water can cause fluorosis. As recommended by the WHO in 2002, in hot climates, consumption of drinking water is more so the optional fluoride level can be less than 1.0 mg /l. In cold climates, low water consumption than those living in warmer climates, so in a colder environment, favorable fluoride levels can reach 1.2 mg / l. Fluorisis will also work in this area if the fluoride concentration in the drinking water is less than 1.5 mg / l, as residents are exposed to high concentrations of fluoride in the air, food or nutritional products (Cao et al. 1992). According to the National Research Council (NRC, 2001), a daily and adequate amount of fluoride intake for infant age < 6 month age is 0.1-0.5 mg / person / day; 0.2-1.0 mg / person / day for infant between 6-12 months age; 0.5-1.0 mg / person / day for children 1 to 3 years of age, 1.0 to 2.5 mg / day / day for children from 7 years for adults and 1.5 to 4.0 mg / person / day for adults.

In district Mahendergarh, during the summer season, extremely hot conditions are present and the temperature fluctuates from 25° to 48° C. In extreme climatic conditions, the optimum level of fluoride in drinking water should be between 0.5 and 0.7 mg/l according to the World Health Organization (Murray, 1986). Although the data presented in this study show a direct relationship between fluorosis and fluoride water, these results confirm that other studies and proved that high fluoride concentrations increase the prevalence of fluorosis (Yadav et al., 2008, Bhalla et al., 2015, Ramesh et al., 2016 and Sunil et al., 2017). Gopalakrishnan et. al; (1991) conducted a survey among school going children and villagers in ten villages near Tuticorin of Chidambaran district of Tamil Nadu and highest percentage of fluorosis was found 21.67%. Dahiya et. al. (2000) carried out a study of 1014 individuals (634 male and 380 female) among school children in school of Juai Kala village of district Bhiwani. Out of total 916 children were found suffering with different types of dental fluorosis. Excessiveness of fluoride can be the cause of dental fluorosis (Susheela, 2001).

The study also found that fluoride also affects children in a low fluoridated area, as water consumption is highest in hot climates; although the percentage of children affected was very low i.e. 7.63%. But the occurrence of dental fluorosis can be very different in different villages with almost the same fluoride in drinking water. The results showed that the populations of some villages in the study area were chronically exposed to higher levels of fluoride in drinking water.

V. CONCLUSION

This study reveals that high fluoride level in water plays a vital role in the existence of fluorosis among school children in Mahendergarh district. The positive correlation between fluorosis and high fluoride level was noted in the area. Consumption of drinking water by the residents in the area is very high as this area lies in the dry zone. Permanent remedy for fluorosis cannot be possible, only prevention is a remedy. Changing the eating habits can decrease the degree of dental fluorosis. Residents of the area should control the eatables having high fluoride intake like black salt, black tea etc and should take adequate amount of vitamin C and calcium. The government should also imply the defluoridation schemes and fluorosis awareness programs for the residents of the area.

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The Problem of Regional Disparities: An Overview in Indian Context

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Received: 15 Jan 2023; Received in revised form: 27 Feb 2023; Accepted: 09 Mar 2023

Abstract

The contemporary world is growing rapidly in the field of urbanization, liberalization, globalisation and modernization, but on the other hand, all this development has emerged a worldwide phenomenon regarding regional disparity. Regional disparity is a common fact in both developing and developed economies. Across India's different regions and states, development and growth has not been distributed fairly and has given rise to the threat of regional inequality. In India, each of 28 states has its own disparities regarding socio-economic indicators with other states; among them few states e.g. Punjab, Gujarat, Maharashtra and Tamil Nadu, etc. have already attained rapid economic development Whereas, other regions or states e.g. Bihar, Odisha and Jharkhand, etc. have attained less development. India is a diverse nation with a massive population disparity in social and economic development, employment, and infrastructure facilities across the regions and within regions that have been a major challenge to policymakers and economists. Main objective of the study is to understand the concept of regional imbalances. The paper highlights the causes and consequences of disparities in inter-regions, inter-state and intra-regions in India. The paper describes also the measurements implemented by Indian policy makers in India to reduce the problem. The paper reveals suggestions to reduce the disparities in Indian context.

Keywords*— *Regional imbalances, Economic Development, India, New economic policy, NITI Ayog, Five Year Plans

INTRODUCTION

Among the innumerable axes of disparity in India, regional inequalities have acquired greater prominence in recent times (Bakshi S. et. al,2015). Regional disparities denote to a condition of asymmetry in standard of living in different parts of a given area (Naresh Kumar and Ritu Rani,2019). Regional imbalances mean wide differences in per capita income, health and education services, levels of industrialization, literacy rates, infrastructural facilities, human development index (HDI) etc. between different regions and states of the country. It refers to difference in economic development and uneven economic achievement in different geographical regions. It is reflected by the indicators like per capita income, the proportion of population living below the poverty line, percentage of population engaged in agriculture vis-à-vis engaged in industries, the percentage of urban population, infrastructural development of different states. It is a verified fact that in a big economy, different regions with varying resource bases and grants support dissimilar growth paths over time (Williamson, J. G. 1965). After the post reform in India , growth allegedly has not equally benefited every region of the country leading to differences in level of per capita income between the richer and poorer regions(Samik Chowdhury , 2014).The new economic policies have further broadened the gap between the poor and the rich states((Ripudaman Singh,2015). India, not being any exception, is facing and resolving the issue of regional disparities. The holistic development of the country is stunted as regional disparities give rise to inequalities. Regional disparities in India are very huge. Because of this, the pace of development is completely different in all parts of the country(Lakhan Singh Kushre). India presents a picture of marked diversity with the sub-national units at different stages of development (Dreze and Sen, Reference Dreze and Sen2013; Frankel, 2005). Although some states (Kerala) have development levels somewhat similar to those of developed countries, others significantly lag. Since the economic reforms in 1991, regional disparities appear to have increased significantly (Kurian, 2000)

CAUSES OF REGIONAL DISPARITIES IN INDIA

Historical Factors:

In India, Regional imbalances started from its British regime as the British industrialists developed only those regions of the country which possessed rich potential for wealthy manufacturing and trading activities. Such regions were like

Calcutta, Bombay and Madras keeping other areas neglected (Nagaraja K. , and B. P. Veerabhadrappa, 2018).

Geographical Factors:

Geographical factors like the difficult terrain surrounded by, hilly terrain, rivers and dense forests adverse climate and flood prone areas resulted in uneven growth of different regions of India. These factors play a vital role in the developmental activities of a developing economy. Himalayan states like Himachal Pradesh, Uttarakhand, North-Eastern states remained mostly backward due to its inaccessibility and other inherent difficulties.

Shortage of Economic Overheads:

Economic overheads like power, transport and communication facilities, technology and insurance etc. play very significant role for the development of a particular region. Due to inadequacy of such economic overheads some regions of the country i.e. North-Eastern region, Himachal Pradesh, Bihar etc. remained much backward whereas due to appropriateness of such economic overheads, some regions are getting a special favour in respect of settlement of some developmental projects.

Location Specific Advantages:

Some regions are getting special favour in respect of site selections of various developmental projects. Locational Specific advantages are availability of irrigation, market, raw materials, port facilities etc. Oil refineries are mostly located in close to sea due to Location advantages:

Failure of Planning Mechanism:

Achievement of regional balance is one of the important objective of economic planning in India. Inspite of framing this major objective, it did not succeed in this field as developed states get much favour than less developed states in allocating funds etc.

Political Instability:

The political instability is standing as a hurdle in the path of development of the backward regions. If there is political instability in any state in the form of instable Government then there will also be found the problem of law-and-order problem etc. This will block the flow of investment into these backward regions besides making flight of capital from these backward states.

CONSEQUENCES OF REGIONAL IMBALANCES

Agitations:

Uneven regional development or regional imbalances lead to several agitations in Inter-States and Intra States. There are agitations in India for separate Vidhrbha State in Maharashtra and Bodoland movement in Assam for separate Bodo State for Bodos. The former combined State of Andhra Pradesh can be sited as the best example of the consequences of intra-state regional imbalance in terms of development. There were several agitations for separate Telangana State for several decades from 1969-2014 finally it was formed as a separate State on 2-06-2014 as 29th State of India (Nagaraja K. , and B. P. Veerabhadrappa, 2018)

Migration:

Regional disparity causes Migration. Migration takes from backward areas to the developed areas in search of livelihood. For example, migration from rural to urban. Because, urban areas will provide better quality of life and more job opportunities when compared to rural.

Social Unrest:

Differences in prosperity and development leads to friction between different sections of the society causing social unrest. For example Naxalism. Naxalites in India function in areas which have been neglected for long time for want of development and economic prosperity.

Housing & Water Problem:

Metropolitan cities like Mumbai, New Delhi, Chennai and Hyderabad have establishment of several industries. This leads to shortage of houses as a result rental charges will increase abnormally and over population leads to water crisis.

Pollution:

Centralization of industrial development at one place leads to air, sound and water pollution.

Frustration among Rural Youth:

In the absence of employment opportunities in rural and backward areas leads to frustration especially among educated youth.

Accumulation of the imbalance:

Once an area has adequate infrastructure for development and is wealthy, more investments pour-in neglecting the less developed regions. So an area which is already prosperous develops further. For examples, the rate of growth of the metropolitan cities like, Delhi, Kolkata, Mumbai, Chennai, Bangalore and Hyderabad is higher compared to other metro cities of India.

STRATEGIES FOR REDUCING REGIONAL DISPARITIES IN INDIA

Indian govt. has taken many steps to reduce the problem of regional disparity after independence and post reform period. Two major institutions- NITI Ayog (Planning Commission) and Finance Commission play very important role in promoting regional balanced development by implementing various policies in regions eg. higher resource transfers from the Centre to the Backward States. Many Development Programmes have been started in India e. g. community development programme, Drought Prone Areas Programme to provide basic facilities and services to people in all the regions. River valley projects and multi-purpose projects e.g. Narmada Dam for dry parts of Gujarat and Madhya Pradesh, proposed Ken-Betwa inter river link project for Bundelkhand region etc. are also good initiative to measure the problem. Diffusion of industrial activity and infrastructure was also on priority. East West Corridor project, Special Accelerated Road Development Project (SARDP-NE) and Trans Arunachal Highway for increasing connectivity are also measure steps to be taken by govt. To attract the private entrepreneurs for investing in backward regions, subsidies, exemptions and tax breaks given to industries. The Backward Region Grant Fund (BRGF) is a Programme implemented in 272 identified backward districts in all States of the country to redress regional imbalances in development. NITI Aayog's Three Year Action Agenda emphasizes the specific action for North-Eastern states, North Himalayan states, Desert & Drought prone areas, Coastal regions and Islands.

CONCLUSION

India is a large emerging economy (Rashmi U. Arora and P. B. Anand) To improve financial development and financial inclusion, developing countries are implementing several measures (Demirgüç-Kunt *et al.*, Reference Demirgüç-Kunt, Klapper, Singer, Ansar and Hess2018), but national level efforts alone may not be adequate as they may fail to reduce underlying inequalities at the local/regional level. More focused approach is required at the sub-national/local levels to attain increased financial development (Fafchamps and Schündeln, Reference Fafchamps and Schündeln2013). This is specially relevant for huge federal economies. India is one of the fastest growing economy, yet, there is need to give due importance in terms of emerging disparities. Regional development disparity is a continuous developmental challenge for Indian policy makers. Specific policy attention and the equitable distribution of development, is required for the less developed states. To enhance the quality of life in the backward region of the country, more emphasis should be made on encouraging community participation and the effective implementation of different government schemes. In the entire country, disparities can be reduced, only if there is less poverty, population, and providing economic and social infrastructure, good governance, people's participation, etc. To reduce the regional imbalances in the country, it is compulsory that the local bodies in the backward areas are also empowered and strengthened.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.4
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Assessing Internal Communication and Teacher Burnout: An Empirical Study of School Administrators in Select Public High Schools in Kakamega County, Kenya

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Received: 11 Feb 2023; Received in revised form: 15 Mar 2023; Accepted: 25 Mar 2023

Abstract

Extant literature suggests that burnout is one of the major factors contributing to declining teacher productivity. Studies have exposed a prevalence of burnout among the teaching fraternity, with administrators recording higher levels of burnout. This research study investigated the association that exists between internal communication and teacher burnout, among public high school administrators employed by the Teachers Service Commission (TSC) in Kakamega County as the target population. The research questions were: a) What is the perceived effectiveness of the internal communication in place based on official channels used by TSC to communicate with the administrators? b) What are the administrator burnout levels in select public high schools in the county? and, c) What is the association between internal communication and teacher burnout among the select public high school administrators? The study which utilized a correlation research design, revealed that all the respondents experienced burnout. The findings further established that there was a weak negative correlation of -.231 between internal communication and corporate burnout, with a statistical significance level of 0.016. This suggests a statistically significant relationship between internal communication and burnout characterized by a weak negative correlation. The study recommends that institutions endeavour to ascertain their employees' communication interests in order to establish their internal communication system. Similar studies should be conducted in the different Kenyan counties so as to make comparisons as well as among administrators in private and international schools in Kenya, to provide more insight into the association between internal communication and teacher burnout.

***Keywords*—. Internal Communication, Teacher burnout, School administrators, Public high schools**

I. INTRODUCTION

Teaching happens to be one of the professions in which burnout is highly prevalent (Scott, 2019; Akdemir, 2019). To illustrate its prevalence, Bermejo-Toro et al. (2016), as cited in Simões and Calheiros (2019), assert that globally, 10-20% of teachers could be experiencing high burnout levels. Research conducted in different contexts such as the U.S, China, Europe and South Korea draw similar conclusions which reliably report that the teaching profession is laden with high pressure work conditions (Yorulmaz, Colak, &Altinkurt, 2017).

Developing countries as well have not been exempted from having a fair share of burnout occurrences. Burnout has been argued to be one of the major factors that contribute to declining teacher productivity in developing countries (Asimeng-boahene, 2003 as cited in O'Hern& Nozaki, 2014). This phenomenon has been argued to be among the chief reasons behind de-motivation among educators, low education outcomes and high turnover rates despite the urgent need to retain effective educators (Rajendran, Watt & Richardson, 2020).

While teachers at all levels may experience burnout, studies show that administrators register higher burnout than the general population (Riley, 2018; Ray, 2020). Taking into account that administrators are to provide leadership in schools, their being burned out may deal a heavy blow to the system. In the face of unstable leadership, even high-quality classroom teachers will have a hard time delivering their duties which will peak their burnout levels and as a result both their productivity and school performance will be negatively affected. This makes administrators a very crucial group among teachers; groups that if effectively managed by their employers, will in turn provide support to the rest of the teaching workforce which will assist in countering burnout.

The Kenyan public education sector, especially teachers is riddled with cases of high teacher absenteeism, job dissatisfaction, desertion of duty and high teacher turnover which are textbook markers of burnout (Kim, Jörg & Klassen, 2019). This claim is further substantiated by studies that show the existence and prevalence of burnout among the teaching fraternity, with administrators recording higher levels of burnout (Kilonzo, Were & Odhiambo, 2018; Baraza, Simatwa & Gogo, 2016; Ngari et al., 2013). Considering administrators' crucial role in providing leadership, support and setting the tempo of the school, it is imperative that a solution to pacify burnout be sought. Even though few studies (Ter Hoeven, de Jong & Peper, 2006; Brown & Roloff, 2015) conducted abroad have found a link between certain organizational communication variables and burnout, the menace that is burnout has grown into a burning topic in communication circles. Various communication experts have asserted that poor internal communication in organizations fuels burnout (BLND PR, 2019; Bogue, 2019).

These views can be argued as subjective views of communication experts and that their assertions are circumstantial rather than empirical. In line with this argument, we have not come across an empirical work in peer-reviewed journals that precisely assesses the relationship between Internal Communication (IC) and teacher burnout in the Kenyan context. Due to this scarcity of substantive evidence, we surmise that there exists an empirical as well as a geographical gap that this study stands to fill. This study investigated the association that exists between IC and burnout, focusing on Kenyan public high school administrators employed by the Teachers Service Commission (TSC) as the target population.

Teachers Service Commission (TSC) is the professional body in Kenya charged with the mandate to maintain and improve the quality of education through effective management of the teaching workforce (TSC, 2017a; TSC, 2015). As the teachers' employer, the body is tasked with registering, recruiting, employing, promoting and taking disciplinary action against teachers (TSC, 2017b). TSC was initially launched as a Semi-Autonomous Government Agency (SAGA) under the Ministry of Education (MoE). However, following the repealing of TSC Cap 212, the Commission was established as an independent body under Article 237 of the Constitution of Kenya (2010).

The following research questions informed the study:

1) What is the perceived effectiveness of the internal communication in place based on official channels used by TSC to communicate amongst administrators in Kakamega County? 2) What are the administrator burnout levels in select public high schools in Kakamega County? and, 3) What is the association between IC and employee burnout corporate among select public high school administrators in Kakamega County?

As seen, most of the existing literature on burnout is found in other fields such as Human Resource Management (HRM) and psychology, this study therefore intends contribute to knowledge on burnout in the discipline of communication and pave way for further inquiries into the relationship between these variables. This research as well stands to shed light on the nature of the relationship between internal communication and teacher burnout focusing on the employees' (teacher's) vantage point. In so doing, the study hopes to find a probable solution to countering burnout from a communication angle at the same time make a significant contribution to burnout literature in the education field.

II. LITERATURE REVIEW

Theoretical Framework

This study employed Edward Freeman's Stakeholder Theory and the Social Exchange Theory by George Homans. The stakeholder theory fronts that the purpose of a business is not to create value just for the shareholders but for the stakeholders as well. The stakeholders cannot be looked at in isolation as their interests have to dovetail. The theory has three fundamental tenets. These tenets are summed up as: jointness of interests, cooperative strategic posture, and rejection of a narrowly economic view of the firm. Based on the premises of the Stakeholder Theory, and precisely the first tenet: jointness of interest, if employees' interests are observed the organization will generate value for employees which lead to the success of the corporate. Since internal communication is one of the most powerful tools for engaging employees and establishing relationships with them, we apply this theory in this study as a guide to assess if employees' communication needs/interests are being met.

The concept behind the Social Exchange Theory (SET) is that relationships between two or more parties are created through processes of cost-benefit analysis. Karanges et al. (2014) argue that SET can facilitate understanding of workplace relationships as well as employee attitudes, a statement that is reiterated by Atouba (2018) who posits that SET has proven quite convenient in studying and understanding organization-employee interactions. Given this study's objectives, SET is an ideal theory for exploring organizational relationships. This theory complements the Stakeholder Theory which does not cover reciprocity in depth. Here, we seek to examine the organization-employee relationship between TSC and a section of its employees, focusing on IC and burnout in the context of social exchange.

This study sought to explore the relationship between Internal Communication (IC) and Employee burnout. IC refers to the communication flow among individuals within the same internal boundaries of an organization (Vokić, Bilušić& Najjar, 2020). Internal Communication also referred to as employee communication, (Cornelissen, 2011; Vercic, Vercic & Srirameshc, 2012; Kang & Sung 2017) has been argued to be a great resource for managing employees and enhancing an environment that promotes healthy relations among employees themselves as well as employees and the management. When handled right, employee communication holds a range of benefits for a corporate. These benefits include: high employee engagement, motivation, loyalty and innovation levels, better crisis management practices and satisfactory customer/client experience which generates higher revenue (Clampitt & Downs, 2012; Atouba, 2018).

Burnout, also known as corporate burnout refers to an individual's continued response to workplace stressors or a toxic work environment and is characterized by feelings of exhaustion, mental detachment from one's job and reduced professional efficacy (Chatterjee & Wroth, 2019).

Burnout has been identified as one of the prime factors affecting employee well-being and performance at work (Stevenson, 2020). There has been a steady increase in cases of employee burnout which has led to its recognition by the World Health Organization, WHO and termed an "occupational phenomenon" (Stevenson, 2020). This makes burnout a concern deserving attention if it is to be managed.

According to Packirisamy, Meenakshy and Jagannathan (2017) burnout is characterized by a general sense of helplessness which may ultimately hamper meaningful contribution at work. The scholars argue that the impact of burnout on the individual is so severe that it affects their overall productivity and performance. Several factors have been linked to burnout occurrence some of which include: career uncertainties, long working hours, erratic schedules, lack of clarity in the future of the career, remuneration and job dissatisfaction. PR and communication experts have raised the idea that IC also plays factor in influencing burnout (Burkhart, 2018; Schindler, 2018; BLND PR, 2019).

Antecedents of Teacher Burnout

Research has identified demographic and contextual variables, which serve as antecedents of teacher burnout (Beausaert, Froehlich, Devos & Riley, 2016). The demographic variables include age, gender, marital status and years of experience. For instance, Klassen and Chiu (2010), as cited in Pyhältö et al. (2020), found that female educators experienced higher levels of exhaustion compared to their male counterparts. Male professionals on the other hand registered higher levels of depersonalization compared to females (Skaalvik & Skaalvik, 2017).

Years of experience have also been found to influence burnout levels. According to a study by Zhang, Zhang and Hua (2019), teachers with less than 10 years of experience were found to exhibit the highest emotional exhaustion and low teaching efficacy, compared to their longer-serving counterparts. Findings on the link between marital status and burnout are however inconsistent with some scholars arguing that burnout is higher among single teachers (Caglar, 2011 & Luk et al., 2010, both cited in El Helou, Nabhani &Bahous, 2016), others among married teachers (El Helou, Nabhani & Bahous, 2016; Li et al. 2020) some point out no significant relationship between marital status and burnout (Murali, 2016; Atmaca, 2017).

Contextual factors such as administrative support, class size, time pressure, role stressors, student discipline and availability of resources have been linked to burnout (Beausaert et al., 2016; Ballantyne & Retell, 2020). Skaalvik and Skaalvik (2017) identified student discipline as a strong predictor of burnout. Discipline problems overtime affect the teacher-student relationship as the teacher develops a cynical attitude towards the learners which triggers depersonalization. Class size has also been found to contribute to burnout as teachers who attend to large classes tend to display more indicators of burnout than those with small classes (Bumen, 2010 as cited in El Helou et al., 2016; Zhang et al., 2019).

Teacher burnout has been linked to increased absenteeism, negative work attitudes and high turnover intentions, all of which negatively affect both educators and their students (Zhang, Zhang & Hua, 2019). As it is, teacher burnout empedes achievement of a high-quality education system and this makes it necessary to channel scientific and political efforts towards addressing this problem.

Burnout and School Administrators

Scholars have argued that burnout among administrators in public secondary schools has been a major concern to key players in the education sector both in developed and developing countries (Ogalo, Odera & Ogogo, 2020).

Burnout is a major source of career dissatisfaction and job turnover among institutional leaders, which leads to low morale and job interest (Yildrin & Dinc, 2019; Kiongo & Thinguri, 2014). Taking into account the importance of the administrative function in the school, having motivated educators holding these positions is key. Having burned out administrators on the other hand may drive the entire school community into a pool of burnout as pointed out it can be contagious (Meredith et al., 2019).

Burned out administrators also resort to spending their time looking for opportunities away from teaching and eventually quit the profession. Goldring and Taie (2018) state that generally,1 in 5 schools loses a principal every year to burnout, a trend that stands to adversely affect several aspects in the education sector stretching from those that directly concern teachers to those that affect students. According to Henry and Harbatkin (2019), teacher, student and general school outcomes can be affected by principal turnover in two major ways. The first is principal turnover disrupts relationships as well as the ongoing organizational operations within the school which has both short term and long-term implications. The second aspect involves differences in effectiveness between the principal exiting and the one taking over. Given that administrators differ in leadership styles, prowess and expertise which reflect in their effectiveness, the wider the gap between the outgoing and incoming administrators' effectiveness the greater the impact on the outcomes. By analyzing administrative data from North Carolina schools gathered from 2009-2018, Henry and Harbatkin (2019) were able to ascertain the relationship between principal turnover, CT turnover and student achievement. Henry and Harbatkin (2019) noted that higher CT turnover rates were recorded when principal transitions occurred especially within or in between academic years. The study also established that, when principal turnover occurred, students' test scores and proficiency rates were negatively affected. This accentuates the extent of the effects that stem from administrator turnover. Therefore, to curb these effects it is of the essence that burnout among administrators is studied and long-term solutions proposed.

Burnout in the Teaching Fraternity: The Kenyan Context

According to a 2016/17 report on customer and employee satisfaction presented by Trendy Consulting International Limited, majority of secondary school principals and classroom teachers reported being dissatisfied in their jobs (Ogalo, Odera &Ogogo, 2020). According the report issues such as low pay; lack of motivation; lack of professionalism and transparency especially in recruitment and promotion schemes and limited support from the government prompted educators to develop negative attitudes towards their jobs. It is not coincidental that teacher attrition rates are high at a time when statistics indicate burnout is rife among educators.

According to Wanzala (2019 b) despite the startling teacher shortage in state schools in the country the education sector is still characterized by massive exodus of teachers (Waihenya & Nyamai, 2019; Wanzala, 2019a; Nyaundi, 2019). A study conducted in Suba Sub-County (Mabeya, Gikuhi & Anyona, 2019) with 273 respondents, cumulatively 63.4%, reported that teacher attrition rates in their respective schools were somehow high, high and extremely high.

The teacher shortage coupled with high teacher turnover not only threatens to compromise the quality of education but also dilute the confidence in the public education sector. This alarming teacher turnover rates in Kenya have been largely attributed to burnout (Sichambo, Maragia & Simiyu, 2012; Wanzala, 2019b). This argument is in line with empirical literature from other countries, which further underlines that, high rates of attrition among teachers can be traced to burnout associated with the profession (Skaalvic & Skaalvic, 2017; Troesch & Bauer 2020; Ballantyne & Retell, 2020).

In a study conducted among secondary school teachers in Machakos County, out of 359 respondents, 36.8% and 13.8% agreed and strongly agreed respectively that they experienced physical exhaustion; these figures combined show that slightly over half the respondents were physically exhausted (Kilonzo, Were & Odhiambo, 2018). Furthermore, of all the respondents involved, 47.4% agreed that they were emotionally exhausted while 29.1% strongly agreed to the same. Regarding high teacher turnover rates in the schools, a majority 52.6% agreed that this was witnessed while 27.4% strongly agreed. It is interesting that on this question, none of the respondents strongly disagreed but only 5.1% disagreed while the remaining 14.9% were neutral which builds a case for teacher burnout being on the high side.

Work-related or occupational stress which engenders burnout happens to be a global problem as it is linked to adverse conditions that affect employees and in extension the organization (Onyango, Adoyo & Odera, 2014; Pijpker et al., 2020). According to a study done by Baraza, Simatwa and Gogo (2016) among secondary school teachers in Kakamega North Sub-County, out of the 99 teachers sampled 56.57% recorded high levels of work stress. 37.37% recorded moderate levels of work stress while only 6.06% were noted to experience low levels. Even though the researchers concluded that on average secondary school teachers are operating at moderate stress levels, figures of those operating at high work stress levels cannot be ignored since they stand to be burned-out in the long term. These findings suggest that if the prevailing occupational conditions remain as they are, teachers in

Kakamega North Sub-County are very likely to experience full-blown burnout.

In a study conducted among high school classroom teachers in Borabu District, Matiang'i, Makewa and Role (2016) found that there is a relationship between administrative support and burnout. The study involved 168 teachers from 21 schools, revealed that lack of support from administrators triggers burnout in CTs which in turn affects their productivity. These findings support those of Sichambo, Maragia and Simiyu (2012) who conducted a study among high school CTs in Bungoma North District. Out of the 180 respondents sampled from 18 different schools 64.4% reported lack of support from the administration to be a major source of burnout. In yet another study conducted in Bungoma South Sub-County, Wanyonyi and Ouda (2019) established that administrative climate highly influences burnout and productivity among CTs. Furthermore, in a statement by TSC (Wanzala, 2019b) regarding high teacher turnover rates, especially among newly recruited teachers, administrators were advised to render necessary support to their colleagues especially the new entrants so as to improve teacher retention rates.

According to a 2015 report issued by TSC, close to 64% of principals in the country had quit the profession between the years 2010-2015, citing work stress as a prime factor (Aomo & Ogolla, 2018). These findings were in line with Koome (2007), as cited in Yambo, Odhiambo and Odera (2014), who noted that most of the high school principals nationwide who had opted out of the profession did so due to burnout and preferred to look for opportunities in other government ministries and departments.

Deputy principals being part of the leadership, also bear the brunt of administrator burnout by both association with principals when carrying out administrative roles and standing in as acting principals. In a study conducted in Olkalou Division which involved 144 principals, their deputies and head of departments presented high burn out levels. Ngari et al. (2013) reported that 54.5% of the administrators registered high levels of work stress compared to 27.6% and 17.9% who recorded low and moderate levels of work stress respectively. The existing literature clearly points out the apparent attention that ought to be given to administrator burnout.

Internal Communication and Burnout

The association between internal communication and burnout prompts a debate that has not been given much attention especially in studies rooted in the teaching field. Despite this, there are some scholars who have determined the existence of a relationship between organizational communication variables and corporate burnout. One such study, conducted by Ter Hoeven, de Jong and Peper (2006) among 954 employees of a Dutch subsidiary firm, found some organizational communication variables to be linked to burnout. The researchers tested 6 communication variables namely: communication overload, under load, satisfaction, climate, coworker social support, and supervisor social support, against burnout. Out of the 6 variables, supervisor social support and information overload were not found to have any relation with burnout. The remaining four variables on the other hand, each recorded a significant relationship, with communication climate and satisfaction recording the strongest negative correlations with burnout. These findings therefore not only imply that organizational communication is an antecedent of job burnout but also suggests that when employees perceive communication climate as positive and generally find communication satisfactory, there will be fewer cases of burnout.

In another study conducted in the U.S among private and public high school teachers who engaged in extra role time organizational citizenship behaviors (ERT-OCB), Brown and Roloff (2015), tested perceived organizational support (POS) and psychological contracts, as organizational communication variables against burnout. The study engaged 461 respondents 89% taught in public schools while 11% worked in private urban schools, revealed that both POS and psychological contract fulfillment were strongly related to burnout. From their research, Brown and Roloff established that hardworking employees especially those engaged in ERT-OCB were highly likely to experience burnout irrespective of the monetary compensation. Brown and Roloff (2015) further deduced that creating a work environment that communicates the employees' value, significance and appreciates the extra time effort they put in, plays a significant role in buffering burnout in organizations. Following the findings of this study it can be said that burnout can be influenced by communication engendered by the organization (Brown & Roloff, 2015).

Burnout and Engagement

There are scholars who suggest that the concept of burnout is tied to engagement in that the two are polar opposites (Krug, 1999 as cited in Packirisamy et al., 2017; Kim et al., 2016). Krug (1999) as cited in Packirisamy et al. (2017) posit that burnout can simply be said to be "…erosion of engagement…" (p 98). This view implies that those employees who record high burnout levels are not engaged and vice versa. While the view may seem to hold logical truth, there exists literature that suggests that it is possible to have employees who are highly engaged yet are burned-out and are actually considering quitting their jobs (Moeller, Ivcevic, White, Menges & Brackett, 2018).

According to a study carried out by the Yale Center for Emotional Intelligence (Moeller et al., 2018), there is a negative correlation between burnout and engagement. Moeller et al. (2018) established that when engagement is high, burnout levels tend to be lower as compared to when engagement was low. Of the 1085 participants involved in the study, 41% were found to be highly engaged with low burnout levels in contrast to the 1.8% who recorded low engagement and high burnout levels. However, the study also found out that there were cases of aligned engagement-burnout profiles which recorded high (18.8%), moderate (35.5%) and low (2.4%) on both variables in more than half of the sample population. Worth noting is the group that recorded both high engagement and burnout who Moeller et al. (2018) refer to as engaged-exhausted workers.

III. METHODOLOGY

The study employed the correlation research design. According to Apuke (2017), this design is optimal for establishing whether and to what degree two variables relate. Since the researcher was interested in determining the association between internal communication and teacher burnout among select high school administrators, this design was appropriate for analysing the relationship between the two variables and ultimately surmise causation.

The population of the study comprised public secondary school administrators in Kakamega County. The target population encompassed 182 administrators from all the 91 public secondary schools in Lurambi, Butere and Shinyalu Sub-Counties of Kakamega County in Kenya. These sub counties were settled on because of the diverse categories of schools they exhibit; these comprise national, extra-county, county and sub-county schools.

Sample size calculation was done by utilizing the Qualtrics online sample calculator, with the confidence level set at 95% and margin error at 5%; which is conventionally considered acceptable by scholars especially in social science research (Rich, Brians, Manheim & Willnat, 2018; Imai, 2017). With the sample calculator, having a target population 182 gave a sample size of 124 which is equivalent to 62 school taking each school has a head and deputy. The single-stage simple random sampling method was then employed to select the 62 schools from the 91-school-sampling frame through the lottery method, which gave the 124 respondents needed.

This study employed questionnaires that were structured with close ended questions to collect primary data. The items relating to employee communication was measured using a 4-point interval Likert-scale.

The second part entailed 16 items from the Oldenburg Burnout Inventory (OLBI) which was to ascertain administrator burnout. The OLBI is an internationally acknowledged questionnaire developed by Demorouti, Bakker, Vaardakou and Kantas (2003) to measure burnout.

A pre-test study was carried out among 12 administrators in Matungu sub-county who were randomly sampled as a representative of the whole. This number equated was equated to 10% which offered a descriptive results Mugenda and Mugenda (2012). The questionnaires were printed out and organized for distributed with the aid of research assistants. The respondents were carefully explained to what the study entailed and their informed consent sought before being handed the questionnaires for filling.

The primary data collected was analysed with regard to the objectives of the study. The data was then processed by Statistical Package for the Social Sciences (SPSS.v.25.0) and using the Pearson’s correlation coefficient (Pearson’s r) to determine the relationship between the two variables under study. The findings were then presented in forms of tables and figures.

The researchers obtained research permits from the Daystar University Ethics Review Board (ERB) and from the government through National Council for Science, Technology and Innovation (NACOSTI) before venturing into the field.

To uphold candour when carrying out this research, a brief dialogue was held with the respondents and the details of the study explained. After the dialogue, oral informed consent was sought from each respondent to ensure that they knew their rights and therefore decide whether they would participate.

The researchers assured the respondents of privacy and confidentiality by first emphasizing the independence of this research effort from that of the TSC.

The researcher’s choice of settling on secondary school teachers was informed by a study carried out by Sezer (2012) that suggests, more burnout occurrences are recorded among secondary teachers compared to primary school teachers.

IV. FINDINGS

For this study, 124 questionnaires were distributed and 108 were returned duly filled. This represents a response rate of 87.1% which according to Edmond and Kennedy (2017) is feasible for analysis and generalizing the findings.

The respondents of this study were asked to provide their age, gender and their working durations as administrators in select public high schools.

In terms of age, the findings revealed that most administrators 59 (54.63%) fell between the ages 51-60. This comprised 25 female administrators while the males were represented by 34 administrators. This group was followed by those aged 41-50, who were 40 (37.04%). This second group constituted 20 female administrators while their male counterparts were represented by 17 administrators. The least age band was that of administrators aged between 30-40 years who were 9 (8.33%). This constituted of 5 female deputies and 4 male deputy principals. From the above findings it is evident there were more male than female administrators between the ages of 51-60. However, in the other two age brackets 41-50 and 30-40, there were more female than male administrators.

In as far as gender is concerned, 56 (51.9%) of the respondents were male while 52 (48.1%) were female. There were slightly more males than females however the two groups were both adequately presented.

Working duration

The respondents of the study were also asked to provide their years of work as administrators. Table 4.1 shows the findings.

Years in administrator positions	Age Group			Total	Percentage (%)
	30-40	41-50	51-60		
1-5	7	29	5	41	38.0
6-10	5	10	11	26	24.1
11-15	1	6	11	18	16.7
16 & above	0	5	18	23	21.3
Total	13	50	45	108	100

Table 4.1 illustrates that most respondents 41 (38%) had a working duration of 1-5 years in administrative positions. This comprised 7 respondents aged between 30-40 years, 29 aged between 41-50 years and 5 aged between 51-60 years. This was followed by those with a working duration of 6-10 years who were 26 (24.1%) of the respondents. This group constituted 5 administrators aged between 30-40 years, 10 between the ages of 41-50 years and 11 who were aged between 51-60 years.

Twenty-three (21.3%) were found to have served in administrative positions for a duration of 16 and above years; this included 1 respondent aged between 30 and 40 years, 6 respondents aged between 41 and 50 and 18 between the ages of 51-60 years. The least number of respondents was that with a working duration of 11-15 years as they were only 18 (16.7%) which constituted 5 respondents between the ages of 41-50 and 18 aged between 51 and 60. It was therefore certain that most of the respondents had been in administrator positions for a significant period of time thus were well versed in matters pertaining employer-employee (TSC-administrator) communication.

Official communication channels used by TSC

This study sought to establish the official communication channels used by TSC to convey information to public high school administrators. Fig 4.1 presents the findings

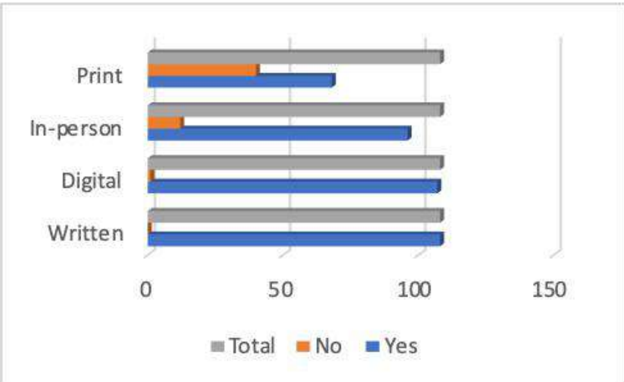

Fig.4.1 Distribution of respondents by communication channels used by TSC

The findings obtained revealed that for most administrators, TSC used all the available communication channels to convey information. The percentages per channel category were as follows: 100% of the respondents identified written channels, 99.1% identified digital channels, 88.9% identified in-person channels while 68% checked print channels.

Channels used most frequently by TSC to communicate to respondents.

The respondents were further asked to point out which communication channels were used by their employer most frequently. The findings are presented in Fig. 4.2

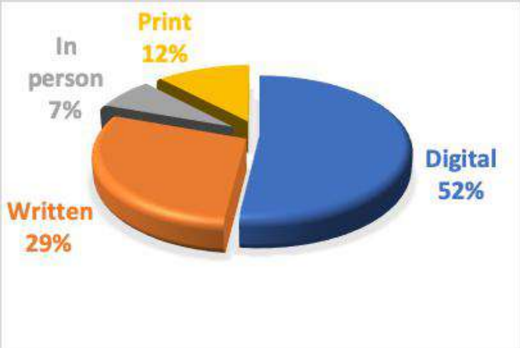

Fig.4.2: Channels frequently used by TSC

Findings revealed that a high number of administrators 56 (51.9%), frequently received communication from TSC through the digital channels. 31 respondents who made up 28.7% recorded frequently receiving communication through the written channels. The in-person channels category was picked on by 8 (7.4%) while 13 (12.0%) of the respondents selected the print channels as the most frequently used by TSC. The respondents were then asked to provide responses on a variety of statements. These statements were provided on a Likert scale with different degrees from strongly agree to strongly disagree on their perception about communication between public school administrators and TSC. Table 4.2 shows the results.

Table 4.2: Internal communication between TSC and public high school administrators

Statements	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	**Mean**
6. I find this category of communication channels appropriate for fast delivery of important information.	10 (9.3%)	11 (10.2%)	52 (48.1%)	35 (32.4%)	3.04
7. I am comfortable using this set of channels to communicate with my employer.	11 (10.2%)	18 (16.7%)	46 (42.6%)	17 (15.7%)	2.34
8.This set of channels avails room for me to give feedback to my employer	17 (15.7%)	22 (20.4%)	43 (39.8%)	26 (24.4%)	2.72
9. This set of channels allows me to get instant feedback on any submissions I make	18 (16.7%)	30 (27.8%)	35 (32.4%)	25 (23.1%)	2.62
10. My employer values my feedback and acts on it promptly.	12 (11.1%)	37 (34.3%)	48 (44.4%)	11 (10.2%)	2.54
11. I feel empowered and have a voice in the organization's decision-making processes	18 (16.7%)	30 (27.8%)	43 (39.8%)	17 (15.7%)	2.55

12. Most of TSC's recommendations and policies are reached through consensus.	40 (36.1%)	39 (37.1%)	16 (14.8%)	13 (12.0%)	2.02
13. TSC keeps me well informed about the organization's strategic goals and plans.	13 (12.0%)	17 (15.7%)	43 (39.8%)	35 (32.4%)	2.93
14. I always know what is expected of me in terms of contributing to the organization's goals and objectives.	16 (14.8%)	22 (20.4%)	45 (41.7%)	25 (23.1%)	2.73
15. I often get the information I need in time to act on it.	20 (18.5%)	26 (24.1%)	44 (40.7%)	18 (16.7%)	2.56
16. The information I receive is clear and not open to interpretation	1 (0.9%)	23 (21.3%)	54 (50.0%)	30 (27.8%)	3.05
17. I trust the information I receive from my employer.	11 (10.2%)	17 (15.7%)	41 (38.0%)	39 (36.1%)	3
18. I always find the information that I receive useful in helping me perform my tasks better	11 (10.2%)	12 (11.1%)	48 (44.4%)	37 (34.3%)	3.03
19. Most of the information I receive is positively stated and generates interest in me	23 (21.3%)	37 (34.3%)	27 (25.0%)	21 (19.4%)	2.43
20. Using more than 1 channel to communicate TSC information enhances the credibility of the message	12 (11.1%)	11 (10.2%)	51 (47.2%)	34 (31.5%)	2.99
21. The way my employer usually communicates with me leaves me motivated to give my best at work.	19 (17.6%)	25 (23.1%)	39 (36.1%)	25 (23.1%)	2.65
N=108					

Results in table 4.2 indicate that majority of public high school administrators find the TSC channels appropriate for fast communication with 52 (48.1%) and 35 (32%) of respondents having agreed and strongly agreed respectively to this statement. When asked if they were comfortable using the set of communication channels to communicate with TSC, 46 (42.6%) agreed while 17 (15.7%) strongly agreed. These findings thus show that there was agreement that the communication channels not only facilitated timely conveyance of important information but also employees found favourable and were comfortable using them.

From the findings, 43 (39.8%) agreed that the communication channels embraced allowed room for administrators to give feedback to TSC as 26 (24.1%) were noted to strongly agree to the same. Still on feedback, it was widely held that the channels allow administrators to get instant feedback on any submissions they make, with 35 (32.4%) agreeing and 25 (23.1%) strongly agreeing to this. The majority of the respondents also opined that TSC valued their feedback and acted on it promptly; this was represented by 48 (44.4%) and 11 (10.2%) who agreed and strongly agreed respectively.

The above findings on feedback reflect positively on TSC in line with Soares and Del Gáudio (2019) who argue that an organization that gives room for exchanges and interactions with its employees increases its chances of achieving its objectives through them. Furthermore, Gerardi (2019) posits that when channels allow for or promote dialogue, the employees' sense of belonging is enhanced and they feel that they are part of the organization.

When asked as to whether they felt empowered and have a voice in the decision-making process, 43 (39.8%) agreed while 17 (15.7%) strongly agreed. Surprisingly however, most of the respondents disagreed 40 (37.1%) or strongly disagreed 39 (36.1%) with the statement that most of TSC's recommendations and policies are reached through consensus. This is indicative that as much as majority of the administrators feel that they have a voice, most of the decisions around policies and recommendations are solely made by the employer. This poses an area of concern since the primary role of having dialogue and exchanges is to come to consensual decisions. Policies fronted by the management devoid of consensus stand to face opposition; this assertion is buttressed by Waters, Bortree and Tindall (2013) who aver that employees can turn to be an organization's most vocal critics especially when it comes to internal policies.

The majority of respondents also agreed that TSC keeps them well informed about the organization's strategic goals and plans with 43 (39.8%) agreeing and 35 (32.4%) strongly agreeing. In terms of whether they always know what is expected of them regarding contributing to the organization's goals and objectives, 45 (41.7%) agreed that this was so while 25 (23.1%) strongly agreed.

Most public high school administrators approved that they get the information they need in time; this was represented by 44 (40.7%) who agreed and 18 (16.7%) who strongly agreed. From the data, it was found that a significant portion of the respondents trust the information they receive from their employer with 41 (38.0%) checking agree and 39 (36.1%) strongly agree. 54 (50%) and 30 (27.8%) also agreed and strongly agreed respectively that the information they receive is quite clear and unambiguous; not open to interpretation.

When asked if they find the information, they receive helpful in performing their tasks better, most of the respondents concurred with this statement, 48 (44.4%) agreeing and 37 (34.3%) strongly agreeing. However, it was ascertained that a combined 55.6% of the respondents disputed that most of the information they received from the employer was positively stated and generated interest in them with 23 (21.3%) strongly disagreeing and 37 (34.3%) disagreeing. As to whether the use of more than 1 channel to convey information enhanced the credibility of messages from TSC, 51 (47.2%) agreed that this held true and a further 34 (31.5%) strongly agreed to this statement.

Majority of the respondents also concurred with the statement that suggested the way TSC communicates often leaves them motivated to give their best at work with 39 (36.1%) checking agree and 25 (23.1%) strongly agree. These results are an indicator of how effective TSC's IC is since effectual IC motivates employees. This is in line with Kang and Sung (2017) who posit that for IC to be effective it has to, among other things, spark motivation among employees. Finally, on ascertaining the scores recorded regarding the effectiveness of IC, 3 strata were developed using score ranges and respondents grouped according to the range under which their scores fell. The strata were as follows: Ineffective (1-20), Effective (21-40) and Highly Effective (41-64); the results were as presented in Table 4.3 below

Table 4.3: Perceived effectiveness of TSC's internal communication

	Frequency	Percent	Valid Percent	Cumulative Percent
Effective (21-40)	42	38.9	38.9	38.9
Highly Effective (41-64)	66	61.1	61.1	100
Total	108	100	100	

Table 4.4 illustrates that majority of the respondents 50 (46.3%) were satisfied with the quality of communication. This was followed by those who were dissatisfied and had a neutral perspective of the quality with both of them recording 16 (14.8%). 14 (13.0%) reported being extremely satisfied and the least number of respondents were those who were extremely dissatisfied with the current quality of communication represented by 12 (11.1%). Consequently, the above findings implied that the quality of existing communication between TSC and administrators is quite satisfactory. It is however important to also consider the 11.1% who reported being extremely dissatisfied with the communication.

When asked what official communication channels they would recommend TSC to use more often to communicate with them, the results were as presented in table 4.5

Table 4.5: Distribution of respondents by recommended channel of communication.

Recommended channels	Frequency (F)	Percentage (%)
Digital	55	50.9
Written	20	18.5
Print	10	9.3
In-person	23	21.3
Total	108	100.0

The majority of the respondents 55 (50.9%) recommended the digital channels. This was followed by those who recommended in-person channel who represented 23 (21.3%) while the written channels option was settled for by 20 (18.5%). The least recommended was the print channels represented by 10 (9.3%). It can also be deduced that the most popular recommended combination was digital and in-person channels at a combined 72.2% while the least popular was written and print channels at a combined 27.8%. Figure 4.5 below gives a summary of the recommended channels based on the preferences of the various age groups represented in this study

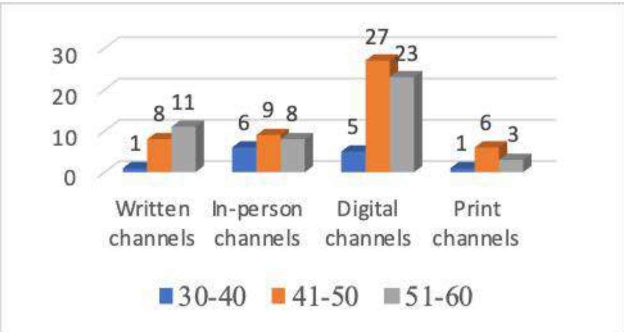

Fig.4.3: Channels recommended per age group

As illustrated in figure 4.3, the most recommended channels for both the 30-40 and 41-50 age groups were digital and in-person channels while those within the age range of 51-60 were inclined towards digital and written channels. The findings captured in Table 4.7 and figure 4.5 are insightful as they reveal the employees' desired channels that TSC should earnestly consider, which according to Gerardi (2019) is quite important for any organization. Figure 4.5 precisely reveals how TSC could further tailor their means of communication to better address its employees based on the preferences of varied age groups thus bring out the best in them.

Gerardi (2019) opines that considering how significant the role played by IC channels is, the channels ought to be adapted or chosen with the employees in mind rather than just the management. Moreover, failure to adapt the appropriate communication channels stands to cripple corporate relationships. As Carramenha (2019) asserts, utilizing inappropriate channels can fuel communication breakdowns, miscommunication and mistrust between the organization and its stakeholders.

Burnout assessment among school administrators

The researchers sought to ascertain the burnout ratings among the respondents. Table 4.6 below shows how they scored in each of the 16 items

Table 4.6: Burnout assessment among administrators

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean
I always find new and interesting aspects in my work	27 (25.0%)	78 (72.2%)	3 (2.8%)	0 (0%)	3.22
There are days when I feel tired before I arrive at work	29 (26.9%)	49 (45.4%)	19 (17.6%)	11 (10.2%)	2.11
It happens more and more often that I talk about my work in a negative way	7 (6.5%)	27 (25.0%)	43 (39.8%)	31 (28.7%)	2.91

After work, I tend to need more time than in the past in order to relax and feel better	27 (25.0%)	50 (46.3%)	26 (24.1%)	5 (4.6%)	2.08
I can tolerate the pressure of my work very well	12 (11.1%)	70 (64.8%)	21 (19.4%)	5 (4.6%)	2.82
Lately, I tend to think less at work and do my job almost mechanically	8 (7.4%)	35 (32.4%)	42 (38.9%)	23 (21.3%)	2.74
I find my work to be a positive challenge	29 (26.9%)	60 (55.6%)	15 (13.9%)	4 (3.7%)	1.94
During my work, I often feel emotionally drained	15 (13.9%)	44 (40.7%)	31 (28.7%)	18 (16.7%)	2.52
Over time, one can become disconnected from this type of work	23 (21.3%)	28 (25.9%)	40 (37.0%)	17 (15.7%)	2.47
After working, I have enough energy for my leisure activities	13 (12.0%)	39 (36.1%)	33 (30.6%)	23 (21.3%)	2.39
Sometimes I feel sickened by my work tasks	18 (16.7%)	39 (36.1%)	31 (28.7%)	20 (18.5%)	2.49
After my work, I usually feel worn out and weary	31 (28.7%)	43 (39.8%)	29 (26.9%)	5 (4.6%)	2.07
This is the only type of work that I can imagine myself doing	18 (16.7%)	24 (22.2%)	39 (36.1%)	27 (25.0%)	2.31
Usually, I can manage the amount of my work well	25 (23.1%)	69 (63.9%)	10 (9.3%)	4 (3.7%)	3.07
I feel more and more engaged in my work	29 (26.9%)	59 (54.6%)	18 (16.7%)	2 (1.9%)	3.07
When I work, I usually feel energized	24 (22.2%)	51 (47.2%)	25 (23.1%)	8 (7.4%)	2.84

From the results in Table 4.6 above, 27 (25.0%) and 78 (72.2%) strongly agreed and agreed respectively that they always found new and interesting aspects in their work; while 3 (2.8%) disagreed with this statement. None of the respondents strongly disagreed with the statement. Regarding whether there were days that they felt tired even before arriving at work, 29 (26.9%) strongly agreed to this as 49 (45.4%) agreed to the same. On the other hand, 19 (17.6%) disagreed and 11 (10.2%) strongly disagreed with the statement. The findings of this it implied that there were more administrators experiencing exhaustion even before making it to work as compared to those who were unexhausted.

When asked if they happened to find themselves talking negatively about their work quite often, 7 (6.5%) strongly agreed while 27 (25.0%) agreed to this. Alternatively, 43 (39.8%) disagreed with the statement as 31 (28.7%) strongly disagreed. Majority of the respondents were in agreement with the statement that they needed more time in order to relax and feel better after work compared to past times as 27 (25.0%) strongly agreed and 50 (46.3%) agreed with the statement. 26 (24.1%) and 5 (4.6%) however disagreed and strongly disagreed respectively. The findings on this item further underscore the high number of respondents reporting experiencing exhaustion.

The results also showed that 12 (11.1%) of the respondents strongly agreed that they can tolerate the pressure of their work very well. It was also observed that 70 (64.8%) agreed with the statement, 21 (19.4%) disagreed while 5 (4.6%) strongly disagreed. When questioned if they tended to think less at work and rather carried out their jobs mechanically, 8 (7.4%) strongly agreed as 35 (32.4%) agreed with the statement. The majority however exhibited a contrary opinion with 42 (38.9%) disagreeing with the statement and 23 (21.3%) strongly disagreeing.

The results further showed that majority of the respondents found their work a positive challenge with 29 (26.9%) strongly agreeing and 60 (55.6%) agreeing with the same. On the other hand, 15 (13.9%) disagreed with the statement as 4 (3.7%) strongly disagreed. On being asked if they often felt emotionally drained during their work, 15 (13.9%) strongly agreed with this as 44 (40.7%) agreed. Alternatively, 31 (28.7%) of the respondents disagreed and 18 (16.7%) strongly disagreed. These findings revealed that slightly more than half of the respondents 59 (54.6%) often felt emotionally drained at work.

It was noted that of the 108 respondents, 23 (21.3%) strongly agreed that it was possible over time for one get disconnected from their kind of work while 28 (25.9%) agreed. However, 40 (37.0%) disagreed with this statement while 17 (15.7%) strongly disagreed. The findings of this item tally with those of the item inquiring whether the respondents found themselves thinking less working mechanically; in both cases majority of the respondents disagree with the notion that they tend to be detached from their work.

On whether they usually had enough energy for their leisure activities after working, 13 (12.0%) strongly agreed as 39 (36.1%) agreed with this statement while 33 (30.6%) and 23 (21.3%) disagreed and strongly disagreed respectively. Further results showed that majority of the respondents sometimes felt sickened by their work tasks with 18 (16.7%) strongly agreeing and 39 (36.1%) agree with the statement. A combined 51 respondents were of contrary opinion as 31 (28.7%) disagreed with statement as 20 (18.5%) strongly disagreed.

It was observed that 31 (28.7%) of the respondents strongly agreed that they usually felt worn out and weary after work; 43 (39.8%) agreed to the same whilst 29 (26.9%) disagreed and 5 (4.6%) strongly disagreed. When questioned on whether their current work was the only type of work that they could imagine themselves doing, 18 (16.7%) strongly agreed with the statement; 24 (22.2%) agreed; 39 (36.1%) disagreed while 27 (25.0%) strongly disagreed. The findings of this item could thus imply that most of the respondents may have turnover intentions since they imagine themselves working in other fields.

In regard to whether they usually can manage the amount of their work well 25 (23.1%) strongly agreed; 69 (63.9%) agreed; 10 (9.3%) disagreed while 4 (3.7%) strongly disagreed. With most of the respondents 94 (87%) positively responding to the statement, this may suggest that exhaustion among administrators may be catalyzed more by the nature of the work rather than workload.

The results also revealed that most of the respondents felt more and more engaged at their work with 29 (26.9%) strongly agreeing and 59 (54.6%) agreeing. 18 (16.7%) and 2 (1.9%) on the other hand disagreed and strongly disagreed respectively with the statement. Finally, 24 (22.2%) of the respondents strongly agreed that they usually felt energized when working as 51(47.2%) agreed with the statement. It was noted that 25 (23.1%) disagreed as 8 (7.4%) strongly disagreed with the statement.

Burnout Levels among School Administrators

The study sought to establish the burnout levels of the public high school administrators under study. With regard to the OLBI, burnout comprises two dimensions; exhaustion and disengagement both of which are measured by the OLBI scale and burnout levels assessed from the resultant total score. There are three levels of burnout classification, these are low, moderate and high burnout. Figure 4.4 presents the findings on administrator burnout levels

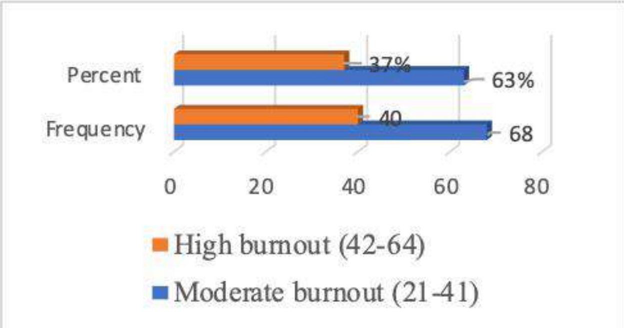

Fig.4.4: Administrators' burnout levels

Data in the above figure shows that indeed administrators are experiencing burnout, with 68 (63%) of the respondents having recorded moderate burnout levels while 40 (37%) recorded high burnout levels. It is worth noting that none of the respondents fell in the low burnout category. These findings are similar those of Ngari et al. (2013) which revealed that administrators in public high schools were experiencing burnout with 54.4% registering high levels while 17.9% registered moderate levels and 27.6% low levels. These findings further give credence to 2015 TSC report cited in Aomo and Ogolla, (2018) as well as the findings of Yambo, Odhiambo and Odera (2014) which underscore burnout prevalence as a major challenge among administrators.

Dimensions of Burnout

The study also looked at the two dimensions of burnout separately to ascertain how the respondents scored in each dimension. Fig. 4.7 illustrates the findings on exhaustion levels

Fig.4.5: Administrators' exhaustion levels

Fig. 4.5 shows that of the 108 respondents 65 (60.2%) experienced high exhaustion, 43 (39.8%) experienced moderate exhaustion levels while none recorded low exhaustion.

On the second dimension, disengagement, the findings were as illustrated in figure 4.6

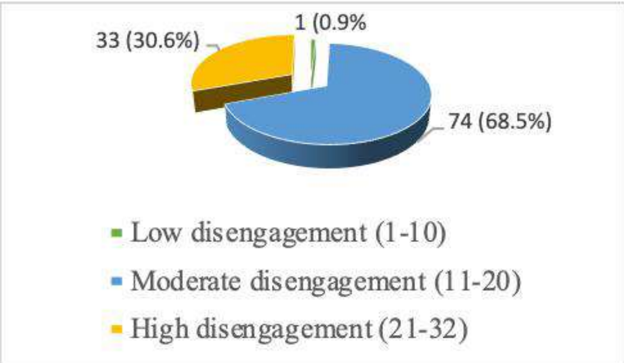

Fig.4.6: Administrators' disengagement levels

Seventy-four (68.5%) of the respondents recorded being moderately disengaged, 33 (30.6%) were highly disengaged and 1 respondent (0.9%) recorded low disengagement. With majority of the respondents 68.5% experiencing moderate disengagement and 1 experiencing low disengagement (high engagement), while lower numbers of the respondents, 40 (37%), having recorded high burnout, it is feasible that the higher the engagement the lower the instances of burnout. These results buttress those of Moller et al. (2018) which established that there is a negative correlation between burnout and engagement.

Burnout and its Dimensions in relation to Demographics

The study also looked at burnout in relation to the demographic information of the respondents. Table 4.7 denotes burnout in relation to the respondents' gender

Table 4.7: Burnout levels in relation to gender

	Moderate burnout (21-41)	High burnout (42-64)	Total
Male	36	20	56
Female	32	20	52
Total	68	40	108

The results in Table 4.9 indicate that of the 68 respondents that recorded moderate burnout, 36 were male and 32 were female. For high burnout levels, the numbers per gender were equally split at 20 (50%). Considering that in total there were slightly more male than female respondents by 4, the findings above imply that both genders are equally burned-out at both levels. These findings are similar to those of Yorulmaz and Altinkurt (2018) which revealed that effect of gender on teacher burnout is negligible.

However, gender had a significant effect on specific dimensions of burnout. When the two burnout dimensions, exhaustion and disengagement, were assessed in relation to gender, the results were as detailed in Table 4.8 below:

Table 4.8: Exhaustion levels in relation to gender

	Moderate exhaustion (11-20)	High exhaustion (21-32)	Total
Male	35	21	56
Female	30	22	52
	65	43	108

The results as shown in Table 4.10 reveal that slightly more males than females experience moderate exhaustion levels. The opposite is seen in the high exhaustion levels, where the number of females exceeded males by 1. These results weakly correspond to the findings of Purvanova and Muros (2010), as cited in Pyhältö et al. (2020), as well as those of Yorulmaz and Altinkurt (2018) which suggest that female educators are more disposed to experiencing high levels of exhaustion compared to their male counterparts.

The results on disengagement levels vis-à-vis gender are detailed in Table 4.9 that follows:

Table 4.9: Disengagement levels in relation to gender

	Low disengagement (1-10)	Moderate disengagement (11-20)	High disengagement (21-32)	Total
Male	1	38	17	56
Female	0	36	16	52
Total	1	74	33	108

While the figures under moderate disengagement in the two genders are relatively even, only 1 male recorded low disengagement while there was a slight difference of 1 between the genders experiencing high disengagement. These results imply that gender is a weak predictor of disengagement and that male educators to some extent exhibit stronger tendencies towards disengagement, which is in line with the findings of Skaalvic and Skaalvic (2017).

Burnout and its dimensions were also determined in relation to the age groups of the respondents. Starting with burnout, the results were as presented in Table 4.10 below

Table 4.10: Burnout in relation to age

Age	Moderate burnout (21-41)	High burnout (42-64)	Total
30-40	9	4	13
41-50	33	17	50
51-60	26	19	45
Total	68	40	108

From Table 4.12 above, 4 (30.8%) of the respondents aged between 30 and 40 reported high burnout levels against 9 (69.2%) who reported moderate burnout. 17 (34%) of those aged 41-50 were found to be highly burned-out, while 33 (66%) were moderately burned-out. Finally, of those aged between 51 and 60, 19 (42.2%) recorded high burnout levels while 26 (57.8%) recorded moderate levels.

Comparing the figures of those highly burned-out across the age groups, the highest number was 42.2% from the 51-60 age bracket, followed by 34% from the 41-50 bracket and lastly 30.8% from the 30-40 age bracket. This implies that of the three age groups, the 51-60 bracket has more administrators experiencing high burnout than any of the other two. The 30-40 bracket, on the other hand has the fewest experiencing high burnout. These findings differ with those of Zhang, Zhang and Hua (2019) as well as Li et al. (2020) which indicate that more of younger educators exhibit higher levels of burnout compared to their older counterparts.

When exhaustion was assessed in relation to age, the results were as shown in Table 4.11 below

Table 4.11: Exhaustion levels in relation to age

Age	Moderate exhaustion (11-20)	High exhaustion (21-32)	Total
30-40	8	5	13
41-50	31	19	50
51-60	26	19	45
Total	65	43	108

The age bracket 30-40 had 13 respondents of whom 5 (38.5%) were highly exhausted and 8 (61.5%) moderately exhausted. Of the 50 respondents in the 41-50 bracket, 19 (38%) recorded high exhaustion levels while 31 (62%) recorded moderate exhaustion levels. The 51-60 age bracket which comprised 45 respondents was characterized by 19 (42.2%) who were highly exhausted and 26 (57.8%) moderately exhausted. From the results above, it is evident that more of those within the 51-60 age bracket experienced high exhaustion compared to the other two age brackets that register almost similar results. This appears to be inconsistent with the findings of Zhang, Zhang and Hua (2019) and Wang, Quan, Wang & Jin (2015) which revealed that younger teachers register the highest scores of exhaustions.

The second dimension of burnout, disengagement was evaluated in relation to age and the results depicted in Table 4.12

Table 4.12: Disengagement levels in relation to age

Age	Low disengagement (1-10)	Moderate disengagement (11-20)	High disengagement (21-32)	Total
30-40	0	9	4	13
41-50	1	38	11	50
51-60	0	27	18	45
Total	1	74	33	108

As per the findings in Table 4.14, the 30-40 age bracket had more respondents moderately disengaged 9 (69.2%) than those highly disengaged 4 (30.8%); the 41-50 bracket had 1 (2%) record low disengagement, 38 (76%) record moderate levels and 11 (22%) record high levels. In the 51-60 bracket 27 (60%) were found to be moderately disengaged while 18 (40%) were highly disengaged. Similar to the results the first dimension, exhaustion, the 51-60 age bracket has more of its respondents registering high disengagement levels than any of the other two brackets at 18 (40%); this is followed by those in the 30-40 age bracket 4 (30.8%).

The 41-50 bracket has the least number of high disengagement cases 11 (22%) and interestingly even has a case of low disengagement 1 (2%). The above findings contradict those of El Helou et al. (2016) which established that teachers below the age of 50 experienced higher levels of disengagement when contrasted with older teachers.

Duration in Administrative Positions

The study also looked at burnout and its dimensions in relation to the duration the respondents had served in administrator positions. Fig. 4.7 summarizes the findings on burnout and duration in administrator positions.

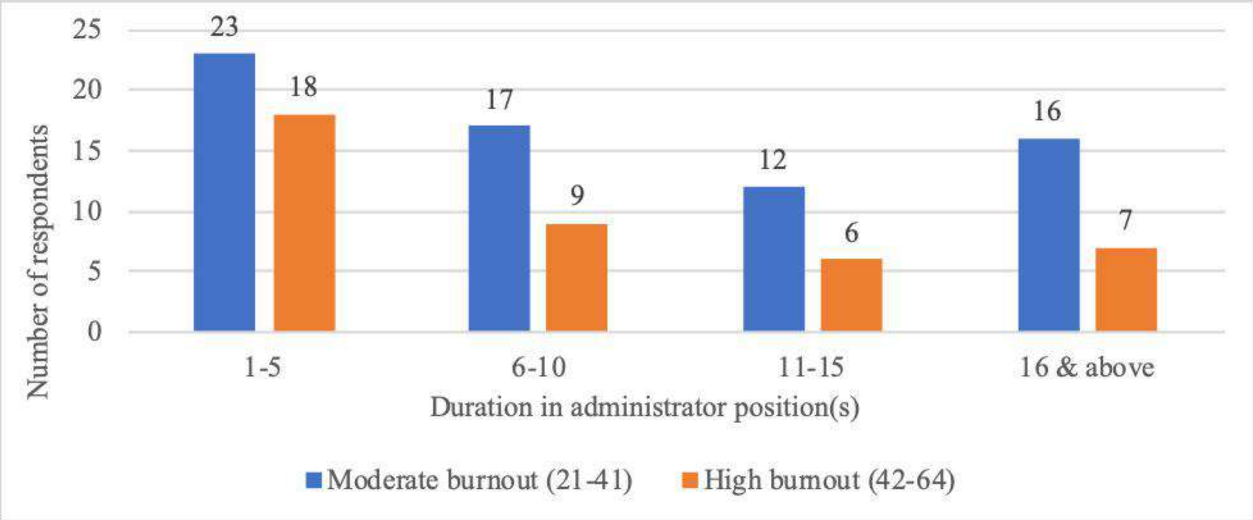

Fig.4.7: Burnout and duration in administrator position(s)

From the findings in figure 4.9 it can be deduced that moderate burnout was registered in 23 (56.1%) of the respondents within the 1-5 years bracket; 17 (65.4%) within the 6-10 years bracket; 12 (66.7%) within the 11-15 bracket and 16 (69.6%) within the 16 and above category. High burnout on the other hand was registered in 18 (43.9%) of the respondents in the 1-5 years bracket; 9 (34.6%) of those in the 6-10 years bracket; 6 (33.3%) of those in the 11-15 bracket and 7 (30.4%) in the 16 and above category. These results indicate that the longer the duration served in the position, the fewer the high burnout cases; those with fewer the number of years served in the positions are more prone to experiencing high burnout.

The results are consistent with the assertions of Shao and Gao (2005), as cited in Zhang, Zhang and Hua (2019), who aver that, years of experience are a determiner in the teaching profession. Shao and Gao further argue that teachers with few years of experience in particular positions or roles are more likely to exhibit high burnout compared to the seasoned teachers.

The researcher additionally assessed exhaustion in relation to duration in administrator position(s) and the results were as presented in Fig. 4.8.

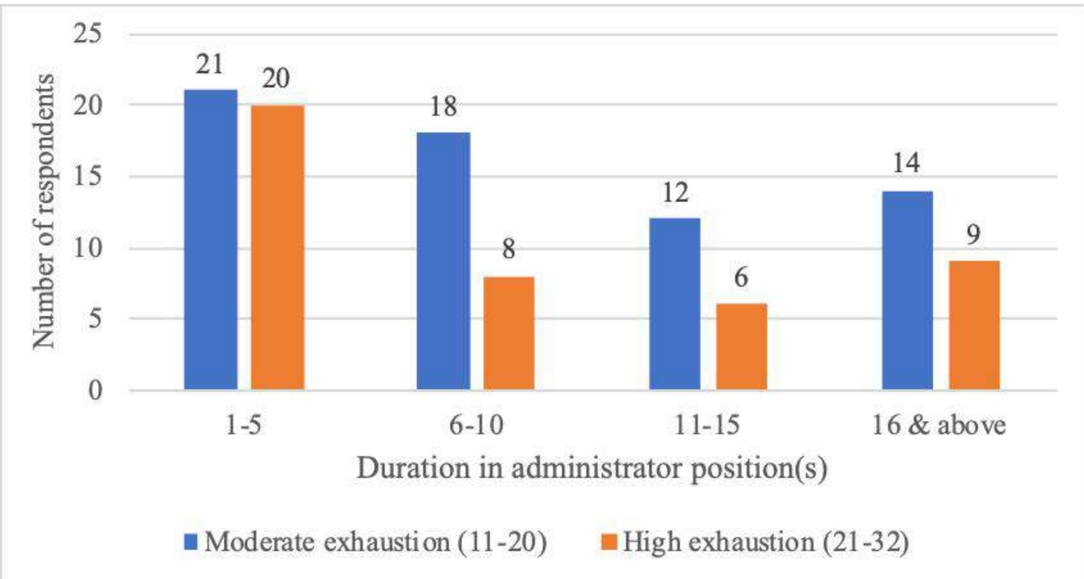

Fig.4.8: Exhaustion and duration in administrator position(s)

As illustrated in figure 4.10, those who recorded being moderately exhausted comprised 21 (51.2%) of those in the 1-5 years bracket; 18 (69.2%) of those in the 6-10 years bracket; 12 (66.7%) of those in the 11-15 bracket and

14 (60.9%) of the 16 and above category. High exhaustion was noted among 20 (48.8%) of the respondents in the 1-5 years bracket; 8 (30.8%) of those in the 6-10 years bracket; 6 (33.3%) in the 11-15 bracket and lastly 9 (39.1%) in the 16 and above category. It can be surmised that the 1-5 years bracket was characterized by highest number of high burnout occurrences at 48.8% of the total 41 respondents. This is followed by the 16 and above category at 39.1% of the 23; the 6-10 years bracket at 33.3% of the 26 and with the least cases was the 11-15 bracket at 30.8% of the 18.

These results partly contradict the study observations made by Zhang, Zhang and Hua (2019) who found that teachers with less than 10 years of experience in their roles exhibited the highest exhaustion compared to seasoned educators. In this study the assertions of these scholars hold true only when contrasting the respondents in 1-5 years bracket with those in the 16 and above category; and the 6-10 years bracket with the 11-15 years bracket. However, those in the 6-10 years bracket exhibit relatively fewer cases of high exhaustion compared to the 16 and above category.

Finally, the researcher assessed disengagement and duration in administrator position(s) and presented the results in figure 4.9.

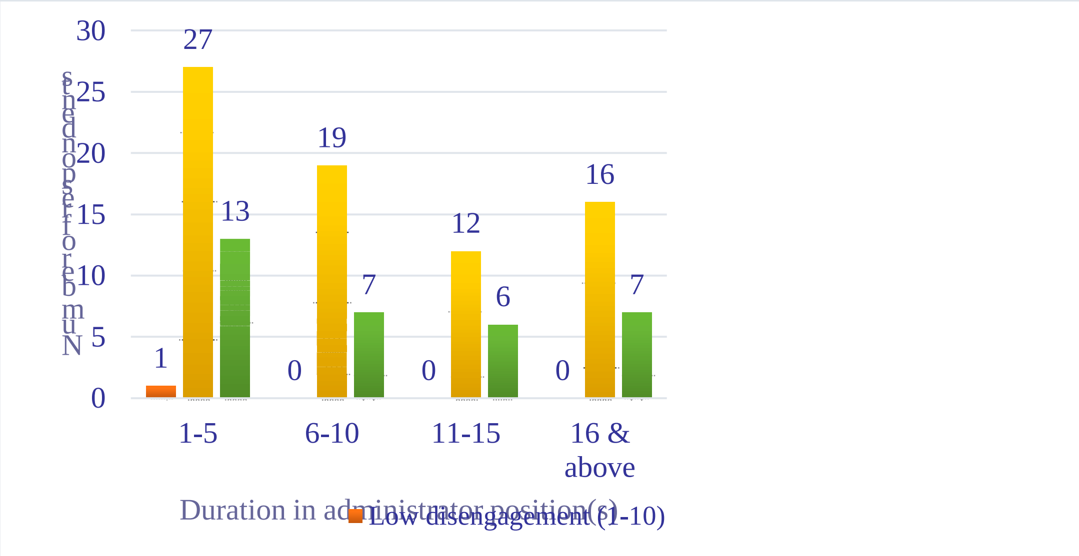

Fig.4.9: Disengagement and duration in administrator position(s)

As revealed in figure 4.8, there was only 1 (2.4%) case of low disengagement from the sample, which was from the 1-5 years bracket. Moderate disengagement was registered by 27 (65.9%) of the respondents in the 1-5 years bracket; 19 (73.1%) of those in the 6-10 years bracket; 12 (66.7%) of those in the 11-15 years bracket and 16 (69.6%) in the 16 and above category. High disengagement on the other hand was recorded by 13 (31.7%) of those in the 1-5 years bracket; 7 (26.9%) of those in the 6-10 years bracket; 6 (33.3%) in the 11-15 years bracket and 7 (30.4%) in the 16 and above category. The most cases of high disengagement levels were registered among those in the 11-15 years bracket at 33.3% while the least was among those that had served for 6-10 years.

Relationship between perceived effectiveness of internal communication and teacher burnout

To establish the relationship between perceived effectiveness of TSC's IC and corporate burnout among public high school administrators, the researchers run a Pearson's correlation. This study employed Table 4.13 adapted from Schober, Boer and Schwarte (2018) as a yardstick for interpreting the correlation coefficient value thus assessing the strength of the relationship between IC and burnout.

Table 4.13: Interpretation of coefficient values

Observed correlation coefficient	Interpretation
0.00 – 0.10	Negligible correlation
0.10 – 0.39	Weak correlation

0.40 – 0.69	Moderate correlation
0.70 – 0.89	Strong correlation
0.90 – 1.00	Very strong correlation

The results obtained on running the correlation were as presented in Table 4.14.

Table 4.14: Correlation for internal communication and corporate burnout

		Internal Communication	Corporate Burnout
Internal Communication	Pearson Correlation	1	-.231*
	Sig. (2-tailed)		.016
	N	108	108
Corporate Burnout	Pearson Correlation	-.231*	1
	Sig. (2-tailed)	.016	
	N	108	108

*$p \leq 0.05$

From the results in Table 4.16 above it was realized that, there was a statistically significant, weak negative correlation between IC and corporate burnout, $r(106) = -.231$, $p = 0.016$. With the correlation coefficient standing at -.231, it tallies with a coefficient of determination (R^2) of 0.05. These findings therefore suggest that IC accounts for 5% of the variation in corporate burnout.

V. FINDINGS

The analysis of the data presented in this chapter highlighted a number of key findings which are as follows:

The first objective of the study was to find out the perceived effectiveness of the TSC's internal communication (IC), based on official channels in place, amongst administrators in select public high schools in Kakamega County. In line with this objective the study established that TSC made use of all the given options of official channels which included digital, written, print and in-person channels; with digital and written channels being the most popular. From the findings, it was evident that the communication channels in place not only gave room for administrators to give feedback to TSC but also allowed for them to receive instant feedback on any submissions they make. To compound on this, over half of the respondents (54.6%) approved that TSC valued their feedback and acted on it promptly.

The results also revealed that TSC usually kept the employees in question well informed about the organization's strategic goals and plans and that these employees always know what is expected of them regarding contributing to the organization's goals and objectives. On matters decision-making, 55.5% of the respondents acknowledged that they felt empowered and that they had a voice in the decision-making process.

Despite the findings above, majority of the respondents (73.2%) disagreed that most of TSC's recommendations and policies were reached through consensus. This denotes that even though majority of the administrators concur to having a voice for the most part the decisions around policies and recommendations are solely made by the employer.

Two areas touching on TSC's IC notably recorded significantly negative scores; a majority (73.2%) disagreed that most of TSC's recommendations and policies were reached through consensus whilst 55.6% refuted that most of the information they received was often positively stated and interesting. Despite these two areas of weakness, score ratings showed that a large section of the respondents (61.1%) opined that TSC's IC was highly effective while the remainder (38.9%) found it to be effective. Along with these results, 13% of the respondents recorded being extremely satisfied and (46.3%) satisfied (46.3%) with quality of communication between them and TSC. In conclusion, it was established that the select administrators perceived TSC's IC to be effectual.

The second objective sought to establish administrator burnout levels in select public high schools. As a partial fulfilment of this objective, the findings indicated the existence of burnout cases among administrators and that indeed all the respondents experienced burnout. Pertaining to specific burnout dimensions, 60.2% of the respondents recorded moderate levels of exhaustion while 39.8% were found to experience high exhaustion levels. On the other hand, 68.5% were found to exhibit moderate levels of disengagement whereas 30.6% recorded high disengagement. Only one respondent representing 0.9% of the respondents was found to exhibit low disengagement levels.

Concerning their work tasks, slightly over half of the respondents (52.8%) admitted to sometimes feeling sickened by them. Moreover, a majority combined force of 63.1%, disputed that their current work was the only work, they could imagine themselves doing, with 27% strongly disagreeing and 36.1% disagreeing. These results give the impression that these respondents may be discontented with their work as well as be thinking of ways out of the profession. Conclusively, the study's findings revealed that more than half of the respondents (63%) recorded moderate burnout levels while the remaining 37% recorded high burnout levels. There were no recorded cases of low burnout; these findings in totality address the second objective fully.

The findings with regard to the third objective on the association between IC and corporate burnout among select public high school administrators in Kakamega County revealed that there was a weak negative degree of correlation of -.231 between the two variables and with a statistical significance level of 0.016. This implies that there is a statistically significant relationship between IC and corporate burnout characterized by a weak negative correlation.

VI. DISCUSSIONS

Perceived Effectiveness of TSC's Internal Communication

The first objective of the study was to find out the perceived effectiveness of the TSC's internal communication (IC), based on official channels in place, amongst administrators in select public high schools in Kakamega County. In line with this objective, the study established that TSC made use of all the given options of official channels which included digital, written, print and in-person channels; with digital and written channels being the most popular. The use of various channels to communicate with employees is a boon for TSC as majority of the respondents (47.2% agreed and 31.5% strongly agreed) acknowledged that the use of more than one channel to convey information enhanced the credibility of messages from TSC. According to Jamal and Bakar (2017), every organization ought to realize that the perceived credibility of its messages plays a vital role since it can either enhance or destroy an organization's effectiveness and reputation.

These findings are in step with those of Sanina, Balashov, Rubtcova and Satinky (2017) which established that using a combination of different communication channels yields more positive communication results compared to using a single or limited channels. Putting to use several channels to communicate has overtime been recommended by different scholars (Sanina, et al., 2017; White, Vanc & Stafford, 2010). Further underscoring the benefits of making use of an array of channels, White, Vanc and Stafford (2010) posit that employees who receive information from a variety of channels tend to be most satisfied with the internal communication.

It was also established that the communication channels in place not only gave room for administrators to give feedback to TSC but also allowed for them to receive instant feedback on any submissions they make. Furthermore, more than half of the respondents (54.6%) approved that TSC valued their feedback and acted on it promptly. These findings on feedback reflect positively on TSC in line with Gerardi (2019) who posits that when channels allow for or promote dialogue, the employees' sense of belonging is enhanced and they feel that they are part of the organization.

Additionally, Soares and Del Gáudio (2019) argue that an organization that gives room for exchanges and interactions with its employees increases its chances of achieving its objectives through them. According to Burkhart (2018), the workplace worldwide stands to be dominated by the millennial generation by 2030 and this generation has been found to have a solid preference for dialogue (Ewing, Men & O'Neil, 2019). This further underscores the indispensable place of dialogue between the organization and its employees both at the present and in the future.

With the contemporary shifts in IC, employees can no longer be viewed as passive actors but agents of expression who can either build up or facilitate the destruction of a corporate's reputation. Instead, it is advocated that organizations strive to build an interactive environment that facilitates symbolic and material exchanges between employees and the organization (Soares & Del Gáudio, 2019).

The study's findings further revealed that TSC keeps its employees well informed about the organization's strategic goals and plans and that the latter always know what is expected of them regarding contributing to the organization's goals and objectives. This is important for any organization as employees who are well-equipped with knowledge and skills about their jobs and organizations, are more likely to work better and become good organizational ambassadors and advocates to others (Soares & Del Gáudio, 2019; Walden, Jung & Westerman, 2017).

Even though on one item 55.5% of the respondents acknowledged that they felt empowered and that they had a voice in the decision-making process, on another, most of the respondents (73.2%) disagreed that most of TSC's recommendations and policies were reached through consensus. This is indicative that as much as majority of the administrators feel that they have a voice, most of the decisions around policies and recommendations are solely made by the employer. This poses an area of concern since the primary role of having dialogue and exchanges is to come to consensual decisions. Policies fronted by the management devoid of consensus stand to face opposition; this assertion is buttressed by Waters, Bortree and Tindall (2013) who aver that, employees can turn to be an organization's most vocal critics especially when in conflict with internal policies.

The respondents also reported on the item that questioned if most of the information they received from the employer was positively stated and generated interest in them. More than half of the respondents disputed the statement with 23 (21.3%) strongly disagreeing and 37 (34.3%) disagreeing. These findings expose a flaw in TSC's IC that may pose a great risk to the employer-employee relationship. According to Ruck and Welch (2012), IC has majorly focused on among other things volume of information at the expense of the nature of content of the communication itself and how well it is provided with respect to the recipients.

The scholars argue that with a constantly changing communication field, there is need for new approaches that emphasize on content and employee needs rather than just the volume and channels. Propping this argument, Welch (2012) asserts that the effectiveness of IC is to be pegged on the suitability of the messages, that is to say how suitable they are to employees. Welch goes on to state that IC therefore cannot be regarded as effective if the content does not primarily address the employee's needs. Making reference to the Stakeholder Theory, it is by identifying and addressing among other things, the stakeholders' interests and even potential communication tensions that organizations can establish strong ties with its stakeholders (Ulmer & Sellnow, 2013). In this case, this goes a long way in informing TSC on the instances of tension in its IC that ought to be addressed if it is to nurture stronger relations with its employees.

Despite these two shortcomings in TSC's IC, cumulative scores on perceived IC effectiveness revealed that 61.1% of the respondents perceived it as highly effective while the remaining 38.9% deemed it effective. Additionally, most of the respondents recorded being extremely satisfied (13%) and satisfied (46.3%) with quality of communication between them and TSC.

As the Stakeholder Theory intimates, the success of PR is hinged on how the organization manages its relationships with the stakeholders. Considering that employees are one of the most powerful stakeholder groups, it is paramount that their needs/interests be covered sufficiently since employees stand to directly influence an organization's performance as well as reputation (Mascena, Fischmann & Boaventura, 2018; Men & Jiang, 2016). Basing on the first tenet of the Stakeholder Theory, jointness of interest, if employees' interests are observed the organization will generate value for employees which will ultimately lead to success of the corporate.

Concisely, in light of the findings above that show majority found the IC in place satisfactory and highly effective, it holds that TSC addresses its employees' communication needs thus generates value for them.

Administrator Burnout Levels

The second objective sort to establish administrator burnout levels in select public high schools. As a partial fulfilment of this objective, the findings indicated the existence of burnout cases among administrators and that indeed all the respondents experienced burnout. With respect to specific burnout dimensions, most of the respondents recorded moderate levels of both exhaustion (60.2%) as well as disengagement (68.5%) against the high levels of 39.8% and 30.6% respectively. Noteworthy is the contrast between the number of highly burned-out respondents and that of the highly exhausted.

While only 40 respondents reported experiencing high burnout, 43 reported experiencing high exhaustion. This implies while some administrators may not be highly-burned out, they experience high exhaustion and therefore moderate to low disengagement levels (moderate to high engagement). These findings are in line with those of Moeller et al (2018) which reveal that there is a group referred to as engaged-exhausted. According to these scholars, those in this group may exhibit high skills acquisition and appear optimally engaged, but are highly exhausted. Such employees tend to report turnover intentions that are even higher than those of the disengaged workers. As Pringle, Stern and Moeller (2019) aver, should the idea that only disengaged workers are burned out be upheld then corporates stand to miss out on identifying highly performing employees who may be experiencing high burnout, thus losing them to other fields.

It was also established that slightly over half of the respondents (52.8%) admitted to sometimes feeling sickened by their work tasks. Furthermore, when asked whether their current work was the only work, they could imagine themselves doing, 27% strongly disagreed as 36.1% disagreed. These results cannot be overlooked since they carry the implication the said respondents exhibit turnover intentions as they imagine themselves venturing to other fields.

Such a claim cannot be deemed farfetched as a 2015 report by TSC captured that close to 64% of principals in the country had quit the profession between the years 2010-2015, citing work stress as a prime factor (Aomo & Ogolla, 2018). This buttresses the findings of Koome (2007), as cited in Yambo, Odhiambo and Odera (2014), who noted that most of the high school principals nationwide who had opted out of the profession did so due to burnout and preferred to look for opportunities in other government ministries and departments.

The results conclusively showed that more than half of the respondents (63%) recorded moderate burnout levels while the remaining 37% recorded high burnout levels. There were no recorded cases of low burnout. This poses a grave hazard more so in the educational field as studies have underscored, burned out administrators stand to experience low morale and dwindling job interest therefore sparking career dissatisfaction (Yildrin & Dinc, 2019; Kiongo & Thinguri, 2014). Ultimately, these administrators may resort to spending their time looking for opportunities away from teaching and eventually quit the profession leading to loss of skilled manpower. Teachers at the heart of education recovery; role of teachers in enhancing quality education at all levels and improve the situations of teachers in the world; aim to establish the steps that need to be taken to ensure teaching personnel develop their full potential The above findings in totality address the second objective fully.

Association between Internal Communication and Teacher Burnout

With regard to the third objective, the study found that there existed a statistically significant relationship between IC and corporate burnout among select public high school administrators in Kakamega County. The findings revealed that there was a negative correlation, though weak in strength, between IC and burnout. The negative correlation suggests that lower scores in burnout levels can be associated with high scores in perceived effectiveness of IC.

Apropos of the Social Exchange Theory, these research findings attest to the assertions of Lawler and Thye (2015) who aver that in most situations, individuals' assessment of the benefits and costs of activities determine their response. The scholars go on to further argue that this kind of psychological contract determines individuals' attitudes and even actions. Since burnout is a response to one's working conditions, it follows that the more effective an organization's IC is perceived to be by the employees, the lower the burnout prevalence among the latter.

The above findings go on to validate the claims by communications experts Litzky (2017) and Bogue (2019) who aver that poor IC facilitates burnout among employees. Litzy (2017) acknowledges the important place IC holds in pacifying burnout and argues that a PR manager has a major role to play in tackling burnout in their organization. The PR professional is to do this by monitoring and evaluating how employees interact with their work conditions; this will go a long way in helping the professional detect the onset of burnout among the employees thus be in a position to craft measures that will fix the problem. Bogue (2019) echoes Litzy's argument asserting that communicators can play an active role in preventing and dousing corporate burnout.

Bogue continues that when communication experts understand burnout, they are in a better position to help the organization communicate its goals as well as how the employees' activities meaningfully contribute to corporate success. When this is done, employees will become more aware and feel appreciated which will result to low burnout occurrences, high engagement and high productivity (Bogue, 2019).

Additionally, these findings, which ascertain the existence of a significant relationship between IC and burnout, border on those of Ter Hoeven, De Jong and Peper (2006) who found that communication variables, precisely communication climate and communication satisfaction, exhibit negative correlations with burnout. These scholars' findings suggest that communication within an organization can be an antecedent of burnout and that when employees perceive communication climate as positive and generally find communication satisfactory, there will be lower burnout.

The findings of this research also buttress those of Brown and Roloff (2015) regarding communication and burnout. The scholars established that burnout can be influenced by the nature of communication engendered by the organization. Brown and Roloff while testing perceived organizational support and psychological contracts as organizational communication variables among high school teachers in the U.S found that these communication variables were indeed related to burnout. Following this revelation, the scholars further asserted with reference to their findings that creating a work environment that communicates the employees' value and significance, keeps them informed and appreciates the extra-time effort they put in, plays a significant role in buffering burnout in organizations (Brown & Roloff, 2015).

While the findings in this study suggest a statistically significant albeit negative correlation between IC and burnout, it is imperative to note that this does not imply a causal relationship in any way. As Creswell and Creswell (2018) state, non-experimental research generally cannot infer causation. However, this study's findings may serve as a cause-effect indicator, this being in agreement with Edmonds and Kennedy (2017) who assert that findings from correlation studies can be "…a compelling indicator of cause and effect" (p 188). In view of this assertion, it is evident that the place of IC in stemming burnout in organizations ought to be given more attention. This study's findings concur with its conceptual framework which shows that indeed TSC's IC (independent variable) can influence teacher burnout (dependent variable) which ultimately affects the educators' performance and productivity causing negative ripple effects the education sector.

VII. CONCLUSIONS

The aim of this study was to establish the relationship between IC and teacher burnout among select public high school administrators in Kakamega County. The results of the study show that there is a negative correlation between the effectiveness of the TSC IC in place and burnout among the administrators. In relation to the theories used, the results show that TSC considers the views of the Stakeholder Theory, in that for the most part, it addresses its stakeholders' communication interests consequently creating value for this critical stakeholder group; the employees. According to Tantalo and Priem (2016) actions that lead to value creation for stakeholders influence the latter's perceptions. This in turn engenders reciprocal action from the stakeholders which is explained by the reciprocity concept of the Social Exchange Theory. In a nutshell, how employees perceive TSC's IC significantly influences prevalence of burnout amongst them.

VIII. RECOMMENDATIONS

The study recommends that institutions endeavour to ascertain their employees' communication interests to establish their internal communication system. This should be done specifically by the communication expert or team and the process be conducted often and consistently to ensure any gaps and loose ends are tied up. This will ensure effective value creation for employees which will lead to positive reciprocity from the employees that will in the long run be beneficial to the organization.

TSC ought to make effort to further improve their IC putting into consideration this study's findings especially the data that shows a small percentage (11.1%) being extremely dissatisfied as well as the two areas where the IC scored low ratings. These two areas that the employer ought to work on are: first ensuring that most of its recommendations and policies are reached through consensus; second, revamp how to present information to its employees by addressing the above, TSC stands to make leaps in playing an active role in pacifying teacher burnout among its employees.

The study also recommends that communication personnel in organizations take a lead in the fight against corporate burnout. As Litzy (2017) postulates, PR managers who are strong, keen and empathetic can bring about a huge difference when it comes to tackling employee burnout. By monitoring and evaluating how the employees interact with their work conditions, these communication experts can detect the onset of burnout among the employees and swiftly craft measures that will fix the problem. The TSC communication office therefore ought to step up and come up with ways of keeping tabs on the administrators in order to come up with effective remedies for instances of burnout that may sprout up.

Recommendations for further research

This study focussed on the relationship between IC and corporate burnout among select public high school administrators with the scope limited to Kakamega County. These results therefore may or may not be a true reflection as per other counties. Further studies should be conducted in the different counties in Kenya so as to make comparisons.

Future research attempts could employ a different set of internationally accepted research instruments for instance make use of the Maslach Burnout Inventory which has a 5-point Likert scale in place of the 4-point-scale OLBI used in this study to establish burnout levels. This may give new insights on burnout based on the extra neutral point in the MBI scale.

While this study entirely examines administrators in public high schools; further studies could be conducted among administrators in private high schools and even better in international schools based in Kenya. The comparison from such studies would further shed light on the IC-burnout association.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.5
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Behind the Eyes of Adolescents from Broken Families

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Received: 16 Feb 2023; Received in revised form: 16 Mar 2023; Accepted: 24 Mar 2023

Abstract

This qualitative phenomenological study explored the lived experiences of adolescents from broken families. This utilized an in – depth interview to gather responses from six (6) participants who were within the range of 13 – 19 years old, enrolled in Junior or Senior High School, have parents who were formerly married but separated in a period of 5 - 10 years (during the child's early childhood to adolescence period based on Erik Erikson's Psychosocial Stages of Development), and live in a province in the Philippines. The following themes, family as an emotional system, emotional setbacks, changes in their interpersonal relationship, acts of rebellion, went through the stages of grief, friends as support system, faithfulness in God, and hopeful and moving forward were derived from the study. Children from broken families displayed emotional distress that affected different aspects of their lives, but despite this challenging reality of being part of broken families, the participants of this study remained hopeful about their future. Indeed, the love and support of their loved ones served as a motivating force for them to be optimistic in life.

Keywords*— *lived experiences, adolescents, broken families, family systems theory, five stages of grief

I. INTRODUCTION

Families are considered to be the child's first communal group in the society. They are regarded as a dynamic system since they do not live in isolation and they are part of a larger cluster (Saikia, 2017). A family plays a very important role in an individual's life may it be in terms of shaping the person's personality, beliefs, and capacity. Subsequently, an incident in the household can affect his or her whole well - being since the different foundations namely the moral, spiritual, emotional, psychological, and social development of a person stems from one's kin. Ideally, a child views family as those who bring comfort and warmth; however, if they can bring serious tolls in their domestic life such as parental separation, abuse among family members, and neglect, it will leave him or her to contemplate on how to cope with heartache, betrayal, uneasiness, or doubt. Given the circumstances, this allows the child to have a shattered belief of what a family is.

Dysfunction in the family occurs when conflict and misbehavior happen in the household regularly which results in neglected, abused, abandoned, manipulated, deprived, and isolated children. Likewise, children coming from broken homes tend to grow up emotionally scarred, as triggered by repeated trauma and pain inflicted by their parents' words and actions. These adverse childhood experiences and invisible scars can impact a person into adulthood. Consequently, changes in the family structure, as well as the dynamics in the household, are evident which results to alterations in family roles and interactions. Children are the ones who suffer the most when their parents separate. Parents are expected to give proper care, support, and love to their children since they are considered to be the children's first environment and most significant people in their lives. Thus, children who are products of parental separation grow up as adolescents who are prone to delinquent and risky behaviors and substance use than those from intact families (Vanassche et al., 2013). These children are also reported to have a higher chance of dropping out of school, engaging in premarital sexual behaviors, acquiring depression, and among the others (Anderson, 2014). However, not all children with separated parents are at risk. Some evolved as achievers and lived with exuberance (Widyastuti, 2017).

Having separated parents is one of the causes of broken home which is an increasing and alarming trend happening in various parts of the world (Saikia, 2017). Statistically, Asia has a relatively lower percentage compared to Western countries. Over the years, various researches have been conducted to explain the rapid growth of marital disruption, which is the primary cause of a broken home. In the Philippines, it was specified by the Solicitor General's Office that there has been a distressing number of annulling marriages which is persisting every year. In 2010, 8,283 marriages were annulled in contrast to 2001 where only 4,520 were nullified (Tumangday, 2015).

Despite the significant findings on parental separation and dysfunction in the family, very few studies have explored the lived experiences of children from broken homes.

In view of the current conditions, this study aims to explore the experiences of adolescents from broken families to acquire a better understanding and excavate immense knowledge on their insights and challenges as an individual. The substantial information gathered from this study may hopefully address pervasive concerns of the adolescents, parents and family members, school administrators, and mental health professionals such as psychologists and guidance counselors.

II. METHODOLOGY

The researcher utilized the qualitative research design, specifically the phenomenological approach. A qualitative research pertains to the type of inquiry where the researcher tries to grasp claims based primarily on constructivist perspectives with the intention of creating themes from the data collected. A phenomenological study focuses on what the participants have in common as they experience as a specific phenomenon (Moustakas, 1994). The transcendental phenomenology approach aims to focus on the totality of experience by viewing both experience and behavior as a combined and inseparable relationship of the subject (Moustakas, 1994).

This research on the adolescents from broken families utilized the purposive sampling method. Moustakas (1994) stated that 3 – 7 participants are sufficient in conducting a phenomenological research. Participants were gathered based on the following inclusion criteria formulated: (1) within the range of 13 – 19 years old; (2) must be enrolled in Junior or Senior High School; (3) parents must be married but separated or annulled in a period of 5 - 10 years (during the child's early childhood to adolescence period based on Erik Erikson's Psychosocial Stages of Development); (5) lives in a province in the Philippines.

The researcher utilized a semi - structured interview guide as the primary data gathering instrument for the in-depth interview to understand the lived experiences of adolescents from broken families which generated the following information:

Part I: demographic profile

Part II: participant's experiences of being in a broken home

Part I consisted of the psychosocial profile of the participants. It included the participants' age, grade level, localization, classification of school, and socioeconomic status.

Part II entailed the participant's personal experiences of being in a broken home. The semi – structured interview guide was comprised of ten questions which answered the following: causes of parental separation, effects experienced by the adolescent, familial relationship, and coping strategies.

Three experts with post graduate degrees in the area of study validated and modified the instrument by removing unnecessary items and made sure that it gave more insight and connotation to the study being conducted.

According to Lincoln and Guba (1985, as cited in Pandey & Patnaik, 2014, the trustworthiness of qualitative research can be addressed using the following criteria: (a) credibility (in preference to internal validity); (b) transferability (in preference to external validity); (c) dependability (in preference to reliability) and; (d) confirmability (in preference to objectivity).

In gathering and analyzing the data, the researcher used Moustakas' transcendental phenomenological approach because it has systematic steps in the data analysis procedure and guidelines for assembling the textual and structural descriptions. The following procedural steps were followed:

The researcher identified first the possible participants for the study. Given the nature of the study, purposive sampling technique was used. Next, possible participants were given letters of consent and parental assent to acquire their approval as participants of the study. In addition, the purpose, objectives, and expected benefits from the study were also explained.

Upon obtaining the participant's consent to partake in the research, a schedule for the interview was arranged depending on his or her availability. The interviews were recorded through audiotape with permission from the participants. The researcher spent ample time to be with them and wrote down important details. Each interview lasted for one (1) to two (2) hours per visit. The researcher made verbal and non-verbal observations as well, all throughout the research process. All information presented were taken seriously, thus, the researcher verified it with the participants until saturation of data, which is repetition of the same information all over again during the follow up interviews, was reached. Lastly, participants' lived experiences were analyzed, major themes were identified, and then a framework that was created.

Since this study is purely qualitative in nature and sought to explore the lived experience of adolescents from broken families, their stories were analyzed using

Moustakas' phenomenological approach. The first person reports of life experiences are what make phenomenological research valid. The principles adopted by this phenomenological research are epoche, phenomenological reduction, imaginative variation and synthesis.

The researcher secured the anonymity of the participants by removing all biographical identifiers and utilized pseudonyms during the course of the research. Likewise, she held all information strictly confidential. She ensured the protection of all participants from potentially harmful consequences that might affect them as a result of their participation.

III. RESULTS, DISCUSSION, AND IMPLICATIONS

The following themes were derived from the study: family as an emotional system, emotional setbacks, changes in their interpersonal relationship, acts of rebellion, went through the stages of grief, friends as support system, faithfulness in God, and hopeful and moving forward.

Families are considered to be a child's first communal group in the society. They play a very important role in an individual may it be in shaping the person's personality, beliefs, and capacity. All of the six participants shared a common theme in assessing family as a system of emotionally interconnected individuals. They believed that what makes up a family is love, support, and guidance. Bowen's Theory highlights family as a unit who use systems to describe complex interactions. Thus, the family members are interconnected with each other emotionally (Haefner, 2014). Hence, in one's most cherished and valued relationships, he or she may seek recognition, acceptance, understanding, support, and guidance. Emotional intimacy runs deep as it paves the way for the person to experience ultimate relationship security and satisfaction. This is considered as important because it serves as an adhesive which holds relationships together.

Separation during school age years may have a great impact in the child's life as it can affect the socioemotional aspect and overall well-being of the individual. Psychological disturbances may be evident during the separation but in other cases, it manifests when they get older. These individuals tend to be vulnerable emotionally as they face the dreaded consequences of the separation. The school age years is a critical stage of rapid development. Some studies have indicated that children between 6 – 12 years old are more affected by the separation than those who are older (Desrosiers, Cardin, & Belleau, 2013). Consequently, these children are very egocentric and are still in a magical thinking. In this age group, they may hold on a wish that their parents will get back together since they believe that they are responsible for their parents' separation and reconciliation. Separation may create insecurity as well which might possibly serve as a hindrance and threat to the child's development.

Significant changes were vividly seen before and after the separation. For some, they have difficulty establishing secure attachments with either one of their parents, siblings, relatives, and other people whereas for others, they formed a closer bond with the most important people in their lives. Changes in the interpersonal relationship generate anxiety. Bowen believes that too much closeness or distance significantly affects the level of anxiety brought by the external stress and sensitivities (Haefner, 2014). Although an emotional cutoff happens, triangling provided a detour as the child seeks for the support of another parent. Nevertheless, it was also believed that risky behaviors engaged by these adolescents can be counteracted by the warmth and emotional connectedness of a family.

Rebellion serves as a triggering response to a hostile situation. A child who witnessed his or her parents' painful divorce is more likely to involve in risky and negative behaviors such as engaging in vices such as alcohol, tobacco, and drugs, running away from home, and cutting classes. Adolescence is an age of exploration and experimentation. Alcohol, tobacco, and drugs are very powerful substances in which adolescents are inclined to try (Haley et al., 2018). Needless to say, parental divorce has been known to increase the risk of alcohol and drug dependence in one way or another as the use of these substances has indicated a dysfunctional family system (Jackson et al., 2016; Swarbooi, 2013). The structure of a family definitely affected the individual's development as those who have separated parents tend to display misconduct and delinquent behavior and they are also prone to smoke cigarettes, use illicit drugs, and consume large amounts of alcohol (Loke & Mak, 2013).

Parental separation can be traumatic for a child and it is indeed rare for a person to never undergo the stages of grief. Separation does not only occur to the parents but to the child as well. The grief cycle does not specifically follow a significant pattern as they may interchange depending on how the person copes. Correspondingly, one moves through recovery at his or her own pace like for example, experiencing depression before anger or skipping a stage of bargaining and straight to acceptance. These situations show that each person experiences his or her own emotional journey as they process, struggle, and adjust to whatever changes happens to the family. Grief takes place when the individual experiences emotional trauma or suffering and it usually occurs when someone or something essential to that individual's life has been taken away (Smith, 2012). Furthermore, a person displays five reactions in response to a crisis situation which are popularly known as DABDA and these are denial, anger, bargaining, depression, and lastly, acceptance (Holland & Neimeyer, 2010).

Friends serve as a strong support system for adolescents. At some point in one's life, he or she experiences unpleasant circumstance that makes them feel a variety of emotions such as frustration, sadness, anger, and among the others. Additionally, being with peers provides the adolescents an open, supportive, and rewarding pace which helps in managing an emotional turbulence happening in one's life. These individuals seem to cope better with them rather than adults. Adolescence is considered to be a period of social latency and these individuals tend to spend more time with friends. Furthermore, peers do not only play a substantial role in shaping and affirming one's identity but they are also essential in such a way that they aid in helping them cope life stressors and protecting them from psychological distress (Camara, Bacigalupe, & Padilla, 2013).

Despite the heartaches caused by the separation which could have easily led these adolescents away from God, they turned to Him for comfort and healing. Praying to God gave them strength to shy away from the pain and overcome every struggle that comes in their way. The literature suggests that parental separation predicts a decline of giving importance to faith and religion (Ueker & Ellison, 2012). In contrast, the participants of this study appear to have a heightened faith in God since they entrust in Him their lives. These adolescents chose to look on the brighter side of life. They believe that there is no problem too big which they cannot solve with God's grace and guidance.

Although parental separation is considered to be one of the most stressful life events for both parents and children, moving forward will always be a choice. One may experience traumatic events in life which may hinder him or her on becoming his or her full potential but life does not stop there. These adolescents have the drive to succeed in their chosen careers and most dream to give their family a better life ahead. Filipinos are known for being culturally independent and self – reliant. They tend to focus more on positive and productive actions rather than dwelling on certain incidents since they have the capacity to bounce back and recover (Docena, 2015). Being resilient does not mean that the individual does not experience distress and difficulties but rather, he or she remains headstrong despite the traumatic events. Just like the participants, they continue to believe that they will succeed in life, may it be in terms of career or family.

Each individual has an ideal perspective of what a family is. It is commonly believed that a family should be composed of a father, mother, and children, and what holds them together is the love, guidance, and support for each other. This connotation is easily shattered by dissolution of marriage either through annulment or separation, mostly caused by extramarital affairs. Moreover, parental separation negatively impacts a family as it causes serious distress and various adverse effects mostly to children. It paves the way for an increase in risky behaviors and delinquency such as engaging in vices, running away from home, among others. Academic, behavioral, and emotional problems are evident among the adolescents as well.

Peers play an essential role in the adolescents' life mainly acting as a social and emotional support during crises situations. Although for some, they are unable to express their feelings due to the development of the lack of trust because of the separation of their parents despite the availability of their support system. These adolescents may have incurred hardships and trials but it did not stop them from dreaming and pursuing their goals in life. Some may have fell off the track and questioned God but later on, they renewed their faith and trusted Him in everything.

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the significant findings of the study, the following conclusions are made:

(1.) Most of the participants whose parents have separated during their school-age years engaged in vices such as smoking, drinking, and drugs. Two participants reported an incident of running away from home. Rebellion may have occurred during their adolescence period because they were not able to understand well and express their inner sentiments when the separation happened. (2.) Parents have been assumed to lack influence over the adolescent since the parental influence lessens as the child enters the adolescent stage due to increasing influence of peers and due to young people spending less time at home. Peers commonly served as the cornerstone and support system of these adolescents with dysfunctional families. (3.) The separation either strengthened or diffused the closeness of their relationship with various people such as their parents, siblings, relatives, friends, and other people respectively. (4.) The adolescents all went through the stages of grief namely denial, anger, bargaining, depression, and acceptance, but doesn't necessarily mean they followed the order consequently. (5.) Most of the participants stated that hanging out with their friends and praying gave them a peace of mind. These had helped them cope very well in life. (6.) Although these adolescents have experienced hardships in life, they never gave up on their dreams and aspirations and continued to stay positive and chose to move forward.

Children from broken families display emotional distress that affected different aspects of their lives. But despite this challenging reality of being part of broken families, the participants of this study remained hopeful about their future. Indeed, the love and support of their loved ones (friends, parent/s, siblings, and significant others) served as a motivating force for them to be optimistic in life. This is the ultimate truth that most children who are from broken families experience.

Based on the findings, implications, and conclusions of the study, the following are recommended:

Adolescents with Broken Families may participate in the guidance related programs and interventions designed for them. These may help them cope well with their daily struggles in life. Likewise, they are encouraged to seek professional help from a psychologist to succor them in understanding their emotional states and aid them in developing positive coping strategies. They are also urged to cultivate a strong support network among their families and peers.

Parents of the Adolescents, even though separated, should make an effort to fulfill their roles for their children's welfare. If they can no longer be together in one roof, the least that they can do is to practice positive co-parenting by having a mutual agreement on how to take care and foster healthy, happy, loving, successful, and mindful children.

Peers serve as a strong support group so it is highly encouraged that they continue to influence each other positively by engaging with worthwhile activities that may help them develop their interpersonal and intrapersonal skills such that they will focus on enhancing their abilities in becoming a productive person.

Psychologists. This study may provide the mental health professionals a starting point in giving therapeutic interventions that will help adolescents and their family members cope with their family situation better.

Guidance Counselors. Guidance counselors may be recommended to design programs which are deemed appropriate to help these adolescents rebuild their self-concept and passion for life through optimistic practices.

School Administrators are considered as an essential element of the school organization. Given the results of this study, they may be strongly recommended to support the guidance related programs and interventions for these adolescents.

Future Researchers. This study may serve as a threshold for the future researchers who may want to study about the adolescents from broken families. Since this study only focused on those with separated parents, they may opt for individuals who were also neglected and abused. Future researchers may gather participants from a different age group (i.e. Millennials) in the light of a different perspective.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.6
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

The Problems Faced by the Teachers and the Students in Teaching and Learning ESP Reading Skill at Thanh Hoa University of Culture, Sports and Tourism

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Received: 19 Feb 2023; Received in revised form: 13 Mar 2023; Accepted: 22 Mar 2023

Abstract

This paper was conducted to see the problems faced by the teacher and the students in teaching and learning ESP reading skill at Thanh Hoa University of Culture, Sports and Tourism. So as to gather more believable data, the qualitative method including the author's personal observation, the discussion and interview with the students and the colleagues. The collected data revealed the teachers and students' difficulties in teaching and learning ESP reading and their causes. Based on the author's experience, the discussion and interview with the colleagues and students, the researcher gave some possible solutions to improve the quality of teaching and learning ESP reading at school.

***Keywords*— problems faced, teaching and learning ESP reading, difficulties, causes, solutions.**

I. INTRODUCTION

We are living in the twenty-first century with the dominance of English all over the world in such important areas as aviation, business, commerce, technology, science, international relations and diplomacy. In accordance with the open policies to integrate in to the world community, in Vietnam, English for Specific Purpose (ESP) has been gaining

an increasing importance and it has grown to become one of the most prominent areas of the teaching of English as Foreign or Second Language (TEFL/TESL). To students, English is not only a subject in the curriculum at Thanh Hoa University of Culture, Sports and Tourism (TUCST) but also a key to help them to develop their communicative competence in English in the area they are studying.

Carrell (1981) states that "For many students, reading is by far the most important of the four macro skills, particularly in English as a second/foreign language". It is true for the students at Thanh Hoa University of Culture, Sports and Tourism because reading helps them to make extensive use of academic materials written in English and this is a good way to enable them to increase their professional knowledge in their specific or specialized fields. However, teachers and students at Thanh Hoa University of Culture, Sports and Tourism still face some of these problems such as : the teachers' lack experience in teaching ESP, The first year students have to learn ESP when they have not learnt their major subjects. there are no training courses for the teachers of ESP and the students are not of equal in term of English level.

As a teacher, the author has conducted the final assignment entitled: "***The problems faced by the teachers and the students in teaching and learning ESP reading skill at Thanh Hoa university of Culture, Sports and Tourism***" with the hope that this assignment will contribute a small part to improve the present situation.

II. LITERATURE REVIEW

An overview of ESP.

ESP has been defined by researchers as well as scholars' different views. According to Huttchinson and Waters (1987:19), ESP must be seen as an approach, not as a product. In their opinion, ESP is not a particular kind of language or methodology, nor does it consists of a particular type of teaching material.

However, Strevens (1988) defines ESP by making a distinction between four obsulute characteristics and two variable characteristics:

- The absolute characteristics are that ESP consists of ELT (English Language Teaching) which is:

* Designed to meet specified needs of the learners.

* related in content (that is in its themes and topics) to those activities in syntax, lexis, discourse, semantics and so on, and analysis of the discourse;

* In contrast with " General English"

- The variable characteristics are that ESP

* May be restricted as to the learning skills to bee learned (for example reading only)

* May not be taught according to any pre-ordained methodology.

(Source : Strevens, 1988; cited in Dudley-Evans and St John, 1998:3)

Robinson (1991)' s definition (cited in Dudley-Evans and St John, 1998:3) is based on two key defining criteria (i.e. 'normally goal-directed' and need analysis) and a number of characteristics (i.e. limited time period, adults in homogeneous classes) that are generally found to be true of ESP.

Dudley-Evans and St John (1998: 4-5) comments that above definitions have validity but also weakness, either in the definition or in the features described. They believe that a definition of ESP should reflect the fact that much ESP teaching, especially linked to a particular profession or discipline, makes use of a methodology that differs from that used in General Purpose of English Teaching. They also believe that language should be included as a defining feature of ESP.

In summary, all the above definitions show that ESP belongs to English Language Teaching (ELT). The ESP courses are performed successfully in occupational roles by an individual or group whose need is considered to be a distinguished feature from General English.

Classification of ESP.

ESP is divided into two main areas: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). According to Robinson (1991), the classification of ESP is generally presented in a tree diagram as follows:

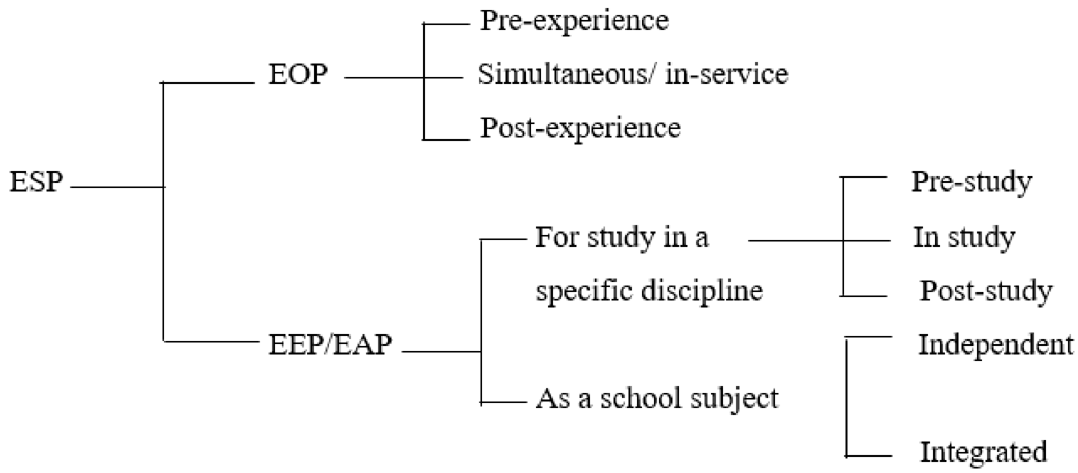

Fig.1: ESP classification by experience (Robinson, 1991:3-4)

The diagram shows a useful division of courses. Those distinction are very important and they will affect the degree of specificity that is appropriate to the course.

Dudley-Evans and St John(1998) also present the classification of ESP through a tree diagram but it divides EAP

In short, studying various ways of classifying ESP provides a teacher and overall picture of the groups of learners with whom he or she is going to work.

Difficulties in teaching ESP.

In the view of Robison (1991) problems in conducting ESP lessons can be encountered in a number of aspects of ESP teaching. The first one is a large class. Another problem is that the class may be mixed of abilities. In this case, the classes are often organized to consist of students who have the same specialism. As a result, the class may be exceedingly mixed in terms of linguistic level. In Vietnam, there is a big gap in term of English between the students from big cities and students from the countryside areas, especially those who come from remote areas. However, at the different university they have to study ESP in the same classes regardless of this variety. Even when they are grouped in specialism, they are mixes in terms of their specialist knowledge. The third problem can be found in the teachers themselves. In fact, in Vietnam most of teachers come from General English teaching. Therefore, they meet a lot of difficulties in teaching ESP. Besides, ESP students are not motivated enough to study ESP because they lack General English proficiency.

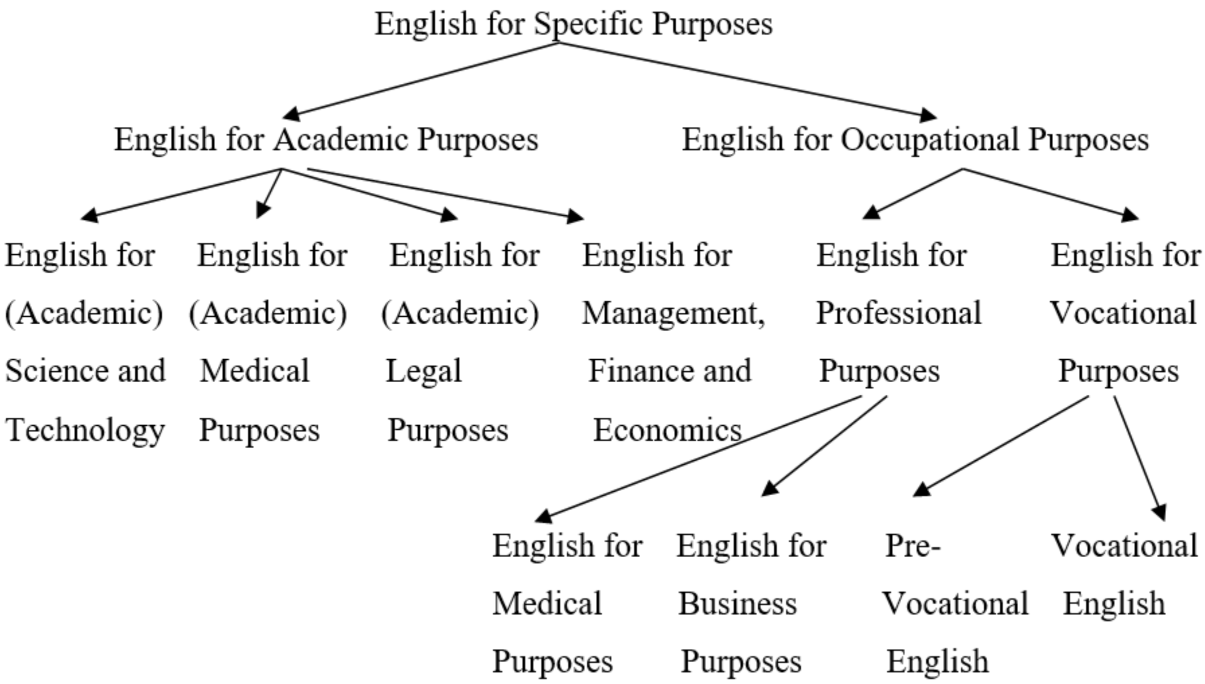

Fig.2: ESP classification by professional area (Dudley-Evans and St John 1998:6)

In teaching ESP, the most constrains to the success of teaching is the limited cultural background knowledge of teachers. Many studies (Steffen et al., 1979); Carrell, 1981) have demonstrated the effect of cultural knowledge on the product of comprehension, appealing to the processes of distortion and elaboration to account for the differences between a recall text and the original text. Readers facing with unfamiliar cultural content may mistranslate or interpret the text according to their own cultural experiences.

Reading is by far the most important skill to students as they hardly have opportunity to use communicative English outside the classroom. However, they need to get access to a great number of specialized documents written in English so as to broaden their knowledge about their specialty as well as to obtain up-to-date information in their fields of study. That is very necessary in their future work. To Vietnamese students, reading is a difficult skill because English is not their mother tongue. Many scholars agreed that problems in reading for foreign learners may be caused mainly by either reading skill or readers' cultural background knowledge. In learning ESP, students' attitudes play an important role. If students have positive motivation in learning ESP, it will be the key to help them overcome the difficulties successfully.

III. METHODS

This research paper is conducted based on a kind of case study. The major method used in this paper is the qualitative one. The findings obtained from the author's personal observation, the discussion as well as interview with the students and the colleagues. Regarding the purposes of the study, the following research questions are put forward :

1, What are the problems faced by the teachers and the students in teaching and learning ESP reading skill at Thanh Hoa University of Culture, Sports and Tourism ?

2, What are the causes for these difficulties?

3, What do the teachers and students expect in terms of materials?

IV. RESULTS AND DISCUSSION

The current situation of teaching and learning ESP reading skill at Thanh Hoa University of Culture, Sports and Tourism

- ***Teachers and their methods of teaching ESP reading skill.***

Most of ESP teachers of Thanh Hoa University of Culture, Sports and Tourism are teachers of General English (EG). Each of them is responsible for teaching both EG and ESP. None of them have been trained to be the teachers of ESP or taken any courses on construction. Thus, they have to face many difficulties in teaching ESP. The lack of professional knowledge makes them not feel confident to teach ESP. This leads to unsatisfactory performance.

With respect to methodology, ESP teachers at Thanh Hoa University of Culture, Sports and Tourism have applied the Grammar-Translation method to teach ESP reading lessons as well. This method focuses on accuracy, the detailed analysis of grammatical rules available in the reading text, not on language skills. The mother tongue used mainly and the teacher plays the central role in the classroom, explaining new terminologies and translating the into Vietnamese. This makes students listen and take notes passively. Therefore, this method doesn't motivate students in ESP reading lessons. The out-dated teaching method influenced the quality of teaching and learning ESP at Thanh Hoa University of Culture, Sports and Tourism

- ***Students and their background***

English is a compulsory subject for the first year student of Thanh Hoa University of Culture, Sports and Tourism before starting to learning their field. In fact, this is a difficulty for most students because they have not learnt their major subject. What is more, their English competence is not good, particularly the knowledge of vocabulary. Most of students find it difficult to guess new words and the content of the text. In addition to, they have limited ability to give general ideas. Therefore, they have to confront with the difficulties when discussing or reading topics related to professional terminologies and poly-semantic words.

Furthermore, most of students come from the countryside. They do not realize the importance of ESP course for their future job. Thus, they do not have any motivation in learning ESP except for passing examination and gaining qualifications.

Besides, most of them tend to depend so much on the textbooks and the teachers. This dependent habit of learning is an obstacle to their acquisition of ESP as well as to the teachers' methodologies.

- ***Materials utilized in teaching and learning ESP.***

In teaching and learning ESP, materials can be classified into textbooks that are written by the experts who have a lot of experience and expertise in the field and are available in the markets and in-house materials that are written by the ESP teachers in the school. The published materials are very useful for students but they are often criticized for not meeting students' specific needs. On the contrary, the in-house materials believed that they are likely to more specific and appropriate than published materials and have greater benefits because the writers of in-house materials are often teachers who understand well the situation of teaching ESP and their students' level.

The materials used in Thanh Hoa University of Culture, Sports and Tourism is in-house materials which is designed by the teachers who has not much experience of teaching ESP before. Therefore, the effects of teaching and learning ESP is not high. The course book does not contain various types of exercises, the contents of texts are not interesting and does not cover the students' specific needs of the major field. That is the reason why the ESP reading lessons do not often motivate student. In the other words, the present course book at Thanh Hoa University of Culture, Sports and Tourism has not satisfied both the teachers and students.

The causes of difficulties in teaching and learning ESP at Thanh Hoa University of Culture, Sports and Tourism

From my personal observation, interview teachers and discuss with the colleagues and students, I recognized that the sources of difficulties in teaching and learning ESP reading fell into two categories: external and internal. The internal causes come from teachers themselves. The external ones are from the materials and the students.

- ***From the materials.***

The materials used at Thanh Hoa University of Culture, Sports and Tourism is in-house materials which is designed by the teachers who has not much experience of teaching ESP before. The students' level of General English is limited while the system of the grammatical points in the course book is complex, for instance, too many complex sentences with relative pronouns, passive sentences, conditional sentences and comparison sentences, etc. Therefore, most of the students when being asked responded that they had difficulties in understanding and using verb tenses and forms in reading materials. Besides, the materials doesn't contain many unfamiliar topics so the students rarely encounter unfamiliar topics. Furthermore, the content as well as vocabulary does not meet the students' needs of the major fields in the future so the reading lessons does not motivate students. The information obtained from the discussion with teaching staff also confirms the materials does not give frequent and sufficient practice of vocabulary and grammar. Thai is the reason why the reading lessons is less effective

- ***From the teachers.***

In learning English, especially ESP teachers occupy a very important role. If the teachers are not good enough, they will not be able to perform perfectly teaching activities. Most of teachers at Thanh Hoa University of Culture, Sports and Tourism trained to teach General English. They do not have much experience in teaching ESP. All the teachers in the school admit that they do not have time to read the knowledge relate to the topic they are teaching. They can not give clear explanation to professional topics even in Vietnamese. The discussion with the students showed that most of students do not please with the teachers' attitude and knowledge of the construction. they often ignore the explanation of vocabulary or sentences related to students' major fields. The teachers' lack of professional knowledge make them not confident in teaching ESP. The teachers' knowledge and attitudes make a great contribution to difficulty in teaching and learning ESP.

- ***From the learners.***

It is recognized that most of students who are studying at Thanh Hoa University of Culture, Sports and Tourism are not good at learning English. They are not only weak for General English but also lack both linguistic and background knowledge about the topics they are reading in the materials, particularly ESP vocabulary. That leads to the students' passive learning style in the reading lessons. Through my personal and discussion with the colleagues revealed that the students depend too much on the teachers. The majority of the students expect the teachers to translate the terms or texts into Vietnamese to understand without discovering themselves before going to the class. This passive learning habit and the lack of learning motivation make the reading lessons boring and not effective.

The possible solutions to improve the present situation.

- ***Improving teachers' knowledge and teaching methods.***

It is really misconception that teacher needs to be an expert in the subject matter. He or she is not teaching business strategies nor good management practice, nor economic theory. And English teachers' responsibility is to train students to communicate in English about the subject they study. The English teaching staff at Thanh Hoa University of Culture, Sports and Tourism has the limitations in teaching ESP. If urgent, short training courses on the related professional knowledge should be held to equip the teachers with basic fundamental knowledge of the specialized subject. These can help the teachers to be familiar with the course books, understand the subject matter and build up confidence to handle the specialized content.

Besides the fundamental knowledge of the specialized subject, the teachers at Thanh Hoa University of Culture, Sports and Tourism should change teaching methods appropriate in ESP classroom. The grammar-translation methods create a passive habit of learning reading for the students. In the reading lessons, the teachers should create several activities and ask students to participate in the tasks given. The information from the discussion with the students indicated that they enjoy working in pairs work or in small groups during the lesson. Therefore, it is said that cooperative learning is an effective type of learning, especially ESP knowledge. Working in pairs or groups not only make students more active but also help them to learn much more from the other students in the class. However, this method requires teachers have much time to get closer to students and create various types of activities to motivate students in the ESP reading lessons.

The limitation of the course book is also the barrier to improve teaching methods. So it is necessary for teachers to work in groups to exchange their experience in teaching ESP. They can share their lesson plans to find the best activities and choose appropriate supplementary materials as well s teaching method that are suitable for their students' level of English.

One different useful tool of teaching ESP teachers can apply is Internet. The Internet have a lot of resources and materials which can help teachers develop their knowledge of the specialized subject. They can share your ideas and knowledge with the other teachers around the world. What is more, it is advisable for the teachers to attend and observe their colleagues' lectures to have experience from the reality.

- ***Developing the materials.***

As mentioned above, the ESP materials used at Thanh Hoa University of Culture, Sports and Tourism is in-house materials which is designed by the teachers who has not had any experience in teaching ESP. Therefore, the limitation of the course book is unavoidable. To help students to overcome this, the teaching staff should share their opinion to adjust or adapt the present books in line with meeting the students' needs of their major field as well as their level. It is necessary to give the students more activities during the reading lesson. Besides, further grammar exercises should be added to help students understand the new grammatical points and how to use them. The topics for reading should be adapted to be more interesting, especially familiar to the major field of the students. The teachers can find authentic materials from the Internet to supplement the course book. This will help update information and create the students' interest in learning reading skills.

- ***Promoting students with a variety of reading strategies.***

Students is one of the elements that causes the difficulties in teaching ESP. To motivate students in the ESP reading lessons, the teachers have to help them have the efficient strategies of learning ESP such as: skimming, scanning, predicting, inferring, wording-building and recognizing organizational pattern. Then the teachers should give the students a various types of reading to practice.

With reference to skimming skill, it is important for teachers to help the students know the way to get overall ideas of the whole text as well as the main ideas of each paragraph.

For the consideration of scanning, the teachers should help students to pass quickly over irrelevant information and focus on only the information wanted.

"Predicting skill" enables students to make prediction on the basis of the title, subtitle, linguistic context or non-linguistic context such as graphs, tables, diagrams, maps and their knowledge of the topic. This skill not only activates their mind but also gives them a strong motivation to the next step of the lesson.

"Word-building skill" helps students work out the meaning of many unknown words or phrases without a dictionary, and hence, to some extent, may have fewer difficulties in ESP reading such as : using structural formation and using context clues.

V. CONCLUSION

ESP is a subject at Thanh Hoa University of Culture, Sports and Tourism. This research paper was conducted to discover the difficulties as well as the causes of the difficulties of teaching and learning ESP at Thanh Hoa University of Culture, Sports and Tourism. From the reality of the problems, the author suggests the possible solutions to help the teachers and the students overcome the problems faced by them.

The findings from my personal observation, the discussion with the students and the colleagues revealed that the causes of the difficulties in teaching and learning ESP at Thanh Hoa University of Culture, Sports and Tourism come from both teachers and students such as: the teachers and students' lack of specialized knowledge, students' insufficient general English and construction terminology as well as reading skills. Besides, the difficulties can be ESP material or syllabus.

Based on myself experience, discussion as well as interview with my students and colleagues, the author has proposed some suggestions to improve the teachers' professional knowledge and methodology, develop or adapt the materials, motivate students in learning ESP reading lessons.

Nobody can deny that reading skill is one of the most important ones in teaching and learning English in general and ESP in particular. In case of Thanh Hoa University of Culture, Sports and Tourism, there are a lot of problems faced by the teachers and students in teaching and learning ESP reading skill. Therefore, studying on the ways to improve the students' reading skill is very necessary. However, there exists be obviously limitations to the study, for example, the limited knowledge in the study of reading skill on the part of the writer. The researchers or scholars can study more effective techniques to teach and learn ESP reading skill in high schools, colleges, universities or Vocational Secondary schools. Further studies of the topic, if possible, should cover the different factors that affect the students' reading such as motivation, anxiety, etc.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.7
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Analyzing the Reasons for Formulating the Belt and Road Initiative

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Received: 12 Mar 2023; Received in revised form: 05 Apr 2023; Accepted: 12 Apr 2023

Abstract

The discussion over the impetus behind the Chinese government's actions in the realm of international relations has become more intense since the 1970s when China began the platform of reform and opening up. Based on The related literature, there are different kinds of opinions related to this issue. On the one hand, according to some academics, China's foreign policy is intended to showcase its tremendous might and begins with its own interests. According to particular academics, the foreign policy of the Chinese government focuses on cultural inclusiveness and takes social consensus as a central starting point. By using the example of the Belt and Road Initiative (BRI) to illustrate the variables influencing the formation of China's foreign policy, this study primarily examines the factors that influence foreign policy in China. Besides, the International relations (IR) theory and political heuristic theory will be used to carry out the discussion. The methodology of this paper will rely on secondary data to study the different views of the academic community and propose a foreign policy that China could adopt in the future.

***Keywords*— One Belt, One Road, China, Foreign policy**

I. INTRODUCTION

Along with China's fast development, China's foreign policy has gained attention from many aspects all over the world. Every country formulates its foreign policy based on its national interests and international situation, including China. As a big eastern country with a unique social system, China has to face more special challenges in formulating its foreign policy. In recent years, one of China's key international policies is the "One Belt, One Road" initiative, which is a good case for researchers to explore the drivers and theories behind China’s foreign policy (Ferdinand, 2016).

Many research questions for this topic are, "Why did China decide to initiate the BRI?". The Chinese government enacted the "One Belt, One Road" policy to boost China's economic development and that of a number of Central Asian nations. Meanwhile, it has far-reaching significance in economic, political, and cultural exchanges. In this article, the researcher will first introduce the basic information of BRI, then illustrate the reasons for the Chinese government to initiate this policy based on related literature.

The "One Belt, One Road" initiative emphasizes global collaboration, especially in Central Asia countries. Central Asia lies at the center of the Eurasian continent, connecting Eastern and Western Europe (Pop, 2016). Its position has special strategic significance. Some scholars point out that the five central Asian countries have problems in transportation and technology levels and urgently need help from other countries, so China wants to seek business opportunities in these countries in these countries and provide them with more investments. However, some scholars believe that China decided to develop One Belt And One Road in order to realize the economic community within the scope so as to enhance the regional strength to cope with the impact of the USA and other Western nations (Cai, 2018). Furthermore, the Chinese government said: that weak countries have no diplomacy. Therefore, the impetus behind China's One Belt, One Road initiative is not only related to the economic environment and trade environment of the five Asian countries. There are complex reasons for the formulation of BRI, which gives researchers an opportunity to explore the drivers of Chinese foreign policy.

According to the literature, the diplomatic approach of China has been characterized as "intermittent" as well as "aggressive," and many factors have contributed to its new assertiveness. This description might relate to the Chinese constantly growing economic power. Henry Kissinger (2012) stated, "China does not perceive itself as a rising power; rather, it views itself as a rising power." It perceives no likelihood of a powerful China posing an unnatural threat to the international order by exerting its grip on economic, cultural, political, as well as military matters. Back to normal" (Shambaugh, 2013). China's foreign policy also faces some challenges. As the global financial crisis intensifies, China's political leaders face the challenge of managing its impact on the country's labor market (Zhao, 2011). Consequently, variations in the foreign policy of China, especially the One Belt And One Road policy, should have lots of initiates.

II. THEORETICAL AND METHODOLOGY

The fundamental theory used in this essay is the theory of international relations (IR). International relations (IR) theory is often taught as a theory that aims to both explain and forecast state conduct in the past. However, many theories disagree with even this characterization. The main origins of conflict in traditional theories of IR are often seen to be people, states, or state systems (Cristol, 2019). The foundation of liberalism—also referred to as "liberal internationalism"—is the conviction that the existing international order can promote world peace. Liberalism promotes international collaboration to advance national goals rather than using direct force, such as military action. Liberals contend that its potential advantages outweigh its disadvantages, such as possible economic harm and human fatalities (Norwich University Online, 2017). "Rational actors" and "cognitive approaches" are two contrasting theories of decision-making introduced by Milton Friedman and Herbert Simon. Friedman maintained that "Outcome validity" should be used to evaluate theories, whereas Simon insisted that "Process validity" should get greater attention. Alex Mintz and associates created Political Inspiration Theory in the early 1990s to fill the gap between cognitive and rational methods (Redd, S. B., Brulé, D., & Mintz, A., 2010).

There are five key processing characteristics: sequential search, non-holistic search, dimension-based processing, and non-compensatory decision rule. Political Heuristic Theory's fundamental tenet is that it pertains to the political elements of making foreign policy decisions (Sandal, N. A., Zhang, E., James, C. C., & James, P., 2011). Political Inspiration Theory is connected to Applied Decision Analysis (ADA), which is relevant for leaders, organizations, and coalitions at all levels of analysis. Political inference theory is crucial to the development of global politics as a link between the rational and cognitive decision-making models (Redd, S. B., Brulé, D., & Mintz, A.,2010).

The main research method of this project is analyzing second-hand data. In the collection of second-hand data, the data and literature elaborated by Chinese officials and academia will be the main part, which is more representative. Besides, One Belt, One Road, and the other beneficiary countries will be collected. Through these documents, researchers can have a deeper understanding of the problem from different angles. When a sufficient number of documents are collected, the data and documents will be classified and processed, and the similarities and differences between the documents and data will be compared. Subsequently, the selected data and literature will be critically analyzed. In addition, Ethical issues must be taken into account in the project. During the implementation of the project, some national confidential data need to be protected, and the acquired non-public data cannot be spread. Also, One Belt, One Road public data collection is to be taken as a prominent academic topic to prevent influencing foreign policy.

III. THE INTENDED CONTRIBUTION OF THE THESIS

The "One Belt, One Road" initiative is primarily focused on China and a few Central Asian nations. In order to fully use the Silk Road, China wants to strengthen its transport cooperation with Central Asian nations, take full advantage of the benefits of the Eurasian Continental Bridge and cross-border road transport cooperation, and build and expand collaboration structures. Jiang made this point. Jiang also highlighted that China is ready to work with Central Asian nations to combat extremism, terrorism, and separatism. China opposes outside forces, especially military organizations, that bring about instability in Central Asia (CHINANEWS, 2017).

China's execution of its foreign policy is complicated, nevertheless. Different cultures and settings in other nations, as well as various interests, must all be taken into consideration. China's foreign policy should thus not be limited to the obvious. It is necessary to examine China's "One Belt, One Road" strategy in more detail. Currently, literature has completely articulated China's foreign policy, but few academics have offered implementation strategies. The main idea of this thesis is this methodology.

IV. LITERATURE REVIEW

4.1 One Belt And One Road's policy in the Asia-pacific region and Central Asia

According to Xue (2015), the "One Belt, One Road," initiative has three main problems, among which foreign policy is a very complex and sensitive risk. In central Asia, most small states usually cooperate selectively. However, for some countries with sovereignty disputes, it is necessary to deal with the disputes in a developmental manner, which will have an impact on the formulation of foreign policies (Wang, 2015). Lu (2016) proposed that in the process of formulating foreign policies, it is necessary to maintain a strategic perspective at all times and meet the resource needs of the countries in need. According to Huo (2017), public diplomacy and diplomatic strategies should be developed interactively during the establishment of foreign policy. As new media and policy communication are often ignored, they also need constant attention to find out the commonalities and demands of the two countries (Huo, 2017). The "One Belt And One Road" initiative's progress, according to Liu (2017), will have an impact on foreign policy. During the process of establishing foreign policy, it should be promoted from a constructive perspective, with equality and openness as the main starting point.

As seen in CHINANEWS, China respects the route taken by the Central Asian people in light of their unique national circumstances and values and supports the efforts made by the region's nations to preserve their independence, sovereignty, and stability. China wants to strengthen its trade ties with Central Asian nations, support and safeguard one another's investments, raise the level of economic and technological cooperation, fully use its advantages in terms of resources and markets, and look into new channels and avenues for collaboration.

Along China's western border, autonomous republics like Kazakhstan arose with the dissolution of the Soviet Union in 1991. Beijing is suddenly faced with domestic threats to the control of its borders as well as global rivalry for oil and power in Central Asia. Hasan Karrar describes how China collaborated with Russia and other Central Asian republics to stabilize the area, promote commerce, and develop energy infrastructure for oil imports from the area. China favored multilateral diplomacy in Central Asia as part of its gradualist strategy, but this put Beijing in direct conflict with Washington, which saw Central Asia as being crucial to its strategic interests (Karrar, 2010).

As a result, China's approach to diplomacy in Central Asia has become an important issue for the Chinese government. Zhao (2011) pointed out that China has abandoned the strategy of "low-key diplomacy" when formulating its present foreign policy. When formulating foreign policy, consider the state of the economy and territorial integrity as the main starting point to establish diplomacy. The way to make foreign policy in Central Asia requires not only an influential foreign policy but also a constant focus on the "core interests" within the country. Zheng (2015) points out that regional issues and regional systems need to be paid close attention to in the establishment of foreign policies. Although the diplomatic strategy for central Asia does not need an excessive emphasis on sovereignty, it also needs a common posture to deal with the impact of European nations and the USA, to achieve a fairer as well as less competitive relationship. In addition, it is worth mentioning that the different religious beliefs and cultural backgrounds in the central Asia region will have a specific impact on the construction of One Belt And One Road. Therefore, in the process of foreign policymaking, it is also necessary to ensure security among countries and conb the "One Belt And One Road" scheme has spread across Eurasia, Africa, and even beyond. These tactics encompass a wide variety of topics, including economics, security, science, and environmental preservation. In terms of how individuals see international relations, the policy has evolved into a paradigm. Furthermore, the initiation of this endeavor may signal China's entry into the role of creator of new international organizations and rules. However, OBOR's rapid growth in terms of participants and forms of collaboration could make the initiative ineffectual.

Xue (2015) and Zhao (2011) both put forward that there are certain risks in the process of formulating One Belt And One Road and pointed out that the conflict of interests between countries is the main risk point. Moreover, Shi (2016) also points out that cultural differences and regional problems will bring troubles to the implementation of the policy. However, in the literature, the implementation process of the policy is less elaborated, and the implementation method for the policy in Central Asia is not clearly pointed out.

4.2 Analyzing international relations from a theoretical perspective

Marxism serves as the basis for the Chinese theory of international relations. In international relations, the Five Principles of Peaceful Coexistence have evolved into fundamental standards (Richardson, 2005). The five pillars of peaceful coexistence are equality, mutual benefit, non-aggression, respect for one another's sovereignty and territorial integrity, and non-interference in one another's internal affairs (Wang, 2015). They contributed significantly to Marx's theory of international relations and became the guiding concept and norm for new post-World

War II international relations. International relations have a persistent effect on Chinese foreign policy.

Since the turn of the century, as China's overall might has continuously grown, Chinese-specific foreign diplomacy has kept up with the times. In the relevant UN legal instruments, the phrase "common future community" has been written into relevant legal documents by the United Nations. However, there are significant differences between this view and foreign theories of international relations. Tian (2006) pointed out that the basic academic characteristics of the British school are manifested in the pluralistic thinking method with rationalism and traditionalism as the mainstream, and the three vantage points of the global community, multinational system, as well as global society, rather than fully complying with Marxism. That is to say, the establishment of foreign policy is mixed with the capitalist society's view of giving priority to interests. One belt, One Road, is the other. There are differences in how China and Europe have developed their connections throughout time. It is worthwhile to research the topic.

V. CONCLUSION

In conclusion, the reasons for formulating the BRI are multifaceted and complex. The desire of China to expand its economic influence, secure its energy supplies, and alleviate domestic economic imbalances are some of the key drivers behind the BRI. Additionally, the initiative is also aimed at enhancing China's soft power and promoting its strategic interests.

Furthermore, the BRI also seeks to address some of the global challenges, such as the infrastructure deficit in developing countries, trade barriers, and regional conflicts. By providing funding for large-scale infrastructure projects, the BRI aims to stimulate economic growth, promote regional connectivity, and foster cooperation between participating countries.

While the BRI has been widely criticized for its potential geopolitical implications and concerns about debt sustainability, it has also received significant support from participating countries and international organizations. It remains to be seen how the initiative will evolve and whether it will achieve its objectives in the long run.

Overall, understanding the reasons for formulating the BRI is crucial in comprehending China's ambitions and its role in shaping the global economic and political landscape.

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ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.8
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Conception of Professionalism and Horizons in Acupuncture Sciences in Students of the Degree in Human Rehabilitation Acupuncture

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Received: 17 Mar 2023; Received in revised form: 14 Apr 2023; Accepted: 25 Apr 2023

Abstract

The curricularization of the extension in the Rehabilitation Human Acupuncture axis is of great importance due to the health need that exists in the State of Mexico. The objective of this work was to evaluate the conception of professionalism and horizons in Acupuncture Sciences that the students of the Bachelor of Rehabilitation Human Acupuncture have in the fourth, fifth, sixth and seventh semesters of the State University of Valle de Ecatepec. Material and methods: An exploratory analysis was carried out in which a questionnaire of 10 open questions focused on the conception of professionalism was used for all students from the fourth to the seventh semester, later an analysis of the keywords of each question was made. to determine the words that had the highest degree of coincidence. The results: (P1) professionalism is related to having the necessary knowledge and correctly practicing acupuncture and rehabilitation; (P2) Knowledge and correct practice of the profession are characteristics of a good professional in Acupuncture; (P3) Knowledge, empathy and a good diagnosis are important skills that a graduate in Rehabilitation Human Acupuncture must have; (P4) Acupuncture as a degree is perceived as interesting, preventive and an excellent career; (P5) For the students, being licensed in Rehabilitation Human Acupuncture means helping; (P6) The skills that the students have developed during their training as graduates in human acupuncture and rehabilitation are observation, the ability to help, acupuncture support techniques, analysis, correct diagnosis and development of critical thinking; (P7) Acupuncture is viewed in 20 years as complementary and nationally and internationally recognized; (P8) The biosciences have an impact on the training as a graduate in rehabilitative human acupuncture so that they can integrate the knowledge acquired, understand the human body and give scientific support to acupuncture; (P9) The field of work in which the students are visualized is in an independent office; (P10) The area in which the students surveyed would like to specialize is rehabilitation and do a master's degree to broaden their knowledge.

Keywords— students, perception, professionalism, acupuncture.

I. INTRODUCTION

Professionalism is a quality that must always be questioned by all those who pursue a secular career, but especially if it is in the area of health, since professionals who develop in this field must carry out their activities to the highest degree. of responsibility, expertise, and seriousness possible.

Professionalism is understood as a virtue or quality that the professional possesses, therefore, it is important to assess the level of professionalism of the students of the Bachelor of Rehabilitation Human Acupuncture of the fourth, fifth, sixth and seventh semester in order to know if they have the values and characteristics that are required for the vocation they have chosen and thus create new teaching strategies that promote professionalism as part of a study plan (Antonio F., 2022).

Another important factor in professionalism is the creation of identity in the student, also called professional identity

(Antonio F., 2022), this must be progressive, however, it is imperative that it be forged from the first years of the degree since it is You will build for professional practice, where your ability to solve problems, good judgment and sense of justice will be put to the test.

This is why education in Rehabilitation Human Acupuncture should assume the responsibility of building a professional identity from the first years of the degree, promoting new and better teaching strategies and teamwork for problem solving, critical thinking, complex thinking, this without mentioning the communicative competences useful for professional practice, Antonio F., (2022) mentions that professionalism is part of the integral formation that implies guiding the sense of the process towards the full development of the potentialities of the human being, this means an education that allows the Acupuncturist to develop their talents and capacities to the degree that each one can take responsibility for himself and his praxis.

The importance of students in Human Acupuncture conceptualizing professionalism and practicing it is because until a few years ago Human Acupuncture was considered an "alternative" therapy, it was frowned upon by doctors and specialists in the public and private health sector, since it has not yet Evidence-based medicine did not exist, nor was it supported by research that explained its mechanism of action. It was not until the 1980s that Mexican doctors and specialists had to travel to China to carry out courses and specialization, upon their return they are the ones who disseminate and consolidate therapeutics as a study plan at the National Polytechnic Institute (Caloca García, S.C., 2008). It is here where acupuncture begins to make its way as a complementary therapy accepted by allopathic doctors, since until then only they could apply it, however it was not enough, so conventional and non-conventional doctors joined their efforts so that acupuncture was normalized and more professionals from health could apply it responsibly. In the year 1998, the Draft Standard for the regulation of acupuncture in the country was published in the Official Gazette of the Nation, which was a great achievement since many people who advertised themselves as traditional doctors did not have the necessary basic knowledge of anatomy. and physiology, as well as the basic fundamentals of Traditional Chinese Medicine and were applying this technique. At present, according to NOM-017-SSA3-2012, acupuncture can be applied by a health professional who has a professional title, professional certificate issued by a recognized institution, in particular the doctor specialized in human acupuncture, the doctor general, graduate in medical acupuncture and comprehensive rehabilitation as well as specialists in other branches of medicine, medical odontalgia, comprehensive rehabilitation, homologous academic level, each in their respective fields of application (SEGOB, 2012) . The importance of knowing how Acupuncture entered Mexico among one of the most widely used complementary therapies is so that students are aware of the responsibility they have in their hands by being part of a career such as the Bachelor's Degree in Human Rehabilitation Acupuncture, since professional practice It opens the way for new generations of students to practice, which must be done with ethics and professionalism.

School dropout in higher education

University school dropout turns out to be a topic of interest for researchers, since there are no clear theoretical parameters that define its concept, it is difficult to create strategies and actions that reduce this social phenomenon, however, it could be said that school dropout is simply the decision made by the student enrolled the previous or current year not to continue their studies without having transferred from another school (Rochin Berumen, F.L., 2021).

Dropout is multifactorial and can negatively influence the lives of students who have decided to drop out, this because it generates in the individual a feeling of frustration and abandonment of a dream, but this not only has an impact on the student, but also on the family and in society. Román, MC, (2013) affirms that the main factors of school dropout are financial, family and academic performance. Speaking a bit about the economic factor, the student sees his reality as the inability to meet the expenses generated by university life, whether private or public. In this case, sometimes the government can offer scholarships and financial support, however, these resources do not reach all students who really need it. Regarding private institutions, it is paradoxical to think that the institutions are aware of this and at the same time their costs are very high and this promotes desertion.

Another important factor is the family, because it is known that the family is one of the institutions that keep a society strong, however, currently the rate of divorces and dysfunctional families is very high. According to the National Institute of Statistics and Geography (INEGI, 2022) during the year 2021 there were 149,234 divorces nationwide, the State of Mexico maintained a rate of 10% in relation to the previous year. This shows that the environment in which young university students are currently developing is not favorable, since situations like these make them lose emotional stability, causing their academic performance to decrease. And speaking of academic performance, this can be defined as the set of causal factors for the correct development of the student's academic life, including sociodemographic, psychosocial, pedagogical, institutional and socioeconomic without mentioning the impact of motivation, self-esteem, the teacher etc (Garbanzo Vargas, G., 2013). It represents a strategic indicator for the assessment of educational quality since it reveals the efficiency and quality of the institutions and the curricular plans that they have, of course this depends a lot on teacher and student evaluations. Although the impact of psychosocial aspects must be taken into account, since they act as a pairing of interrelation with the student, since their environment will directly affect their behavior and self-esteem, which is why it is recommended that institutions ensure the mental health of their students. students offering services that can help their emotional development, stress management and thus improve academic performance and prevent school dropout. Meanwhile, the socioeconomic impact that exists is greater, because the more years of schooling a country, state or entity has, the lower the incidence of poverty (Garbanzo Vargas, G., 2013).

The university as a trainer of human capital

If things are done well and the first time we refer to "quality", if an individual performs his work with quality, skill, applies knowledge and also develops his skills correctly, then we speak of a person who is "professional" and is precisely what companies and educational institutions are looking for, to train professionals and individuals trained to expertly exercise their skills in the workplace, and this is called development of human capital or human resources, now, this is something intangible, that is to say , this capital cannot be touched, spent, or consumed, rather it is a resource that has to do with the training plans of the institutions and that the role played by the staff is optimal, in this case the student (Gallego Giraldo, C., Naranjo Herrera, C., 2020). Higher education institutions are trainers of human capital, since they focus on constantly training the individual, they ensure that the knowledge acquired is put into practice and later it is exercised correctly, so that in this way there is a positive reward, be it social, personal or institutionally. In general, human capital is made up of the knowledge, values, skills and attitudes of people (Gallego Giraldo, C., Naranjo Herrera, C., 2020), that is, it is the knowledge that each individual possesses and develops throughout of his academic life and in his professional career, as well as qualities that he possesses, for example, honesty, trustworthiness, loyalty, etc. All these factors, as already mentioned, are a contribution to the company or institution, and in terms of individuals who have great talent, innate abilities, solid values, and education, they constitute greater human capital.

Now, let's think about the Ecatepec Valley State University and how it contributes to the development and formation of human capital, well, a few years ago the Degree in Rehabilitation Human Acupuncture was founded and since then the work of training has not stopped. trained health professionals, with moral value and professional ethics. The University, in addition to having an extensive curricular value, also has a program focused on offering follow-up to graduates, and is focused on an evaluation of the quality of the training offered by the university that allows to know in which labor fields they are develop, how their professional performance has been, and most importantly, they take their opinion into account in order to develop an educational plan (UNEVE [a], 2023). It also seeks constant training since UNEVE organizes two meetings with graduates each year, academic and job placement.

Another way in which the University forms human capital is its Continuing Education, this is a planned, systematized and programmed activity that allows the expansion of knowledge and feedback as it encourages personal and professional improvement in both teachers, students, graduates and graduates. that allows updating professional skills to significantly influence the workplace because more knowledge is acquired, new and better skills are developed, and greater skill in the knowledge that was already had. This with the purpose that students can be able to meet the demand in the labor, technological and scientific research fields efficiently (UNEVE [b], 2023).

Student Profile of the Degree in Rehabilitation Human Acupuncture

Based on scientific and technological advances, the economic and social situation, health professionals must meet certain characteristics that mark their professional profile to offer comprehensive care to each patient. The knowledge and understanding of the basic sciences, social sciences, as well as a clear vision of what is responsibility, justice, ethics and deontology which refers to the duties and principles that affect a profession, place the student in a standard High performance and professionalism. In this sense, any health professional should be able to recognize the situations and problems that influence the patient's health and thus seek the maintenance, conservation, development and restoration of their health through a good performance of professional activities (Gaviria Uribe, A., Correa Serna, L., Dávila Guerrero, C., et al., 2016)

The objective of the Degree in Rehabilitation Human Acupuncture is to contribute socially with expert health professionals in the field of acupuncture with ethical-humanistic principles, social responsibility and sensitivity and through comprehensive and multidisciplinary treatments, and the student profile is on the way to it.

The student profile refers to the characteristics and competencies that the student must meet once graduating from the career, in a few words it reflects the ideal student who will be able to transmit their knowledge and values acquired by the institution. The importance of students meeting the Bachelor's degree profile is that they will practice Acupuncture with professionalism and in turn make the Bachelor's Degree in Human Rehabilitation Acupuncture recognized as the best treatment option in first-level care.

The graduate profile of the Bachelor's Degree is as follows: Health professional with knowledge of biosciences, theoretical-practical foundations in Traditional Chinese Medicine and physical therapy, ethical-humanist attitudes that allow him to carry out a clinical diagnosis supported by mechanical postural-neurological evaluation, to the integral therapeutic structuring according to the model of Rehabilitation acupuncture with preventive, curative and rehabilitation purposes, thereby contributing to the well-being of the patient (UNEVE [a], 2023).

II. II. MATERIALS AND METHODS

Instrument used

An exploratory analysis (Antonio F., 2022) was carried out at the Ecatepec Valley State University located at Av. Central s/n, Valle de Anáhuac, 55210. Ecatepec de Morelos, Mex. A questionnaire was applied to students of the Degree in Rehabilitation Human Acupuncture who were in the fourth, fifth, sixth and seventh semester in cycle 23-1, the applied questionnaire includes 10 open questions: 1). What does the term professionalism mean to you?, 2). In your opinion, what are the characteristics of a good professional in Acupuncture?, 3). In your opinion, what are the most important capacities that a Graduate in Rehabilitation Human Acupuncture should have?, 4). What perception do you have about acupuncture as a Bachelor?, 5). What does it mean to you to be a Graduate in Rehabilitation Human Acupuncture?, 6). What skills have you developed during your training in the Rehabilitation Human Acupuncture Degree?, 7). According to your criteria, how do you visualize the Bachelor's degree in 20 years?, 8). How do biosciences impact training as a graduate in Rehabilitation Human Acupuncture? At the end of your studies, in what area would you like to specialize?.

Study population

The participation of the students of the Rehabilitation Human Acupuncture Degree from the Ecatepec Valley State University was free and voluntary, the questions were answered in an average time of 30 minutes per group.

Analysis of data

The analysis of the data obtained was carried out with a qualitative approach to respect the perspectives of each student using the constant comparative method (Glaser B., Strauss A., 1967; Antonio F., 2022). To synthesize the answers, the evaluators carefully analyzed the coherence, relevance and clarity of the answer, underlining the keyword that answered the question precisely, with this a list of keywords of all the answers was prepared.

The organization of the information was compiled in the Excel program, the key words were recorded by question, that is, the ones that were repeated the most and those that specifically answered the questions, then they were organized in alphabetical order to know how many words were repeated. This counting method made it possible to create tables where the keywords and the number of times they were repeated were organized. Finally, each question was graphed according to the corresponding table (Avendaño Gómez, A., Castellanos Moreno, F.J., Colín López, C.R., 2017).

III. III. RESULTS

The questionnaire was applied to a total of 123 students, and the sample of the fourth semester group was 37 students, of which 81% were women and 19% were men, the fifth semester was 23 students, 83% they were women and 17% men, in the sixth semester there were 52 students, 85% are women and 15% are men, and in the seventh semester there were 11 students, 64% were women and 36% men. The percentage of women participating in all groups was 81%, considerably higher than the percentage of men with 19% (figure 1).

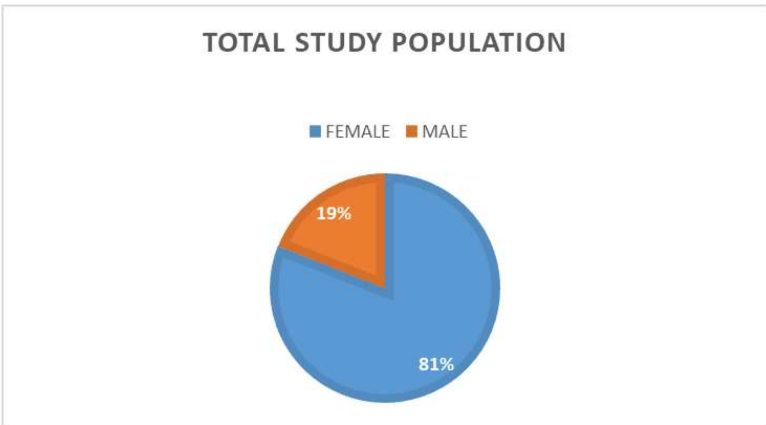

Fig.1. Total, population participating in the study in which 81% are female and 19% male.

P1. What does the term professionalism mean to you?

Of the total number of students who received the questionnaire, the question about the meaning of the term professionalism was answered by 100% (n: 123) of those surveyed. Based on this analysis, the responses categorized with the highest frequency index were 2: "knowledge" and "exercise correctly", in this case because both obtained a greater number of coincidences among the other terms, knowledge obtained 11 coincidences (n: 37) in the fourth semester group, 5 coincidences (n: 28) in the seventh semester group, while “exercising correctly” obtained 6 coincidences (n: 23) in the fifth semester and 15 coincidences (n: 52) in the sixth semester (figure 2). Among the words with the least coincidence and those that were excluded were: Having a good attitude, love of career, learning, self-confidence, having empathy, providing good care, helping, applying knowledge, being ethical, and being responsible. The analysis of the first question concludes that the students associate that having sufficient knowledge is necessary to be a professional, as well as the fact of exercising correctly, which involves good practice with the use of knowledge and the necessary tools for a comprehensive and effective for patients. Most of the students do not attribute professionalism as a personal or ideal achievement, rather they attribute it to the ability of the professional to acquire valuable information for the practice of the profession while reasoning and analyzing it.

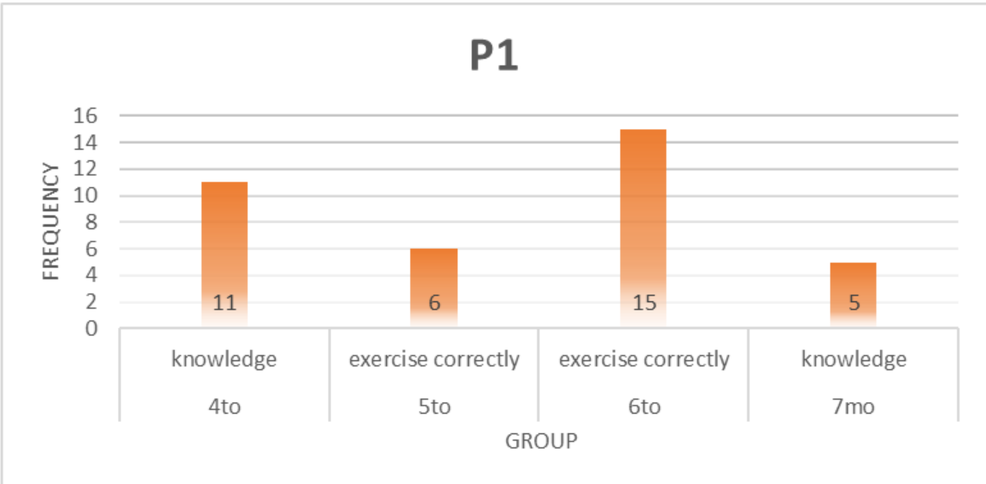

Fig.2. P1. What does the term professionalism mean to you? The students agreed that knowing and exercising correctly is part of professionalism.

P2. In your opinion, what are the characteristics of a good professional in Acupuncture?

100% (n: 123) of the students answered this question about the characteristics of a good professional in Acupuncture, provided in the form of a list a series of qualities and characteristics that they consider important, however, the categorized characteristics were: "knowledge" and "exercise correctly", in the analysis of the second question it was concluded that students give a lot of value or importance to knowledge, learning new things and above all being able to put it into practice when they refer to correctly exercising what they have learned. The fourth semester group obtained 16 matches (n: 37), fifth semester 6 matches (n: 23), sixth semester 21 matches (n: 52). Seventh semester coincided 3 (n: 28) times in which correctly practicing the profession is an important characteristic to be a good professional in Acupuncture (figure 3). However, among other characteristics that were mentioned and were excluded because they did not have a high coincidence index, they are: empathy, honesty, respect, responsible, observant, passionate, kind, humble, committed, offering a dignified treatment, ethics, providing a good service (figure 3.1).

Once again, the student assumes the knowledge and correctly exercises the profession as part of being a professional, this reveals the great responsibility and commitment that the Bachelor's Degree has as a career to provide sufficient knowledge so that students, once they graduate, feel the confidence and security to apply responsibly their acquired knowledge, although it is true that knowledge is an invaluable and unlimited faculty, continuous improvement in education issues must always be taken into account. Talking about the answers that were not categorized, but that is why they are no less relevant, it is concluded that students recognize qualities such as empathy, honesty, humility, kindness and respect as important characteristics that an acupuncture professional must have, it is worth mentioning that these qualities They are particularly necessary in any professional in the health area.

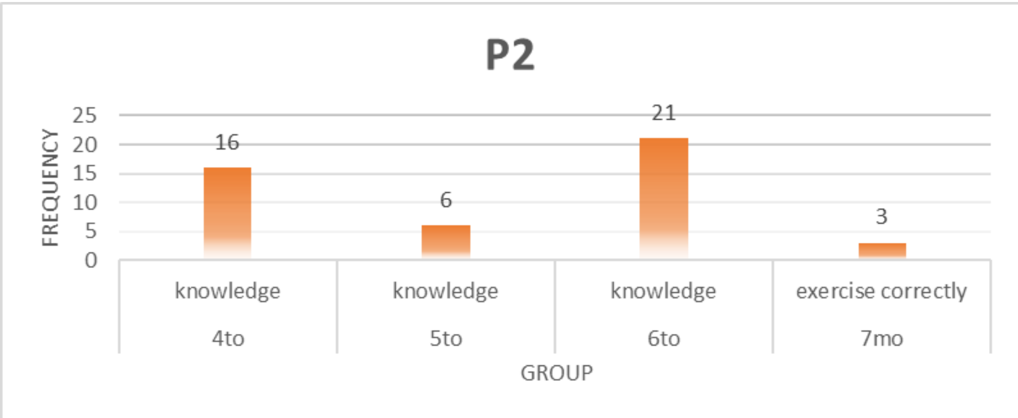

Fig.3. P2. In your opinion, what are the characteristics of a good professional in Acupuncture?

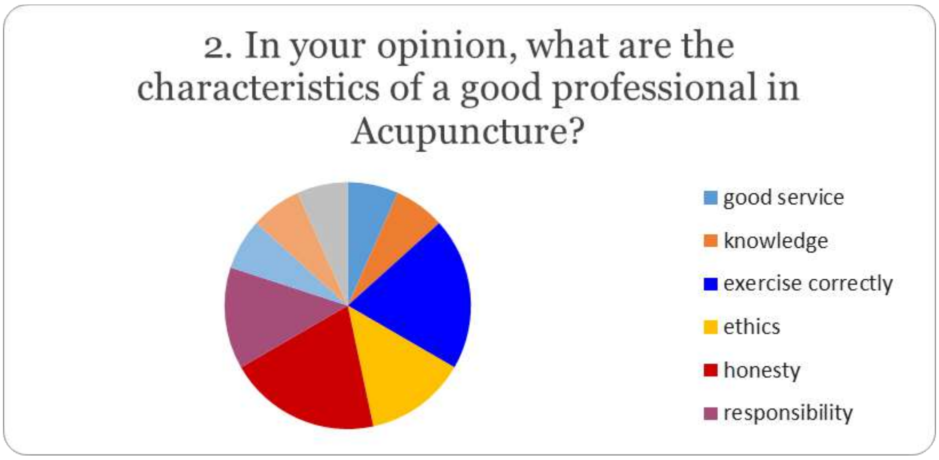

Fig.3.1. P2. The characteristics of a good professional in Acupuncture according to the seventh semester students were: honesty, responsibility, ethics, exercising correctly.

P3. In your opinion, what are the most important capacities that a Graduate in Rehabilitation Human Acupuncture should have?

The 99.3% (n: 121) of the students answered this question about the most important abilities that a Graduate in Rehabilitation Human Acupuncture should have, the categorized responses were: "knowledge", "empathy" and "good diagnosis". The fourth semester group agreed 12 times (n: 37) that the most important characteristic is knowledge, the fifth semester agreed 7 times (n: 23) that empathy is one of the most important abilities as a Graduate in Human Acupuncture , the sixth semester agreed 23 times (n: 52) as well as the fourth semester that knowledge is important; finally, the seventh semester agreed 4 times (n: 28) that a good diagnosis is an important characteristic (figure 4). Among the answers with the lowest incidence and that were excluded are: cognitive ability, analysis, good treatment, use of support techniques, friendly. The analysis of the results obtained from the third question showed that the students consider that a good diagnosis is a capacity that must be developed during the degree, since good treatment and management of the disease depend on it, if they do so their confidence in themselves will increase, while little by little they develop the ability to empathize with others. The acquisition of knowledge is one of the most important capacities for the students, since it depends on this that the Graduate in Acupuncture makes a good diagnosis and later a good treatment, together with the empathy that will improve the doctor-patient relationship.

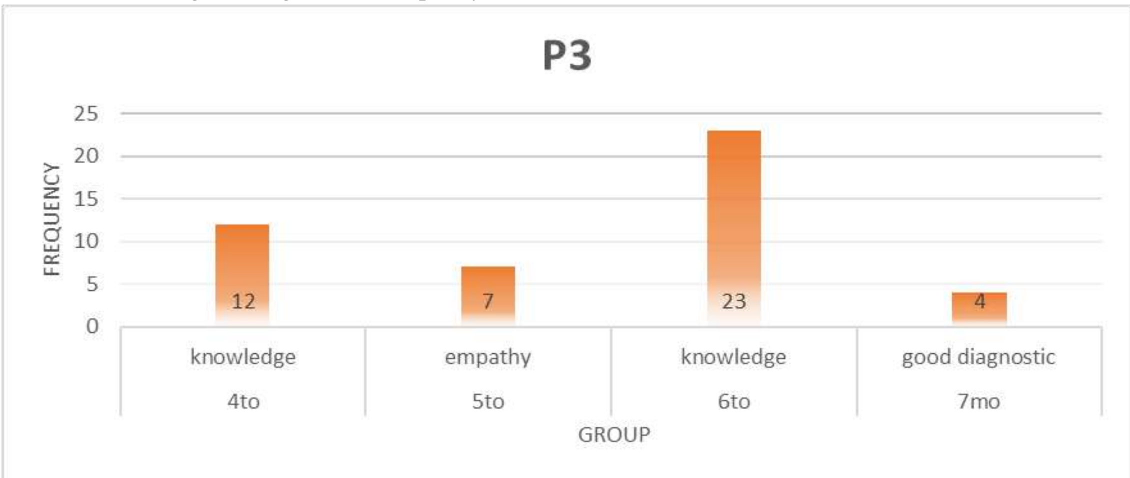

Fig.4. P3. In your opinion, what are the most important capacities that a Graduate in Rehabilitation Human Acupuncture should have?

P4. What perception do you have about acupuncture as a Bachelor?

The 99.5% (n: 121) of the students answered the question about the perception of acupuncture as a Bachelor's degree, the answers that were categorized were: "excellent degree", "interesting" and "preventive". The fourth semester group agreed 8 times (n: 37) that it was an "excellent degree", the fifth semester agreed 6 times (n: 23) that it is an interesting degree, the sixth semester agreed 12 times (n: 52) that it is a preventive medicine like the seventh semester that coincided 3 times (n: 28) (figure 5). Among other answers that were not categorized were: complementary medicine, it is not well recognized, noble, complete, innovative and comprehensive. The analysis of the fourth question concluded that students perceive the Degree in Rehabilitation Human Acupuncture as an excellent degree, it is interesting and preventive.

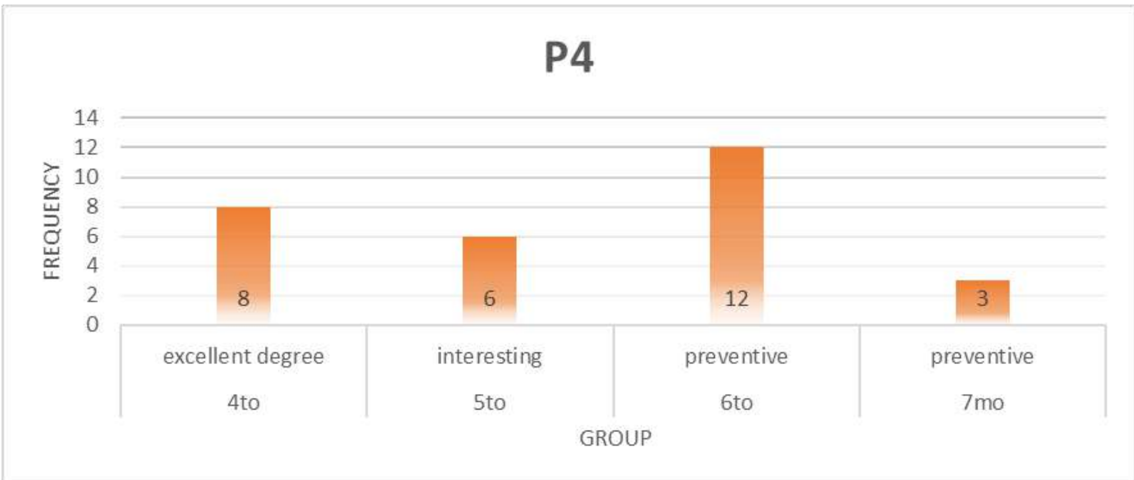

Fig.5. P4. What perception do you have about acupuncture as a Bachelor? It is an excellent degree, interesting and preventive.

P5. What does it mean to you to be a good Graduate in Rehabilitation Human Acupuncture?

The 99.3% (n: 121) of students answered this question and the word with the highest coincidence rate was "help". Fourth semester coincided 13 times (n: 37), fifth semester 12 times (n: 23), sixth semester 20 times (n: 52), seventh semester 4 times (n: 28) (figure 6). Among other words that were mentioned were: understanding the disease, providing good service, curing, preventing, providing good treatment. The analysis of the fifth question concluded that for the students being a good graduate in Human Acupuncture means being able to help people and offer them well-being, the meaning of "help" is to make an effort, it is to put the means to achieve something (RAE, 2023) and to be able to offer that help, it is necessary to have the necessary means, including the knowledge that has already been seen is something very precious to students and of great value.

The Graduate in Acupuncture must meet a humanist profile that allows him to connect and empathize with patients, because the career demands it. How else could one be a good health professional if the main intention is not to want to help patients find their well-being and improve their lifestyle, help prevent, help manage physical and emotional pain.

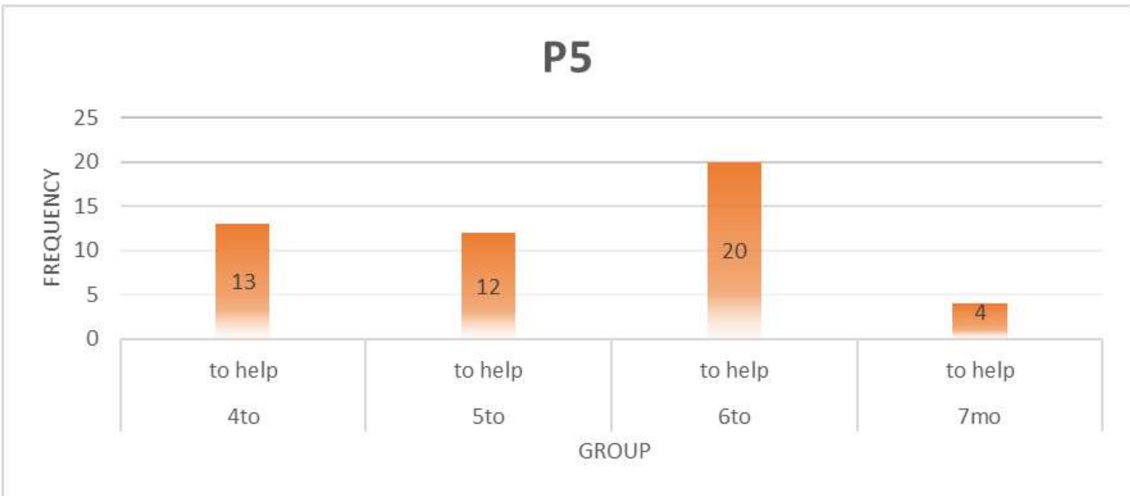

Fig.6. P5. What does it mean to you to be a good Graduate in Rehabilitation Human Acupuncture? For students it means helping people by offering the necessary means to achieve it.

P6. What skills have you developed during your training in the Degree in Rehabilitation Human Acupuncture?

The 99.2% (n:121) of the respondents answered this question, the categorized answers were: "observation", "help", "support techniques", "analysis", "diagnose" and "critical thinking". Fourth semester coincided 8 times (n: 37) in which they have developed the ability to observe, fifth semester coincided 11 times (n: 23) in which they have developed the ability to help others, sixth semester coincided 12 times (n: 52) in which they have developed the various support techniques offered by human acupuncture for comprehensive treatment and the seventh semester coincided twice (n: 28) (figure 7) in which they have developed the ability to analyze each clinical case, understanding that it is the patient who should be treated but not the disease, make a correct diagnosis based on the signs, symptoms and clinical history of the patient as well as the development of critical thinking based on scientific foundations, knowledge and experience, since in this degree the Students carry out professional practices and are constantly evaluated and given feedback compared to fourth or fifth semester students.

P7. According to your criteria, how do you visualize the Bachelor's degree in 20 years?

The 99.2% (n:121) of the respondents responded to this question and the answers that were categorized were: "recognized" and "complement". Fourth semester obtained 10 coincidences (n: 37), fifth semester obtained 8 coincidences (n: 23), sixth semester 16 coincidences (n: 52) and seventh semester 3 coincidences together with the word complement (n: 28) (figure 8). The analysis of question seven concluded that according to the criteria of the students, the interpretation given is that currently the Degree in Rehabilitation Human Acupuncture is not widely recognized, they hope that in 20 years it will obtain greater recognition at the national and international level. international. While others agreed that they see acupuncture as a therapeutic complement, although it is true that this is now a reality. Among other words with less coincidence were: wide demand, applied in public hospitals, greater scientific research, progressing, greater labor field, among others.

The importance of knowing what the criteria of the students is about how they visualize the Bachelor's degree in the future is to mark the areas of opportunity in which they should work as a career.

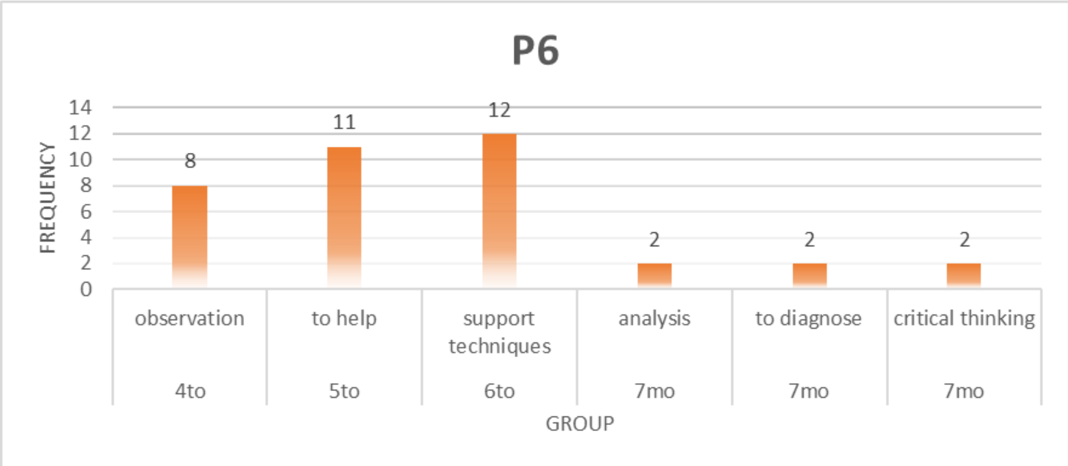

Fig.7. P6. What skills have you developed during your training in the Degree in Rehabilitation Human Acupuncture? They have developed skills such as observation, the ability to help, acupuncture support techniques, analysis, correct diagnosis and development of critical thinking.

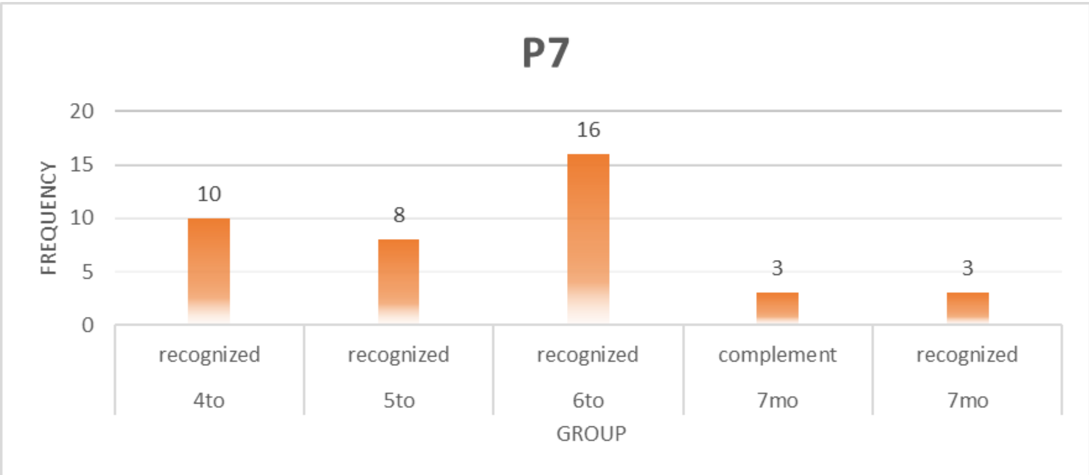

Fig.8. P7. According to your criteria, how do you visualize the Bachelor's degree in 20 years? The students agreed that they view the Bachelor's degree as a career with greater national and international recognition, as well as a complementary career.

P8. How do biosciences impact training as a graduate in Rehabilitation Human Acupuncture?

This question was answered by 81.8% (n: 121) of those surveyed, the answers categorized were: "understand the human body", "complement", "essential", "integrate knowledge", "scientific support". The biosciences have an impact on the training as a graduate in Rehabilitation Human Acupuncture because they help to understand the human body, thus the fourth, fifth and seventh semesters coincided. The fourth semester coincided 11 times (n: 37), the fifth semester 6 times (n: 23) and the seventh semester 2 times (n: 28), while the sixth semester coincided 21 times (n: 52) in which biosciences are a complement for knowledge. Seventh semester coincided on 2 occasions that biosciences are essential in training as acupuncturists, they help to integrate the knowledge already acquired and are also essential to be able to give acupuncture scientific support (figure 9). The analysis of question eight concluded that biosciences, being part of the undergraduate curriculum, students should keep in mind their importance and the way in which they influence not only their academic training, but also their professional performance once they graduate. If we compare the answers, we can conclude that it is important for the four groups to understand the human body because if they do so, they will be able to develop a greater capacity for analysis and critical thinking in terms of solving clinical cases and visualizing the disease, while the students In the seventh semester, biosciences help them integrate knowledge, since it is in this grade where clinical practice begins in greater intensity, as well as the importance of relying on biosciences for the development of scientific research that contributes to effectiveness. of acupuncture.

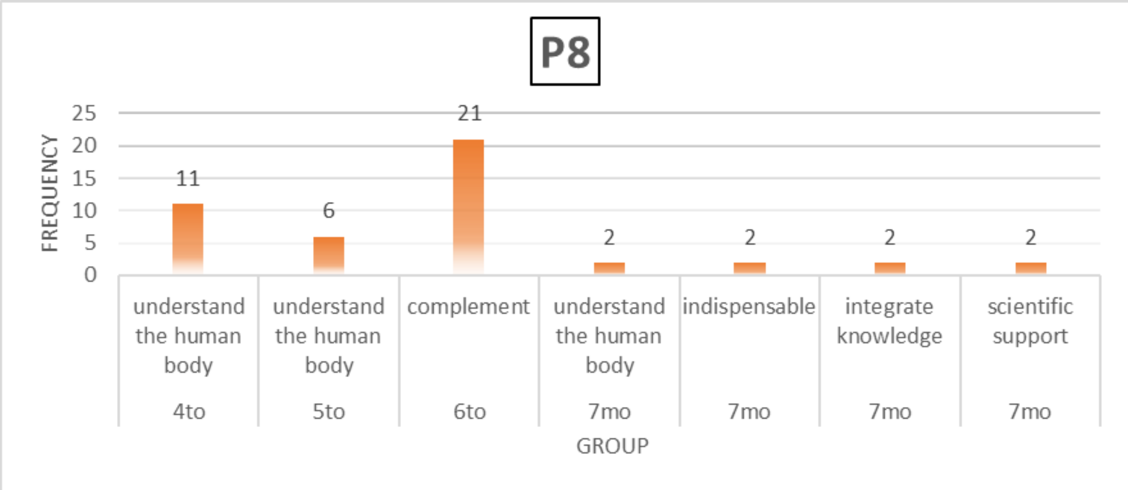

Fig.9. P8. How do biosciences impact training as a graduate in Rehabilitation Human Acupuncture? They are essential to understand the human body, they help to integrate the knowledge that is already had and they are the base to give a scientific support to acupuncture.

P9. Where do you see yourself in your field of work upon graduating from the Bachelor's Degree in Human Rehabilitation Acupuncture?

The 90.32% (n: 121) of the respondents responded to this question, the categorized response was summarized as "independent clinic", fourth semester coincided 18 times (n: 37), fifth semester 16 times (n: 23), sixth semester 21 times (n: 52) and the seventh semester coincided 7 times (n: 28) (figure 10). Among other answers were: rehabilitation center, hospital, teaching, scientific research, private clinic.

The analysis of question nine concluded that it is important to know if the student knows his field of work or areas of opportunity, it allows teachers and collaborators to implement strategies to inform and strengthen students who wish to start their own business in this area. According to the Labor Field according to UNEVE, it is mainly the formation of an own office, a comprehensive care clinic with Rehabilitation acupuncture. Collaboration in comprehensive care clinics, rehabilitation clinics, private units where they offer integrative therapy services (UNEVE[c], 2023).

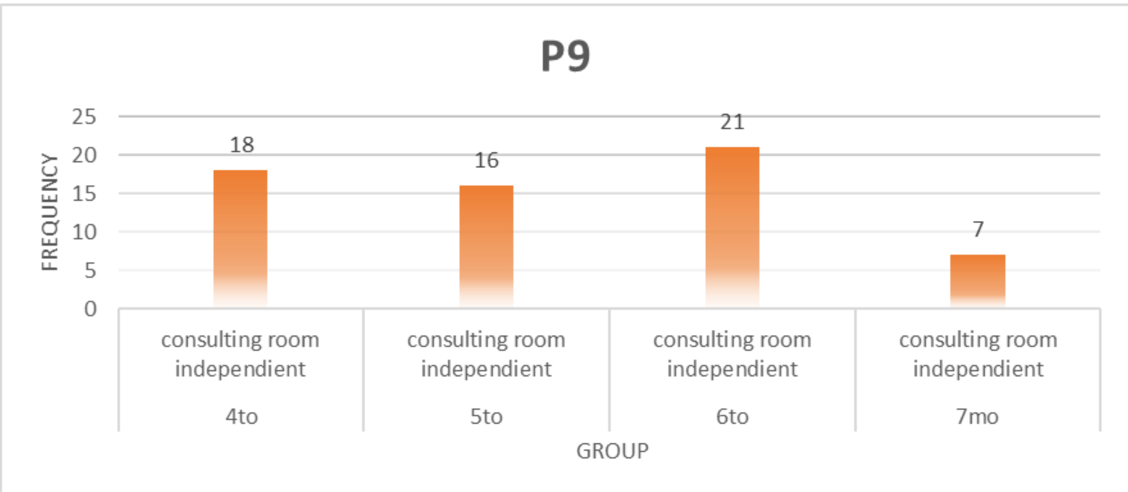

Fig.10. P9. Where do you see yourself in your field of work when you graduate from the Bachelor's Degree in Rehabilitation Human Acupuncture? Most of the respondents answered that they are viewed in an independent office.

P10. At the end of your studies, in what area would you like to specialize?

92.74% (n: 121) of students answered this question, the answers that were categorized were: "rehabilitation" and "master's degree". The fourth semester coincided 9 times (n: 37) that they would like to specialize in the area of rehabilitation, the same as the seventh semester that coincided 6 times (n: 28), while the fifth and sixth semester agreed that they would like to complete a master's degree to complement their academic training, fifth coincided 6 times (n: 23) and sixth 19 times (n: 52) (figure 11). Among other answers were: sports medicine, phytotherapy, pediatrics, psychomotricity, obstetrics, acupuncture, doctorate, scientific research.

The analysis of question ten concluded that most of the students would like to specialize in rehabilitation because it is an area that meets the knowledge acquired during the degree, in addition students who are in the fifth, sixth and seventh semester have already had the experience of to be in the Integral University Clinic in the areas of acupuncture and rehabilitation. On the other hand, it is worth noting the interest they show in expanding their knowledge by completing a master's degree.

Fig.11. Q10 At the end of your studies, in what area would you like to specialize? The rehabilitation area is a good option for specialization as well as the master's degree.

IV. CONCLUSIONS

The students of the Degree in Rehabilitation Human Acupuncture associate that having sufficient knowledge is necessary to be a professional, as well as the fact of exercising correctly, which involves good practice with the use of knowledge and the necessary tools for a comprehensive and effective treatment. for the patients. Most of the students do not attribute professionalism as a personal or ideal achievement, rather they attribute it to the ability of the professional to acquire valuable information for the practice of the profession while reasoning and analyzing it.

The Graduate in Acupuncture must meet a humanist profile that allows him to connect and empathize with patients, since the career prepares them for such a task. How else could one be a good health professional if the main intention is not to want to help patients find their well-being, improve their lifestyle, help prevent, help manage physical and emotional pain.

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theshillonga

ISSN: 2581-8651
Vol-5, Issue-2, Mar-Apr 2023
https://dx.doi.org/10.22161/jhed.5.2.9
Peer-Reviewed Journal

Journal of Humanities and Education Development (JHED)

Situation of Physical Development 4-5 Years old Preschoolers in Hanoi City, Vietnam

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Received: 17 Mar 2023; Received in revised form: 19 Apr 2023; Accepted: 27 Apr 2023

Abstract

In the education system, preschool is the first level of education that lays the foundation for physical, intellectual, emotional, and aesthetic development, and orients the formation of children's personalities; at the same time promoting the learning and development process in the next stages. Recognizing this importance, the Party and State have constantly paid attention to investing in facilities and quality for this level of education. However, the height growth rate of Vietnamese people is still slower than in other countries in the world and the region. Therefore, in addition to proper nutrition, preschools across the country need to develop many methods that have a profound impact on cognition to improve children's physical health. In this study, the author will focus on assessing the status of physical education at 4-5 years old preschool in Hanoi City, Vietnam. On that basis, specific goals are discussed for the research subjects, to contribute to improving the physical health of 4-5-year-old preschool in the coming time in Hanoi city.

***Keywords*— Situation; Education; Physical development; Hanoi; Vietnam.**

I. INTRODUCTION

Preschool age - the first "golden" period of life, physical development needs to help children form and develop basic motor habits such as crawling, walking, running, jumping, throwing, and climbing... Habits Exercise habits not only help children save energy when moving but also help the development of internal organs more completely. In addition, in this period, the goal of physical development in preschool children is also to develop physical qualities such as agility, dexterity, and endurance, and at the same time to form movement habits to help children develop physical activities. Children are more aware of movement to exercise and maintain their health in the future. To develop optimal height, besides genetic factors, in the first years of life, including preschool children, good nutrition combined with an appropriate physical training regimen, a clean living environment Consequently, fewer diseases will help children have the opportunity to develop their maximum adult height [4], [6], [8]. Today, modern science has confirmed that the natural need for movement of the human body is the biological premise, the natural basis of the appearance of all forms of movement, including physical activities and sports [7].

II. RESEARCH OVERVIEW

2.1. New approach to sports for children in the world

In some developed countries, they have begun to gradually develop standards for sports training conditions for preschool children, such as There must be a gym to ensure warmth in winter and cool in summer. summer, the temperature is stable; Gyms or playgrounds must be safe, clean, and dust-free to avoid infection during children's movement and breathing...[3], [5], [10].

“Sport” today has been viewed and evaluated from many different angles, in which sport for everyone in the world is changing rapidly. Each country in the world has a different view and assessment of the influence of "sports for all" on the development policy of national sports [5], [10], [16].

Recently, Singapore launched a training program for preschool teachers and coaches to provide basic motor skills to 18-month-old children; The British government has introduced several major reforms in investment in sports, in which two major issues stand out: the first is to promote the development of "sport for all", "sports for all". the masses" and secondly to attract young people's participation in sports activities;

The New Zealand Government during the 1980s-1990s implemented a sports program called “KiwiSports”, which attracted the participation of children aged 9-12. This program was developed with the participation of children aged 9-12. The aim is to increase the number of children participating in outdoor activities such as swimming, picnicking, cycling… The results of this Program were summarized in 1996, with 78% of New Zealanders participating in it. outdoor sports activities have increased significantly, including for both adults and children;China, with its excellent achievements in the recent Olympic arena, has a way of classifying the concept of sport into two different fields. The first is that "sports" often focuses on the development of high-performance sports, and competitive sports; and secondly, "physical activities" often focus on physical training and sports activities, mass activities, health training, and serving social groups.

Malaysia proposed in 1985, with the main goal of focusing on developing sports for all Malaysians, to become a healthy, united, highly disciplined nation, where people have many opportunities to participate. participate in physical activities and let Malaysia's sports industry develop stronger and stronger.

Canada and many other countries associate fitness and health education with personal and social development; Develop a variety of elective physical training and sports content during intra-curricular hours and develop voluntary extracurricular sports activities [9].

In Norway in 2012, the Multi-Factor Model (increasing physical activity, reducing autistic behaviors, and improving meals) with the measure: 10 minutes of weekly exercise increases the sense of exercise and stimulates exercise. practice including time at school and free time. Implementation: 20 months (program name is Adolescent Health (implemented at 2165 schools aged 11) in the curriculum for the physical development of children.

In the Netherlands with the FATaintPHAT model 883 kindergarten students participated. Exercises increase physical activity for students, reduces autism, and improves good eating habits. 15 minutes for each lesson, 8 lessons in 10 weeks to help preschoolers improve their health and develop physically.

In Belgium in the 2006-2007 school year, there were 1589 kindergarten and primary school students participating in a program to strengthen advocacy activities for children. The program adds extra-curricular physical activities for students to develop physically.

Spain in 2013 implemented a program of 2062 children 3-5 years old. Supplementing in the curriculum related to eating habits, and types of physical exercise for preschool children to develop stature and physical strength for children.

In Germany, a study of 1119 children aged 7-8 years old participated in a program consisting of 29 classroom sessions, 2 training sessions a day, and 6 home exercises, with regulated TV viewing time and carbonated drink consumption to strengthen physical development for children [16].

In Japan, since kindergarten, sports competitions take place for children from 24 months. Fitness expert Len Almond at the British Heart Association's National Physical Training Center said that young children should go to the gym from a young age, but should not do weights because football players train hard at their age. As a child experienced leg pain later in life [16].

2.2. Related research projects in Vietnam

Le Anh Tho (1995), Research using some folk movement games in physical education for 4-year-old preschool children; Includes folk games for physical development for preschoolers. Post-experiment results show that post-experiment has a good effect on the physical development of preschool children [14].

Dang Hong Phuong (2000); Research on teaching methods of basic motor exercises for older preschool children (5-6 years old); The research results have developed four groups of methods, including Developing new motor concepts, reviewing old motor concepts, perfecting motor concepts and checking and evaluating the performance of motor exercises. The book has had a good impact on the physical and mental development of preschool children (5 - 6 years old) [11].

Lam Thi Tuyet Thuy (2007); Research on the physical development of preschool children in some central provinces. Research results, the author has identified tests to assess the fitness level of preschool children with 5 criteria and proposed measures that can improve the effectiveness of physical development for preschool children in some provinces and regions. The middle is: Increase General activities with learning purposes. physical education into 2 activities in 1 week with the method of organizing children to practice in many small groups (teams), applying the form of rotation, increasing the use of motor games, and folk games to develop physical fitness for children [15].

Nguyen Thi Ha (2019), Research on the innovation of the Physical Education program in training students majoring in Early Childhood Education at Hanoi National University of Education 2 towards improving career capacity, through the integration of 2 chapters The program follows the direction: taking the profession as a motivation to improve the effectiveness of PE, taking the content of PE to combine with equipping students with knowledge and skills to implement PE activities for preschool children, overcoming the limitations of two general PE subject programs and PE subjects belong to the professional knowledge block, contributing to improving professional capacity for students specializing in early childhood education [7]. Nguyen Hung Dung (2021), Research on the physical development of 5-6-year-old preschool children in Dong Thap province, has developed a plan to apply 30 games into teaching practice. Post-experiment results show that 30 games have a better impact on the achievement of physical assessment tests of the experimental group than the control group after the experiment.

Thereby, it has been proved that the use of movement games in the thesis helps students in the experimental group develop good physical qualities such as speed, endurance, flexibility, and dexterity. Besides physical development, children's bodybuilding had positive growth in height and BMI, and the number of malnourished and obese students in the experimental group decreased significantly after the experiment [25].

In addition, the results of scientific research

Tran Minh Thuan (2008); Studying the effect of aerobic exercise on the development of morphology and physical strength for 5-year-old children in preschool in Ho Chi Minh City; Do Vinh, Lam Thi Tuyet Thuy (2007); Nutritional status of preschool children (3-4) years old in Ho Chi Minh City by weight/age and height/age [18]; Vu Duc Van, Dao Thi Tu Anh (2011); Physical status of preschool children (3-6 years old) in Hai Phong city [17]; Tran Thanh Phuong, Trinh Huu Loc (2016); Effects of exercise exercises on the development of physical fitness for 5-year-old boys at Bong Sen Kindergarten, My Tho city, Tien Giang province [12].

The research works on preschool physical education, by domestic and foreign authors, are a valuable source of material, a theoretical and practical basis oriented towards solving the research tasks and objectives. topic.

III. RESEARCH METHODS

3.1. Methods of analyzing and synthesizing documents

This is the method that most of the research works use to systematize the knowledge related to the research area. In the process of researching, collecting, synthesizing, and analyzing documents, documents of the Party and State, legal documents of the sector on the work of physical education in schools; books, journals, scientific documents, and research results of domestic and foreign authors and scientists related to physical education in schools. The main sources of materials are collected from the libraries of the Universities of Sport and Sport and the Universities of Sport and Education, the Library of the Institute of Sports Science, and the National Library of Vietnam.

3.2. Methods of Interview and Investigation

An interview is a form of conversation, the questions must be prepared in advance and asked in a certain order, and the answers need to be publicly recorded.

In interviews, people use modern technical means such as cameras, recorders, or video recorders to retain research materials.

The survey is also a type of interview, a method that uses several questions in series to be asked to several research subjects to collect their opinions on a certain issue. Responses may be written or oral and recorded by the investigator.

3.3. Pedagogical observation method

Is a method of perceiving research objects in the process of education and reformation without affecting that process, or in other words, a purposeful approach to a certain educational phenomenon to acquire and collect specific data, documents, and events that characterize the evolution of that phenomenon.

Within the scope of the topic, we have directly observed the process of PE at preschools and studied the current plan, content, and methods of the current preschool PE program.

In the process of observing and approaching the research object of the topic, the pedagogical processes have been recorded from both sides: the teacher and the learner to serve as a basis for determining the factors and conditions that ensure the teaching and learning process. application of physical exercises to research subjects.

The selected subjects for pedagogical observation are preschool teachers, physical education teachers (teachers), and preschool children in preschools in Hanoi city, through basic observation (observation with the program). schedule, plan, and take notes); Internal observation (observation when the teacher directly teaches during PE class); Public observation (observation when learners and teachers know there is an observer and the observed content).

3.4. Methods of biomedical examination

Including key methods such as (1) Blood pressure; (2) Pulse pulse; (3) Standing height (cm); (4) Weight (kg); (5) BMI index; (6) Single reflex- Body reaction speed (ms)

3.5. Experimental method of pedagogy

The pedagogical experiment is a method of actively and systematically studying an educational phenomenon to determine the relationship between educational impact and educational phenomenon that needs to be studied under controlled conditions. The experimental method allows researchers to deeply understand the nature of the educational phenomenon to discover new things, but this is a method that requires elaborate preparation in terms of both theories as well as work and site. technical equipment during the experiment.

3.6. Statistical Mathematical Methods

The information and parameters collected during the implementation of the topic will be processed and analyzed by mathematical and statistical methods, ensuring the scientific, reasonable, and logical quality of the entire content of the study rescue.

IV. RESEARCH RESULTS AND DISCUSSION

4.1. Situation of physical development of 4-5-year-old preschool children in Hanoi city

Selection of criteria, test to assess the physical development of preschool children 4-5 years old in Hanoi

Determining the principles of selecting criteria, testing, and assessing the physical development of 4-5-year-old preschool children in Hanoi city

To select the criteria, test application in testing and assessing the physical development of preschool children 4-5 years old in Hanoi city, through reference to relevant documents, the selection process criteria, the evaluation tests must follow the following 3 principles:

Principle 1: Selected criteria and tests must comprehensively assess the physical development of research subjects.

Principle 2: Indicators and tests must ensure reliability and informality on research subjects.

Principle 3: Selected criteria and tests must have evaluation criteria. The organizational form is simple, suitable for practical conditions; easy to organize tests and easy to classify, easy to score. To select the criteria, test the application in checking and assessing the physical development of preschool children 4-5 years old in Hanoi according to the following steps:

Step 1: Synthesize the criteria, and test to assess the physical development of preschool children 4-5 years old through relevant resources as well as through sharing with experts and direct observation of physical education work in preschool. young.

Step 2: Determine the feasibility of the tests (through indirect interviews with questionnaires).

Step 3: Determine the reliability and informality of the selected tests through interviews.

Step 4: Test directly on the target audience to study the criteria, the test is selected based on analyzing the changing characteristics of the child's morphology, function, and motor qualities. The criteria, test to assess the physical development of preschool children 4-5 years old in Hanoi city are presented in Table 1.

Table 1: Summary of indicators and tests to assess physical development 4-5-year-old preschool children in Hanoi city

TT	Chỉ tiêu, test	Tác giả				
		Le Anh Tho 1999	Lam Thi Tuyet Thuy 2007	Nguyen Duc Van 2011	Tran Thanh Phuong and Trinh Huu Loc 2016	Nguyen Hung Dung 2021
1	Pulse (times/minute)		+			
2	Maximum blood pressure (mmHg)		+			
3	Minimum blood pressure (mmHg)		+			
4	Height (cm)		+			+
5	Weight (kg)		+			
6	BMI					
7	Balance standing on 1 foot (seconds)		+		+	
8	Sit forward and bend your body (cm)		+		+	

9	Thrust in place (cm)		+	+	+	+
10	Long throw with 1 dominant hand (m)		+			+
11	Long throw with 2 hands (m)			+	+	
12	Throw the ball away					
13	Throw the ball on target					
14	Hit and catch the ball with 2 hands (times/minute)		+			
15	Toss the ball with 2 hands into the bucket (fruit)			+		
16	Zigzag (seconds)				+	
17	Run 10m (seconds)	+	+	+		+
18	Run 80 or 100m (min)				+	
19	Sandbag throw (points)	+				
20	Pick up marbles (points)	+				
21	Answer the question (points)	+				

Note: Biomedical indicators from No. 1-6 comply with Circular No. 14/2013/BYT

From approaching the use of indicators and tests of recent studies, allowing to synthesize and systematize 21 indicators, tests, and references used to test and evaluate the physical development of preschool children 4-5 years old in Hanoi city, presented in Table 2.

Table 2: Results of the interview to select criteria, test to assess the physical development of 4-5-year-old preschool children in Hanoi city (n = 30)

No	Test	Very important		Important		No opinion		Not important		□┘ count	□┘ board	P
		n	%	n	%	n	%	n	%			
Biomedical												
1	Standing height (cm)	26	86.67	1	3.33	1	3.33	2	6.67			
2	Weight (kg)	26	86.67	1	3.33	2	6.67	1	3.33			
3	BMI	3	10	5	16.67	7	23.33	15	50			
4	Quiet pulse (times/minute)	23	76.67	3	10	2	6.67	2	6.67			
5	Blood pressure (mmHg)	22	73.33	3	10	2	6.67	3	10	97.8	55.48	<0.001
6	Blood (HC, BC, Hb)	3	10	5	16.67	7	23.33	15	50			
7	Heart function index (HW)	3	10	5	16.67	7	23.33	15	50			
8	Vital capacity (ml)	2	6.67	7	23.33	6	20	15	50			
9	Single reflection (mb/sec)	27	90	1	3.33	1	3.33	1	3.33			

10	Complex reflex (mb/sec)	9	30	6	20	7	23.33	8	26.67			
11	Tapping test (times/10 seconds)	5	16.67	7	23.33	8	26.67	10	33.33			
Physical												
12	Balance standing on 1 leg (gy)	25	83.33	1	3.33	1	3.33	3	10			
13	Sitting folded body (cm)	23	76.67	1	3.33	3	10	3	10			
14	Thrust in place (cm)	28	93.33	0	0	1	3.33	1	3.33			
15	One-handed long-throw (m)	19	63.33	7	23.33	2	6.67	2	6.67			
16	2-handed long-throw (m)	18	60	7	23.33	3	10	2	6.67			
17	Hit and catch the ball with two hands (ball/1 minute)	22	73.33	3	10	3	10	2	6.67	105.3	59.7	<0.001
18	Run on a zigzag (gy)	3	15	8	40	8	40	1	5			
19	Run 10m (seconds)	28	93.33	1	3.33	0	0	1	3.33			
20	Run 80 or 100m (min)	5	16.67	4	13.33	6	20	15	50			
21	Sandbag throw (points)	4	13.33	5	16.67	6	20	15	50			
22	Pick up marbles (points)	2	6.67	7	23.33	7	23.33	14	46.67			

(Source: Survey results from the thesis)

Determining the reliability and informality of pedagogical-fitness tests to assess the physical development of preschool children 4-5 years old in Hanoi city.

Determine the reliability of the test

The reliability of the test is determined by the degree of agreement between the results of the tests on the same experimental object under the same conditions. Therefore, to assess the reliability of the pedagogical tests that have been selected and screened for both ages (4 and 5 years old), the retest method is applied. The interval between the two tests was 15 days, under similar conditions.

The subjects mobilized for the assessment of the reliability of the pedagogical-fitness tests were randomly selected at the age of 4 to be 60 children (30 boys, 30 girls) and at age 5 to be 60 children (30 children). boys, 30 girls) of 2 preschools among sampled preschools in Hanoi city.

Results between two replicates of the test were processed by correlation analysis; The correlation coefficient between the two replicates is also the reliability coefficient of the tests.

The results of data processing are shown in Table 3.5-3.6, showing that the selected tests achieve the necessary reliability, with the correlation coefficient from tight to very tight ($r \geq 0.8$).

Determine the informality of the tests

According to statistical theory, only tests with reliability $r \geq 0.8$ or higher will ensure the reliability to include in the assessment of informality. Because there is no central factor as a basis to determine the predictability of the fitness assessment tests of preschool children, the study applies the method of factor analysis.

This common factor forms a new independent variable whose values are calculated by multiplying the values of the original variables in the group by the factor coefficient. The values of this new variable are the factor score [2], [15]:

$$Fi = wi1x1 + wi2x2 + wi3x3 + \ldots + wiki$$

F: is the estimate of the value of the factor factor

When entering data processing software, to conduct factor analysis, each test is considered an independent variable (or original variable).

The factor analysis process to determine the factor informality goes through many procedures, of which the two most important ones are:

Determine the common factor representing all fitness tests (independent variables). This common factor is valid as a central factor. These factors are also referred to as physical variations.

Determine the correlation between the tests (original variables) with the common factor. The correlation coefficient between the tests and the variables represents their relationship to the kernel. Thus, these correlation coefficients are used as notification coefficients [2].

By convention, tests are considered to be sufficiently informed when the message coefficient r > 0.4 [2]. Thus, the tests that are included in the determination of the informality are sufficient for the notification threshold with r > 0.8; Presented in Table 3.

Table 3: The results of the test of the communicativeness of the pedagogical tests assessing the development of physical condition of 4-5-year-old preschool children in Hanoi city

No	Tests	Boys	Girls
Children 4 years old			
1	Balance standing on 1 foot (seconds)	0.833	0.877
2	Sitting folded body (cm)	0.843	0.859
3	Thrust in place (cm)	0.867	0.865
4	One-handed long-throw (m)	0.842	0.847
5	Long throw with 2 hands (m)	0.846	0.884
6	Hit and catch the ball with two hands (ball/1 minute)	0.843	0.859
7	Toss the ball with 2 hands into the bucket (fruit)	0.867	0.865
8	Run fast 10m (seconds)	-0.834	-0.868
5 year olds			
1	Balance standing on 1 foot (seconds)	0.873	0.877
2	Sitting folded body (cm)	0.843	0.859
3	Thrust in place (cm)	0.867	0.865
4	One-handed long-throw (m)	0.862	0.834
5	Long throw with 2 hands (m)	0.846	0.884
6	Hit and catch the ball with two hands (ball/1 minute)	0.853	0.859
7	Toss the ball with 2 hands into the bucket (fruit)	0.867	0.865
8	Run fast 10m (seconds)	-0.834	-0.868

(Source: Survey results from the thesis)

4.2. Actual situation of physical development of 4-5-year-old preschool children in Hanoi city

From the results of expert interviews on the selection of criteria, the tests used to assess the physical development of preschool children 4-5 years old in Hanoi include:

Biomedical indicators:

Standing height (cm);

Weight (kg);

Quiet pulse (Times/minute);

Blood pressure (mmHG);

Single reflex-response to locomotion (ms)

Note: Calculate BMI through standing height index and weight

Pedagogical-fitness tests.

Balance standing on 1 foot (seconds)

Sit forward bending the body (cm);

Thrust in place (cm)

One-handed long-throw (m);

Long throw with 2 hands (m);

Toss the ball with 2 hands into the bucket (fruit);

Hit and catch the ball with 2 hands (balls/min);

Run fast 10m (second).

The results of the survey on the physical development of 4-year-old preschool children in Hanoi, presented in Table 4, show that:

For biomedical indicators:

The blood pressure and pulse of boys and girls develop according to the rules, following biological values; with maximum blood pressure from 100±8.16mmHg to 100.17,±8.13mmHg; Minimum blood pressure from 60±8.16mmHg to 60.17±8.13mmHg, pulse from 99.63±11.42mmHg to 99.58±11.51mmHg [1].

For height: Average height for boys is 105.16±3.39cm; the average height for girls is 105.18±3.40cm; The average height of 4-year-old boys and girls in Hanoi city is equivalent to the WHO (World Health Organization) standard published in 2020, with the height parameter of boys is 103.3cm±2D and that of girls is 102.7 cm±2D [19].

For weight: Boys weigh on average 17.01±1.94kg; average weight for girls is 17.8±2.86kg; The average weight of 4-year-old boys and girls in Hanoi city is slightly higher than the WHO standard, with the weight parameters of boys being 16.3kg±2D and girls being 16.1kg±2D

Through the measurement parameters of height and weight of 4-year-old preschool boys and girls in Hanoi city, BMI is in the normal range: from 20.04±3.54 to 20.67±3.13.

Motor response – single reflex (ms): Test to determine motor capacity through reaction speed of children: Good class K < 160 ms; Fair grade 180 > K > 160; Medium grade 200> K>180; Weak type: 220> K>201; Poor type K > 220 ms. The results of the survey on motor responses of 4-year-old preschool boys and girls in Hanoi city have K from 429.36±167.1 to 423.82±200.82, all of which are poor [13].

For pedagogical-physical fitness tests:

Balance standing on 1 foot (second): the results show that the balance ability of 4-year-old preschool boys and girls in Hanoi city is 5.12±2.80s and 5.34±2.44s; According to the classification of survey results with measured values, the ability to balance standing on one leg of 4-year-old preschool children in Hanoi city is poor (<10 seconds); According to the research results of Lam Thi Tuyet Thuy, compared with 4-year-old urban preschool children in the Central region: boys are 8.17±2.09 seconds, girls are 5.62±0.38 seconds, then 4-year-old preschool children in Hanoi city worse in boys and equal in girls [13], [15];

Sitting flexed body (cm): the plasticity through sitting flexion test of 4-year-old boys and girls is 5.83±1.72cm and 5.88±174cm; compared with 4-year-old urban preschool children in the Central region: boys are 2.04±1.85cm, girls are 1.77±1.64cm, then 4-year-old preschool children in Hanoi city are better;

On the spot (cm): The results of the physical examination of boys and girls 4 years old are 55.45±19.16cm and 53.77±9.39cm; compared with 4-year-old urban preschool children in the Central region: boys are 84.12±11.55cm, girls are 81.65±12.97cm, then 4-year-old preschool children in Hanoi city are worse off in both boys and girls;

One-handed long throw (m): One-handed long throw of a 4-year-old boy and girl in Hanoi ranges from 2.20±0.82m to 2.26±0.82m; compared with 4-year-old urban preschool children in the Central region: boys are 4.58±0.59m, girls are 5.62±0.47m, 4-year-old preschool children in Hanoi city are worse.

Long throw with two hands (m): The long throw with two hands of 4-year-old boys and girls in Hanoi city is 1.62±0.57m and 1.87±0.28m; compared with 3-4-year-old urban preschool children in the Central region: boys are 2.17±0.46m, girls are 2.56±0.35m, then 4-year-old preschool children in Hanoi city are worse;

Smashing and catching the ball with 2 hands (balls/min): The achievement of hitting and catching the ball with 2 hands of 4-year-old boys and girls in Hanoi city ranged from 14.44±3.22 balls/minute to 14.52±2.34 balls/minute; compared with 4-year-old urban preschool children in the Central region: boys are 9.12±5.89 fruits/minute, girls are 9.99±4.51 fruits/minute, then 4-year-old preschool children in Hanoi city are better;

Tossing the ball with two hands into the bucket (fruit): The achievement of four-year-old boys and girls in

Hanoi from 1.92±1.66 to 2.03±1.56; Compared with urban preschool children in the Central region: boys are 2.37±1.34 fruits, girls are 2.44±0.89 fruits, then 4-year-old preschool children in Hanoi city are worse.

10m fast run (second): The 10m running achievement of 4-year-old boys and girls in Hanoi city ranges from 3.94±0.42s to 4.01±0.41s; Compared with urban 4-year-old preschool children in the Central region: boys are 3.22±0.23 seconds, girls are 3.16±0.37 seconds, then 4-year-old preschool children in Hanoi city are worse.

The survey results on the physical development of 5-year-old preschool children in Hanoi, presented in Table 5, show that:

For biomedical indicators:

Blood pressure and pulse of 5-year-old boys and girls in Hanoi city develop according to the rules, under biological values; with the maximal blood pressure of 100.51±7.91mmHg and 100.19±7.88mmHg; Minimum blood pressure is 60.57±8.03mmHg and 60.47±7.98mmHg, a pulse is 99.63±11.42mmHg and 99.58±11.51mmHg.

For height: 5-year-old boys in Hanoi average 106.57±3.2cm; average height for girls is 106.62±3.01cm; The average height of 5-year-old boys and girls in Hanoi city is lower than WHO standards: 106.7cm±2D for boys and 106.2cm±2D for girls

For weight: The average weight of boys is 18.83±1.91kg; the average weight for girls is 18.01±1.74kg; The average weight of 5-year-old boys and girls in Hanoi city is slightly higher than WHO standards: 16.3kg±2D for boys and 16.1kg±2D for girls.

Through the measurement parameters of height and weight of 5-year-old preschool boys and girls in Hanoi city, BMI was found to be in the normal range, from 21.04±2.17 to 21.67±3.13.

Response to locomotion – single reflex (ms): The results of the survey on the motor response of 5-year-old boys and girls in Hanoi city have K from 197.0±8.55 to 196.97±8.17, which is in the average category.

For pedagogical-physical fitness tests:

Balance standing on 1 foot (second): the results show that the balance ability of 5-year-old boys and girls in Hanoi city is 5.31±1.70s and 5.07±1.27s; According to the classification, with measured values, the balance ability of 5-year-old children is poor (<10 seconds); Compared with 5-year-old urban preschool children in the Central region: boys are 8.87±4.90 seconds, girls are 8.54±6.95 seconds, then 5-year-old preschool children in Hanoi city are worse. If compared with the ability to balance standing on one leg of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 8.04±0.67 seconds, than 5-year-old preschool boys in Hanoi city are also worse;

Sitting flexed body (cm): the plasticity through sitting flexion test of 5-year-old boys and girls in Hanoi city from 7.55±1.79cm to 7.48±1.82cm; Compared with 5-year-old urban preschool children in the Central region: boys are 2.31±4.27cm, girls are 2.80±2.93cm, 5-year-old preschool children in Hanoi city are better. If compared with the result of sitting and bending the body of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 2.20±1.28cm, then 5-year-old preschool boys in Hanoi city are also better [12], [15];

On the spot (cm): The achievement of 5-year-old boys and girls in Hanoi city is 57.30±19.35cm and 55.37±18.9cm; compared to 5-year-old urban preschool children in Central: boys are 91.85 ±16.15cm, 91.79±10.29cm for girls, 5-year-old preschool children in Hanoi city are worse. If compared with the results of the spot bounce of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 86.56±6.33cm, than 5-year-old preschool boys in Hanoi city are also worse; compared to Kindergarten children 5 years old. In Cao Lanh age, Dong Thap province, with the in situ results of 96.19±12.03cm for boys and 90.31±1.94cm for girls, 5-year-old preschool children in Hanoi City are also worse.

Long throw with one hand (m): The achievement of one-handed long throw of 5-year-old boys and girls in Hanoi city is 2.34±0.83m and 2.35±0.84m; Compared with urban 5-year-old preschool children in the Central region: boys are 620±114m, girls are 4.63±11.4m, 5-year-old preschool children in Hanoi city are worse.

Two-handed long-throw (m): The 2-hand long throw of a 5-year-old boy in Hanoi is 1.84±0.34m and a girl is 1.84±0.34m; Compared with the results of the 2-hand long throw of the 5-year-old boys at Bong Sen Kindergarten, Tien Giang, which is 4.75±0.27cm, the 5-year-old preschool boys in Hanoi city are also worse [12];

Smashing and catching the ball with two hands (balls/min): The record of hitting and catching the ball with two hands of 5-year-old boys and girls in Hanoi city is 15.39±2.78 balls/minute and 14.84±2.90 balls/minute; compared with 5-year-old urban preschool children in the Central region: 16.36±6.82 fruits/minute for boys, 13.05±6.93 fruits/minute for girls, 5-year-old preschool children in Hanoi city are better;

Toss the ball with 2 hands into the bucket (fruit); The achievement of tossing the ball into the bucket of 5-year-old boys and girls in Hanoi city is 2.18±1.55 and 2.08±1.48 balls; Compared with urban preschool children in Central region: boys are 2.37±1.34 fruits, girls are

2.44±0.89 fruits, then 5-year-old preschool children in Hanoi city are worse [69].

Fast 10m (seconds): The achievement of 10m fast running of 5-year-old boys and girls in Ha Noi city is 3.72±0.28s and 3.70±0.29s; compared with 5-year-old urban preschool children in the Central region: boys are 2.65±0.33s, girls are 2.94±0.30s, then 5-year-old preschool children in Hanoi city are worse; Compared with the 10m sprint of boys at Bong Sen Kindergarten, Tien Giang at 5 years old, which is 2.96±0.50 seconds, 5-year-old preschool boys in Hanoi city are also worse. The physical development of 4-5-year-old preschool children in Hanoi city is presented in Table 4-5.

Table 4: Actual situation of physical development of 4-year-old preschool children in Hanoi city

No	Expense, test	Boy (n=124)				Girl (n=120)				t	P
		$\overline{X}$	δ	$M\overline{X}$	Cv	$\overline{X}$	δ	$M\overline{X}$	Cv		
1	HA Max	100	8.16	1.02	0.08	100.17	8.13	1.05	0.08	0.12	>0.05
2	HA Min	60	8.16	1.02	0.14	60.17	8.13	1.05	0.14	0.12	>0.05
3	Pulse (times/minute)	99.63	11.42	1.43	0.11	99.58	11.51	1.49	0.12	0.02	>0.05
4	Height (cm)	105.16	3.39	0.67	0.06	105.18	3.40	0.7	0.06	0.02	>0.05
5	Weight (Kg)	17.01	1.94	0.24	0.09	17.48	2.96	0.38	0.14	1.14	>0.05
6	BMI	24.04	3.54	0.44	0.15	20.67	3.13	0.4	0.15	5.51	**<0.01**
7	Motor response (ms)	429.36	167.1	20.89	0.39	423.82	200.82	25.93	0.47	0.16	>0.05
8	Balance standing on 1 foot (seconds)	5.12	2.80	0.35	0.39	5.34	2.44	0.32	0.46	3.71	**<0.01**
9	Sitting folded body (cm)	5.83	1.72	0.22	0.22	5.88	1.74	0.22	0.22	0.16	>0.05
10	Thrust in place (cm)	55.45	19.16	2.4	0.42	53.77	9.39	1.21	0.17	3.03	**<0.01**
11	One-handed long-throw (m)	2.20	0.82	0.1	0.37	2.26	0.82	0.11	0.36	0.39	>0.05
12	Long throw with 2 hands (m)	1.62	0.57	0.07	0.35	1.87	0.28	0.04	0.15	3.02	**<0.01**
13	Hit and catch the ball with two hands (ball/1 minute)	14.44	3.22	0.4	0.22	14.52	2.34	0.3	0.16	0.15	>0.05
14	Toss the ball into the bucket (fruit)	1.92	1.66	0.21	0.86	2.03	1.56	0.2	0.77	0.36	>0.05
15	Run fast 10m (seconds)	3.94	0.42	0.05	0.11	4.01	0.41	0.05	0.1	0.89	>0.05

(Source: Survey results from the thesis)

Table 5: Status of physical development of 5-year-old preschool children in Hanoi city

No	Expense, test	Boy (n=158)				Girl (n=154)				t	P
		$\overline{X}$	δ	M $\overline{X}$	Cv	$\overline{X}$	δ	M $\overline{X}$	Cv		
1	HA Max	100.51	7.91	0.63	0.08	100.19	7.88	0.63	0.08	0.36	>0.05
2	HA Min	60.57	8.03	0.64	0.13	60.47	7.98	0.64	0.13	0.11	>0.05
3	Pulse (times/minute)	90.39	3.2	0.26	0.04	90.73	3.52	0.28	0.04	0.89	>0.05
4	Height (cm)	106.57	3.2	0.26	0.03	106.62	3.01	0.24	0.03	0.14	>0.05
5	Weight (Kg)	18.83	1.91	0.15	0.11	18.01	1.74	0.14	0.1	0.87	>0.05
6	BMI	21.04	2.17	0.17	0.12	21.02	2.18	0.15	0.09	0.84	>0.05
7	Motor response (ms)	197.0	8.55	0.68	0.04	196.97	8.17	0.66	0.04	0.03	>0.05
8	Balance standing on 1 foot (seconds)	5.31	1.7	0.14	0.32	5.07	1.27	0.1	0.25	1.4	>0.05
9	Sitting folded body (cm)	7.55	1.79	0.14	0.24	7.48	1.82	0.15	0.24	0.34	>0.05
10	Thrust in place (cm)	57.3	19.35	1.54	0.34	55.37	18.9	1.52	0.34	0.88	>0.05
11	One-handed long-throw (m)	2.34	0.83	0.07	0.35	2.35	0.84	0.07	0.36	0.1	>0.05
12	Long throw with 2 hands (m)	1.84	0.34	0.03	0.18	1.84	0.34	0.03	0.18	0.1	>0.05
13	Hit and catch the ball with two hands (balls/1min)	15.39	2.78	0.22	0.18	14.84	2.9	0.23	0.2	1.67	>0.05
14	Toss the ball into the bucket (fruit)	2.18	1.55	0.12	0.71	2.08	1.48	0.12	0.71	0.57	>0.05
15	Run fast 10m (seconds)	3.72	0.28	0.02	0.08	3.70	0.29	0.02	0.08	0.01	>0.05

(Source: Survey results from the thesis)

V. CONCLUSIONS

Fitness is the quality of the human body that can be used to perform something in learning and sports. Physical development is a process of changing the shape and biological function of the human body. , is the sum of the morphological features of an organism, which characterize its maturation process at all stages of development.

During the first 5-6 years, children are characterized by vigorous development of all organs and organ systems of the body. Children are born with inherited biological characteristics. These characteristics form the basis for later physical and psychological development, and the determining factors from the first months of a child's life are the environment and upbringing.

Preschool age (children from 3 to 6 years old): A favorable period for children to acquire and consolidate necessary skills.

Children at this age grow up quickly, feel thinner, and lose the round, chubby look that they had in kindergarten.

About biomedical indicators

Blood pressure is the basis for assessing the health status of each person's heart. Blood pressure is expressed in two numbers: systolic pressure and diastolic pressure.

A child's blood pressure readings depend on several factors such as the child's age, height, and gender, and it is common for girls to have higher blood pressure than boys. Moreover, at different times of the day, the child's blood pressure will also have certain changes. In addition, if the child is happy, the child is excited, or when the child is worried about something, the blood pressure can also change. The child's blood pressure also partly assesses the child's health status. Below is a table of normal blood pressure readings for children (mmHg) by age [1]:

Newborns from 1 to 12 months: The normal blood pressure reading is 75/50 mmHg, the highest level that can be reached is 100/70 mmHg.

Children from 1 to 5 years old: The normal blood pressure reading is 80/50 mmHg, the maximum value achieved is 110/80 mmHg.

Children about 6-13 years old: The normal blood pressure reading is 85/55 mmHg, the highest blood pressure can reach 120/80 mmHg.

Children aged 13 - 15: Have an average blood pressure of 95/60 mmHg, the highest blood pressure reading is 104/70 mmHg.

Adolescents aged 15-19 years: The mean blood pressure reading is 117/77 mmHg and the maximum value is 120/81 mmHg.

About the child's height and weight

According to nutrition experts, in the newborn stage, children need to be monitored for both height and weight monthly, and in the older stage, parents can monitor them every year or half a year. This will help parents better understand the child's development and easily detect abnormalities in the child's development and growth such as malnutrition or overweight, stunting. bones, to improve the way to take care of the baby as well as to have timely treatment.

The standard height and weight of Vietnamese children are often lower than in other countries in the world. Many people believe that the cause is due to the baby's genetics and physical condition, but according to many studies, these development indicators are also due to living habits and nutrition that are still not enough to meet the child's needs. Therefore, parents need to have appropriate promotion methods to help their children get the best development. If weight cannot be controlled well, over time it will greatly affect the development of many organs of the body, such as:

If the child is too thin, the child's arms will not have strength, the brain will not develop, and the eyes will be blurred…especially for young children, the impact will be even more obvious. Therefore, mothers need to change their diet properly, providing the necessary nutrients for their children. In addition, regularly letting children participate in sports activities, and playing outdoors will also help a lot in stimulating the digestive system, making them hungry and craving more.

For overweight and obese children, if are not intervened early, they will be at risk of cardiovascular diseases, diabetes, blood pressure, etc., and low self-esteem with friends. If your child is overweight, at this time, the mother should cut back on fatty, sweet, and starchy foods, and instead have meals with lots of green vegetables, fruits, etc., which provide abundant fiber for the child. In particular, encouraging children to practice sports every day is a must to ensure their health and shape in the future.

Body mass index

Body mass index (BMI) is a calculation based on height and weight that helps determine if a person is at a normal weight, underweight, overweight, or obese.

BMI does not directly measure body fat, but BMI can be a relative measure of body fat. Furthermore, BMI is associated with the risk of metabolic disease or various diseases caused by being underweight or obese. Body mass index measures a person's weight. BMI is calculated based on height and weight according to the formula: BMI=(Weight)/(Height x Height). Where a person's weight is in kilograms, and height is in meters. For example 1.7m tall, 65kg weight, BMI = 65 ÷ (1.7x1.7) = 22.49 kg/m2.

According to the classification of the Asian Diabetes Association (IDI & WPRO), the BMI of Asians between 18.50 - 22.9 kg/m2 is normal weight. BMI less than 18.5 is underweight, from 23 to 24.9 is overweight, and 25 or more is obese. And BMI according to the international classification (WHO) is under 18.5 is underweight, 18, 5-24.9 is normal, 25-29.9 is overweight, and 30 or more is obese. The above number accurately measures body weight in most adults over 19 years of age. However, this index does not apply to people with muscular bodies (eg athletes, bodybuilders), pregnant women, the elderly, and people with loss of muscle mass. In children aged 5-19 years, the interpretation of BMI is sex- and age-specific based on the World Health Organization (WHO) standard table [19].

Low BMI indicates low body weight. Lack of nutrients, vitamins, and minerals can cause several conditions such as Bone loss; Decreased immune function; Iron deficiency anemia. Lowering blood pressure in Vietnam has doubled in obese and overweight children in the past 10 years. In just 10 years, the rate of overweight and obesity among school-age children (5-19 years old) nearly doubled (8.5% in 2010 to 19% in 2020).

Obesity is recognized by the World Health Organization (WHO) and the American Medical Association as a chronic disease that requires long-term management and treatment because it causes many dangerous complications such as medical conditions. heart disease, diabetes...Research published in 2018 on NCDs, eating, and nutrition in Vietnam shows that Vietnamese people's lifestyle has changed a lot in recent years, such as being less active, on a diet with a lot of salt, eating a lot of starch, fat, drinking a lot of soft drinks, eating fewer vegetables.

Survey results on the physical development of preschool children 4-5 years old in Hanoi concerning biomedical indicators:

Blood pressure, a pulse of boys and girls develops according to the rules, following biological values;

Height: Boys and girls in Hanoi are equivalent to the standards of WHO (World Health Organization) announced in 2020;

Weight: The average weight of boys and girls in Hanoi is slightly higher than WHO standards;

BMI: Through measurement parameters of height and weight of preschool boys and girls in Hanoi 4-5 years old, BMI is in the normal range;

Reaction to locomotion - single reflex (ms): The results of the survey on motor response in boys and girls are poor.

For pedagogical-physical fitness tests:

Fitness is not simply understood as "How fast are you capable of running?" or "How much force can you push?", but fitness is a concept formed based on many physical factors, including some basic factors such as age; agility; strength; speed; health; coordination ability; dexterity ability; toughness.

For 4-year-old preschool children:

Balance standing on 1 foot (second): According to research results of Lam Thi Tuyet Thuy, compared with 4-year-old urban preschool children in the Central region: 4-year-old preschool children in Hanoi city are worse than boys and equivalent in girls;

Sitting with the body folded (cm): Compared with urban 4-year-old preschool children in the Central region, 4-year-old preschool children in Hanoi city are better;

In-situ (cm): Compared with urban 4-year-old preschool children in the Central region, 4-year-old preschool children in Hanoi city are worse off than boys and girls;

Throwing away with one hand (m): Compared to urban 4-year-old preschool children in the Central region, 4-year-old preschool children in Hanoi city are inferior.

Throwing away with 2 hands (m): Compared with 3-4-year-old urban children in the Central region, the 4-year-old Kindergarten children in Hanoi city are worse;

Hitting and catching the ball with 2 hands (fruit/minute): Compared with urban 4-year-old preschool children in the Central region, 4-year-old preschool children in Hanoi city are better;

Tossing the ball into the bucket with 2 hands (fruit): Compared to urban preschool children in the Central region, 4-year-old preschool children in Hanoi city are worse.

Running as fast as 10m (seconds): Compared with urban 4-year-old preschool children in the Central region, 4-year-old preschool children in Hanoi city are worse.

For 5-year-old preschool children:

Balance standing on 1 foot (second): according to the classification, with measured values, the balance ability of 4-year-old children is poor (<10 seconds); Compared with 5-year-old preschool children in urban areas in the Central region, 5-year-old preschool children in Hanoi city are worse off. If compared with the ability to balance standing on one leg of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 8.04±0.67 seconds, than 5-year-old Preschool boys in Hanoi city are also worse;

Sitting flexed body (cm): the plasticity of 5-year-old boys and girls in Hanoi city, compared with 5-year-old urban preschool children in the Central region, 5-year-old preschool children in Hanoi city. better; If compared with the results of sitting and bending the body of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 2.20±1.28cm, then 5-year-old Preschool boys in Hanoi city are also better;

In-situ (cm): Compared with urban 5-year-old preschool children in the Central region, 5-year-old preschool children in Hanoi city are worse; If compared with the results of the spot bounce of 5-year-old boys at Bong Sen Kindergarten, Tien Giang is 86.56±6.33cm, then 5-year-old Preschool boys in Hanoi city are also worse; Compared with 5-year-old preschool children Cao Lanh, Dong Thap, preschool children in Hanoi city are also worse.

One-handed long-throw (m): One-handed long-throw achievement of 5-year-old boys and girls; Compared with 5-year-old preschool children in urban areas in the Central region, 5-year-old preschool children in Hanoi city are worse off. Long throw with 2 hands (m): The achievement of 2 hands long throw of 5-year-old boys and girls; Compared with the results of boys at Bong Sen Kindergarten, Tien Giang, 5-year-old Preschool boys in Hanoi city are also worse; Hitting and catching the ball with 2 hands (fruit/minute): Compared with urban 5-year-old preschool children in the Central region, 5-year-old preschool children in Hanoi city are better; Tossing the ball with two hands into the bucket (fruit): Compared to urban preschool children in the Central region, 5-year-old preschool children in Hanoi city are worse.

Running fast 10m (seconds): compared to 5-year-old preschool children in urban areas in the Central region, 5-year-old preschool children in Hanoi city are worse; Compared with the 10m running results of 5-year-old boys at Bong Sen Kindergarten, Tien Giang, 5-year-old Preschool boys in Hanoi city are also worse.

The results of the survey on the physical development of 4-year-old preschool children in Hanoi, compared with previous studies, show that physical development tends to be better, although this comparison is only for reference. survey; because it can depend on many factors. If the physical development of boys and girls of the same age is compared, it shows that the physical development is similar, especially the morphological indicators, which reflect the physical development by sex at the same age. The sprouts have not differentiated clearly (p>0.01-0.05). Like 4-year-old preschool children, the physical development of 5-year-old preschool boys and girls in Hanoi city has begun to grow rapidly, basically similar in gender, especially in indicators of gender. morphology, reflecting the physical development by sex at this age is not differentiated (p>0.01-0.05); however, it is limited in physical strength, requiring attention to physical activity.

This indicates that the speed of physical development of preschool children 4-5 years old is slower than that of previous ages, but the process of ossification of the bones takes place rapidly. Children from 5 years old become stronger, self-reliant, hyperactive, and tireless, their movements gradually come to perfection. Therefore, children's movements must be monitored and checked by adults. The psychological processes of children at this age are completed, their attention capacity increases, they understand their tasks, and they can perform familiar movements and movements in many ways, in a short time. long, with a greater amount of exercise; Attention should be paid to the physical activity of children, because from a physiological perspective, movement is the movement of the human body, including the participation of the muscular system, the skeletal system, and the control of the nervous system. terrible.

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