

## Enhanced and Better Living In 21<sup>ST</sup> Century through Information and Communication Technology (ICT)

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### Abstract

This paper critically examines the positive impact of ICT on the living conditions of every average citizen in developing countries in 21<sup>st</sup> century. The study focused on eight (8) dimensions of wellness model which are: physical, intellectual, emotional, social, spiritual, vocational, financial, and environmental wellbeing of humanity. The motivation for this study is the fact that our society in this 21<sup>st</sup> century is information driven and the entire world is now a global village. Almost every single issue of life now involves the use of ICT. This study therefore attempts to study how Information and Communication Technology (ICT) enhances better living; it adopted survey method that used five scale questionnaires with 36 items for gathering the data used. Statistical Packages for Social Sciences (SPSS) was used for data analysis. The result shows that eight dimensions of wellness are generally accepted as criteria for measuring enhanced and better living of every human being. It also reveals that ICT has significantly enhanced standard of living and its positive impact on human health cuts across every dimension of existence. It is also recommended that to maintain this positive impact of ICT and even improve on it, government and non-governmental organization must steadily improve the provision of ICT facilities. Citizens are to be sensitized on the need for every individual to adapt and adopt the use of ICT in all aspect of their life. They should be clearly made to understand that ICT indeed brings about better living.

**Key words:** Enhanced, Better living, ICT, 21<sup>st</sup> Century, Dimensions, Wellness model,

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### I. Introduction

In the 21st century, Information and Communication Technology (ICT) has revolutionized the way we live, work, and interact with one another. According to Suleiman, Kaur, Kuliya, Aliyu, (2020), ICT is a control that has affected every aspect of life (such as, education, tourism, transportation, medicine, banking, business, law, architecture, manufacturing industry, etc.) positively over a few period of time. The rapid advancements in technology have brought about the significant improvements in various aspects of lives, leading to enhanced and better living conditions for individuals around the world.

Communication is one of the key areas where ICT has had a profound impact on enhancing and improving living conditions in the 21st century. The advent of smartphones, social media platforms, and instant messaging applications has made it easier for people to stay connected with one another, regardless of their geographical location. According to Smith, 2019, 81% of Americans own a smartphone, and 72% use social media platforms regularly (This widespread access to communication technology has facilitated faster and more efficient communication, leading to increased productivity and collaboration in both personal and professional settings.

Furthermore, ICT has revolutionized the field of education, making learning more accessible and engaging for individuals of all ages. Online learning platforms, such as Coursera and Khan Academy, have democratized education by providing free or low-cost access to a wide range of courses and resources. According to a report by the World Economic Forum (2020) online learning is projected to reach a market size of \$325 billion by 2025, highlighting the growing popularity and impact of ICT in the education sector. This increased access to educational resources has empowered individuals to acquire new skills and knowledge, leading to improved career prospects and overall quality of life.

In addition to communication and education, ICT has also played a crucial role in transforming the healthcare industry, leading to better health outcomes and improved quality of life for individuals. Telemedicine, remote monitoring devices, and health tracking apps have enabled patients to receive medical care and advice from the comfort of their homes, reducing the need for in-person visits to healthcare facilities. According to a study by the American Medical Association, 2020, telemedicine visits increased by 1,000% in

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the first few months of the COVID-19 pandemic, highlighting the growing importance of ICT in healthcare delivery. This shift towards digital healthcare has not only improved access to medical services but has also enhanced patient outcomes and satisfaction. Another study on the effect of ICT on health outcomes concluded that the widespread use of ICT leads to good relationships and healthy behaviors among people, improving their health and longevity (Ilikkan-Özgür, Demirtaş, Örtlek, 2022).

The goal of most study on health is to improve the quality of life for humanity by empowering the citizens with the right knowledge and skills to take responsibility for their wellness, starting by their voluntary actions and behavior (Mirarchi, Vizza, Vocaturo, Guzzi, and Veltri, 2016). ICT is the right tools that can be effectively used to equip people with the right knowledge and skill because the advance in ICT has led to the design of novel electronic healthcare services that improve people's health and well-being towards sustainability of our society. (Vavilis, Petković, and Zannone, 2012). People's health and well-being with individual behavior that improve it is seen as wellness. Stoewen (2017), describes Wellness as holistic integration of physical, mental, and spiritual well-being, fueling the body, engaging the mind, and nurturing the spirit. Stoewen further asserts that Wellness encompasses 8 mutually interdependent dimensions which include: physical, intellectual, emotional, social, spiritual, vocational, financial, and environmental. These eight (8) dimensions illustrate different areas of wellbeing that cannot be neglected since the neglect of one will adversely affect the others.

This paper explores the ways in which ICT has contributed to improved living standards in the 21st century, with a focus on its impact on communication, education, healthcare, and overall quality of life. It critically examines the cumulative effect of ICT impact on the wellness of humanity in the society and attempt to investigate the following:

- The relationship between better live and eight dimension of wellness
- Relevance of ICT in enhancing better individual personal wellness

## II. Materials and Method

The research design employed in this study is descriptive survey. The instrument for data collection is five (5) Likert scale structured questionnaire with thirty-six items drawn from two research questions that guided the study. Seven questionnaire could not be recovered out of 1000 administered, using simple random technique, to the respondents that cut across tertiary institutions in Enugu and Ebonyi State; consequently, the analysis was done based on 993 questionnaires that returned. The reliability of the instrument was done by using Test and Retest method on the 36 items at different location and obtained 0.811 as Cronbach's Alpha reliability value, which proof the reliability of the instrument used. Two experts – one from measurement and evaluation while the other from ICT field validated the questionnaire to ensure that the instrument meet expected quality standard. The data collected were analyzed using descriptive statistic function in SPSS to compute the mean and standard deviation of responses from the respondents. The mean value of five Likert scale response of strongly agree, agree, neither agree nor disagree, disagree and strongly disagree with scale value of 5, 4, 3, 2 and 1 which was computed to be 3.00 form the basis for decision rule. Any mean score that is up to 3.00 and above is accepted to be the true reflection of the statement/item otherwise the assertion is rejected or counted not true.

### Study Population

The sample population in this study was made up of 1000 selected respondents from different universities and colleges of education in Nigeria particularly from Enugu and Ebonyi State such as University of Nigeria, Nsukka, Enugu State University, Ebonyi State University, Federal College of Education, Eha-Amufu and Enugu State College of Education. A total of 1000 questionnaires were sent to all the participants by the researchers to help ascertain their experiences. Seven questionnaires could not be recovered out of 1000 administered. Consequently, the analysis was done based on 993 questionnaires that returned.

**Data collection methods:** 1000 questionnaires were randomly administered, by the researchers, to the participants from five (5) tertiary institutions. Four higher institutions were selected from Enugu while the remaining one was selected from Ebonyi State. The choice of tertiary institution as the field for study was born out of desire to use participants who have knowledge of ICT and wellness and may be ready to share their experiences in the use of current system without any former training. The validation and the reliability of the instrument were done to ensure the effectiveness of the instrument in gathering reliable data. The use of questionnaire ensures confirmation and completeness of data as well as increase confidence in the credibility of our findings. Extensive review of relevant articles and related literatures were also carried out to help establish the current status in this domain besides personal observation of the researches.

### Research Questions

The burden that necessitated this study was to verify the impact of ICT in improving better living condition in 21<sup>st</sup> century. Consequently of this burden the following research questions guided the study.

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**Comment [D2]:** "University" not University – i omitted

1. What is the relationship between better live and eight dimension of wellness?
2. How does ICT enhance individual personal wellness?

### III. Results

**Research question 1:** What is the relationship between better live and eight dimension of wellness? The following results were obtained at the end of the study:

	Enhance and better living of any individual can be measured by the following eight dimensions of wellness	N	Mean	Std. Deviation	Decision
1	Emotional wellness	993	4.26	.835	Accepted
2	Physical wellness	993	4.55	.583	Accepted
3	Financial wellness	993	4.39	.574	Accepted
4	Intellectual wellness	993	4.12	.842	Accepted
5	Spiritual wellness	988	4.18	.825	Accepted
6	Occupational wellness	988	4.27	.639	Accepted
7	Social wellness	990	4.00	1.134	Accepted
8	Environmental wellness	993	4.36	.482	Accepted
	Valid N (listwise)	983			

Table 1: Show the relationship between better life and eight dimension of wellness

Table 1 shows that majority of the respondents believe that enhanced and better living of any individual can be measured using eight dimension of wellness. The mean value for each of the items in the table is not less than 4.00, therefore, all the items are accepted to be true.

**Research question 2:** How does ICT enhance individual personal wellness? The following results were obtained at the end of the study

	ICT has improvedand enhanced personal wellness of people around the world in the following ways.	N	Mean	Std. Dev.	Decision
1	ICT helps to maintain closeness with distance relation and friend	993	4.79	.405	Accepted
2	ICT reduces social isolation or loneliness through social media	993	4.01	.882	Accepted
3	ICT is a good tool for entertainment and relaxation	993	4.36	.634	Accepted
4	It reduces discrimination, stigma and racism	993	3.82	1.191	Accepted
5	ICT build courage through sensitization	993	4.21	.409	Accepted

Table 2.1: How ICT enhance and promote individual social and emotionalwellness

Table 2.1 seeks to find out people’s opinion on the role of ICT in enhancing and promoting individual social and emotional wellness using a generally acceptable factors that affect social and emotional wellness. The result in this table shows that ICT has been playing a significant role in this modern world in helping to maintaining closeness with distance relation and friend, reducing social isolation or loneliness, reducing discrimination, stigma and racism, building courage through sensitization and in acting as a good tool for entertainment during relaxation. The least mean value obtained is 3.82 which is far greater than 3.00, therefore all the items were considered to be true

	ICT has improvedand enhanced personal wellness of people around the world in the following ways.	N	Mean	Std. Dev.	Decision
6	ICT has made it possible for many people to work from home	993	4.15	1.249	Accepted
7	ICT has provided stable job for many people	993	3.86	1.215	Accepted
8	ICT has simplified the routine tasks of many worker	988	4.13	1.002	Accepted
9	ICT has led to Job satisfaction of many	990	3.97	.866	Accepted
10	ICT has increased Communication and collaboration with others in work place	993	4.75	.510	Accepted
11	ICT has increased knowledge and skills many workers in their profession	993	4.74	1.174	Accepted

12	ICT has been used to grow the business of many small scale businesses owners	993	4.49	.744	Accepted
13	ICT promote business contact and online business	993	4.66	.475	Accepted
14	ICT help to minimize stress	993	4.42	.495	Accepted
15	ICT maximize productivities	993	4.32	.616	Accepted

Table 2.2: How ICT enhance and promote individual financial and occupational wellness

Table 2.2 is a true reflection of the fact that ICT generally enhance and promote efficiency and effectiveness in most routine tasks. Items 6 to 15 were strongly accepted as the contribution of ICT to individual financial and occupational wellness. The mean value of all the items were greater than 3.00.

	ICT has improved and enhanced personal wellness of people around the world in the following ways.	N	Mean	Std. Dev.	Decision
16	ICT expose us to nutritional value of the food we eat	993	3.90	1.035	Accepted
17	ICT expose us to exercise that is good for the body	991	4.27	1.284	Accepted
18	People learn how to cook good food from online	993	3.76	1.193	Accepted
19	ICT introduce humanity to telemedicine	993	4.20	.804	Accepted
20	Social media help us to connect with new customers from any part of the world	993	4.37	.570	Accepted
21	ICT makes our environment save because it has potential to reduce crime	993	3.87	1.212	Accepted
22	Smoke detectors and many other technologies make our home and environment free from accident	993	3.64	1.333	Accepted

Comment [D3]: "Improved and" not improvedand.  
Please make this correction in all table 2

Table 2.3: How ICT enhance and promote individual physical and environmental wellness

According to the result in table 2.3, items 16 to 22 were all accepted because their mean values are greater 3.00, supporting the fact that ICT has the potential to enhance and promote individual physical wellness as well as environmental wellness.

	ICT has improved and enhanced personal wellness of people around the world in the following ways.	N	Mean	Std. Dev.	Decision
23	ICT provides access to inspire messages and song	993	4.38	.554	Accepted
24	Holy Bible and Koran can be accessed online in both audio and text format	993	4.78	.416	Accepted
25	Videos that teach moral and spiritual lesson can be accessed online	993	4.63	.483	Accepted
26	ICT supports online learning	993	4.64	.482	Accepted
27	ICT facilities facilitate effective classroom learning	993	4.58	.494	Accepted
28	ICT provides access to learning materials in any field	993	4.63	.483	Accepted

Table 2.4: How ICT enhance and promote individual Spiritual and Intellectual wellness

In table 2.4 items number 23 to 28 were accepted to be true with 4.38 as the least mean value, supporting the fact that ICT enhance and promote individual spiritual and intellectual wellness.

#### IV. Discussion of the major findings

This study reveals that eight dimension of wellness can serve as a basis for measuring enhanced and better living of every human being. Stoewen (2017), believe that the eight dimensions of Wellness are mutually interdependent as neglect of any one over time will adversely affect the others, and ultimately one's health, well-being, and quality of life. This means that to sustain a better living, attention should be given to all the dimensions since they determine the complete wellbeing of any individual.

The result of the study also shows that ICT has improved and enhanced personal wellness of people around the world in many ways which cut across the eight dimensions of wellness. Table 2.1 outline the role of ICT to include the following: ICT reduces discrimination, stigma and racism, build courage, reduces social isolation or loneliness and use to maintain closeness with distance relation and friend. These benefits of ICT can

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promote and enhance social and emotional wellness. Chaidi and Drigas (2022), agree that understanding emotions are considered essential for the people's social and emotional wellness, in other word emphasizing the connection between the two. Discrimination alone has the potential to lead to low self-esteem, self-isolation, high blood pressure, emotional trauma and consequently low wellbeing (Miller, 2020) but ICT will not project factors that causes discrimination such as physical appearance, racial background, wealth and so on except the user do it intentionally.

Financial and occupational wellness are also related, the factor that affect one will directly or indirectly affect the other. There is no doubt in the fact that many young one are now doing online business, many company now allow some of their employee to work from home, the use computer and internet has simplified the routine tasks of many workers, Internet facilities and other communication devices have increased Communication and collaboration with others in work place, increased knowledge and skills of many workers in their profession and consequently reduce stress and increase productivities.

Close circuit television, smoke detector and many other technologies have contributed to the safety of our environment by reducing accident and crime in any environment where they are deployed, telemedicine is now made possible with the help of ICT. Artificial Intelligent, machine learning and robotic are all available at home for use to measure personal health condition before thinking of hospital. Therefore, ICT has play great role in promoting physical and environmental wellness.

ICT is regarded as a critical tool for preparing and educating students with the required skills for the global work place (Hannatu 2014). ICT has become an appropriate tool for active learning (Bhattacharjee 2016). Not only that ICT facilities facilitate effective classroom learning, but also support online learning and provides access to learning materials in any field including material that develop our spirit being. It may not be wrong to agree with the result of this study that ICT promote and enhance spiritual and intellectual wellness

#### V. Conclusion and recommendation

The advancements in ICT have significantly contributed to enhanced and better living conditions in the 21st century, with improvements in communication, education, healthcare, and overall quality of life. Adoption of ICT usage in every area of human endeavor has led to good relationships and healthy behaviors among people, improving their health and longevity. The eight dimension of wellness all influence positively by the use of ICT in this modern world, buttressing the fact that ICT is an indispensable tool in promoting enhance and better living. The paper therefore recommends that government and non-government organization, should make adequate effort to provide ICT facilities and sensitize the citizen to adapt and adopt the use of ICT for the betterment of their welfare. As technology continues to evolve and innovate, it is essential for policymakers, businesses, and individuals to embrace and harness the potential of ICT to further enhance living standards and create a more connected and prosperous society.

Comment [D6]: Please insert "in"

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