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Women in Technical Occupations and Insecurity: Workplace Skills for Enhanced Child-Care Support

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Abstract

Mothers' financial status and contribution to their children upbringing are usually considered as critical determinants of children's subsequent involvement in juvenile delinquency. Apparently, mothers in technical occupations are open to enhanced income when remained relevant and progressive in the place of work. Keeping abreast with requisite occupational skills and competence is preeminent for continual progression and relevance in such jobs. This paper determines the challenges faced by women in achieving an improved income from their services. Two research questions and two null hypotheses guided the study. The instrument used for data collection was a 31-item researchers' structured questionnaire of 5-point Likert scale duly validated by three experts. The reliability was established using split half method which yielded 0.9 Correlation Coefficient. SPSS version 26 was used to analyze the data. The research questions were answered using mean and standard deviation while independent t-test analysis was used to test the hypotheses at 0.05 level of significance. Among others, the study revealed that programming skills, work ethics and guidelines awareness competence, team work skills as well as environmental Awareness competence are the most highly needed skill/competences for improved performance of women in technological occupations. It was therefore, recommended among others that organized programmes on skills upgrade needs skills and the strategies could help women in technological occupations enhance their relevance in workplaces, and that curriculum development bodies such as the NUC, NBTE, NCCE should also ensure that the curriculum for teaching aspiring female graduates in skilled technological field contains contents that will expose them to these skills for improved career performance in the 21st century.

Keywords: Juvenile Delinquency, Insecurity, Mothers in Technological Occupations, 21st Century Workplace Skills Needs, Strategies for Skills Upgrade of Women.

Introduction

Insecurity and poverty are two intertwined problems adversely affecting Nigerian populace in the recent time. In the world ranking, Nigeria is the sixth oil producing country and the highest in Africa, thus, Nigeria is presumably, expected to be one of the richest countries in the world. Unfortunately, a World Bank report released at the United Nations Summit in 2010 ranked Nigeria as the second poorest country in the world, (World Bank, 2010), with 60.9% of the populace living in absolute poverty (National Bureau of Statistics, 2012). Today, Nigeria has continued to experience a double-digit inflation rate which depresses economic activities. With continuous hike in food prices, purchasing power of households is being eroded. World Bank estimated that during 2020 and 2021, about 8 million or more Nigerians were pushed below the poverty line by 'inflation shock' (World Bank, 2021a), projecting that in 2022, 95.1 million people live in poverty (Olawoyin, 2022). This poverty trajectory adversely hits the households that people, especially the younger ones, desperately strive to survive not minding the means. The associated poverty impact on the household has continued to degenerate to insecurity in Nigeria. This was confirmed by Tarkaa (2022), noting that extensive qualitative research has established a clear causal link between poverty and insecurity, that 70 percent of Nigerian youths embrace crime due to lack of economic opportunity and poverty in the land.

Uncontrollable quest for survival leads individuals to committing crimes and crime is one of the causes of insecurity in a society. Crime generates a lot of insecurity situations such as; violence, victimization, loss of young people and parents or imprison of family members, drug abuse, kidnapping, killings, war, risk of sexual assault to women and many more, (United Nations Office of Drug and Crime, 2010). This in no doubt is the situation facing Nigerians, particularly, Anambra state populace today. Desperation for survival has led many, particularly the younger generation in Anambra state to committing different manners of crimes and this has become of utmost concern in the State. Presently, Anambra dwellers live in fear as killings, kidnappings, stealing, rape and other crime cases are being reported on daily bases around the state. Youths and even the security personnel are reportedly killed every day. Living luxuriously within the state has become a top risk as such is often the target of the perpetuators. This situation has become terrifying, calling for paramount attention. Following this, FBN statistics noted that most crimes committed in the society today are perpetuated by the adolescents, (Haque, Haque and Muniruzzaman, 2020).

Adolescence is a time of heightened vulnerability when young boys and girls can become mentally and psychologically restless and impatient hence with the tendency of indulging in juvenile delinquencies if not controlled. United Nations pointed out that juvenile delinquency is a natural tendency in every teenager which if well controlled; becomes minimal and phases out at the point of migration to adulthood with minor consequence to the society. However, when a child is given poor upbringing; his delinquent practices grow to criminology and terrorism. Research shows that family has been seen to be a critical element for child development and as a determining factor for children's subsequent involvement in crime during adulthood. Children from families leaving in poverty have a much greater chance of committing crime (Kelly 2000, Chiu and Madden, 1998) than well to do family. Birckhead (2012) revealed that an inability to

afford certain basic commodities such as food and clothing for a child by the family, has significantly contributed to child's involvement in crime. According to Haque, Haque and Muniruzzaman, (2020), the greatest incentive influencing criminal behaviour among youths is heightened by the poor living conditions that youth find themselves today. In Anambra state, traditionally, fathers are expected to provide for the family. The general view holds a household financial irrelevance stereotype on women. However, with the recent economic situation of the country, even when the earning of the father is high, it is rarely enough to cater for the needs of family. The catastrophic increase in the prices of commodities, including food and petroleum products has continued to pressurize the families. Rising food and fuel prices add stress and hardship to families, (Antonopoulos, 2009), increasing the incidence of crime due to poor living condition of children. Living condition of the children will continue to negatively influence their criminal behaviour if fathers are left alone to carry the family financial burden. There is therefore the need for improved financial status of the mothers for enhanced family support to reduce poor living condition for the children.

Some mothers are house wives who contribute nothing to the financial demands of the family. Some engage in petty trading which offers them very little financial strength in the family. Many who have better occupations rarely strive for progression as the women household financial irrelevance stereotype impedes their drive. World Bank (2020) affirmed that across the globe, women rarely work for pay, and even when do, usually earn little. However, the societal situation today has called for change, requiring exploration of the possibilities of enhancing income and improving financial status of mothers in the family. World Bank Group (2012) alerted that reducing gender gaps in the world of work can yield broad development dividends which include improving child health and education, enhancing poverty reduction, as well as catalyzing productivity. On this premise, one of the key focus areas to accelerate closing of the economic gender gap in the latest edition of the Global Gender Gap Report, the Centre of New Economy and Society is enabling and enhancing women's participation in the labour force: enhancing social safety nets, (World Economic Forum, 2022), specifically on provision of child-care support

Mothers in technological occupations are open to enhanced income and participation in labour force when remained relevant and progressive in the place of work. Keeping abreast with requisite occupational skills and competence is preeminent for continual progression and relevance in such jobs. Unfortunately, Ashcratf, McLain and Eger, (2016) noted that women are more frequently packed to execution roles while men occupy creative and innovate roles, hence less relevant in the workplace. In agreement, Jones (2019) affirmed that women in technological occupations are viewed as less productive, poor performers as well as not being able to achieve professional goals, thus often earn low in their jobs. This significantly affects their contributory support to child-care needs in the family, thus undermining the achievement of MDG 3 which aims at gender equality. An Igbo adage says "onye enweghi ego anaghi ano na-izu", meaning, the poor does not get involved in certain decisions. In many families, poverty limits women's involves in taking decisions that matter on their children, which include academic, personal needs, training needs, facility needs, among others. Naturally, certain decisions on the child are meant to be taken by the mother. When women are not involved, and these decisions are wrongly

taken without the consideration of the child's requirements, it results to child's outburst, seeking for survival and comfort from any means, getting pushed for crime involvement. This has caused many youths in Anambra state today to indulge in a lot of social vices, shielding themselves under the umbrella of 'unknown gunmen' to terrorize the state. Anambra state today is no longer safe for habitation as these youths have taken over the order of the day, seeking for their approval before any event such as burial, wedding or the likes can be organized in the state. People are being kidnapped every now and then; some are killed in the process while some manage to come out after being traumatized and paying a huge ransom. Presently, everyone in Anambra state is grasped in fear; no one knows whose turn it will be tomorrow. There is therefore the urgent need to engage in explorations to seek for solutions. Improving the relevance of women in workplaces and enhancing their earnings to promote their contribution in child-care support may offer a reasonable impact towards diminishing this societal menace.

Women, especially those in technological occupations are viewed to be less relevant and low earners in their workplaces. This may be a precedence of their incompetence in delivering the seamless 21st century occupational experience, competencies and skills needed in the present workforce. World Bank, (2021) identifies the comprehensive 21st century labour market skills to include; cognitive, socio-emotional, technical, and digital skills. In this premise, Månsson and Färnsveden (2012) emphasized crave to increase the integration and participation of women in workforce noting that research on gender mainstreaming by sector would help to provide information on the factors limiting women participation and skill requirements in specific areas in the workplace. A conducted need analysis revealed that women in technical occupations in Anambra state have low performance rating which affects their career earning. This makes them less contributory to their child's financial and care support. This thus affects the upbringing of their children as evidenced in incessant involvement of their children in criminal acts in the State. This study therefore identifies the extent to which the seamless 21st century labour market skills are needed for enhanced relevance of women in technological occupations as well as the strategies for upgrading women skills for better performance in technological occupations for enhanced child-care support. This will enable informed career guidance mechanisms and planning for vocational skills training for women in technological occupation as well as informing to gender-responsive technology policy-making.

Objectives of the Study

Specifically, this study ascertained:

1. The extent to which 21st century labour market skills are needed for improved job performance of women in technological occupations.
2. The strategies for skills upgrade of women in technological occupations for enhance childcare support.

Research Questions

The study was guided by the following research questions:

1. To what extent are the 21st century labour market skills needed for improved job performance of women technological occupations?

2. What are the strategies for skills upgrade of women in technological occupations for enhance child-care support?

Hypothesis

HO_1. There is no significant statistical difference in the mean responses of women in technological occupations in Anambra state on the extent to which 21st century labour market skills are needed for improved job performance of women in technological occupations based on years of work experience.

HO_2 The mean responses of women in technological occupations in Anambra on the strategies for skills upgrade of women in technological occupations for enhanced childcare support do not have significant differences based on age.

Literature Review

Theoretical Framework

The study was guided by the theory of competence motivation propounded by Sussan Harter in 1970. The theory is based on a person's feelings of personal competence. The theory posits that someone's ability and readiness to carry out duties increases when a person masters a skill and successfully performs a task, (Harter, 1978). This encourages the person to master more tasks. As defined by various European bodies, as well as by educational experts, competences consist of three interrelated ingredients, namely: knowledge (cognition), skills (capabilities and the overt behavioural repertoire) and attitudes (related to emotions, motivation, volition and values). The theory upholds that competences consist of a combination of cognitive, behavioural and affective elements required for effective performance of a real-world task or activity. Hence, it's construed as the (inner) potential of a person to tackle a task; for instance, to demonstrate behaviour in a specific context and at an adequate level of quality and or to engage in role-play or to tackle a challenge in real life.

At the same time, this critical element of contextualization brings in the quality aspect. By doing so, skills and capabilities are acted out and become externally visible with the activities and behaviours of the learners, especially that of women in technical occupations. At the same time the performance lens also covers the other internal aspects (cognitive and affective) and external aspects (quality and context). Against this backdrop, knowledge and cognition are needed to understand the content matter, theories, principles, functionalities and the own behaviour that are competence-driven.

Skills for Enhanced Job Performance

Skills include the knowledge, expertise, and behaviors that the job holder needs in order to execute his or her responsibilities competently. These include mastery of a body of knowledge relevant to the job; familiarity with the tools and technologies used to perform the tasks associated with the job; understanding of the materials that are worked with; and the fostering and use of interpersonal relationships and interactions to accomplish the tasks required in the job, Kathleen and Eliana (2022). Defining Job-Relevant Skills and acknowledging the boundaries of Job Training Policies, Banerji et al. (2010) referred to Job-relevant skills set as competencies or

abilities valued by employers and useful for self-employment. They opined that these skills include technical skills relevant to the specific job of the worker, as well as other cognitive and non-cognitive skills that enhance their productivity more generally. These other skills according to them include: Critical thinking skills and ability to analyze; Learning skills or the ability to acquire new knowledge ("learning to learn"), distill lessons from experience, and apply them in search of innovations; Communication skills, including writing skills, collecting and using information to communicate with others, fluency in general languages; digital skills and use of information and communications technology (ICT); Personal skills for self-management, making sound judgments, and managing risks; Social skills to collaborate with and motivate others in a team, manage client relations, exercise leadership, resolve conflicts, and develop social network Whereas general skills like literacy and numeracy accumulate from early childhood and are reinforced through general basic education, job relevant skills tend to be acquired later on, either prior to entry into the labor market or through on-the-job and building on the earlier skill foundations.

World Bank (2021) supported the above view by stating that global mega trends such as the rising role of technology, climate change, demographic shifts, urbanization, and the globalization of value chains are changing the nature of work and skills demands. They opened that to succeed in the 21st century labor market, one needs a comprehensive skill set composed of: Cognitive skills, which encompass the ability to understand complex ideas, adapt effectively to the environment, learn from experience, and reason. Foundational literacy and numeracy as well as creativity, critical thinking, and problem-solving are cognitive skills; Socio-emotional skills, which describe the ability to navigate interpersonal and social situations effectively, and include leadership, teamwork, self-control, and grit; Technical skills, which refer to the acquired knowledge, expertise, and interactions needed to perform a specific task, including the mastery of required materials, tools, or technologies; Digital skills, which are cross-cutting and draw on all of the above skills, and describe the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately. However, World Bank (2012) noted that whether the formation and accumulation of the right skills translates into higher employment and productivity growth depends on how well labor markets function. Labor markets where information is lacking or where the labor force cannot move freely may fail to match job seekers with the right jobs. Månsson and Färnsveden (2012) opined that an important component of skills development is a labour market analysis, which identifies the supply of labour available for jobs. They concluded that Gender issues need to be integrated into this analysis adding that public and private partners must be committed to supporting the training and must be made aware that promoting female education and training reduces poverty and inequalities.

Women and Career Participation

World Bank's 2012 asserted that gender equality for both development outcomes and policymaking, especially for workforce participation, enhances productivity and improves other development outcomes, including prospects for the next generation and insecurity repositioning. For this reason, investments in post-primary education are especially critical for women and should cover secondary education as well as job training. Chen et al (2004) revealed that men

tend to be over-represented in the top segment in workplaces and women tend to be over-represented in the bottom segments, adding that because a higher proportion of men in the top segment, they tend to earn more than women. They added that this offers men greater power in the workplace putting women at a disadvantage in negotiating wages and hours. Nallari and Griffith (2011) noted that women are disproportionately affected by widening inequality, because they tend to earn lower wages and to have less education, fewer skills and less mobility than men. Månsson and Färnsveden (2012) on this premise revealed that Women tend to have more obstacles in accessing training and skills development due to their multiple roles and responsibilities and gender bias in and outside the home. They added that there is some evidence to show that in most of the developing world, women are increasingly joining the ranks of 'vulnerable' workers who are considered "less likely to have formal work arrangements, and often carry a higher economic risk.

Strategies for Upgrading Job Relevance Skills

Almeida and David, (2012) discussed how to build and upgrade job relevant skills focusing on three types of training programs relevant for individuals who are leaving formal general schooling or are already in the labor market. They highlighted these to include pre-employment technical and vocational education and training (TVET); on-the-job training (OJT); and training-related active labor market programs (ALMPs). According to them, On-the-job training is an important channel through which workers upgrade skills and remain competitive in the labor market, and firms are able to adopt new technologies and innovate. In fact, continuous training for new technologies (including new organization and business processes) can be best accomplished by workplace training rather than by more general-purpose education if workers have a sufficient general foundation to be able to learn new skills. They revealed that there is a strong and positive correlation among the incidence of on-the-job training, active labor market and higher productivity. They further revealed that Pre-employment technical and vocational education and training (TVET), nevertheless remains a significant route taken by many students and is responsible for the provision of a comprehensive set of job-relevant skills. They noted that overall policies at these three levels of the training systems needs to be addressed as that remain disconnected and there has not been an integrated framework linking them to specific market.

On the other hand, projecting their view on skills upgrade strategies, Månsson and Färnsveden (2012) pointed out that all teachers and employers participating in training programmes should receive gender training so they avoid stereotyping and are aware of social constructions and norms. They further noted that as part of developing competencies, there should be an analysis of the relative participation of young men and young women and equality of resources provided, emphasizing that one objective should be to promote each gender's participation in non-stereotypical areas. ILO, (1972), affirmed that skills development also needs to be supported by career guidance and mentoring to ensure girls make a smooth transition to work, as obstacles related to social norms, childcare, and mobility keep obstructing women's access and successful completion of such programs. ILO further averred that training programs should not be blind to these constraints in their design, suggesting five ways to help skills training programs boost women's participation in workforce to include: Accompanying training with access to finance,

preventing and addressing sexual harassment, supporting childcare, supporting safe transportation, as well as encouraging women to enter traditionally male occupations.

Methods

The study adopted a descriptive survey design. A survey research design is a type of design in which a group of people or items taken as the representative of the population is studied (by collecting and analyzing data from them) and make inferences from the outcome the analysis. The population of the study is all the women in technological occupation in Anambra state, while a sample size of was 58 personnel were randomly selected across the Anambra state. The instrument used for data collection was a 31-item researchers' structured questionnaire of 5-point Likert rating scale of Very Highly Needed (4.50-5.00), Highly Needed (3.50-4.49), Moderately Needed (2.50-3.49), Not Needed (1.50-2.49), and Not Highly Needed (1.00-1.49). The instrument was duly validated by three experts; one from Measurement and Evaluation unit of Educational Foundations and two from Technology and Vocational Educational Departments respectively, all from Nnamdi Azikiwe University, Awka. The internal consistency of the instrument was established using Cronbach Alpha which yielded 0.9 Correlation Coefficient. The research questions were answered using mean and standard deviation while statistical t-test analysis and Analysis of Variance (ANOVA) were used to test hypotheses one and two respectively at 0.05 level of significance. The IBM Statistical Packages for Social Sciences (SPSS) 26.0 Version was used to analyze the data. The decision rule was based on Real Limit of Numbers for item by item analysis. The instrument was distributed to all accessible technology occupation personnel WhatsApp platforms and was collected online via google form. A total number of 58 technological occupation personnel properly responded to the instrument.

Results

Research Question One

1. To what extent are the 21st century labour market skills needed for improved job performance of women in technological occupations?

Table 1. Mean and standard deviation of the respondents on the extent to which 21st century labour market Skills is needed for improved job performance of women in technological occupations

S/N	ITEMS	Mean	SD	Decision
A	**Digital skills**			
1	Programming skills	4.48	0.60	Highly Needed
2	Cyber security skills	4.14	0.76	Highly Needed
3	Cloud computing skills	4.07	0.81	Highly Needed
4	Data Analytics skills	4.36	0.77	Highly Needed
5	Digital Marketing skills	4.47	0.60	Highly Needed
Cluster Mean		**4.30**	**0.71**	**Highly Needed**
B	**Technical Skills**			
1	Manufacturing process skills	3.98	0.84	Highly Needed
2	Quality Control skills	4.38	0.67	Highly Needed
3	Robotics skills	3.81	0.87	Highly Needed
4	Project management skills	4.31	0.78	Highly Needed
5	Designing and design interpretation skills	4.31	0.65	Highly Needed
6	Work Ethics and guidelines awareness competence	4.52	0.71	Very Highly Needed
7	Troubleshooting skills	4.19	0.89	Highly Needed
Grand Mean		**4.22**	**0.65**	**Highly Needed**
C	**Socio-emotional skills**			
1	Team work skills	4.67	0.54	Very Highly Needed
2	Critical thinking skills	4.50	0.71	Very Highly Needed
3	Self management skills	4.60	0.65	Very Highly Needed
4	Leadership/administrative skills	4.50	0.76	Very Highly Needed
5	Attention to detail skills	4.43	0.86	Highly Needed
6	Communication skills	4.64	0.52	Very Highly Needed
7	Organization skills	4.60	0.53	Very Highly Needed
8	Project Management skills	4.17	0.86	Highly Needed
Cluster Mean		**4.52**	**0.68**	**Highly Needed**
D	**Cognitive/General literacy**			
1	Basic accounting and finance skills	4.28	0.70	Highly Needed
2	Technical writing skills	4.09	0.86	Highly Needed
3	Commercial awareness competence	4.28	0.77	Highly Needed

4	Environmental Awareness competence	4.48	0.63	Highly Needed
Cluster Mean		**4.28**	**0.74**	**Highly Needed**
Grand Cluster Mean		**4.33**	**0.70**	**Highly Needed**

From Table 1 above, it can be observed that the means ratings of all the sub clusters under the 21st century occupational skills/competencies needs in technological occupations for improved job performance of women are all between 4.22 and 4.52 with the Grand cluster mean of 4.33. This signifies that the respondents strongly agreed that these 21st century labour market skills are highly needed for improved job performance of women in technological occupations. However, among all the skill sets, socio-emotional skills are the most highly needed for improved job performance of women in technological occupations. This is followed by digital skills, and thirdly by cognitive skills while technical skills were identifies as the least needed.

Research Question Two

1. What are the strategies for skills upgrade of women in technological occupations for enhance child-care support?

Table 2. Mean and Standard Deviation of respondents on the strategies for enhancing skills upgrade of women in technological occupations to enhance job performance

S/N	ITEMS	Mean	SD	Decision
1	Offering women financial support on skills upgrade training attendance	4.57	0.65	Agree
2	Providing child care support when conducting training for women	4.29	0.83	Agree
3	Supporting their transportation when training requires mobility	4.64	0.58	Agree
4	Encouraging Self Development investment for women	4.12	0.82	Agree
5	Encouraging enrolment into male related occupation	4.38	0.77	Agree
6	Legislating against obnoxious customs and practices which are detrimental to women's optimal functionality and wellbeing, like harmful widowhood practices.	4.57	0.65	Agree
7	Conducting re-training program female practitioners in technical occupation on emerging technical skills	4.48	0.60	Agree
Cluster Mean		**4.41**	**0.70**	**Agree**

Following the Table 2 above, the mean rating of all the items rose as the strategies for skills/competence upgrade of women in technological occupations for enhanced childcare support fall between 4.12 and 4.57. This is a show of strong agreement that these strategies would promote skills/competence upgrade of women in technological occupations and enhance their capacities in supporting childcare in their individual families.

Hypothesis

HO_1. There is no significant statistical difference in the mean responses of the respondents on the extent to which 21st century labour market skills are needed for improved job performance of women in technological occupations based on years of work experience.

Table 3: t-test Analysis of the respondents on the extent to which 21st century labour market skills are needed for improved job performance of women in technological occupations based on years of work experience.

21st Century Skills	N	Mean	SD	df	P-value	Decision
1-5 years	26	4.30	0.42	56	0.66	**Accepted**
5years and above	32	4.35	0.40			

From the table 3 above, it is indicated that the null hypothesis is accepted since the P-value is greater than the significant level of 0.05. This therefore implies that there is no significant statistical difference in the mean responses of the respondents on the 21st century occupation skills/competence needed in technological occupations for improved job performance of women based on years of work experience.

HO_2

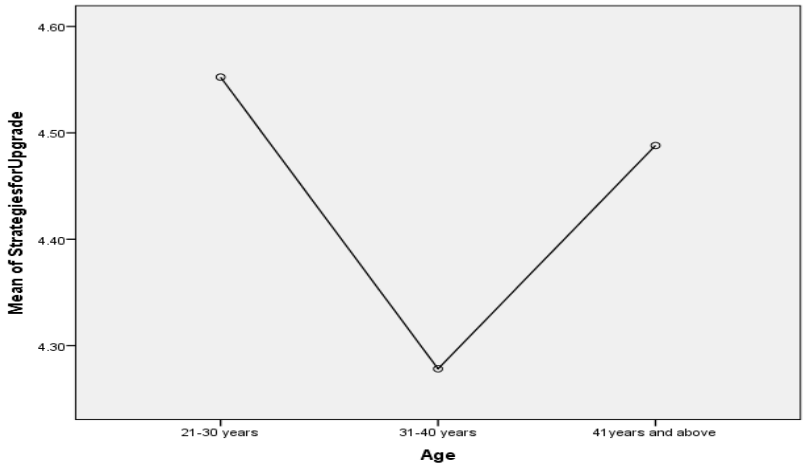
The mean responses of the respondents on the strategies for skills upgrade of women in technological occupations for enhanced childcare support do not have significant differences based on age.

Table 4. ANOVA analysis of the mean respondents on the strategies for skills upgrade of women in technological occupations for enhanced childcare support, do not have significant differences based on age.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.741	2	0 .371	1.862	.165
Within Groups	10.949	55	0.199		
Total	11.691	57			

From the table 4 above, [F(2, 55) =1.862, p=0.165, this shows that p > 0.05 which means that there was no significant difference among the mean responses of the respondents on the strategies for skills/competence upgrade of women in technological occupations for enhanced childcare support based on age.

Fig. 1 Mean Plot of the responses of the respondents based on Age group



From the fig. 1, it can be observed that respondents within the age limit of 21-to-30 are in the highest agreement on the strategies for skills/competence upgrade of women in technological occupations for enhanced childcare support. This was followed by the age group of 41years and above while the age group of 31-to-40 has the lowest agreement.

Discussion

The study identified a number of skill sets required for the continued relevance of women in technological occupations in their workplaces. These include digital skills (e.g., cloud computing, programming, digital marketing), technical skills (e.g. manufacturing process, quality control, robotics, project management), social/personal skills (e.g. teamwork, critical thinking, self-management, leadership/administrative), and general literacy and numeracy skills (e.g. basic accounting and finance, technical writing, commercial awareness). The implication of this is that in this 21st century, women in technological occupations who possess these skills will have improved performance. The findings of this study agrees with the position of Hilton (2008) that new technology and rising global competition are increasing workplace skill demands and has been a subject of argument among scholars and experts. It goes to say that there is a realization that things aren't the same in the workplace due to technological advancement. Hillton (2008) further argued that it is likely that our personal experiences lead us to believe that would technological growth is linear, that is, relatively slow, deliberate, and predictable. However, prognosticators (e.g; Brvnjolfsson & Mcafee, 2021; Diamandis & Kotler, 2012; Ford, 2009; Lanier, 2013) believe we are on the verge of an exponential expansion in ICT and machine intelligence that we are unprepared to fully comprehend or control.

Emerging technological dynamics touch every area of life and work. Several emerging technologies, including nanotechnology, robotics, artificial intelligence and computing power, vertical farming, and 3-D printing, are already impacting the production of goods and services. Experts (e.g., Brynjolfsson & McAfee, 2014; Diamandis & Kotler, 2012; Ford, 2015; Kelly, 2016; Lanier, 2013). The structure of the workplace is changing and so are the skills. For instance, the steam engine, electricity, and the internal combustion engine all changed the nature of work over the past two centuries and allowed people to have power in their hands that was

greater than the horse (Jay & Roger, 2017). They noted that the past general-purpose technologies changed the work, but there was always something new for people to do that machines were not capable of doing. However, now—for the first time in human history—technologies are competing with and exceeding the capacity of humans to apply intelligence to solve problems and generate added value based on knowledge (Kelly, 2016; Ross, 2016; Susskind & Susskind, 2015). The critical implication of this is the need for women as well as men to seek skill improvement. When one does not improve on the skills possessed, one will become irrelevant in the workplace.

The study also found strategies for skills/competence upgrade of women in technological occupations for enhanced childcare support. The respondents agreed with all the identified strategies. As seen in Table 2. The strategies identified include offering women financial support on skills upgrade training attendance, providing child care support when conducting training for women, supporting their transportation when training requires mobility, and encouraging self-development investment for women among others. This is in line with Anaele, et al (2014), that females need to be encouraged to participate in Technical, Vocational Education and Training (TVET), and Adelakun, et al (2015) that favourable policy and offering of financial support in form of grants and scholarships are strategies to aid skill upgrade of women. This entails that much can be done to encourage career progression and interest of women in technological occupations in such a manner that improves child support.

Conclusion

Based on the findings of this study, though all the skills sets identified earlier by World Bank are highly needed for improved job performance of women in technological occupations, but socio-emotional skills sets are the most highly needed skills sets. Having cognitive and digital skills sets as the second and third most highly needed skills sets, technical skills sets are the least needed skills sets for improved performance of women in technological occupations. This suggests the need to focus more in improving women's socio-emotional skills as this may offer them better ground to do more in other skills sets, hence promoting their earning to enhance their support for child-care. The study further identifies supporting transportation when training of women requires mobility, offering financial support on skills upgrade training attendance, as well as legislating against obnoxious customs and practices which are detrimental to women's optimal functionality and wellbeing, like harmful widowhood practices, as the best strategies for supporting women's skills upgrade in technological occupations. The study concludes that supporting women in technological occupations strategically to improve their 21st century skills sets will promote their job performance and enhance their contributory impact in child-care, thus reducing rate of child's involvement in crimes.

References

Adelakun, O., Oviawe, J., & Barfa, G. (2015).Strategies for enhancing Female participation in Technical Vocational Education and Training. Advances in Social Science Research Journal, 2(4). DoI:10.14738/assrj.24.1041

Almeida, R. J. B., & David, R. (2012). The Right Skills for the Job?: Rethinking Training Policies for Workers. Washington, DC: World Bank. DOI: 10.1596/978-0-8213-8714-6. License: Creative Commons Attribution CC BY 3.0

Anaele, E.O.; Isiorhovoja, O.; Dele, A. & Asoluka, C.O.(2014).Strategies for Enhancing female participation in Apprenticeship in Technical Occupations. Indian Journal of Applied Research 4/(2), 27-30.

Antonopoulos, R. (2009). 'The Current Economic and Financial Crises: A gender perspective', Working Paper 562, Levy Economics Institute of Bard College, Annandale-on-Hudson, New York.

Ashcraft, C., McLain, B., & Eger, E. (2016). Women in tech: The facts, National Center for Women & Technology (NCWIT). https://scholar.google.ca/citations?view_op=view_citation&hl=en&user=S6L1J60AAAAJ&citation_for_view=S6L1J60AAAAJ:9yKSN-GCB0IC

Birckhead, T.R. (2012). Delinquent by Reason of Poverty. Washington University Journal of Law and Policy, 38, UNC Legal Studies Research Paper No. 1918331. http://ssrn.com/abstract=1918331

Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. (W.W. Norton & Company, New York).

Chen, Martha Alter, Joann Vanek & Marilyn Carr, 'Mainstreaming Informal Employment and Gender in Poverty Reduction: A handbook for policy-makers and other stakeholders', The Commonwealth Secretariat and the International Development Research Centre, London and Ottawa, 2004.

Chiu, W.H & Madden, P. (1998). Burglary and Income Inequality. Journal of Public Economics, Elsevier 69, (1), 123-141

Diamandis P. H., & Kotler, S. (2012). Abundance: The Future Is Better Than You Think (Exponential Technology Series) (English Edition), Simon and Schuster, Free Press, 400 pp, DOI:10.5860/choice.49-6847

Ford M. (2015). *Rise of the Robots: Technology and the Threat of a Jobless Future*. New York, NY: Basic Books. [Google Scholar]

Harter, S. (1978). Effectance motivation reconsidered. Human Development, 21, 34-64.

Haque, I. E., Haque, M., & Muniruzzaman, M.D. (2020). Young Age and Crime in Society: A Study on Youth Prisoners in Bangladesh, International Journal of Social Science Studies 8, (3) DOI: 10.11114/ijsss.v8i3.4779

International Labour Organization, (1972). 'Employment, Incomes and Equality: A strategy for increasing productive employment in Kenya', ILO, Geneva

Jones, L. (2019). What Works to Reduce the Gender Pay Gap; Women's Progression in the Workplace Action Note. Gender Pay Gap, Closing Gender Pay Gap, Government Equalities Offices, City of London, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/788294/Women-Progression-Workplace-Action-Note.pdf

Kelly, M. (2000). Inequality & Crime. Review of Economics and Statistics, 82, (4), 530-539, DOI:10.1162/003465300559028

Kathleen, B. & Eliana, R. (2020 Sep 22). Five ways to Make skills training work for women. World Bank Blog. Retrieved on October 23rd 2022 from http://blogs.worldbank.org/job/five-ways-make-skills-training-work-women

Management & Training Corporation, (2010). 'Principles and Strategies of a Successful TVET Program', MTC, Centerville, Utah.

Månsson, A. B. & Färnsveden, U. F. (2012). Gender and skill development: A review background paper for the EFA Global Monitoring Report 2012. United Nation Girls' Education Initiative Working paper (4). Retrieved on 23rd Nov 2022 from

Mwangangi, R. K. (2019). The Role of Family in Dealing with Juvenile Delinquency. Open Journal of Social Sciences, **7**, 52-63. doi: 10.4236/jss.2019.73004

Nallari, Raj, & Breda Griffith (2011). 'Gender and Macroeconomic Policy', The International Bank for Reconstruction and Development and the World Bank, Washington, D.C.

National Bureau of Statistics, 2012

Olawoyin. O. (2022). Number of poor people in Nigeria to reach 95 million in 2022 – World Bank. March 30, 2022

Ross, A. (2016). The Industries of the Future. New York: Simon & Schuster.

Secure Teen (2017, July 27). Juvenile Delinquency: What Makes Teens Commit Crimes? Parenting Challenges > Juvenile Delinquency**.** Retrieved on December 12 2022 from https://www.secureteen.com/juvenile-delinquency/juvenile-delinquency-what-makes-teens-commit-crimes/

Susskind, R & Susskind, D. (2015). *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. New York: Oxford University Press, hardcover 62, (4) 345 pp, https://doi.org/10.1177/0001839217716083

Tarkaa, D. (2022, July 6). 70% of Youths Forced Into Crime By Poverty – Report. Leadership for Good and Country. Retrieved on December 6, 2022 from https://leadership.ng/70-of-youths-forced-into-crime-by-poverty-report/

United Nations Office of Drug and Crime (2010). Handbook on the crime prevention guidelines Making them work. Criminal Justice Handbook Series, United Nations NewYork, 2010.

United Nations (UN, 2010). Sustainable Development: From Brundtland to Rio 2012, Background Paper prepared for consideration by the High Level Panel on Global Sustainability at its first meeting, 19 September 2010, UN Headquaters, New York.

World Bank (2021a). Nigerian Development Update; Time for Business Unusual, International Bank for Reconstruction and Development / The World Bank. www.worldbank.com

World Bank (2021b, July 21). Understanding Poverty: Skills development. The World Bank IBRD.IDA. Retrieved on 22nd September 2022 from https://www.worldbank.org/en/topic/skillsdevelopment

World Bank (2020). Gender at Work, A Companion to the World Development Report on Jobs, In the World of Work. https://www.worldbank.org/content/dam/Worldbank/document/Gender/GenderAtWork_web.pdf

World Bank. (2012). World Development Report 2012: Gender Equality and Development. World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/4391 License: CC BY 3.0 IGO." URL: http://hdl.handle.net/10986/4391

World Economic Forum (2022). Gender Parity Accelerator. Retrieved on Nov 23rd, 2022 from https://www.weforum.org/platforms/centre-for-the-new-economy-and-society/projects/gender-parity-accelerators