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Editorial

Research and scientific studies create impeccable influence in the future direction of the industry and academia. An industry or academia, if research informed, can make remarkable changes that direct the future development in divergent levels. Creating avenues to disseminate the quality researches of social sciences is demanding labour and immense commitment. Commitment to research publication sounds simple but requires extra efforts, especially to cater both common and elite alike. This edition features diverse array of research articles shedding light on pertinent issues in the Social Work and Business Studies domains. These articles offer invaluable insights into pressing issues spanning agriculture, public health, mental well-being, women empowerment, and sports infrastructure, highlighting the importance of evidence-based interventions to address contemporary challenges effectively.

Jiji K P delves into the insightful analysis of the gig economy in Kerala. This study investigates into the nature, profile, and motivations of gig workers in the digital labour platforms of Kerala, India. And it also tries to discover how the gig economy is transforming the traditional job market and reducing unemployment rates in the region.

Grace Justine and Norby Paul, explore the pivotal relationship between Community Health Workers (CHW) Programs and infant mortality rates in urban informal settings. The authors attempted to determine the effects of community health care in mitigating infant mortality rates in the Kinondoni neighbourhood of Dar Es Salaam, Tanzania. The research underscores the significant role played by CHWs in reducing the infant mortality rate.

The studies by Jacinta, Mbwavo, and Mutavi explore the perceived influence of family dysfunction on juvenile offending behaviour. The paper examines the role families play in the development of children and youth, and highlights the need for support and guidance to prevent at-risk behaviours.

Anitta Jaison in her study examines the role of Kudumbashree in empowering women in Kerala both economically and socially. The author argues that Kudumbashree has favourably uplifted women's living standards, as well as the educational, nutritional, and health requirements of their families, through sustainable development initiatives. The study advocates that each Kudumbashree unit must pay attention to the numerous needs that contribute to women's empowerment. Ashwin Mathew, explores the impact of the COVID-19 pandemic on the mental health of youth around the world. The author emphasises on the importance of mental health support systems and promoting social connections to mitigate the adverse effects of pandemic-induced stress among youth.

Mwamini, Norby and Wabwire focus on the impact of technology adoption on increased rice production among smallholder farmers. The geographical focus of the study was South Kivu, Democratic Republic of the Congo. Their study sketches the multifaceted challenges faced by the South Kivu's rice farmers.

Afsal and Ashwin, focus their paper on the effects of artificial turf on the mental and physical health among youth. Their study has focussed on the wellbeing of the youth and the author's calls for future research to bring out comprehensive understanding on the effects of artificial turf on users' wellbeing.

The final paper of the issue is a caselet from Arun Gopi who explores the reasons why companies fail to create successful Indian Ramzan commercials. The author argues that discovering the importance of understanding Islamic consumer values and trends, and how micro targeting can help reach Muslim consumers effectively.

Research papers opens wide horizons of knowledge comprising of critical and creative thinking. Some of the researches provides future directions while others give categorical understanding on new issues and insights. Remember researches are histories of toil to find solutions by the application of critical and creative thinking of the daring researchers. We wish the articles of this issue helps readers to open new arena of new knowledge and scientific enquiry.

Editors

An Analysis of Gig Economy in Kerala

Jiji K.P.¹

Abstract

Digital labour platforms, also known as gig economies, have revolutionised the world of work over the past decade. Digital platforms facilitate the coordination of labour market activities in the gig economy. There are a variety of gig jobs, such as consultants, web designers, content writers, and specialists, for online retailing platforms such as Amazon, Flipkart, Ola, Uber, Zomato, Swiggy, etc. Due to the lack of better alternatives, Kerala's online economy taps into labour pools from which transient jobs can be taken, thereby reducing unemployment to a great extent. This study aims to understand the nature and profile of the gig economy in Kerala. Along with that, factors motivating gig work and ensuring a minimum wage are also addressed here. We used a survey-based questionnaire to collect data from 218 delivery gig workers in Kerala, India. Statistical Package for Social Sciences (SPSS) software was used for data analysis. Structural Equation Modelling was used to identify the underlying correlations among data. Secondary data were used to analyse the need for regulatory requirements and minimum wage guarantees for gig workers. The major findings of the study are: In order to face the challenge of unemployment in Kerala, the online gig economy taps into a labour pool willing to take up transient jobs due to lack of better opportunities. Even though gig workers' organisations continue to struggle to achieve legally enforceable protection, their inclusion in UEG programmes could be a step towards short-term measures safeguarding rights. The motivation to gig work is forecasted by flexibility, level of job demands and financial rewards, which significantly affect motivation to gig work. Thus, this study throws light on the overall structure and need for the development of gig workers in Kerala.

Keywords: Digital labour platforms, Gig economy, Kerala, Online economy

1. Introduction to Gig Economy

One of the most prominent transformations in the world of work during the past decade is the emergence of digital labour

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platforms, widely known as Gig economy (Wood et al., 2019). The gig economy refers to labour market activities that are coordinated via digital platforms. There is no single, agreed definition of the gig economy (Koutsimpogiorgos et al., 2020). The term gig economy is defined by the Bureau of Labour Statistics, US, as a means to earn an income through single projects or tasks for which an individual is hired on a temporary basis to perform (Torpey & Hogan, 2016). The recent rise of the “gig economy” has created a number of opportunities for workers to be hired on demand to complete short-term projects known as “gigs” (Voss and Rego, 2019). As a result, gig economy companies always classify workers as independent contractors rather than full-time employees, even though they take on specific 'gigs' without guarantee of further employment (Duggan et al., 2020).

The new digital labour markets claim to be flexible, lean, and cost-efficient, for both their clients and their independent contractors. And cloud work, crowd work and gig work do indeed offer more and more people an attractive alternative to conventional full-time employment, a self-determined way of working – when, where, how, for whom and on whatever they want (Schmidt, 2017). However, this new flexibility often goes hand in hand with precarious working conditions and undermines hard-won legal and social standards of good work.

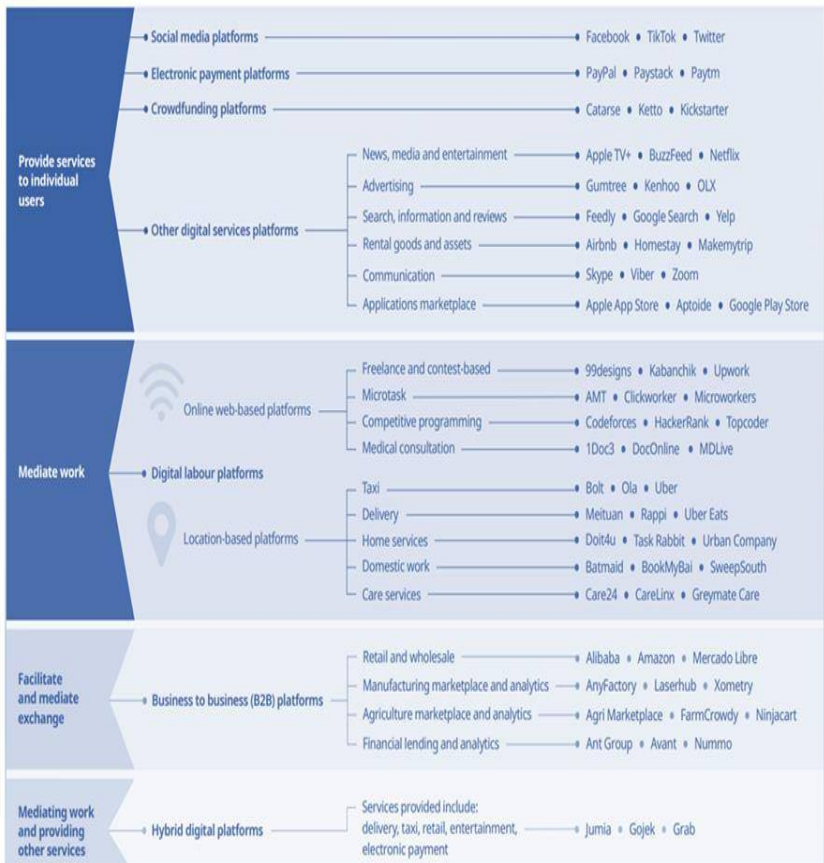
In addition to cost efficiency, gig economies can also reduce headaches for companies, as they save on administrative and compliance costs. Additionally, they enjoy greater flexibility when it comes to hiring. The current uncertain market scenario has caused a lot of companies to hire freelancers to do specific tasks (Blair, 2003). There is expected to be an increase in gig workers as more companies become technology-driven to reduce costs (Vertesi, 2020). Workers with gigs offer services tailored to the needs of the company. There are a variety of gig

jobs, such as consultants, web designers, content writers, specialists, for online retailing platforms such as Amazon, Flipkart, Ola, Uber, Zomato, Swiggy, etc. (Hazarika, 2019).

Platform infrastructure such as 4G connectivity, cloud computing, GPS networks, etc. are key factors in shaping gig economies. Gig workers may have difficulty cultivating loyalty and commitment that can be necessary for certain jobs, such qualities may be difficult to impart to these workers (Brewer, 2008). People looking for work can use these platforms to connect directly with employers. The gig economy sometimes relates to a particular clearing house for providing food, goods, or electric services (Dillahunt and Malone, 2015). International consumers can also benefit from this form of work by using computers (Graham, Hjorth and Lehdonvirta, 2017).

Millions of people, either by circumstance or by choice, are now part of the gig economy (Gotley, 2019). Unfortunately, the discourse on platform-based digital labour often suffers from inconsistencies in the use of terminology and confusion in the categorisation of different platform types (Schmidt, 2017). The gig economy definition encompasses many different types of gig workers, spanning virtually every industry (Vanamali, 2022). Some popular gig economy jobs are relatively new, and others have been around since the dawn of commerce (Law, 2022). Gig workers are active in all industries—including B2B, retail and education—not just in the traditional freelance strongholds of mobility, delivery, IT, and data processing (Wallenstein et al., 2019).

Figure 1. Different Types of Gig Workers



Source: ILO, 2021

The number of digital labour platforms, both online web-based and location-based, has grown rapidly over the past decade. Focusing on online web-based platforms and location-based platforms in the taxi and delivery sector, globally, there were at least 777 active platforms operating in January 2021 (ILO, 2021). The number of platforms in the delivery sector is the highest (383), followed by online web-based platforms (283),

taxi sector (106) and there are five hybrid platforms which provide varied types of services such as taxi, delivery and e-commerce services. Among the online web-based platforms, the majority are freelance platforms (181), with a lower number of microtask (46), contest-based (37) and competitive programming (19) platforms (Rani et al., 2021).

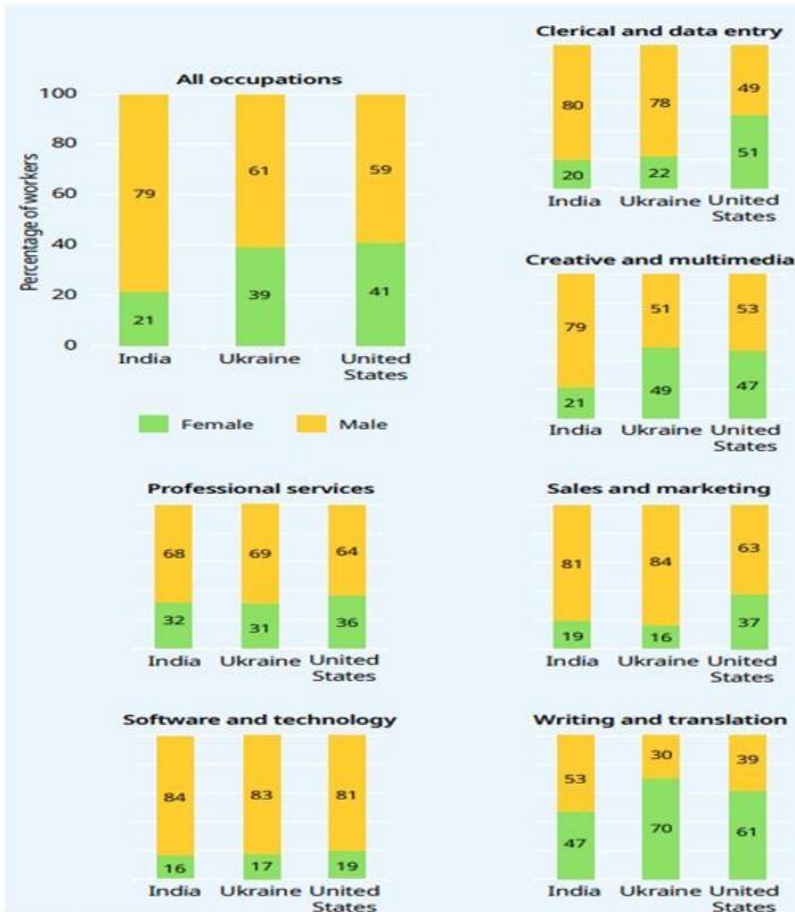
Past research has argued that theory and research surrounding the gig economy may need to distinguish between “serious” vs “part-time” gig workers (Brawley, 2017). Moreover, the part-time/full-time distinction is an objective categorisation, whereas how seriously individuals take their work may be more subjective (Keith, 2019). Finally, the two categories are not mutually exclusive, as part-time gig workers may also consider their work in the gig economy as serious (Keith, Harms and Tay, 2019). Legally, most gig workers are likely to be part-time rather than full-time because such workers are not working more than 35 hours per week for a single employer (ILO, 2021).

2. India’s Gig Economy

The term gig worker is a newly introduced concept in India (Gupta and Srivastava, 2021). It has been established for as long as the formal economy, but the gig economy's influence on India's labour market has increased enormously within the last few years (ILO, 2021). India constitutes about 40% of the freelance jobs offered globally, with 15 million skilled professionals fuelling the ever-increasing demand of contract-based jobs or the freelance industry, compared to this America has 53 million such workers. In the service sector, 50 to 76 percent of the workforce comprises gig workers (Mehta, 2020). The gig economy can serve up to 90 million jobs in the non-farm sectors in India with a potential to add 1.25% to the GDP over the "long term", a report by consultancy firm BCG said (PTI, 2021). In India, the share of women across all occupations is lower than in other countries, even in occupations such as

writing and translation, which are female dominated in the other two countries (Rani et al., 2022).

Figure 2. Proportion of Male and Female Workers in Gig Sector

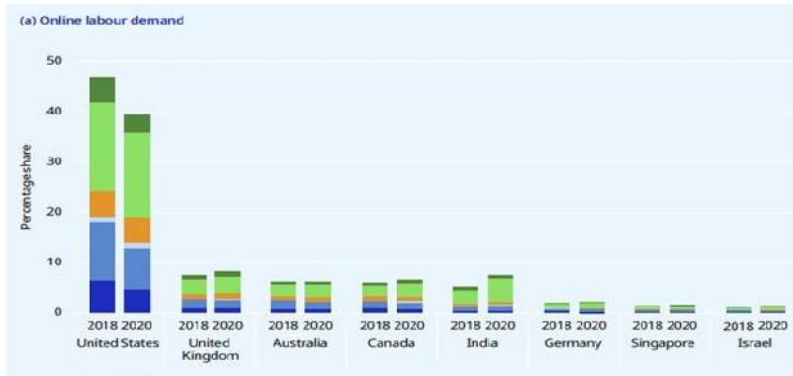


Source: ILO, 2022

However, it is much harder to estimate the exact number of gig workers since they do a wide variety of job assignments from one-time gigs to perform a specific job quite often, and they're mostly not organized like regular employees (Bhat, 2021).

According to a 2019 report by the India Staffing Federation, India is the fifth largest in flexi-staffing globally, after the US, UK, Australia and Canada.

Figure 3. India Staffing Federation Report 2019



Source: ILO, 2022

According to a report by ASSOCHAM (Associated Chambers of Commerce and Industry in India), the size of the gig sector in India is expected to increase to \$455 billion at a CAGR of 17 percent by 2024. The revenue model of ride share and food delivery platforms for the year 2019-20 are given below:

Table 1. Revenue Model of Ride Share and Food Delivery 2019-20

	Revenue Model of Ride Share Platforms in India, 2019-20					
	Clients			Workers		
	Maintenance Fee	Transaction Fee	Commission Fee	Maintenance Fee	Transaction Fee	
Uber	✓	✓	20% (15–44)	✓	✓	
Ola	✓	✓	20% (15–40)	✓	✓	

Source: ILO, 2022

In India delivery platforms may have workers on a full-time (working 10 to 12 hours a day) or part-time basis (working 4 hours a day), temporary shifts (2 or 3 days of work per week) or a per delivery basis (Behera, 2019). On Swiggy and Zomato, a substantial proportion of respondents were working on a full-

time basis (74 and 96 per cent respectively) and these full-time workers have a “minimum income guarantee”, which means that they receive a guaranteed income if they complete a minimum number of hours and orders. They may also have higher bonus rates compared to part-time workers on these platforms. The revenue model of food delivery platforms for the year 2019-20 are given below:

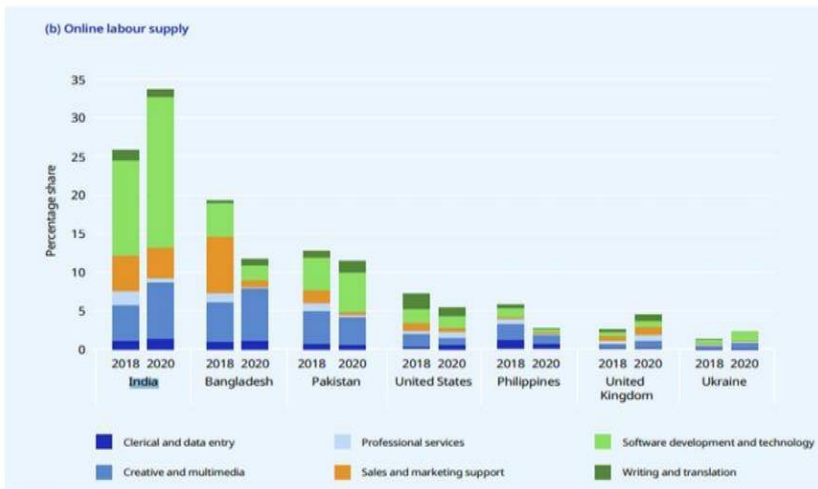
Table 2. Revenue Model of Food Delivery platforms 2019-20

Revenue Model of Selected Delivery Platforms in Selected Countries, 2019-20			
	Clients		Customers
	Commission Fee (%)	Commission Fee per Order (US\$)	Delivery Fee per Order (US\$)
Swiggy	22–24	-	-
Zomato	12–25	-	-

Source: ILO, 2022

Workers from India are the largest suppliers of global labour; India’s share of total supply rose by about 8 percentage points between 2018 and 2020 (Rani et al., 2022).

Figure 4. Global Labour Supply



Source: ILO, 2022

To protect the interests of such workers, the government released a new code of social security in 2020. Despite many limitations, platform workers were first recognized as eligible for social security benefits by the Code on Social Security 2020. As defined in Section 2(35) of the Code on Social Security, a gig worker is a person engaged in doing work or participating in a work arrangement outside the traditional employer-employee relationship. These individuals may need to register at the government portal to receive benefits. Gig workers are responsible for their own tax and social security obligations. But these workers are not recognized as employees, and several criteria are introduced that exclude them from benefiting from social security. As the Code envisions different social security schemes for each of these categories of workers, there is a lack of clarity about what scheme will apply to whom, potentially leading to challenges at the stage of implementation (Namrata, 2022). Other labour codes, as already implemented, do not mention platform work/workers, thereby precluding their rights to minimum wage, occupational safety, and decent work (Sekharan, 2022).

Today's gig economy sprung from the last recession, and these gig work platforms — which offered a job to anyone who wanted one — emerged as a lifeline for many facing financial instability and this trend is likely to be even more pronounced as the current crisis is pushing many people to search specifically for non-traditional forms of employment that can be done from home (Rosenblat, 2020). Although it is unquestionable that consumer attitudes and preferences towards gig economy have shifted, and there was a 17 % increase prior to the lockdown (IBEF, 2021). According to Boston consultancy group, there will be a surge in gig jobs in the coming years. These jobs will both migrate to gig platforms and be replaced with new jobs as a result of improved market transparency,

increased efficiency in delivery, and growing demand (Nanda, 2021).

3. Significance of the Study

The rise in online gig work is driven by technological and economic factors, with the Covid-19 pandemic in the last two years exacerbating the trends. It is not restricted to a domestic market, but increasingly occurs across borders and is as such part of a broader trend towards increasing global services trade that is characterising a new phase of globalisation (Korreck, 2021). According to estimates, there are currently 15 million freelance workers in India engaged in gig-economy projects (IBEF, 2021). In Kerala, the online economy taps into a labour pool willing to take up transient jobs due to lack of better options and thereby reduced unemployment to a great extent (Nidheesh, 2019). This study aims to understand the nature and profile of gig economy in Kerala. Along with that, the need for ensuring minimum wage and factors motivating to gig work are also addressed here.

4. Objectives

- To identify the nature and profile of gig economy in Kerala.
- To identify the factors of attraction to gig economy

5. Methodology

This research adopted a cross-sectional, descriptive, correlational study design that seeks to identify current status of gig economy in Kerala along with the factors that motivate workers to this sector. We used a survey-based questionnaire to collect data from respondents. The survey tools are based on pre-recognized scales from previous studies. A total of respondents was selected using random sampling methods. All these respondents constitute the delivery gig workers in Kerala,

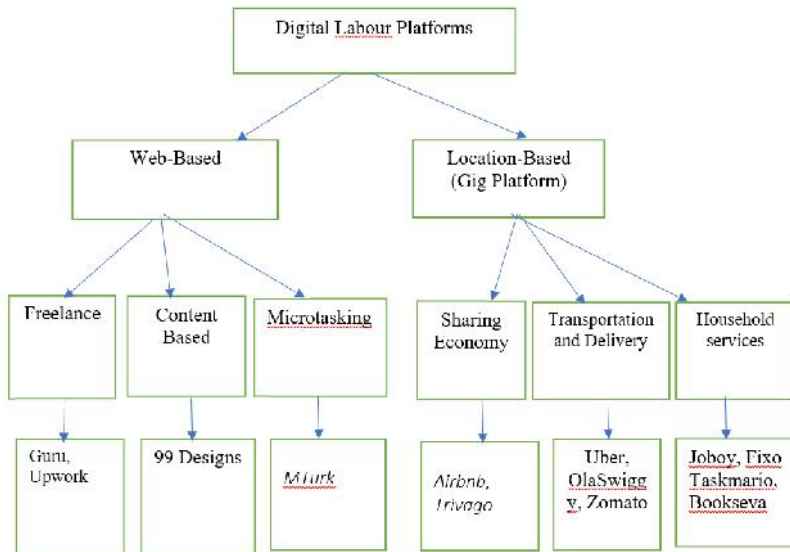
India. We reached 250 gig workers and received 208 valid responses indicating 83.20% response rate. Statistical Package for Social Sciences (SPSS) software was used for data analysis. Structural Equation Modelling was used to identify the underlying correlations among data. Secondary data were used to analyse the need for regulatory requirements and minimum wage guarantee for gig workers.

6. Results and Discussions

6.1 Gig Economy in Kerala

Kerala, a state on India's tropical Malabar Coast, has nearly 600km of Arabian Sea shoreline (Edward and George, 2008). It's known for its palm-lined beaches and backwaters, a network of canals. Inland are the Western Ghats, mountains whose slopes support tea, coffee and spice plantations as well as wildlife (Thimm, 2017). In Kerala, the youth account for around 23% of the state's population. The unemployment rate in Kerala was 14.1% among males and 21.2% among females in rural areas, while the rates were 15.3% among males and 20.4% among females in urban areas and this may be due to the lack of adequate skills and work experience in emerging areas (Economic Review, 2021). In order to face the challenge, the online economy taps into a labour pool willing to take up transient jobs due to lack of better opportunities. In other words, they are all searching for a dream job. There are countless different types of gig economy jobs (Law, 2022). There are various digital labour platforms that currently exist in, and they can be broadly classified into two: location-based platforms that mediate tasks carried out in person at specified locations and web-based platforms that mediate tasks performed online, either by a crowd or selected individuals.

Figure 5. Basic Structure of Digital Labour Platforms in Kerala



Source: Primary Data

6.1.1 Web Based Platforms

Platforms for the mediation of paid services (digital labour) that are web-based (cloud work) make their profit mainly from the labour of their independent contractors even though the workers still have to pay for their computers and access to the internet as means of production; but location-based tasks and services (gig work) – especially in the sectors of accommodation and transportation – integrate not only the labour of their independent contractors into their own value chain, but also their capital in the form of cars and homes (Schmidt, 2017). This is partly the reason why investments in gig work platforms, as well as the valuations of these companies, are so much higher than in the crowd work sector (Heeks et al., 2021). The entry barriers for cloud work, crowd work and gig work are extremely low, so that even marginalised groups can potentially find work immediately; the only prerequisites are that they accept the

terms of service and have a fast and stable internet connection (Durward, Blohm and Leimeister, 2016). This is a huge opportunity for people outside conventional career paths, without certain qualifications, with little education or work experience (Schmidt, 2017).

There are essentially three basic types of commercial, paid crowd work: freelancing, micro tasking crowd work and contest-based creative crowd work. Freelance marketplaces sometimes also referred to as online outsourcing, outsourcing marketplaces or the online staffing industry transfer the principle of outsourcing from the level of companies to that of individuals (Schmidt, 2017). Clients can find independent contractors abroad via these platforms and the latter can in turn bid for the advertised jobs. Popular freelancing platforms are Guru and Upwork.

Microtask platforms are a type of web-based labour platform that provide businesses and other clients with access to a large, flexible workforce (a “crowd”) for the completion of small, mostly clerical tasks, that can be completed remotely using a computer and Internet connection (ILO, 2021). These tasks are diverse, including image identification, transcription and annotation; content moderation; data collection and processing; audio and video transcription; and translation (Reffell, 2021). Clients use the platforms to post bulk tasks that need completion; workers select the tasks and are paid for each individual task or piece of work completed and the platforms pay the workers the price indicated by the client minus their fee (ILO, 2021). Amazon MTurk is the most popular web-based platform.

Contest-based creative crowd work is understood here as a subcategory of cloud work and crowd work, and as part of the value chain in commercial product development (Howcroft and Bergvall-Kåreborn, 2019). This excludes creativity contests

conducted to support and award creative talent for its own sake and also contests conducted merely for marketing purposes (Schmidt, 2017). In contest-based creative crowd work the participants have to hand in finished designs; therefore, this form of labour is sometimes also referred to as speculative or spec work (ILO, 2021). ‘99 designs’ is one of such popular content-based web platforms.

6.1.2 Location Based Platforms (GIG)

Location based platform workers are commonly called as gig workers. Usually, they don’t have proper working time, rather they have to work for long hours in polluted environment and are liable to ensure full time availability in their area (Schmidt, 2017). However, they are not able to work simultaneously on more than one similar platform like ride share gig workers. These workers are required to log into an ‘app’ on their smartphone and to wait nearby orders until they are notified that an order has been placed and needs to be delivered. They are guided by google maps, to their destinations. However, gig economy workers are considered as independent contractors, they do not enjoy health insurance benefits and workers’ compensation coverage for work-related accidents (Tran and Sokas, 2017).

The smartphones play an important role, not only for allocating jobs and people in space, but also for choosing a particular independent contractor or client, respectively, based on a profile with a real name and a set of ratings and reviews derived from previous transactions (ILO, 2021). Compared with cloud work, gig work demands more commitment from the workers. The platforms are more personal, people know much better who they are dealing with and they meet each other in person and the qualities of good service personnel, such as friendliness, punctuality, cultivated behaviour, well-groomed appearance and so on influence how users rate each other (Schmidt,

2017). Because gig work takes place in the physical world, there are a lot more personal risks involved than in cloud work, where occupational accidents, traffic accidents, theft and damage to property are of no real concern (Rohrbeck, 2016).

Location based gig sector is mainly concentrated on accommodation services, transportation and delivery services. Airbnb, founded in 2008 and based in Silicon Valley, is the best-known platform for the listing of accommodation by private individuals, and with about two million listed properties in 34,000 cities all over the world, it is also the largest (Schmidt, 2017). According to how Airbnb portrays itself, the service primarily revolves around organising short-term, intermediate lodging in spare rooms or in entire flats, while the owners, who usually live there, are away (Dolnicar, 2021). Airbnb emphasises the private, non-commercial atmosphere of other people's homes, which is reflected in the company's name, a portmanteau of "air mattress" and "bed and breakfast" (Reinhold and Dolnicar, 2021). But over the years, a professional market has emerged, in which commercial hosts hold several flats especially for the purpose of renting them out via Airbnb (Cocola-Gant et al., 2021). The major competitor of Airbnb in Kerala is Trivago.

The conventional mode of food and goods delivery wherein customers order online through the websites of restaurants, or shops have now been replaced with the concept of 'aggregator business model' (Li et al., 2020). Here the business player provides a 'single window system' enabling the customers to order food online from a wide variety of food providers registered on the portal and they charge a fixed margin of the order from the provider and in turn, handles the delivery of the item at the doorstep of the consumer. (Thamaraiselvan, Jayadevan, and Chandrasekar, 2019). Swiggy and Zomato in

food delivery and Amazon and Flipkart in courier delivery are captured a vast majority of online delivery market.

The final category of the gig economy, house hold services, involves services that are provided by independent contractors in the homes of their clients. Because they are set in private environments, the factors of trust, quality and continuity play a much greater role than is the case with delivery services (Schmidt, 2017). Again, there are as yet no academic studies about this area of gig work, only newspaper reports and interviews with platform providers and independent contractors (Heeks, 2021). It is quite possible that this category will have to be further subdivided in the future. Currently, in Kerala, the most well-known platforms in this area are Joboy.

Among these services transportation and accommodation services are commonly called as sharing economy as they share their unoccupied property or vehicle is sharing for income. Even though sharing economy are considered as part of gig economy, there exist certain differences between sharing economy and gig economy. Sharing economy refers to an economy based on the sharing, acquiring and providing goods and services through the facilitation of an online platform with an aim of bridging the gap between unutilized asset owners and consumers (Hagi and Wright, 2019). It bridges the gap between unutilized asset owners and consumers and it include the utilization of idle assets for asset owners' hence extra income and the availability of these assets to the consumers at a lower rate, while also offering convenience (Wirtz et al.,2019).

6.2 Factors Motivating Workers to Gig Sector

Table 3. Demographic Profile of Respondents

Respondents		Frequency	Percent	Cumulative Percentage
Gender	Male	164	75.23	75.23
	Female	54	24.77	100.00
Age	<21	28	12.84	12.84
	22-30	57	26.15	38.99
	31-40	83	38.07	77.06
	41-50	41	18.81	95.87
	>51	9	4.13	100.00
	Up to 12 th	43	19.72	19.72
Educational Qualification	Undergraduate	56	25.69	45.41
	Graduate	68	31.19	76.61
	Postgraduate and above	51	23.39	100.00
Years of Experience	Less than 1 year	39	17.89	17.89
	1-3 years	79	36.24	54.13
	3-5 years	51	23.39	77.52
	More than 5 years	49	22.48	100.00

Source: Primary Data

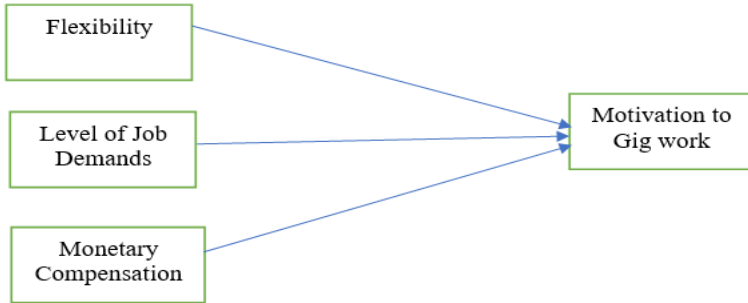
Here a total of 75.23% respondents were male and 77.06% respondents belonged to below 40 years. 41.28 % of respondents have an educational qualification of graduation and above. We also found that the 77.5% of respondents have an experience upto 5 years. As a result, the study sample is widely distributed and, samples represent a larger population.

6.2.1 Factors of Attraction to Gig Work: Structural Model

There has been only a limited amount of research into the reasons why people become gig workers, and what motivates them especially how the personality of the individual gig worker relates to their motivations, though there is some agreement that a degree of freedom and control over one's work is one element. The proposed research model to identify the factors of attraction to gig economy is depicted Figure 6. The scales were suggested by previous research of Teodoro et al., (2014), but refined on the

basis of the data collected. The final scales, with their constituent questions, were shown in Appendix 1.

Figure 6. Factors of Attraction to Gig Economy



The research model was tested using AMOS 26.0. Confirmatory factor analysis (CFA) is conducted to analyse the model (Anderson and Gerbing, 1988). The selected model estimation method is maximum likelihood approach. The validity of the model was measured by investigating convergent validity and discriminant validity. The hypothesis drawn from the above model are:

- H1: Flexibility and motivation to gig work are positively related
- H2: Level of job demands and motivation to gig work are positively related
- H3: Financial rewards and motivation to gig work are positively related

6.2.2 Discriminant Validity

Discriminant validity represents the extent to which the measure is not a mirroring of other variables (Lee, 2007). The shared variances between factors are compared with the AVE of the individual factors to assess the discriminant validity. Table 4

shows the inter-construct correlations and the square roots of the AVE values. The square roots of the AVE values are higher than their shared variances, representing good discriminant validity.

Table 4. Correlation

	Flexibility	Level of Job Demands	Monetary Compensation	Motivating to Gig Work
Flexibility	0.859			
Level of job demands	0.534**	0.889		
Monetary Compensation	0.338**	0.381**	0.942	
Motivating to Gig Work	0.559**	0.576**	0.448**	0.876

**Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data

6.2.3 Convergent Validity

Convergent validity measures the extent to which the items of a scale that are theoretically related should correlate highly (Yuan et al., 2016). According to Alarcón, Sánchez and De Olavide (2015), the two most common indices for convergent validity of measures are composite reliability (CR) and average variance extracted (AVE). Composite reliability of 0.70 or above and average variance extracted of 0.50 or above is considered as an acceptable value (Fornell and Larcker, 1981). The factor loading values of each item in table 5 is greater than 0.63 (0.828-0.943) and significant at the 0.001 level. The values of CR range from 0.906 to 0.964 and the AVE range from 0.720 to 0.869. All these show a satisfactory convergent validity.

Table 5. Mean, Standard Deviation, Factor Loadings, Cronbach’s Alpha, Composite Reliability and Average Variance Extracted

Constructs	Items	Mean Values	Standard Deviation	Factor Loading	Cronbach’s Alpha	Composite Reliability	Average Variance Extracted
Flexibility	F1	4.11	0.772	0.788	0.953	0.929	0.726
	F2	4.00	0.744	0.857			
	F3	4.06	0.766	0.873			
	F4	3.99	0.750	0.892			
	F5	4.02	0.762	0.848			
Level of Job Demands	JD1	4.17	0.637	0.858	0.972	0.937	0.749
	JD2	4.18	0.644	0.887			
	JD3	4.17	0.637	0.895			
	JD4	4.16	0.642	0.875			
	JD5	4.12	0.613	0.811			
Financial Rewards	FR1	4.06	0.623	0.925	0.976	0.959	0.855
	FR2	4.07	0.637	0.936			
	FR3	4.07	0.629	0.933			
	FR4	4.09	0.634	0.905			
Motivating to Gig Wok	M1	4.04	0.733	0.849	0.990	0.888	0.725
	M2	4.04	0.724	0.858			
	M3	4.02	0.715	0.849			

Source: Primary Data

6.2.4 Measurement Model

We examined the measurement model in terms of nine different indices such as the ratio between Chi-square and degrees of freedom, SRMR (standard root means square residual), RMSEA (root mean square error of approximation), GFI (goodness of fit index), AGFI (adjusted goodness of fit index), NFI (normed fit index), CFI (comparative fit index), TLI (Tucker-Lewis’s index) and RFI (Relative Fit Index).

The acceptable levels of all goodness of fit indices are chi-square/degrees of freedom is ≤ 5 (Marsh and Hocevar, 1985); GFI = ≥ 0.90 (Joreskog and Sorbom, 1984); AGFI = ≥ 0.80 (Tanaka and Huba, 1985); NFI = ≥ 0.95 (Bollen, 1985); CFI = ≥ 0.95 (Bentler, 1990); SRMR = ≤ 0.05 (Miles and Shevlin, 2007); TLI ≥ 0.95 (Bentler and Bonett, 1980); RMSEA ≥ 0.60 (Browne and Cudeck, 1993) and RFI ≥ 0.90 (Bollen, 1985).

We analysed the structural model to test the proposed hypothesis. The goodness of fit indices: χ^2/df - 2.931; SRMR-0.016; RMSEA-0.065; GFI-0.914; AGFI-0.892; NFI-0.953; CFI-0.979; TLI-0.972 and RFI-0.953 are acceptable as per the recommended standard.

6.2.5 Hypothesis Testing

Table 6 and Figure 7 shows that the motivation to gig work is forecasted by flexibility ($p < 0.01$), level of job demands ($p < 0.001$) and Monetary Compensation ($p < 0.001$), have significant effects on motivation to gig work.

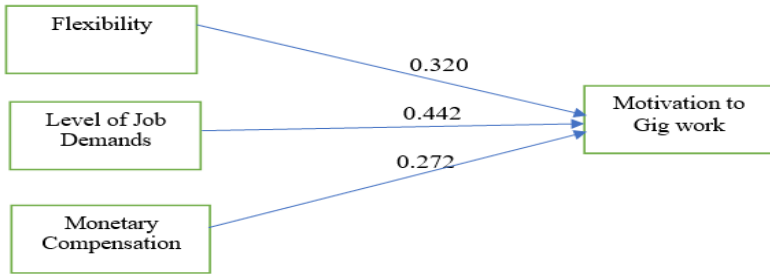
Table 6. Summary of Hypothesis Testing

Hypotheses	Relations	Estimate	S.E.	T Value	p	Decisions
H1	F→M	0.320	0.067	4.767	***	Supported
H2	JD→M	0.442	0.074	5.942	***	Supported
H3	MC→M	0.272	0.064	4.227	***	Supported

Source: Primary Data

The motivation to gig work is forecasted by flexibility ($p < 0.01$), level of job demands ($p < 0.001$) and financial rewards ($p < 0.001$), have significant effects on motivation to gig work.

Figure 7. Motivation Factors to Gig Work



7. Conclusion

The gig economy complements the traditional brick and-mortar economy by creating markets to exploit spaces that have remained inaccessible (Banik and Padalkar, 2021). The paper explores the nature and profile of gig economy in Kerala, the need for regulatory requirements and minimum wage guarantee for gig workers and to identify the factors of attraction to gig economy. The findings of this study reveals that there are various digital labour platforms that currently exist in, and are broadly classified into location-based platforms and web-based platforms. Gig workers are increasingly providing crucial services across urban areas as delivering food, groceries, medicines, and other essentials. The Code on Social Security 2020, for the first time, recognised platform workers as eligible for social security benefits. But it fails to recognise these workers as employees. The major factors of attraction to gig work are flexibility, level of job demands and monetary compensation, as these factors have significant effects on motivation to gig work. A right environment with a conducive environment and government policies can lead to many more unemployed to get employed in future.

References

- Banik, N., & Padalkar, M. (2021). The spread of gig economy: trends and effects. *Форсайт*, 15(1 (eng)), 19-29.
- Behera, A., Harshula, Sharma, B., & Kaul, V. (2019). *Tiss.edu*. Retrieved 17 May 2022, from [https://tiss.edu/uploads/files/ Online_Food_Delivery_Platform.pdf](https://tiss.edu/uploads/files/Online_Food_Delivery_Platform.pdf).
- Bentler PM (1990). Comparatives fit indexes in structural models. *Psychological Bulletin*, 107:238- 246.
- Bentler PM, Bonett DG (1980). Significance tests and goodness of fit in the analysis of covariances structures. *Psychological Bulletin*, 88:588-606
- Blair, H. (2003). Winning and losing in flexible labour markets: The formation and operation of networks of interdependence in the UK film industry. *Sociology*, 37(4), 677-694.
- Bollen, K. A. (1985). A New Incremental Fit Index for General Structural Equation Models. *Sociological Methods and Research*, 17(3), 303–316. doi:10.1177/0049124189017003004
- Brewer, G. A. (2008). Employee and organizational performance. *Motivation in public management: The call of public service*, 136, 156.
- Brown, M. W., and Cudeck, R. (1993). Alternative ways of assessing model fit. *Testing structural equation models*, 154, 136-162.
- C, J. A., Goldstein, A., Enriquez, D., Liu, L., & Miller, K. T. (2020). Pre-Automation: Insourcing and Automating the Gig Economy. *Sociologica*, 14(3), 167-193.
- Choudhury, s. (2022). For gig workers, labour rights and benefits remain elusive in India | *Business Standard*.business-standard.com. Retrieved 2 May 2022, from https://www.business-standard.com/article/economy-policy/for-gig-workers-labour-rights-and-benefits-remain-elusive-in-india-122020100052_1.html
- Cocola-Gant, A., Jover, J., Carvalho, L., &Chamusca, P. (2021). Corporate hosts: The rise of professional management in the short-term rental industry. *Tourism Management Perspectives*, 40, 100879.

- De Stefano, V. (2015). The rise of the just-in-time workforce: On-demand work, crowdwork, and labor protection in the gig-economy. *Comp. Lab. L. & Pol'y J.*, 37, 471.
- De', R., Pandey, N., & Pal, A. (2020). Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice. *International journal of information management*, 55, 102171. <https://doi.org/10.1016/j.ijinfomgt.2020.102171>
- Dillahunt, T. R., & Malone, A. R. (2015). The promise of the sharing economy among disadvantaged communities. In *Proceedings of the 33rd annual ACM conference on human factors in computing systems* (pp. 2285-2294).
- Dokko, J., Mumford, M., & Schanzenbach, D. W. (2015). Workers and the online gig economy. *The Hamilton Project*, 1-8.
- Dolnicar, S. (2021). Sharing economy, collaborative consumption, peer-to-peer accommodation or trading of space?. *Uq.pressbooks.pub*. Retrieved 27 May 2022, from <https://uq.pressbooks.pub/airbnb-978-1-74272-321-1/chapter/sharing-economy-collaborative-consumption-peer-to-peer-accommodation-or-trading-of-space/>.
- Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2020). Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM. *Human Resource Management Journal*, 30(1), 114-132.
- Durward, D., Blohm, I., & Leimeister, J. M. (2016). Principal forms of crowdsourcing and crowd work.
- Dwive, M., & Chowdhury, S. (2020). Evaluating The Code On Social Security, 2020 - Employee Benefits & Compensation - India. *Mondaq.com*. Retrieved 2 May 2022, from <https://www.mondaq.com/india/employee-benefits-compensation/1001268/evaluating-the-code-on-social-security-2020>.
- Edward, M., & George, B. (2008). Tourism development in the state of Kerala, India: A study of destination attractiveness. *European journal of tourism research*, 1(1), 16-38.

- Gotley, I. (2019). Retrieved 16 May 2022, from <https://www.spacer.com.au/blog/whats-the-difference-between-the-gig-economy-and-the-sharing-economy>.
- Graham, M., Hjorth, I., & Lehdonvirta, V. (2017). Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. *Transfer: European review of labour and research*, 23(2), 135-162.
- Gupta, A., & Srivastava, R. (2021). Gig Workers and Platform Workers: The Code on Social Security 2020. *Bar and Bench - Indian Legal news*. Retrieved 16 May 2022, from <https://www.barandbench.com/view-point/gig-workers-and-platform-workers-the-code-on-social-security>.
- Hagiu, A., & Wright, J. (2019). The status of workers and platforms in the sharing economy. *Journal of Economics & Management Strategy*, 28(1), 97-108.
- Heeks, R., Graham, M., Mungai, P., Van Belle, J. P., & Woodcock, J. (2021). Systematic evaluation of gig work against decent work standards: The development and application of the Fairwork framework. *The Information Society*, 37(5), 267-286.
- Howcroft, D., & Bergvall-Kåreborn, B. (2019). A typology of crowdwork platforms. *Work, Employment and Society*, 33(1), 21-38.
- IBEF. (2021). Emergence of India's Gig Economy | IBEF. India Brand Equity Foundation. Retrieved 17 May 2022, from <https://www.ibef.org/blogs/emergence-of-india-s-gig-economy>.
- ILO. (2022). Digital labour platforms (Non-standard forms of employment). *Ilo.org*. Retrieved 16 May 2022, from <https://www.ilo.org/global/topics/non-standard-employment/crowd-work/lang--en/index.htm>.
- Joreskog KG, Sorbom D. LISREL-VI user's guide. 3rd ed. Mooresville, IN: Scientific Software; 1984.
- Keith, M. G., Harms, P., & Tay, L. (2019). Mechanical Turk and the gig economy: Exploring differences between gig workers. *Journal of Managerial Psychology*.
- Korreck, S. (2021). Changing Geographies of Work: India's Online Gig Workers in a Digitalised Labour Market.

- Koutsimpogiorgos, N., Van Slageren, J., Herrmann, A. M., & Frenken, K. (2020). Conceptualizing the gig economy and its regulatory problems. *Policy & Internet*, 12(4), 525-545.
- Kumar, D. (2021). Here's how India's gig economy and its \$5-trn goal by 2025 are connected. *Business-standard.com*. Retrieved 30 April 2022, from https://www.business-standard.com/article/economy-policy/here-how-india-s-gig-economy-and-its-5-trn-goal-by-2025-are-connected-121120300937_1.html.
- Law, T. (2022). The Ultimate Guide to the Gig Economy and How to Get Started in 2022. *Oberlo.in*. Retrieved 30 April 2022, from <https://www.oberlo.in/blog/what-is-the-gig-economy>.
- Lepanjuuri, K., Wishart, R., & Cornick, P. (2018). The characteristics of those in the gig economy.
- Li, C., Miroso, M., & Bremer, P. (2020). Review of online food delivery platforms and their impacts on sustainability. *Sustainability*, 12(14), 5528.
- Manyika, J., Lund, S., Bughin, J., Robinson, K., Mischke, J., & Mahajan, D. (2016). *Independent-Work-Choice-necessity-and-the-gig-economy*. McKinsey Global Institute.
- Marsh, H. W., and Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups. *Psychological bulletin*, 97(3), 562.
- Mehta, B. S. (2020). Changing nature of work and the gig economy: Theory and debate. *FIIB Business Review*, 2319714520968294.
- Miles, J., and Shevlin, M. (2007). A time and a place for incremental fit indices. *Personality and Individual Differences*, 42(5), 869–874. doi: 10.1016/j.paid.2006.09.022
- Misra, U. (2022). Explain Speaking: Urban Employment Guarantee schemes — why, what and how. *The Indian Express*. Retrieved 30 April 2022, from <https://indianexpress.com/article/explained/explainspeaking-urban-employment-guarantee-schemes-rajasthan-budget-7794046/>.

- Namrata. (2022). The Leaflet. Retrieved 17 May 2022, from <https://theleaflet.in/the-empty-promise-of-social-security-to-gig-workers/>.
- Nanda, P. (2021). Gig economy could create 24 mn jobs in next 3-4 years. Hindustan Times. Retrieved 17 May 2022, from <https://www.hindustantimes.com/business/gig-economy-could-create-24-mn-jobs-in-next-3-4-years-101617156086115.html>.
- Nidheesh. M.K., (2019). Gig economy has jobs, but long hours, no security and little pay. mint. Retrieved 20 April 2022, from <https://www.live-mint.com/politics/policy/gig-economy-has-jobs-but-long-hours-no-security-and-little-pay-1549564401343.html>.
- Pathak, M., & Jha, S. (2019). India and the Gig Economy - Employee Rights/ Labour Relations - India. Mondaq.com. Retrieved 30 April 2022, from <https://www.mondaq.com/india/employee-rights-labour-relations/832012/india-and-the-gig-economy>.
- Patnaik, I., & Pandey, R. (2020). Retrieved 30 April 2022, from <https://theprint.in/ilanomics/urban-mgnrega-is-a-short-sighted-idea-modi-govt-has-shown-good-sense-to-drop-it/537826/>.
- PTI. (2021). Gig economy can support 90 million jobs in India, add 1.25% to GDP: Report. Business-standard.com. Retrieved 17 May 2022, from https://www.business-standard.com/article/economy-policy/gig-economy-can-support-90-million-jobs-in-india-add-1-25-to-gdp-report-121033001188_1.html.
- Rani, U., Kumar Dhir, R., Furrer, M., Göbel, N., Moraiti, A., & Cooney, S. (2021). World employment and social outlook: the role of digital labour platforms in transforming the world of work.
- Rathi, A., Sekharan, A., Furtado, C., & Sanjay, S. (2021). Retrieved 2 May 2022, from <https://cis-india.org/raw/cis-itfc-e-shram-issue-brief-dec-21-pdf>.
- Raval, N. A. (2020). Platform-Living: Theorizing life, work, and ethical living after the gig economy. University of California, Irvine.

- Reffell, C. (2021). How to Earn an Extra Income through Top Crowdsourced Microtasking Platforms. *Crowdsourcing Week*. Retrieved 26 May 2022, from <https://crowdsourcingweek.com/blog/how-to-earn-an-extra-income-through-top-crowdsourced-microtasking-platforms/>.
- Reinhold, S., & Dolnicar, S. (2021). The evolution of Airbnb's business model. *Uq.pressbooks.pub*. Retrieved 27 May 2022, from <https://uq.pressbooks.pub/airbnb-978-1-74272-321-1/chapter/the-evolution-of-airbnbs-business-model/>.
- Rohrbeck, Felix 2016: Meine Wohnung wurde zerstört“, in: *Die Zeit*, <http://www.zeit.de/2016/04/wimdu-berlin-apartments-vandalism>.
- Rosenblat, A. (2020). Gig Workers Are Here to Stay. It's Time to Give Them Benefits.. *Harvard Business Review*. Retrieved 17 May 2022, from <https://hbr.org/2020/07/gig-workers-are-here-to-stay-its-time-to-give-them-benefits>.
- Salman, S. (2020). Majority of gig economy workers don't have mediclaim but suffer health ailments. *mint*. Retrieved 30 April 2022, from <https://www.livemint.com/news/india/majority-of-gig-economy-workers-don-t-have-mediclaim-but-suffer-health-ailments-study-11598458309637.html>.
- Schmidt, F. A. (2017). Digital labour markets in the platform economy. *Mapping the Political Challenges of Crowd Work and Gig Work*, 7, 2016.
- Sekharan, A. (2022). *Idronline.org*. Retrieved 30 April 2022, from <https://idronline.org/article/livelihoods/indias-gig-workers-overworked-and-underpaid/>.
- Sinha, S. (2021). Gig Workers' Access to Social Security in India - Accountability Initiative. *Accountability Initiative: Responsive Governance*. Retrieved 2 May 2022, from <https://accountabilityindia.in/blog/gig-workers-access-to-social-security-in-india/>.
- Sprague, R. (2015). Worker (mis) classification in the sharing economy: Trying to fit square pegs into round holes. *ABA Journal of Labor & Employment Law*, 31(1), 53-76.

- Tanaka, J. S., and Huba, G. J. (1985). A fit index for covariance structure models under arbitrary GLS estimation. *British journal of mathematical and statistical psychology*, 38(2), 197-201.
- Thamaraiselvan, N., Jayadevan, G. R., & Chandrasekar, K. S. (2019). Digital food delivery apps revolutionizing food products marketing in India. *International Journal of Recent Technology and Engineering*, 8(2), 662-665.
- Thimm, T. (2017). The Kerala tourism model—An Indian state on the road to sustainable development. *Sustainable Development*, 25(1), 77-91.
- Torpey, E., & Hogan, A. (2016). Retrieved 15 May 2022, from <https://www.bls.gov/careeroutlook/2016/article/what-is-the-gig-economy.htm>.
- Tran, M., & Sokas, R. K. (2017). The gig economy and contingent work: An occupational health assessment. *Journal of occupational and environmental medicine*, 59(4), e63.
- Vanamali, K. (2022). What is the gig economy and who are gig workers? *Business-standard.com*. Retrieved 16 May 2022, from https://www.business-standard.com/podcast/jobs/what-is-the-gig-economy-and-who-are-gig-workers-122032400060_1.html.
- Velayudhan, S. (2021). Gig economy is failing its workers | *The Financial Express*. *Financialexpress.com*. Retrieved 2 May 2022, from <https://www.financialexpress.com/opinion/gig-economy-is-failing-its-workers/2392457/>.
- Voss, E., & Rego, R. (2019). Digitalization and public services: A labour perspective.
- Wallenstein, J., Chalendar, A., Reeves, M., & Bailey, A. (2019). *The New Freelancers: Tapping Talent in the Gig Economy*. BCG Global. Retrieved 16 May 2022, from <https://www.bcg.com/publications/2019/new-freelancers-tapping-talent-gig-economy>.
- Whiting, K. (2020). The future of flexible working, according to 6 companies. *World Economic Forum*. Retrieved 30 April 2022, from <https://www.weforum.org/agenda/2020/08/flexible-remote-working-post-covid19-company-predictions/>.

Wirtz, J., So, K. K. F., Mody, M. A., Liu, S. Q., & Chun, H. H. (2019). Platforms in the peer-to-peer sharing economy. *Journal of Service Management*.

Wood, A. J., Graham, M., Lehtonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy. *Work, Employment and Society*, 33(1), 56-75.

Annexure 1

Constructs	Reference
Flexibility	F1- I can choose when I work F2- I can choose the way in which I work F3- The job fits in with my lifestyle F4- Gig work allows me to have freedom and autonomy F5- I enjoy the flexibility that I get from gig work
Level of job demands	JD1- My job interferes with my private life JD2- I find this job stressful JD3- I have to be available 24/7 JD4- In this job I need to work in the evenings or at weekends JD5- I have to be flexible in this job
Monetary Compensation	MC1- My job pays well MC2- The money I earn helps me to live well MC3- I am paid more than if I was a regular employee MC4- I am able to cope with financial shocks
Motivation to gig work	EM1- I enjoy the work that I do EM2- I'm optimistic about my future in this job EM3- The work helps me to achieve my career goals

Teodoro et al., (2014)

Effectiveness of ‘Community Health Workers’ Program’ for Reducing Infant Mortality Rate in Informal Settlement in Kinondoni District, Dar Es Salaam, Tanzania

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Abstract

There needs to be more evidence on the significant connection between Community Health Workers (CHW) Programs and infant mortality rate in urban informal settings. Community Health Service Delivery's prime focus is reducing the infant mortality rate in all areas, rural or urban. This study aimed to determine whether providing community health care helps lower the infant mortality rate in Tanzania's informal communities in the Kinondoni neighbourhood of Dar es Salaam. This study used a mixed-method design that blended qualitative and quantitative tools in in-depth, semi-structured face-to-face interviews through questionnaires. The research study used simple random sampling to sample 66 CHWs — purposive random sampling to reach 44 healthcare personnel, 10 CBOs/NGOs, and 36 local authorities. A snowballing technique was used to sample new mothers and pregnant women. In-depth, semi-structured face-to-face interviews were undertaken with local government officials, neonatal and pregnant Mothers, healthcare facility employees, CBOs, and NGOs, and questionnaires were distributed to CHWs. Quantitative data was collected and analysed using descriptive and inferential statistics. Qualitative data was analysed thematically with explanations in narrative form. The results showed that CHWs played a significant role in reducing the infant mortality rate. Inadequate institutional, social, and financial support, lack of recognition for health professionals, attrition, and retention were some challenges CHWs faced. CHWs program used a variety of strategies, including home visits, CHW training, and training for expectant and new mothers. This study recommends that the government of Tanzania should invest in improving CHWs' programs, set adequate training, establish proper supervision to work closely with health administrators and enumerate CHWs with a national standard

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amount. Lastly, CHWs and health management teams should work closely to provide insight for monitoring and evaluating CHWs' performance to achieve healthcare delivery goals.

Keywords: *Community health worker, infant mortality rate, Africa, informal settlement*

1. Background of the Study

Community Health Service Delivery has gained traction as a means of health promotion, prevention, and protection. It involves helping individuals and families to take active and dynamic action towards identifying their health problems and taking appropriate action to solve them (Schwatka et al., 2019). Its prime intention is to improve access to primary health care and advocate for empowerment in all areas within a country, be it formal or informal settlements urban or rural populations. However, while community health service delivery systems are considered vital in promoting quality of life, more information must be provided about their effectiveness in reducing child mortality.

Community Health Workers (CHWs) have played a significant role in reducing infant mortality rate. For example, evidence from a study in rural South Africa shows that CHWs can increase the immunisations of newborns, providing health care education, i.e., breastfeeding, proper care and sanitation practices (Roux et al., 2020), in Arizona CHWs educated families about the importance of vaccinations and assisting them in accessing immunisation services (Wightman et al., 2022). CHWs can actively contribute to reducing morbidity and related mortality in newborns. Similarly, in Kenya, identifying potential warnings and timely CHWs referral are preventive measures for complications and reduce mortality rates (Nzioki et al., 2017).

Community Health Workers are constrained by a variety of challenges which affect their service delivery. Ozano et al. (2018) revealed that CHWs get minimal leadership and support from local government, irregular training, inadequate resources, and a lack of professional identity. Oleribe et al. (2019) found that inadequate personnel, low budget, and ineffective leadership hindered CHWs' performance (Assefa et al., 2019). In Tanzania, (Nuhu et al., 2020) identified challenges such as a lack of resources, ineffective monitoring and evaluation, and insufficient consultations affecting the work of CHWs. In Tanzania, the effectiveness of community health service delivery has not been thoroughly explored and scientifically investigated by researchers in an urban informal setting.

This study is intended to examine the effectiveness of CHW program in reducing the infant mortality rate. The study assessed the extent to which implementation of Community Health Workers programs has reduced the infant mortality rate challenges faced by CHWs, strategies used by CHWs. Also, the study assessed the effect of Community Health Service Delivery in reducing the infant mortality rate in Kinondoni district, Dar es Salaam.

2. Statement of the problem

In Tanzania, like other parts of the world, Community Health Services delivery is considered as the fastest-growing field of practice in the health sector. Yet, the Tanzanian government and other health stakeholders still need to improve its uptake. While Tanzania has the highest density of primary health care facilities in Africa equitable access and quality of care remain a challenge. Inadequate human resources have proven to be a factor that contributes to this challenge (Ramsey et al., 2013).

To address this problem, the government of Tanzania formalised CHW cadres, including the approval of the community-based health programme (CBHP) policy in 2014, which standardised the fragmented CHWs' activities across the country (Ngilangwa & Mgomella, 2018).

Growing evidence suggests that CHWs have played a significant role in reducing the child mortality rate in Tanzania. However, this evidence is from rural settings (Ramsey et al., 2013; Kante et al., (2019). There have been limited studies to prove that there is a significant connection between the CHW programme and reducing mortality rate in urban informal settings. The current infant mortality rate for Tanzania in 2023 is still high, standing at 34.168 deaths per 1000 live births (WHO, 2023).

Due to this scenario, it was ascertained that a study should be conducted to assess the contribution of CHWs in reducing infant mortality in urban informal settings in Kinondoni, Dar es Salaam, Tanzania. Since Kinondoni, the suggested geographical area of the study has the most significant number of people and informal settlements, the characteristics of the informal settings in Kinondoni district settings (low income, densely populated, under-served and mostly excluded in developmental initiatives) and having the highest number of informal settlements, it became an appropriate population study area. (Tanzania census, 2012).

3. Materials and Methods

This mixed method study was conducted for six months in informal settlements in Kinondoni district in Dar es Salaam, Tanzania. The study targeted 180 respondents and key informants, and it used a simple random sampling technique to sample out 66 CHWs. It then used purposive sampling to purposively target 44 healthcare personnel (nurses and

clinicians), 10 CBOS/NGOs and 36 local authorities in Kinondoni district. The snowball technique was used to sample pregnant and new mothers due to the nature of the informal settlements. The study was conducted in Manzese, Tandale, Kigogo, Mburahati, and some parts of Kawe, Msasani, Magomeni, and Kinondoni Mkwajuni informal settlements from June 2022 to November 2022.

This study used both primary and secondary methods of data collection. Primary data was collected using closed-ended questionnaires and semi-structured interviews. Quantitative data Analysis was done through descriptive and inferential statistics. A statistical package for social sciences software version 25 was used in analysing the data. Qualitative data Analysis was done through the thematic analysis technique. Besides, the researcher used a mixed approach with concurrent description so that quantitative and qualitative data were explained on the same page and concurrence or differences were identified in the data.

The study assessed the extent to which implementation of CHW's programs has reduced the infant mortality rate, the challenges CHWs face, and the strategies CHWs use to reduce the infant mortality rate in the informal settlement of Kinondoni district, Dar es Salaam. Their responses were measured on a five-point Likert Scale (Likert Scale - 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, and 5=Strongly Agree). Inferential statistics were used to analyse the gender, age and education level of respondents against infant mortality rate through T-test and ANOVA. Chi-Square was used to analyse the duration of stay, and duration served as CHW and recruitment method to determine their effect on Infant Mortality Rate.

4. Results

A slight gender disparity of 4.6%, the majority being females, among CHWs in Kinondoni District, Dar es Salaam, Tanzania has been identified. The majority of the CHWs (46.2%) who participated in the study were middle-aged adults, and they required basic education (high school education-60%) to execute their mandate. A majority (50.8%) of CHWs were recruited as volunteers. A majority (36.9%) of the respondents had a working experience of between 11 and 15 years.

CHW program influence, challenges and strategies used to mitigate infant mortality rate show that implementation of CHW programs significantly affected infant mortality in Kinondoni district, Dar es Salaam. Quality improvement programs were considered by the majority of the respondents, 47(32.3%), to help in mitigating the infant mortality rate. Similarly, data collected through interviews with key informants revealed that CHW programs played a significant role in infant mortality mitigation. One of the participants said;

My wife and I were educated on the importance of hospital delivery, a well-balanced diet for my wife and the baby after delivery and the importance of me supporting my wife and being both emotionally and physically present during and after her pregnancy. Moreover, yes, it helped in making decisions regarding my wife's and child's health because, before that, we knew nothing about exclusive breastfeeding, but from interaction with CHWs in our area, we opted. We saw it was possible, and we had great results (P.05).

The majority of the respondents, 92 (63.1%), alluded that the main challenges faced by CHWs in executing their mandate were attrition, retention and lack of social, financial and technical support. Data collected through interviews with key informants revealed several challenges faced by CHWs in mitigating infant mortality. One of the participants said;

First of all, there need to be more understanding from the clients. Secondly, foul language from the clients. They need to be financially capable; the clients and CHW sometimes fare from one place to another, which is a problem. For example, CHW may refer a client to a much-resourced facility, but the clients fail to go because they need more money for transport. Lastly, there is poverty around the area (livelihood" (P.1010).

The majority of the respondents, 74 (50.8%), agreed that providing counselling helped mitigate the infant mortality rate. Data collected through interviews with key informants revealed several strategies used by CHWs in mitigating infant mortality. One of the participants said;

Provision of basic counselling provided by CHWs to households prevents infant mortality rate in Kinondoni District as it promotes clarity of information... There is much wrong information going around, and basic counselling helps, especially for mothers who are HIV positive. It gives them the courage to start clinics and opt for hospital delivery because they will receive much better service at hospitals (P. 09).

Table 1. Analyses of the chi-square test

		Infant Mortality Rate Increase			Pearson Chi-square		
		Yes	No	Total	Chi-square	df	P-value
Duration of Stay	1-3 years	0.0% (0)	100.0% (1)	100.0% (1)	3.758 ^a	4	0.440
	6-10 years	60.0% (3)	40.0% (2)	100.0% (5)			
	11-15 years	14.3% (1)	85.7% (6)	100.0% (7)			
	16-20 years	37.0% (10)	63.0% (17)	100.0% (27)			
	21 and above years	28.0% (7)	72.0% (18)	100.0% (25)			
Duration as CHW	1-5 years	28.6%	71.4%	100.0%	2.879 ^a	3	0.411
	6-10 years	40.0%	60.0%	100.0%			
	11-15 years	25.0%	75.0%	100.0%			
	16-20 years	60.0%	40.0%	100.0%			
Recruitment Method	Appointed by the community	19.4%	80.6%	100.0%	6.018 ^a	2	0.049
	Volunteer	42.4%	57.6%	100.0%			

Analysis by the duration of stay by the respondents shows that a degree of freedom (4) and the computed Chi-square value =3.758, the P-value = 0.440, is more significant than the Alpha level 0.05. Therefore, there is no statistically significance relationship between duration of stay and infant mortality rate. This was experienced across all the time indicated. The study, therefore, fails to reject the Null hypothesis. In the analysis by the Duration as CHW, where the degree of freedom (3), Chi-square value (2.879) and P-value =0. 0411 is more than the Alpha level = 0.05. Therefore, it was revealed that there is no statistically significance relationship between the duration served as a community health worker and Infant mortality rate. From the presentation on the Recruitment Method, at (df = 2) and

computed Chi-square =2.879, the P-value= 0.049 is less than the Alpha value= 0.05. This signifies that the method used in recruiting community health workers has a statistically significant relationship with the Infant mortality rate. This was indicated by the appointment by the community, volunteering or through election.

The inferential results indicated that the duration of stay and the duration served by community health workers are not statistically significant in predicting the infant mortality rate. It, therefore, implies that the infant mortality rate is not affected by the duration of stay and duration served by the community health workers; hence, the infant mortality rate is affected by other factors. Also, results showed that the recruitment method - Appointed by the community, Volunteer and Elected - is significant in predicting infant mortality rate. This implies that appointed by the community, volunteers, and elected CHWs significantly impact the infant mortality rate.

6. Discussion of the Findings

The study assessed the extent to which implementation of CHW's programs has reduced the infant mortality rate in the informal settlement in Kinondoni district, Dar es Salaam. The study revealed that implementation of CHW programs played a significant effect in mitigating infant mortality in Kinondoni district, Dar es Salaam. The study also assessed the implementation of operational clarity programs, roles and responsibilities, training and quality improvement programs, and effective management styles enhanced infant mortality mitigation. The findings are consistent with a study by Perry et al. (2014). The study also explained the effectiveness of CHWs by stating that, in settings where most births occur in the home, CHWs can provide critical services that save lives. These CHW interventions can reduce newborn mortality by

60% (KI 03; Personal Communication, 21st November 2022).

The study examined the challenges faced by CHWs in reducing the infant mortality rate in Kinondoni district informal settlements, Dar es Salaam and revealed that attrition, retention, distance, poor referral system and lack of social and technical support as well as ineffective quality improvement were main challenges facing CHWs in mitigating infant mortality. Findings corroborate the findings of a study by Namazzi et al. (2017), which established that the significant challenges facing CHWs included a lack of means of transport, a lack of protective items, and inadequate quality of care at health facilities to meet the increasing demand. Perry et al. (2014) also identified a lack of career growth opportunities and a need for adequate financing, supervision and logistical support for supplies, medicines, and equipment.

The study investigated the strategies used by CHWs to reduce the infant mortality rate in the informal settlement of Kinondoni district, Dar es Salaam. It revealed that training of neonatal and pregnant mothers, conducting household visits, providing counselling services and providing health promotion and education to the community. These findings align with Aboubaker et al. (2014), who identified training and supporting CHWs, home visits, and counselling as appropriate prevention and promotion strategies for reducing infant mortality rates.

The chi-square results indicated that the duration of stay and the duration served by community health workers are not statistically significant in predicting infant mortality rate. It, therefore, implies that the infant mortality rate is not affected by the duration of stay and duration served by the community health workers; hence, the infant mortality rate is affected by

other factors. Also, results showed that the recruitment method (Appointed by the community, Volunteer and Elected) is significant in predicting infant mortality rate. This implies that appointed by the community, volunteers, and elected CHWs significantly impact the infant mortality rate.

7. Conclusion

The implementation of the CHWs program has played a significant role in reducing the infant mortality rate in the study area. Challenges CHWs face include poverty of their clients, inadequate social, technical and financial support, recognition by health workers, attrition and retention, inadequate allocation of resources, case overload and transportation for referrals cases. Training neonatal and pregnant mothers, conducting household visits, providing counselling services and providing health promotion and education to the community are the strategies used by the CHWs program and have helped by building capacities at individual, family, and community levels.

8. Recommendations

This study recommends the following;

1. This study recommends the government, health service providers and agencies to invest more efforts and resources in improving the CHWs program for effective implementation of healthcare services to serve the public's interest.
2. The national government should establish proper supervision to work closely with health administrators, particularly in motivating CHWs. Most of their work is based on volunteerism, and they serve many households in the area, yet more needs to be paid to them (30,000 to

- 50,000 thousand Tanzanian shillings); as a result, quality healthcare services will be achieved.
3. The government of Tanzania should set adequate training for CHWs and provide the best system for follow-ups on this training. This will aid in skills boosting among the health workers for standardised health delivery.
 4. The CHWs and the health management team should work closely to provide insight for monitoring and evaluating the CHWs' performance to achieve healthcare delivery goals.

References

- Aboubaker, S., Qazi, S., Wolfheim, C., Oyegoke, A., & Bahl, R. (2014, December). Community health workers: A crucial role in newborn health care. Retrieved April 17, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4267086/>
- Assefa, Y., Gelaw, Y. A., Hill, P. S., Taye, B. W., & Damme, W. V. (2019, March 26). Community health extension program of Ethiopia, 2003–2018. Retrieved April 17, 2022, from <https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-019-0470-1>
- Kanté, M.A., Exavery, A., Jackson, F.E., Kassimu, T., Baynes, D.C., Hingora, A., & Phillips J.F. (2019, July 16). The impact of paid community health worker deployment on child survival: the connect randomised cluster trial in rural Tanzania. *BMC Health Services Research*. Retrieved April 19, 2022, from <https://bmchealthservs.biomedcentral.com/articles/10.1186/s12913-019-4203-1>.
- Namazzi, G., Okuga, M., Tetui, M., Kananura, M.R., Kakaire, A., Namutamba, S., Mutebi, A., Kiwanuka, N.S., Kiracho, E.E., Waiswa, P. (2017, August 10) Working with community health workers to improve maternal and newborn health outcomes: implementation and scale-up lessons from eastern Uganda. *Global Health Action*. <https://www.tandfonline.com/loi/zgha20>

- Ngilangwa, D. P., & Mgomella, G. S. (2018, August 02). Factors associated with retention of community health workers in maternal, newborn and child health programme in Simiyu Region, Tanzania. *African Journal of Primary Health Care & Family Medicine*, 10(1), e1– e8. <https://doi.org/10.4102/phcfm.v10i1.1506>.
- Nuhu, S., Mpambije, C.J. & Ngussa, K. (2020, August 18). Challenges in health service delivery under public-private partnership in Tanzania: stakeholders' views from Dar es Salaam region. *BMC Health Serv Res* 20, 765 (2020). <https://doi.org/10.1186/s12913-020-05638-z>.
- Nzioki, J.M., Ouma, J., Ombaka, J.H., and Onyango, R.O., (2017). Community health worker interventions are key to optimal infant immunisation coverage, as evidenced by a pretest - posttest experiment in Mwingi, Kenya. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5680999/>
- Oleribe, O.O., Momoh, J., Uzochukwu, S.B., Mbofana, F., Adebisi, A., Barbera, T., Williams, R., Robinson, T.D.S. (2019, November 09). Identifying Key Challenges Facing Healthcare Systems in Africa and Potential Solutions. <https://doi.org/10.2147/IJGM.S223882>.
- Ozano, K., Simkhada, P., Thann, K. & Khatri, R. (2018, January 06). Improving local health through community health workers in Cambodia: challenges and solutions. <https://doi.org/10.1186/s12913-018-03201-3>.
- Perry, B.H., Zulliger, R., & Rogers, M.M. (2014, January 02). Community Health Workers in Low-, Middle-, and High-Income Countries: An Overview of Their History, Recent Evolution, and Current Effectiveness. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-032013-182354>.
- Ramsey, K., Hingora, A., Kante, M., Jackson, M., Exavery, A., Pemba, S., Manzi, F., Baynes, C., Helleringer, S., & Phillips, F.J. (2013, May 31). The Tanzania Connect Project: a cluster randomised trial of the child survival impact of adding paid community health workers to an existing facility-focused health system. Retrieved April 19, 2022, from <https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-13-S2-S6>.

- Roux, K.W., Almirol, E., Rezvan, P.H., Roux, I.M., Mbewu, N., Dippenaar, E., Stansert-Katzen, L., Baker, V., Tomlinson, M. and Rotheram-Borus, M.J., (2020). Community Health Workers Impact on Maternal and Child Health Outcomes in Rural South Africa – A Non- randomised two-group Comparison Study
- Schwatka, N. V., Tenney, L., & Newman, L. S. (2019). Health protection and health promotion in small business. In *Increasing Occupational Health and Safety in Workplaces* (pp. 371-392)
- Tanzania National Bureau of Statistics (2016). Demographic and Health Survey, <https://www.nbs.go.tz/index.php/en/census-surveys/health-statistics/demographic-and-health-survey-dhs>.
- Wightman, P., McCue, K., Sabo, S., Annorbah, R., Jimenez, D., Pilling, V., Butler, M., Celaya, M.F., & Rumann, S. (2022). Community health worker intervention improves early childhood vaccination rates: results from a propensity-score matching evaluation.

Perceived Influence of Family Dysfunction on Juvenile Offending

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Abstract

Families play an important role in the development of children and youth. Currently, the rate at which juveniles are getting involved in crime related activities with no respect for law and order is on the rise. According to various studies, there is a general trend among juveniles to participate in at-risk behaviours especially when the family doesn't provide security, support and guidance for their physical, psychological, moral, social and even spiritual development. Numerous researches have been carried out to identify the cause but the focus has been mainly on socio-economic factors such as the neighbourhood, peers and also poverty. There is little literature showing the relationship between family dysfunction and juvenile offending behaviour especially in the Kenyan context. The main objective of this study was to explore the perceived influence of family dysfunctions on juvenile offending behaviour at a Probation Office.

Data was collected using qualitative methods and phenomenological design. One-on-one in-depth interviews and focus group discussions were applied to get information from the participants. Sample population of respondents that is: the juvenile offenders, their caregivers and probation officers was obtained on theoretical saturation through purposive sampling procedure. Data was analysed, using NVivo version 10 qualitative data analysis software. Thematic content analysis was done and themes were identified using both deductive and inductive approaches. Dominant patterns were highlighted and findings presented in form of the identified themes. The five main themes in relation to perceived influence of family dysfunction and juvenile offending emerged

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were: parenting styles, substance use by the parents, domestic violence, family structure, and family criminal history.

The researcher concluded from the findings that the family dysfunctions are perceived to have an impact towards juvenile offending behaviours. Various factors within the family environment can contribute to juveniles' involvement with crime and other factors outside the family also play a role as well. The researcher recommends that various social systems need to undertake the role of sensitizing the public on the relationship between family dysfunctions and juvenile outcomes.

Keywords: *Dysfunctional families, juvenile offending, juvenile delinquency, delinquent behaviours, probation sentence*

1. Introduction

In the past 10 years, there has been an increase in frequency and seriousness of juveniles committing crimes in the world (National Crime Research Center, 2018). A juvenile offender in Kenya is a child between seven and sixteen years, who has committed an act which if committed by persons past this age will be considered punishable as a crime or as an act that is injurious to other individuals or the government (Igbinovia, 2012). Whereas, offending includes a range of behaviours from simple threats, minor acts of physical intrusion like hitting to severely damaging and harmful behaviours like robbery with violence (Sharma, 2013). Internationally, the number of juvenile cases handled are more than 1.6 million yearly, with an estimate of 72,000 taken to custody (Tiampati, 2017). In United States of America (U.S.A), through the FBI juvenile offenders arrest statistics, they reported a 76% in 2008, 78% in 2009 and 2010, 77% in 2011 and 2012 and in the years 2013 and 2014 it was 78% (Masood, 2019). In Africa, statistics on the nature of juvenile criminal behaviours is scarce, and the little available information portrays that it's high in towns where two thirds of the population are between ages 12 -25 (National Crime Research Center, 2018).

According to a research compiled by National Council on the Administration of Justice (NCAJ) for eight counties in Kenya between the years 2016 – 2018, it showed that the police handled 2,758 juvenile cases, with the highest number being 691 in Nairobi County (Wamahiu et al, 2019). The number of gangs dominated by juveniles is also increasing (National Crime Research Centre, 2018). Although various researches have been conducted in order to determine the reason behind the rise, main focus has been on the socio- economic factors like poverty (Bonavila et al, 2017). However, little focus has been placed on understanding the impact of family in regards to juvenile offending. Therefore, in this research the researcher will focus on exploring the perceived influence of family dysfunction on juvenile offending behaviours.

Family is considered as a basic social unit which has a direct impact in one's life. It has various definitions such as: a group of people held together by common birth, marriage, attachment or residence (Mwangangi, 2019). It is mostly assumed that a family plays a major part in shaping an individual behaviours' as some of its functions is to protect, support , provide physical needs and offer moral guidance to the children (Van As & Janssens, 2016). Currently, there has been intense irreversible damages within family systems which ends up affecting its members including children (Nevisi, 2019). Hence families are considered to be an important factor in determining one's involvement in crime (Kerrie, 2016).

A document analysis done on the Government of Kenya National Development Plan (2000-2008), revealed that, most of the plans and programs are not adequate in coming up with policies to prevent juvenile offending behaviours as they mostly focused on eradicating the signs rather than the causes (Wambugu et al., 2015). With little known information about

the causes of juvenile offending, this brings about a gap of information causing poor management of the problem. Based on this background, this study sets to explore the interaction that may be present between perceived family's influences and juvenile offending behaviours.

2. Study Method

Using qualitative method, the phenomenological study design to get participants perceptions was used. The study data was conducted in January and February 2023. The sample population for the study were juveniles from 7-18 years, accorded probation sentence by the court and report to the probation office. The juvenile's caregivers and probation officers were also included in the study. Recruitment of the respondents into the study was entirely on voluntarily bases obtained through theoretical saturation using nonprobability purposively sampling procedure. Contact information of the juvenile offenders and their caregivers was requested from the probation office.

All juveniles who were given probation sentences, consented by their caregivers and gave assent to participate in the study were included. The study excluded any other member of the public who was given a probation sentence as well as juveniles who assented but weren't available during data collection. Written consent was obtained from the probation officers and caregivers by signing consent forms after they were informed of the research objectives.

The researcher developed a socio-demographic questionnaire for all the respondents and a semi-structured interview for one-on-one in-depth interview and focus group discussions. Audio recording which mostly ranged between 45 minutes to an hour of the individual interviews and focus groups was done to ensure that all data was captured. Respondents were

informed of this. The two focus group comprised of 8-10 juveniles and caregivers separately, who had given consent to participate in group discussions. The tools were in English language, however the juveniles and care givers tools were translated to Kiswahili as well. This research explored the relationship between two variables: perceived family dysfunction and juvenile offending behaviour. Whereby, the independent variable was family dysfunction while the dependent variable was juvenile offending.

The data collected was stored in a password protected computer, only accessible by the researcher. Transcription of the audio-records was done while a written summary was obtained from the notes taken. The collected data was transcribed, thematically coded and analysed using NVivo version 10 qualitative data analysis software. Thematic content analysis was done and themes identified using both deductive and inductive approach. Dominant patterns were highlighted and findings presented in form of the identified themes. This study was approved by KNH-UoN, Institution of Review Board (IRB) and registration number P977/12/2021 given. Research permit was sought from the National Commission for Science, Technology and Innovation (NACOSTI) and further clearance from the Ministry of Interior and Coordination of National Government.

3. Results

3.1 Sociodemographic Characteristics of the Participants

A sum of 31 respondents aged between 14-75 years, were recruited for this study. Out of which: 13 were juvenile offenders, 13 others were their caregivers and 5 probation officers. The researcher found out that with the 31

respondents, saturation of themes was achieved. 18 were males while 13 were female respondents. 7 of the caregivers had reached primary school level, 4 had reached secondary while attained college level. Additionally, majority of them were unemployed and mainly depended on casual jobs. On the other end, 6 of the juvenile were in primary school while 7 of them had reached secondary school. However, 3 out of the 13 juveniles had dropped out of school and were employed as casual labourers. For the focus group discussions, which was conducted on the juveniles and their caregivers separately, the total population was 16. That is 8 caregivers and 8 juveniles.

3.2 Family Dysfunction Factors Perceived to Influence Juvenile Offending

The following themes were identified from the analysis of one-on-one interview of the participants as well as focus group discussions of the juvenile offenders and their caregivers. The themes highlighted the aspects within the family dysfunction that influence juvenile offending.

3.2.1 Domestic Violence

Consistently across, the focus group discussions and one-on-one interviews, the participants mentioned domestic violence to have a contributory effect to juvenile offending. Domestic violence included intimate partner violence and emotional and physical abuse between parents or to the juveniles. According to the respondents, domestic violence can lead to parents separating, juveniles running away from home and involvements with gangs, where they end up being arrested.

One of the juvenile respondents stated *“You cannot watch your mother being beaten up and you are just seated there, that is something that will hurt you so you feel you have to escape from that to avoid getting stressed. Their relationship*

was characterized by just fighting and abusiveness at some point they even made me regret why they were my parents”. JNW Juvenile FGD

This sentiment was also expressed by a caregiver respondent who claimed that; *“It was an abusive marriage both physically and emotionally and at times the children would see all this We separated 10 years ago and it has not been easy I hide what I sometimes do for survival from my children so as not to encourage them on the same though the money is never enough so my son ended up running away and joined a gang.”* JN

3.2.2 Substance Use

Substance use by parents especially alcohol was identified as one of the family dysfunctional factors that contribute to juvenile offending. A caregiver during the focus group discussions said *“My husband is a drunkard and he always comes home drunk there is no time they will ever agree or relate with the children, you know how a father can come and sit down with a child for a talk if he is drunk every little thing will irritate him and he will start being abusive and the child will find ways to always escape his father”.* SA

In an individual interview, a juvenile stated *“I have been brought up by my grandparents since I was young because my mother drinks a lot hence she doesn’t take care of us and she stays in different places, so I had to look for a job. I met friends who introduced me to stealing since I wanted money for circumcision”.* GN

A probation officer added that *“Majority of juvenile offenders have parents who enable their criminality especially those parents who abuse alcohol and drugs.”* GK

3.2.3 Family Structure

Impaired family structures especially single parenting, was viewed as a cause of disability that might lead to juvenile offending. A juvenile highlighted *“I was brought up by my grandmother. My mother separated with my father when we were very young and my mother doesn’t have a job, but I enjoy living with my grandmother because she loves us very much and it is peaceful.”* JNW

This was supported by another respondent, *“I think if there is a father figure in the house the boy will not get involved in crime because he is afraid of his father knowing, so he will be scared to do it, but when you are a single mother and you are bringing up your child alone very few of the boys grow up to be descent boys, most of them have a don’t care attitude because they know there is no man in the house.”* JN FGD caregivers

A probation officer also highlighted that single parenting can lead to juvenile offending, *“Juveniles coming from single parent family have a higher chance of offending especially when raised by single mother as juveniles don’t respect their mothers the way they respect their fathers.”* BA

3.2.4 Family Criminal History

The study identified that some of the interviewed juvenile offenders come from a family with a history of crime. Some of them had either their parents, siblings or extended family members who had a criminal record. For instance, a caregiver reported *“There is a history of criminality from my husband’s side, three of his brothers have been arrested due to stealing. At times I feel like it’s a curse because they once stole some money from their mother, my husband being among them. This was after they sold her shamba and didn’t give her all her money”.* JK

A probation officer also identified family history of offending as a factor associated with juvenile offending *“some of the juvenile offenders come from family background that condone criminal activities or engage in family cultures that seem to glorify immoral behaviours”*. AD

Another probation officer also explained *“There is some genetic predisposition because children from parents with a criminal history are vulnerable to engaging in criminal behaviour”*. JO

3.2.5 Parenting Styles

Different families have different ways of bringing up their children. Some parents raise their children similarly to how they were raised while others come up with different ways. From the data collected, it is evident that how parenting is done can contribute to juveniles' offending as well. Various parenting styles were mentioned as factors, such as neglectful, permissive and authoritarian parenting styles:

A juvenile commented that *“Since my parents separated our father has never played a role when it comes to our upbringing he doesn't pay fees nor buy food. I had to drop out of school and start looking for jobs. I forgave him for that but where I felt completely neglected by him was when he didn't even consider to help me be circumcised. I completely lost my respect for him. I got into crime as I was looking for money to help myself and my family”*. IL

A caregiver claimed that: *“For me, my child was arrested due to his poor behaviours which was brought about by his upbringing by my mother where there were no firm rules. Also, refusing to discipline your child like if he starts to steal small items and the parent knows about it but all she says is “Don't do that again”*. SA

A probation officer concurred, *“I find two parenting styles; permissive and authoritarian that promote juvenile offending and delinquency especially where their immediate environment is supporting negative culture and behaviour”*.

AD

4. Discussions

From the individual interviews and focus group discussions, various factors within the family system were perceived to influence juveniles' offending. They include: domestic violence, some parenting styles, families with a history of substance use, some family structure and family criminal history.

Being brought up in families where they witnessed domestic violence was highly experienced by majority of the juveniles. The violence could be in form of abuse from physical, sexual and emotional towards them. It could also be in the form of intimate partner violence, where the juveniles witness as it happened. A similar finding was reported by Bakari, (2021) where the researcher found a connection between the processes of family conflicts, socialization and committing of various juvenile crimes. The violent incidents contributed to some of their parents separating or even the juveniles being stressed out and hence looking for other means of coping with stress such as drug use. Some run away from home as they feel misunderstood and unloved, so they prefer living in the streets. This result is consistent with previous study in Australia which found a relationship between children who are exposed to neglect and abuse and social problems like substance use and running away from home (Cashmore, 2011).

Families with a history of substance use such as bhang and alcohol posed as a risk for juveniles to becoming offenders. Also parents who use substances or alcohol tend to neglect their responsibilities leaving the children in a dilemma of fending for themselves. A supportive study done by Rathinabalan & Naaraayan, (2017) on the effects of family factors on juvenile delinquency found that maternal unemployment, single parent, paternal age more than 50 years and paternal smoking are major independent risk factors of juvenile delinquency.

Single parent family structured household was prevalent among most participants. Some caregivers admitted not spending quality time with their children as they are busy working. In return, they end up having no idea what their children are up to. Others, had to leave their children under the care of their grandparents who are not firm in exercising behaviour management. A supportive study by Onsando et al., (2021) on influence of family structure on development of male delinquency, found that majority of the juveniles came from families where parents were absent (33.6%). 30.9% came from single parents' households while 23.5% were from grandparents headed families.

Neglectful, authoritarian and permissive parenting styles were strongly perceived to influence juvenile offending. A supportive study to this finding was done by Tapia et al., (2018), where he found authoritarian, permissive and neglectful parenting were associated with the highest number of delinquents. A Probation officer said that most juveniles come from neglected families especially if parents use substance. Supporting this insight, You & Lim, (2015) found that parental abuse and neglect in emotional or physical form had an impact in child's aggression and depression.

One of the respondents stated that they come from families where by being apprehended for committing a crime is not new as three of his uncles have been arrested. Some of the juveniles stated that if a parent is arrested a child will have to steal as well in order to survive. Supporting this finding, a study done by Tzoumakis et al., (2019) on parental offending and children's conduct problems found that parental offending increases a child's likelihood of conduct problems.

5. Recommendations

The researcher makes the following recommendations in regards to the findings:

1. Public sensitization on the association between children's outcomes and family dysfunctions which can be done during public forums where parents are involved such academic days or religious gatherings. Parents can also be taken through modern strategies of behaviour management which are effective and socially adaptive.
2. Learning institutions to hire professional therapist or counsellors whose only job will be to offer therapy or counselling sessions and awareness programs to their students who are experiencing emotional instability, family problems and other related issues like conduct problems from early levels.
3. The juvenile justice systems should be designed in a way that takes into consideration all the risk factors leading to juvenile offending so as to address child related crimes from a solution's perspective rather than from a linear approach of offenses and penalties.
4. Multi-sectorial approach when dealing with juvenile crime. Sectors within social systems such as the

community, schools, religious sectors, non-governmental organizations and government authorities can combine efforts to address juvenile crime.

6. Strengths and Limitations

The study had a couple of strengths such as, this study provides an opportunity to further analyse resources and/or policy related to family dysfunction and juvenile offending for future researchers. Additionally, findings will be shared with the Probation office, which they can utilize as a means of understanding the juveniles in regards to offending holistically. The findings can also be used by other court users apart from the probation office such as the judiciary system, children's department, social work department and police officers in understanding the role of family in regards to juvenile offending for better policies formation.

In limitations, some of the respondents were sceptical about sharing some of their home situations. However, the researcher assured the respondents orally before administering the research instruments about anonymity and confidentiality of their shared information.

7. Conclusion

Juvenile delinquency is being experienced by many countries around the world. Therefore, it is important to remember that a child's behaviour largely depends on the environment that he or she is born or raised in. Thus knowledge on the cause is very important, so that as a community we get to understand how to bring about positive behaviours from children. The study focused on the perceived influence of family dysfunction on juvenile offending behaviours. From the findings it is evident that the family unit has a significant impact on juvenile offending. What children learn and experience plays an important role towards their growth and

development. Hence a toxic family environment can have a negative effect on the behaviours of its members especially children and adolescents. This stems from change in family structure, domestic violence, substance use by the parents, existence of history of criminality within the family, and the different parenting styles. Hence the challenges mentioned above renders the family system dysfunctional and came out as the key variables that influence juvenile offending. Due to various experiences that the study participants have gone through such as witnessing family instability, maltreatment, parental divorce, single parent household. These factors tend to interfere with the socioeconomic aspect, educational outcomes and contributes to risky and delinquent behaviours. Children need stable family environments consisting of protective and nurturing parents, for them to grow positively into their full potential.

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References

- Bakari, A. W. (2021). Family factors influencing juvenile delinquency in malindi township, kilifi county. *IOSR Journal of Humanities And Social Science (IOSR-JHSS)*, 26(8), 54–82. <https://doi.org/10.9790/0837-2608085482>
- Bonavila, S., Vigil-Colet, A., Cosi, S., & Morales-Vives, F. (2017). How individual and contextual factors affects antisocial and delinquent behaviors: A comparison between young offenders, adolescents at risk of social exclusion, and a community sample. In *Frontiers in Psychology* (Vol. 8, Issue OCT). <https://doi.org/10.3389/fpsyg.2017.01825>
- Igbinovia, P. (2012). Perspectives on Juvenile Delinquency in Africa. *International Journal of Adolescence and Youth*, 1(2), 131–156. <https://doi.org/10.1080/02673843.1988.9747632>

- Jackson, A. (2013). Assessing the Impact of Parental Drug Use, Family Structure, and Environmental Conditions on Adolescents' Self-Reported Drug Use, Serious Delinquency, and Deviant Behaviors. *International Journal of Criminology and Sociological Theory*, 6(2), 1103–1124.
- Kerrie, M. (2016). *Dysfunctional Families*. Kansas State University.
- Masood, S. & A. M. S. (2019). (PDF) Role of Family, Neighbourhood and Peers in Development of Delinquent Behavior in Adolescents. *Peshawar Journal of Psychology and Behavioural Sciences*, 4(2), 171–192.
- Mwangangi, R. K. (2019). The Role of Family in Dealing with Juvenile Delinquency. In *Open Journal of Social Sciences* (Vol. 07, Issue 03, pp. 52–63). <https://doi.org/10.4236/jss.2019.73004>
- National Crime Research Center. (2018). *Perspectives of youth criminality in kenya*.
- Nevisi, H. M. (2019). Family Impact on Social Violence (Juvenile Delinquency) in Children and Adolescents. *Forensic Research and Criminology*, 3(1), 1–13.
- Onsando, E., Mwenje, M. K., & Githui, P. (2021). The Influence of Parenting Style on Male Juvenile Delinquency: A Case of Kamiti Youth Correction and Training Center (KYCTC), Kiambu County, Kenya. In *European Journal of Humanities and Social Sciences* (Vol. 1, Issue 3). <https://doi.org/10.24018/ejsocial.2021.1.3.44>
- Tapia, M., Alarid, L. F., & Clare, C. (2018). Parenting Styles and Juvenile Delinquency: Exploring Gendered Relationships. *Juvenile and Family Court Journal*, 69(2), 21–36. <https://doi.org/10.1111/jfcj.12110>
- Tiampati, E. (2017). *Psycho-Social Factors Influencing Juvenile Delinquency Among Girls At Kirigiti and Dagoretti Rehabilitation Centres Tiampati Elizabeth M. Ndaita a Research Project Submitted in Partial Fulfilment of the Requirements of the Degree of Master of Psychology i*. <http://erepository.uonbi.ac.ke/handle/11295/102303>
- Tzoumakis, S., Burton, M., Carr, V. J., Dean, K., Laurens, K. R., & Green, M. J. (2019). Parental offending and children's conduct problems. *Trends and Issues in Crime and Criminal Justice*, 571.

- Van As, N., & Janssens, J. (2016). Relationships between child behavior problems and family functioning: A literature review. *International Journal of Child and Family Welfare*, 5(1/2), 40–51.
- Wamahiu,... et al, 2019. (2019). Status Report on children in the Justice System in Kenya. *National Council on the Administration of Justice (NCAJ)*, 85.
- Wambugu, B., Njoroge, J., Komen, Z., Wambugu, N. B., Njoroge, K. J., & Komen, Z. (2015). Juvenile Delinquency: A Legacy of Developmental Logic of Kenyan Government. *International Journal of Science and Research (IJSR)*, 4(6), 1174–1182.

Kudumbashree's Efficacy in Socio-Economic Empowerment of Women in Kerala

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Abstract

This study looks into how well Kudumbashree has helped Kerala women become more economically and socially independent. The Kerala government started the Kudumbashree programme to end poverty and empower women in 1998. By giving them opportunities to succeed as company owners and build a community around financial inclusion, the programme seeks to empower women. This study as a tool to comprehend and interact with Kudumbashree participants. Kudumbashree favourably affects women's living conditions, as well as the educational, nutritional, and health requirements of their children, via sustainable development. The most crucial instrument for women's empowerment is economic independence. Therefore, it is an evaluation from the beneficiaries about the effectiveness and implementation of the Kudumbashree mission. This study's methodology is based on quantitative research. Surveys and questionnaires will be used to gather the data. The study provides light on the degree of women's empowerment that Kudumbashree members have attained since joining the Kudumbashree unit. The members acknowledged that after joining Kudumbashree, their socioeconomic situation has improved. The development of women's self-confidence and awareness of intellectual rights should be given proper respect. Each Kudumbashree unit must pay attention to the numerous variables that contribute to women's empowerment.

Keywords: *Kudumbashree, Socio-Economic empowerment, self-confidence*

1. Introduction

The Kerala State Poverty Eradication Mission, known as Kudumbashree, was established on May 17, 1998. Under the direction of Local Self, the Mission strives to end total poverty in a specific time frame of 10 years. The 73rd and 74th Amendments to the Constitution create and grant

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authority to certain types of governments from India. Using government's active backing, the State Government launched the Mission. Women's empowerment is still a contentious issue. The improvement of women's status in society, politics, the workforce, culture, and health are referred to as "women empowerment." Numerous aspects of their way of life have changed as a result of their SHG membership. This research investigates the contribution of self-help organizations to women's empowerment. SHGs are 10- to 20-person regional groups that are primarily found in rural areas. Running a self-help group is mostly done for the purpose of receiving microfinance. The poverty rate in Kerala is 11.3%. The underprivileged groups in society experience because there was insufficient security provided while taking out a loan from a formal financial institution, loan money. High transaction costs are one other thing that discourages the poor from taking out loans. Expenses and bad credit history related to giving modest loans to lots of people. Officials have given diverse methods of funding for the rural population some thought due to the shortcomings of the formal banking system and the effects of informal financing on the rural people. Given this goal of supporting rural poor people, particularly rural women, the government has made the microcredit movement official. Financial assistance provided to women is better compared to how males use them. Among the various initiatives designed to provide kids better education, health care, a range of retirement plans, and initiatives to combat poverty. One of the most significant initiatives in the fight against rural poverty has been alleviation through SHGs. Many SHGs are currently working for themselves in various capacities all over India. A new theme, "A study on the effect of self- help groups on women's empowerment with special reference to Ernakulam district,"

was created by using the concept of women's empowerment as the major concept and connecting self-help groups to this concept. This study's major goal was to look into the socioeconomic and health conditions of women who participate in self-help groups.

2. Statement of the problem

The cruellest victims of poverty and despair are women's households. Therefore, all efforts to eradicate poverty must focus on raising living standards and empowering women's communities. Women must be given possibilities for a livelihood. Self-help organizations and microcredit are superior resources for raising peoples' standards of living. The Kudumbashree scheme aims to raise the standard of living for underprivileged rural women by establishing microcredit and profitable businesses. It began a new series of anticipated occurrences in the history of development. According to Kudumbashree-related documents, women seek to recognize their inherent strength, growth potential, and involvement in reshaping their own destiny. By giving women a prominent position in the programs created for their benefit, Kudumbashree wants to empower women. Through group effort, the program seeks to give them more agency. Gains in gender equality—including the participation of women in education—will contribute to lower fertility rates and better mother and child health. This process of empowering ought to serve as a beacon for their offspring, families, and society at large. This program has so far spanned a period of thirteen years.

3. Review of Literature

Kavitha et al. (2011) conducted a study on the general acumen of effectiveness of group functioning by the members of women self-help groups (SHGs) in goat farming,

operating under Kudumbashree, in Thrissur district, Kerala. The findings of the study showed that majority of the respondents (76%) perceived the effectiveness of their group functioning as medium. The study brought to light the need for entrepreneurial training in goat farming along with provision of resources like good quality breeds, grazing land, feed, market and veterinary care for success of the group's functioning.

Dr. T. Dhanalakshmi (2014) notes that the employment opportunities in city like Kochi for urban poor are very limited because they lack education or employable occupational skills. Most of these Kudumbashree undertook different kinds of petty income earning activities before they joined in Kudumbashree for composting. Door to door waste collection enhancing reuse and recycling activities, especially in developing countries.

Kenneth Kalyani and Seena P.C. (2012) in their study on Socio-economic Changes of Women through Kudumbasree – A Study from Puthenvelikkara (Gp) of Kerala State, the study concentrated and evaluated the empowerment of women.

4. Objectives of the Study

The main objective of the study is to assess whether there is major significant changes in empowerment and development of women through Kudumbasree Mission.

The study aims to:

1. To understand the role of Kudumbashree for improving the standard of living of member women.
2. To understand the structure, working and progress of Kudumbashree project in Kerala.

3. To know the contribution of Kudumbashree project in the overall economic development

5. Data and Methodology

The descriptive research design was used in this study. The research employed both primary and secondary sources. A questionnaire schedule was used to obtain primary data from 60 kudumbasree workers in the Ashamannoor (Gram Panchayat) of Kerala's Ernakulum District who claimed to have successfully participated in the self-employment program. The sample was chosen using simple random sampling. The questionnaire was created to evaluate their socioeconomic growth following their participation in the Kudumbasree program. Books, journals, articles, and reports from newspapers, weekly magazines, and other periodicals were used as secondary sources. The data acquired from both primary and secondary sources were quantified and analyzed in qualitative terms, revealing that the socioeconomic position of women who participated in the Kudumbasree Programme in Ernakulum district improved significantly. SPSS 1.0.0.1406 version was used to analyse the data that was obtained. It was examined in accordance with the study's goals.

6. Results

6.1 Years of Experience in Kudumbashree

90% of the respondent have above five years' experience in kudumbashree and rest of the respondent have below five-year experience in kudumbashree. Today, Kudumbashree is Kerala's 43 lakh women community network, which is spread across 941 Panchayats. The reason is women empowerment is one of the important objectives of Kudumbasree along with poverty eradication. The rise in membership in Kudumbashree is entirely due to the empowerment of women

that is taking place in numerous sectors caused by Kudumbashree.

6.2 Role of Micro Credit and Loan from Kudumbashree

Majority (85%) of the respondent get loan from Kudumbashree. Most of them can start micro finance units and other sectors alone and in groups because of loans from Kudumbashree. They can become independent and gain respect on both a social and economic level.

6.3 Major Support Systems of Women Empowerment in Kudumbashree

Table 1. Financial Support from Kudumbashree

	Frequency	Percent
Training	5	8.30
Financial support	2	3.30
Opportunity for entrepreneurship	53	88.30
Total	60	100.00

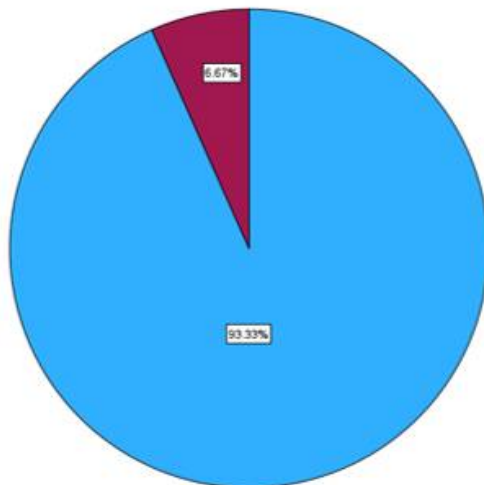
The above table shows that the majority of the respondents gets financial support from Kudumbashree for their development. They benefit from receiving training and financial aid in a variety of skill-based programs in order to achieve financial independence. It reveals that Great improvement has happened in the case of ability to handle finance and to deal with banks and banking transactions compared with other factors.

6.4 Self Confidence Level and Increase in Social Respect

After joining the initiative, 95% of the respondents who took part in the Kudumbasree program increased their confidence to assume responsibility. A quarter of the Kudumbasree women reported feeling unconfident, but after participating in the program, their confidence increased. The capacity to handle difficult circumstances, take part in gramasabhas, and go shopping without assistance from family members has significantly improved. Gathered feedback on whether Kudumbashree has aided people in gaining respect in society seems to indicate. The data suggests that out of the total respondents, approximately 91.7% answered "Yes" when asked if Kudubashrss, has helped them gain respect in society, while 8.3% responded with "No."

6.5 Skills and Strengths Improved Through Participation in Kudumbashree

Figure 1. Skill Improvement through Kudumbashree



After joining the Kudumbashree unit, 91.7% of the respondents appear to have seen a difference in their family or social relationships, whereas 8.3% of the respondents did not. It implies that they are given responsibility for family decision-making. It appears that 43.33% of the respondents considered the role of Kudumbashree to be "very supportive" in strengthening themselves in their life, while 56.67% of the respondents considered it to be "supportive." None of the respondents indicated that Kudumbashree was "not supportive". 91.7% of the respondents reported an improvement in their decision-making skills after joining the Kudubashree unit, while 8.3% of the respondents did not experience such improvement. 90% of the respondents reported an improvement in their communication skills after becoming a part of Kudumbashree, while 10% of the respondents did not experience such improvement. The collected responses regarding the impact of Kudumbashree on improving leadership skills. The data suggests that out of the total respondents, approximately 91.7% answered "Yes" when asked if Kudumbashree helped them improve their leadership skills, while 8.3% responded with "No. The collected responses regarding whether Kudumbashree has helped individuals become more self-reliant and independent. Approximately 38.3% of the respondents strongly agree that Kudumbashree has helped them become more self-reliant and independent. About 53.3% of the respondents agree that Kudumbashrse has helped them become more self-reliant and independent. Approximately 8.3% of the respondents disagree with the statement. No respondents strongly disagreed with the statement.

6.6 Opportunities to Take Part in Social Gathering and Meeting to Raise Your Views and Suggestion

It appears that collected responses regarding whether individuals had opportunities to participate in social gatherings and meetings through Kudumbashree to raise their views and suggestions. The data suggests that out of the total respondents, approximately 93.3% answered "Yes" when asked if they had such opportunities, while 6.7% responded with "No. No doubt, Women's empowerment is a participatory process in which the role of outside agencies is confined to the provision of needed resources or suggestions. A number of studies stress on the grass root level participation of them through their organizations against the top down processing of projects. In these research 93% from the study sample reported that they will actively participate in meetings by asking questions and express opinions openly.

6.7 Economic Development

Table 2. Financial Support from Kudumbashree

	Frequency	Percent
Yes	45	75
No	15	25
Total	60	100.00

Regarding whether individuals' ability to control and effectively utilize the economic resources of their family developed after joining Kudumbashree. The data suggests that out of the total respondents, approximately 91.7% answered "Yes" when asked if their ability in this regard has developed, while 8.3% responded with "No."

It appears that collected responses regarding whether individuals reduced their dependency on the income from their spouse with the income earned from Kudunbashree. The data suggests that out of the total respondents, approximately 75% answered "Yes" when asked if they reduced their dependency, while 25% responded with "No"

7. Discussions

Based on the data gathered through the various approach and the researcher's own check list, it can be concluded that the study supports the assertion that the Kudumbasree program has significantly improved the recipients' economic, political, and social circumstances. They make more money each month than their husbands do. Their pattern of income and spending reveals a strong developmental structure. They became more active in Grama Sabah and public gatherings. Their level of active participation in meetings increases. They gained more confidence when it came to banking and financial transactions, as well as meeting coordination, communication, and public speaking skills. They revealed that the husband and in-laws attitudes have changed, and they now regard the earning member of the family as having gained a substantial position in family decision-making. The Kudumbasree women express the impression that the organization is providing them with adequate psychological support, giving them control over the money they make via self-employment, and releasing them from the control of money lenders.

Kenneth Kalyani and Seena P.C. (2012) in their study on Socio-economic Changes of Women through Kudumbasree – A Study from Puthenvelikkara (Gp) of Kerala State clearly indicates the findings related to this study. The women enjoy the division of labour and have access to a flexible work environment, particularly when participating in groups. They

were given the opportunity to spend their money or buy whatever they wanted. They emerged from the kitchens and had a considerate outlook on society. They have begun to believe that they are an essential component of society. These women develop confidence, self-esteem, and self-worth as a result of feeling productive. This encourages children to engage in all social activities and develop self-reliance. They manage their own bank accounts, and each member is responsible for doing so alternately. This has boosted their banking expertise and confidence in handling financial transactions. They consistently manage their time in a very effective manner.

8. Conclusion

The foundation for all other development is economic development. The principles of women's empowerment have been acknowledged as requiring group effort. Sustainable social progress is made possible by empowering women. The improvement of women's economic standing has a positive impact on family life, as well as the health, nutritional, and educational needs of the next generation. Economic independence enhanced members' social engagement, and the Kudumbashree NHG movement supports the social empowerment of low-income women.

References

- Anand, Jaya S, *Self-Help Groups in Empowering Women: A Study of selected SHGs and NHGs in Kerala*, KKRPLLD, Centre for Development Studies, Trivandrum, Kerala, India, 1999
- Kavitha et al. (2011) - study on the general acumen of effectiveness of group functioning by the members of women self-help groups (SHGs) in goat farming, operating under Kudumbashree, in Thrissur district, Kerala

- Basha, D. B. (2014). Role of Self Help Groups in Women Empowerment. *International Journal of Research in Management & Social Science*, 2(3(III)), 40-45.
- Beevi, Subaida V and Devi, Girija Role of Self Help Groups in Empowering Rural Women in India *International Journal of Interdisciplinary Social Sciences*, 5(9), 405- 420
- Devika, J., and Binitha. V. Thampi. Between ‘Empowerment’ and ‘Liberation’: The Kudumbashree Initiative in Kerala. *Indian Journal of Gender Studies* 14: 33–59.
- Dr. Sushil Kumar Mehta, Dr. Hari Govind Mishra and Mr. Amrinder Singh (2011) role of self help groups in socio-economic change of vulnerable poor of jammu region. *International Conference on Economics and Finance Research*, Singapore.
- Kenneth Kalyani and Seena P.C. (2012) in their study on Socio-economic Changes of Women through Kudumbasree – A Study from Puthenvelikkara (Gp) of Kerala State, India
- Galab, S., & Rao, N. C. Women's self-help groups, poverty alleviation and empowerment. *Economic and Political weekly*, 1274-1283.
- Husain, A. S. and Nair, A. S. 2006. Women empowerment through Kudumbashree project of Kerala- a micro level analysis. *Manage Extension Research Review* 7(2): 23- 44.
- Irshad MK, Juman BKM. A Study on the Micro Enterprises Promoted by Kudumbashree and their Marketing Strategies in Malappuram District. *Bonfring International Journal of Industrial Engineering and Management Science* 2015; 5(2): 78–82. <https://doi.org/10.9756/bijiems.8086>

Post Covid Mental Health Problems among Youth: A Comprehensive Analysis

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Abstract

The COVID-19 pandemic has had a significant impact on the mental health of youth around the world. A study by the World Health Organization found that the prevalence of anxiety and depression among adolescents increased by 25% during the pandemic. Other studies have found that youth are also experiencing more stress, loneliness, and social isolation.

Several factors have contributed to the decline in mental health among youth during the pandemic. These include:

- **Social isolation:** *The pandemic has forced many youths to stay home from school, work, and social activities. This has led to increased feelings of isolation and loneliness.*
- **Financial hardship:** *Many families have experienced financial hardship during the pandemic. This has added to stress and anxiety levels among youth.*
- **Educational disruption:** *The shift to online learning has been challenging for many youth. This has led to increased anxiety about schoolwork and academic performance.*
- **Uncertainty about the future:** *The pandemic has created a great deal of uncertainty about the future. This has made it difficult for youth to plan for their future and has contributed to feelings of anxiety and stress. (Hwang et al., 2020)*

The impact of the COVID-19 pandemic on the mental health of youth is likely to be long-lasting. It is important to identify and address the mental health needs of youth in order to prevent long-term problems. Here are some ways to help improve the mental health of youth:

- **Provide access to mental health services:** *Youth need access to mental health services, such as therapy and counselling. These services can help youth cope with the challenges they are facing and improve their mental health.*

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- **Promote social connection:** Youth need opportunities to connect with others. This can be done through in-person activities, such as sports or clubs, or online activities, such as social media groups.
- **Create a supportive environment:** Parents, teachers, and other adults can create a supportive environment for youth by being understanding and encouraging. They can also help youth to develop healthy coping mechanisms.
- **Educate youth about mental health:** Youth need to be educated about mental health. This will help them to understand their own mental health and to know where to get help if they need it. (Jurewicz, 2015)

The COVID-19 pandemic has had a significant impact on the mental health of youth. It is important to take steps to address the mental health needs of youth in order to prevent long-term problems.

Keywords: Post-Covid Mental health problems, psychosocial stress, depression & wellbeing

1. Introduction

The COVID-19 pandemic has had far-reaching effects on various aspects of individuals' lives, including their mental health. This unprecedented global crisis has brought about significant challenges, especially for youth. With rates of anxiety, depression, and suicidality doubling among youth, there has been a growing concern about the mental well-being of young individuals in the post-Covid era.

According to the American Academy of Paediatrics, the American Academy of Child and Adolescent Psychiatry, the Children's Hospital Association, and the US Surgeon General, this alarming rise in mental health issues among youth has led to the declaration of a national state of emergency in child and adolescent mental health. Source 1 highlights the devastating impact of the COVID-19 pandemic on youth mental health concerns.

The challenges imposed by the COVID-19 crisis on young people are having an adverse effect on their mental health. Data from Belgium, France, and the United States have

shown that the prevalence of symptoms of anxiety and depression among young people is significantly higher compared to the general population. These studies indicate a range of 30% to 80% higher prevalence rates among young individuals as of March 2021. These statistics also reveal an increase in levels of loneliness among young people, which is a particular concern in the context of mental health. Factors Affecting Youth Mental Health in the Post-Covid Era.

The deterioration of young people's mental health in the Post-Covid Era can be attributed to a combination of weakening protective factors and an increase in risk factors. One of the key factors contributing to the decline in youth mental health is the weakening of protective factors. These protective factors include access to exercise, education, routine, social connection, and employment. The COVID-19 pandemic has disrupted these protective factors, leading to a significant impact on the mental well-being of young individuals. The closure of schools and the shift to remote learning has disrupted the education system, leaving many students feeling isolated and disconnected from their peers and teachers. Additionally, the lack of physical activity and limited access to recreational facilities have deprived young people of an important outlet for stress relief and emotional well-being. This disruption in routine and lack of social connection can contribute to feelings of loneliness and isolation, which are significant risk factors for mental health problems among youth. Furthermore, the COVID-19 pandemic has also created an increase in risk factors for mental ill-health among young people.

2. Social Isolation among Youth in Post COVID Era

The COVID-19 pandemic has had a profound impact on the lives of young people around the world. One of the most significant impacts has been the increase in social isolation.

Social isolation is defined as a lack of social connection and interaction. It can have a number of negative consequences for mental and physical health, including:

- Increased risk of depression, anxiety, and loneliness
- Reduced self-esteem
- Increased risk of substance abuse
- Problems with sleep and eating
- Increased risk of suicide

The pandemic has led to social isolation among youth in a number of ways. Schools and other places where young people gather have been closed, and many activities that young people enjoy have been cancelled or restricted. This has made it difficult for young people to connect with their peers and build relationships.

In addition, the pandemic has created a great deal of uncertainty and anxiety for young people. They are worried about their health, their families, and their future. This uncertainty can make it difficult for young people to feel connected to others and to the world around them.

The problem of social isolation among youth is likely to continue in the post-COVID era. Many of the factors that have contributed to social isolation during the pandemic, such as school closures and social distancing, are likely to remain in place for some time. It is important to take steps to address the problem of social isolation among youth. Here are some things that can be done:

- Encourage young people to stay connected with their friends and family, even if it is through online or phone calls.
- Help young people find activities that they can do in their community, such as volunteering or joining a club.

- Provide young people with access to mental health services if they need them.
- Educate young people about the importance of social connection and the negative consequences of social isolation.(Almeida et al., 2021)

3. Impact of Financial Insecurity and Unemployment

Financial insecurity and unemployment can have a significant impact on mental and physical health.

- **Mental health:** Financial insecurity and unemployment can lead to stress, anxiety, depression, and low self-esteem. These mental health problems can make it difficult to cope with the challenges of everyday life and can lead to problems at work, school, and in relationships.
- **Physical health:** Financial insecurity and unemployment can also lead to physical health problems, such as heart disease, obesity, and sleep problems. These health problems can make it difficult to function at work and in daily life.
- **Relationships:** Financial insecurity and unemployment can strain relationships with family and friends. People who are struggling financially may feel isolated and alone, and they may withdraw from social activities. This can lead to feelings of loneliness and despair.
- **Substance abuse:** Financial insecurity and unemployment can also lead to substance abuse. People who are struggling financially may turn to alcohol or drugs to cope with stress and anxiety. This can lead to addiction and other problems.

There are a number of things that can be done to help people who are experiencing financial insecurity and unemployment. These include:

- **Financial assistance:** There are a number of government programs that can provide financial assistance to people who are struggling financially. These programs can help to pay for food, housing, and other essential expenses.
- **Mental health services:** People who are experiencing financial insecurity and unemployment may also benefit from mental health services. These services can help to address the stress, anxiety, and depression that can accompany financial hardship.
- **Support groups:** Support groups can provide a sense of community and support for people who are experiencing financial insecurity and unemployment. These groups can help people to cope with the challenges they are facing and to find resources and support.
- **Job training and placement services:** Job training and placement services can help people who are unemployed to find new jobs. These services can provide training and support to help people find jobs that match their skills and interests. (Achdut & Refaeli, n.d.)

4. Disruption of education during post COVID Era

The COVID-19 pandemic has had a significant impact on education around the world. Schools have been closed for long periods of time, and many students have had to switch to online learning. This has led to a number of disruptions in education, including:

- **Learning loss:** Students have lost a significant amount of learning time due to school closures. This is particularly concerning for younger students, who are still developing their basic skills.
- **Digital divide:** Not all students have access to the internet or devices that are necessary for online learning. This has

- created a digital divide, with some students having a much better learning experience than others.
- **Social isolation:** Students have lost out on important social interactions and support networks due to school closures. This can have a negative impact on their mental and emotional health.
 - **Increased stress and anxiety:** Students are experiencing increased stress and anxiety due to the uncertainty of the pandemic and the challenges of online learning. This can make it difficult for them to focus on their studies.

The disruption of education during the COVID-19 pandemic has had a significant impact on students' learning and well-being. It is important to take steps to address these disruptions and to ensure that all students have the opportunity to learn and succeed. Here are some of the things that can be done to address the disruption of education during the post-COVID era:

- **Provide all students with access to the internet and devices that are necessary for online learning.** This can be done through government programs or through partnerships with businesses and organizations.
- **Develop and implement strategies to address learning loss.** This may include providing students with additional support and tutoring, or by adapting the curriculum to meet their needs.
- **Create opportunities for students to socialize and build relationships.** This can be done through online clubs and activities, or by providing opportunities for students to meet in person when it is safe to do so.
- **Support students' mental and emotional health.** This may include providing counseling and support groups, or by helping students develop coping mechanisms.

By taking these steps, we can help to ensure that all students have the opportunity to learn and succeed in the post-COVID era. In addition to the above, here are some other ways to improve the post-COVID education system:

- **Embrace blended learning:** This is a combination of online and in-person learning that can be tailored to the needs of each student.
- **Invest in teacher training:** Teachers need to be trained on how to use technology effectively in the classroom and how to address the needs of all learners.
- **Collect data and feedback:** It is important to collect data on how students are learning and to get feedback from teachers, students, and parents. This information can be used to improve the education system.
- **Partner with businesses and organizations:** Businesses and organizations can provide resources and support to schools, such as access to technology and funding for programs. (Viner et al., 2022)

5. Uncertainty about Future among Youth during Post Covid Era

The COVID-19 pandemic has created a great deal of uncertainty for young people. They are worried about their health, their families, their future, and their careers. This uncertainty can be overwhelming and can make it difficult to plan for the future. Here are some of the reasons why young people are feeling uncertain about the future:

- The pandemic has caused a lot of economic disruption. Many businesses have closed, and many people have lost their jobs. This has made it more difficult for young people to find jobs and start their careers.

- The pandemic has also disrupted education. Many students have had to switch to online learning, and some have had to repeat a year of school. This has made it more difficult for young people to get the education they need to succeed in their careers.
- The pandemic has also changed the way we live and work. Many people are now working from home, and many businesses are now operating online. This has made it difficult for young people to network and build relationships, which are essential for finding jobs and getting ahead.
- The pandemic has also created a lot of anxiety and stress. Young people are worried about their health, their families, and their future. This anxiety can make it difficult to focus on school or work.

The uncertainty about the future can be a challenge for young people, but it is important to remember that it is not impossible to overcome. There are things that young people can do to cope with the uncertainty and to plan for the future. Here are some tips for young people who are feeling uncertain about the future:

- Talk to someone you trust. Talking to a friend, family member, therapist, or counsellor can help you to process your feelings and to develop coping mechanisms.
- Stay informed. It is important to stay informed about the pandemic and about the economy. This will help you to make informed decisions about your future.
- Set goals. Setting goals can give you something to strive for and can help you to feel more in control of your future.
- Take care of yourself. Make sure to get enough sleep, eat healthy foods, and exercise regularly. Taking care of your

physical and mental health will help you to cope with the stress and uncertainty.

- Be patient. It may take some time to overcome the uncertainty and to find your way in the world. Be patient with yourself and with the process. (Mok et al., 2021)

6. Conclusion

The COVID-19 pandemic has had a significant impact on the mental health of youth. A study by the World Health Organization found that the prevalence of anxiety and depression among adolescents increased by 25% during the pandemic. Other studies have found that youth are also experiencing more stress, loneliness, and social isolation. There are a number of factors that have contributed to the decline in mental health among youth during the pandemic. These include:

- Social isolation: The pandemic has forced many youth to stay home from school, work, and social activities. This has led to increased feelings of isolation and loneliness.
- Financial hardship: Many families have experienced financial hardship during the pandemic. This has added to stress and anxiety levels among youth.
- Educational disruption: The shift to online learning has been challenging for many youth.
- This has led to increased anxiety about schoolwork and academic performance.
- Uncertainty about the future: The pandemic has created a great deal of uncertainty about the future. This has made it difficult for youth to plan for their future and has contributed to feelings of anxiety and stress.

The impact of the COVID-19 pandemic on the mental health of youth is likely to be long-lasting. It is important to identify

and address the mental health needs of youth in order to prevent long- term problems. Here are some ways to help improve the mental health of youth:

- Provide access to mental health services: Youth need access to mental health services, such as therapy and counselling. These services can help youth cope with the challenges they are facing and improve their mental health.
- Promote social connection: Youth need opportunities to connect with others. This can be done through in-person activities, such as sports or clubs, or online activities, such as social media groups.
- Create a supportive environment: Parents, teachers, and other adults can create a supportive environment for youth by being understanding and encouraging. They can also help youth to develop healthy coping mechanisms.
- Educate youth about mental health: Youth need to be educated about mental health. This will help them to understand their own mental health and to know where to get help if they need it.

The COVID-19 pandemic has had a significant impact on the mental health of youth. It is important to take steps to address the mental health needs of youth in order to prevent long-term problems. In addition to the above, here are some other things that can be done to help youth with mental health problems:

- Embrace peer support: Peer support groups can provide a safe and supportive environment for youth to share their experiences and to get help from others who understand what they are going through.
- Use technology: There are a number of online resources that can help youth with mental health problems. These

resources can provide information, support, and coping mechanisms.

- Be patient: It takes time to heal from mental health problems. Be patient with yourself and with the process.

References

- Achdut, N., & Refaeli, T. (n.d.). *Unemployment and Psychological Distress among Young People during the COVID-19 Pandemic: Psychological Resources and Risk Factors*. <https://doi.org/10.3390/ijerph17197163>
- Almeida, I. L. de L., Rego, J. F., Teixeira, A. C. G., & Moreira, M. R. (2021). Social isolation and its impact on child and adolescent development: a systematic review. *Revista Paulista de Pediatria*, 40, e2020385. <https://doi.org/10.1590/1984-0462/2022/40/2020385>
- Hwang, T. J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International Psychogeriatrics*, 32(10), 1. <https://doi.org/10.1017/S1041610220000988>
- Jurewicz, I. (2015). Mental health in young adults and adolescents – supporting general physicians to provide holistic care. *Clinical Medicine*, 15(2), 151. <https://doi.org/10.7861/CLINMEDICINE.15-2-151>
- Mok, K. H., Xiong, W., & Ye, H. (2021). COVID-19 crisis and challenges for graduate employment in Taiwan, Mainland China and East Asia: a critical review of skills preparing students for uncertain futures. *Journal of Education and Work*, 34(3), 247–261. <https://doi.org/10.1080/13639080.2021.1922620>
- Viner, R., Russell, S., Saullé, R., Croker, H., Stansfield, C., Packer, J., Nicholls, D., Goddings, A. L., Bonell, C., Hudson, L., Hope, S., Ward, J., Schwalbe, N., Morgan, A., & Minozzi, S. (2022). School Closures during Social Lockdown and Mental Health, Health Behaviors, and Well-being among Children and Adolescents during the First COVID-19 Wave: A Systematic Review. *JAMA Pediatrics*, 176(4), 400–409. <https://doi.org/10.1001/JA.MAPEDIATRICS.2021.5840>

Technology Adoption and Improved Rice Production among Smallholder Farmers: A Case of PICAGL Project in South Kivu/Democratic Republic of Congo

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Abstract

The impact of technology adoption on increased rice production among smallholder farmers was investigated in this study. This paper examines the 2019 Integrated Project on Agricultural Growth in the Great Lakes region (PICAGL) in South Kivu, Democratic Republic of the Congo. The research employed a mixed-methods sequential explanatory approach. Closed-ended questions based on a Likert scale model were applied to 327 households randomly chosen in the Walungu and Uvira sub-counties. The results have demonstrated that by raising rice yield and revenue, two rice technologies the System of Rice Intensification (SRI) and Integrated Soil Fertility Management (ISFM) have improved the socioeconomic life for adopters. The Logistic regression results has shown that age, gender, level of education, non-farm activities, plot size, extension services, farmer participation in training, positively influenced the adoption however, lack of Livestock had a negative influence in the adoption process. Furthermore, the study verified that South Kivu's rice farmers confront numerous difficulties, including excessive rainfall on their fields, dry spells, insufficient government funding, pests and illnesses, scarcity of fertilizers and seeds, and inadequate rural roads. To address the issues like the availability of hullers, credits aids, and irrigation of all water channels, some management options are needed.

Keywords: *Adoption, improved rice production, SRI, ISFM, management strategies*

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1. Introduction

Enhancing food security, reducing poverty, and promoting rural development all depend heavily on agriculture. Congolese people rely on agriculture approximately 70%. (FAO, 2020). DRC is far from reducing poverty and malnutrition among its rural population regardless its good climate and soil conditions. Agriculture is very significant in the Congolese economy and contributes 47.7 of the Gross Domestic Product. The Congolese agricultural sector faces numerous, challenges that have isolated its development and plunged the country into food insecurity.

Given its revenue, food supply, and rural employment potential, rice is one of the cereals crops that Congolese farmers grow. Reported by the Food Agricultural Organisation FAO (2020), the production loss of rice in Democratic Republic of Congo passed from 1.6million tons to 0.6million tons, either a loss of 64% in 2018. The country is said to be mainly in cereals deficit of minus 10.7 million tons which is 83% of production. This cereal balance and food have confirmed that there is great food insecurity. The Integrated Project on Agricultural Growth in the Great Lakes region (PICAGL) focused on introducing new farming technologies to farmers in order to assist DRC in meeting its long-term development goals. These technological advancements sought to improve plant protection, poverty alleviation, food production, and income. (IPAGRI 2021).

2. Theoretical Framework and Empirical Review

Several studies on Adoption of new technology and rice production have been conducted worldwide. The growth of agricultural productivity can reduce poverty and food prices by improving farmers' income. Sadoulet, (2016) distinguishes a few different learning theory models,

including what can be learned, which suggests that adopting new technology only requires knowledge of it or familiarity with users. Furthermore, based on what the social network observes, farmers share technology information based on their perceptions.

The farmer's decision to adopt new technology is explained by the "Learning for Adoption Theory." This theory, based on constructivist principles, asserts that people actively create their knowledge; reality is determined by learners' own experiences. Meanwhile, the diffusion theory states that an innovation must be learned, used, and spread. According to Roger (2003), an adopter can reject the learned innovation at any time. To prevent adopters from abandoning new techniques, adopting SRI and ISFM as a package is required to make the learned technologies sustainable.

Abubakar et al., (2019) analysed the elements that motivate farmers to use modern rice- growing techniques in Badeggi's National Cereals Research Institute (NCRI) in Nigeria. A simple random sample method was employed to collect data from 150 participants using a binary logit regression model. The research found that the different ways of delivering extension services were successful.

The study by Dharmendra et al., (2017) identified the barriers to SRI adoption faced by farmers in the India Rewa district. The study found that the most significant constraints faced by farmers were a lack of training (81.66%) and a labour shortage (76.66), lack seeds, and bio fertilizers (70.83%). The study suggested people to raise awareness of the new Rice Intensification System.

According to a description of the vulnerability of small-scale farmers in Madagascar to agricultural risks and climate change, 600 households were chosen at random for the survey (Harvey et al., 2014). The research found that

providing Malagasy farmers with technical, financial, and institutional help was the most effective way to increase agricultural output and food security.

3. Research methodology

This study applied a mixed method-sequential exploratory-approach. The data used in this article are from a survey conducted from July 2022 to October 2022. The Likert scale model close-ended questionnaires was used to collect quantitative data and interview guides for qualitative ones. The simple random non-probability sampling technique was used, it means 327 households were selected in Uvira and Walungu applying Yamane's formula (1967). Descriptive and inferential statistics were applied for data analysis using the Statistics and Econometric Data (STATA) 17.0 Software.

4. Objectives of the study

To examine the influence of technology adoption on rice production in South Kivu during PICAGL project implementation 2019 -2021 Frame.

Specific Objectives

1. To explore the determinants for adopting SRI and ISFM by smallholder farmers in South Kivu.
2. To assess the socioeconomic influence of SRI and ISFM adoption on rice production in South- Kivu.
3. To examine the challenges to adopting SRI and ISFM for rice-producing smallholder farmers in South Kivu.
4. To assess the management strategies used to enhance rice production in South Kivu.

5. Findings and Interpretation of Results

5.1 SRI and ISFM Adoption and Rice production

Table 1. Adoption Level of SRI and ISFM

Adoption SRI and ISFM	Freq.	Percent	Cum.
SRI	114	34.86	34.86
ISFM	161	49.24	84.10
FTP	52	15.90	100.00
Total	327	100.00	

Source: Researcher's analysis based on collected data 2022

Suitable technologies and plant materials play an essential role in productivity growth. Three rice technologies were listed in the operating zones of PICAGL. They included the System of Rice Intensification (SRI), Integrated Soil Fertility Management (ISFM), and Farmer Traditional Practice. According to Ambali et al., (2021), System of Rice Intensification is a technique for weighing the plant, soil, water, and light elements in order to help the plant realize its fullest potential. As for Vanlauwe (2015), using integrated soil fertility management (ISFM), crop productivity can be increased while agronomic effectiveness (A.E.) is maximized. Farmer Traditional Practice (FTP); is the rice-growing technique consists of planting rice randomly without caring about the number of rice seedlings in a pocket. The results in table 1 show that 161 (49.24%) respondents have adopted ISFM, 114 (34.86%) adopted the SRI, 52 (15.90%) were reported to stick to the farmer's traditional techniques because of technical and forced labor- intensive reasons.

Rice crop has been qualified seasonal rice presenting much broken and full of sand grains in South Kivu. However, rice production increased and updated agricultural techniques for improving transformation conditions was effective through PICAGL project (P. 5).

Local soil and climate influence how each technology is adopted. It implies that ISFM was primarily adopted by farmers in Uvira due to soil fatigue. SRI was present in Walungu.

Table 2. The Socio-Economic Life of the Smallholder Farmer in the Surveyed Area

Variable	ADOPTION			
	Socio-economic Effect	Non-adopters	Adopters	Total
No		7 (70.00)	3 (30.00%)	10 (100.00%)
Yes		39 (12.30%)	278(87.70%)	317 (100.00%)
Total		52	281 (85.93%)	100.00
Total		46 (14.07)	100.00	327 (100.00%)

Source: Researcher's analysis based on collected data 2022

The Adoption of SRI and ISFM positively impacted smallholder farmer's life and rice production. The study shows how it has increased the farmer's yield and income in 2019. Farmers could use fewer inputs and harvest more outputs. It implies 3 kilograms of seed, could harvest 400 kilograms of paddy, and an average of 280 kilograms of white rice contrary to the farmer's traditional practice that required much seed. According to IPAGRI (2021), some improvements were observed in rice production. The produced rice paddy passed in 2018 from 100900 tons to 126248 tons either an increased rate of 25% in 2019. Table 2 proves that 278 (87.70%) adopters and 39 (12.30%)

nonadopters had acknowledged that SRI or ISFM improved their socio- economic life. Compared to 3(30%) adopters and 7(70%) non-adopters who revealed that adoption did not help them, they blamed their failure on climate change rather than the nature of the new technologies.

5.2 Constraints on Rice production and Adoption of Improved Technologies

In South Kivu, rice smallholder farmers undergo many challenges that hinder rice production and prevent some farmers from adopting due to different reasons. This paper results restricts on the most significant constraints like Excess rainfall water (erosion); 172 (52.76%) farmers have agreed to be affected with this problem on rice plots 123 (37.73%) strongly agreed, 23 (7.06%) disagreed, 5(1.53) respondents were uncertain.

Water drought (early cessation of rain) was reported to challenge producers of rice 154 (47.09%) respondents agreed, 83 (25.38%) strongly agreed, 69 (21.10%) disagreed, 10 (3.06%) strongly disagreed and 11 (3.36%) were uncertain. The effect of damage to rice crops and plant disease is unquestioned. Rice crop is eaten by insects' rice weevils (scientific name *Sitophilus oryzae*) and is affected by pests and disease blast, bacterial blight, sheath blight, tungro virus, etc.

There is a physical reduction in yields that causes economic loss. However, to handle pest and disease challenges, we use pesticides named (Roquette, dudu, and Rapid). The lack of market is another challenge we meet in this area, which implies a lack of coordination, government credits aids, warehouse, rice hullers, and lack of market integration (P.7).

It implies that smallholder farmers undergo so many challenges that all stakeholders involved in agriculture should worry about.

5.3 Management strategies.

Management strategies system is important to the successful rice growth production in South Kivu. To meet the smallholder farmers' objectives, 196 (60.49%) of respondents reported that all rice plots need to have good dykes' layout 120 (37.04%) strongly agreed, 5 (1.54%) disagreed, and 3 (0.93%) were uncertain. In addition, farmers need to know how to drain and rinse water channels; thus, 176 (54.32%) agreed, 134 (41.36%) strongly supported this idea, 9 (2.78%) disagreed and 5 (1.54%) were uncertain. Pest and disease management by farmers, the government credits support and Capacity building were respectively reported to be good management strategies. Thus, 158 (48.77%) agreed, 108 (33.33%) strongly agreed, 55 (16.98%) disagreed and 2 (0.62%) strongly disagreed and 1 (0.31%) was uncertain.

5.4 Statistical test analysis of SRI and ISFM technologies

This study used the chi-square and student t-test to compare the means of two sample groups.

5.4.1 Chi-square test of adoption

The assumptions in this study were testing the existence of a relationship that is not necessarily linear. Based on the empirical Spearman correlation coefficient, the chi-square test is calculated on the matched sample data. The researcher postulates that adopting new rice technologies is relatively related to a strong correlation with gender at a 1% alpha level with a degree of freedom.

It implies that being male strongly correlated with adopting the new rice techniques. Similarly, farmers' membership in a

cooperative strongly correlated with adopting new rice varieties in South Kivu province. The study rejects the null hypothesis of independence while validating the alternative hypothesis.

5.4.2 The student's t-test: Adoption and rice production

Table 3. Two sample t-tests with Equal Variance Adoption and Rice Production

Variable	Freq.	Mean	Std. err.	Std. dev.	[95% conf. interval]	
No	281	4.274021	.0352744	.5913074	4.204585	4.343458
Yes	46	3.630435	.1218167	.8262014	3.385083	3.875786
Combined	327	4.183486	.0368797	.6669011	4.256039	
Diff	.6435866	.1000577	.446744	.8404291		
diff = mean(Yes) – mean (No)		t = 6.4322				
H0: diff = 0		Degrees of freedom = 325				
Ha: diff < 0		Ha: diff! = 0		Ha: diff > 0		
Pr(T < t) = 0.0000		Pr(T > t) = 0.0000		Pr(T > t) = 0.0000		

Source: Researcher's analysis based on collected data 2022

According to the above table results, the student t-value is 6.4322 with a degree of freedom of 325. The researcher can reject the null hypothesis and accept the alternative hypothesis because the p-value is less than 5%. Thus, the adoption of new technologies significantly affects rice production. With a margin of error of 1%, we can thus confirm that the difference in rice production is due to the adoption of new technologies.

5.5. Econometric Results

The study used the logistic regression model to highlight the elements that favourably or unfavourably influenced the

adoption of technologies on rice production in the study areas.

5.5.1 Determinants of SRI and ISFM technologies adoption and rice production

The model was statistically significant at the 1%, 5%, and 10% levels, indicating that the model was good at estimating at least the explanatory variables. The coefficient signs guide this econometric binary model interpretation in the below table.

Table 4. Logistic Regression of Determinants of Adoption of Rice Varieties in Uvira and Walungu

Gender of the head of the household (GENDER): It is one of the determinants of improved rice adoption. The gender of the household's head significantly influenced the adoption of improved rice production technology at a 5%. It implies that families led by men had greater access to technologies than female-headed households. Similarly, Theis et al. (2018), research in Ethiopia, Ghana, and Tanzania on gender-specific features of tiny scale irrigation technologies. The study found that empowerment of diverse agricultural technologies had all benefited women. However, there is still gender gap in technology adoption.

Education level (EDULEV), was statistically significant with a variation t-value of 1.26 with and 0.009 p-value probability at 1% of the significance level. According to the study, farmers' willingness to adopt new technology is positively influenced by their education level. In contrast, the results by Murhi et al., (2018) revealed that high formal education negatively influences agricultural productivity in South Kivu. Off-farm activities (OFFARM), positively affected adoption. It proved that the variation t- value was 1.58, and the

probability of adopting SRI or ISFM was 0.011p-value at a 5% significant level. Extra revenue from agriculture is an important strategy for rural households in many developing nations to overcome credit constraints. Similar results were found by P.M. Dontsop (2016), not every technology, however, have demonstrated a positive relationship between off-farm income and adoption. Some labor-intensive studies on technology adoption have found a negative relationship between off-farm income and adoption.

Livestock ownership (LIVESTOCK), the lack of livestock had a negative impact on the adoption of improved rice technologies, with a variation t-value of -0.33 and probability of 0.074 at a 10% level of significance because of the farmer's vulnerability in the studied area. In Contrast Kassie (2019), shows that, in Ethiopian agriculture, a significant source of income, food, and draught power for crop cultivation comes from livestock.

Plot Size (PLOT SIZE) the study found that the farm size, bigger or smaller it could be, did not prevent farmers from adopting improved technologies with 0.63 variations and 0.053 probability at a 10% significant level. In contrast, Mignouna et al., (2011) demonstrated that plot size had a negative impact on new technology's adoption. Small farm size may provide an incentive to adopt technologies, particularly those that are labour-intensive.

Extension services access (ACCESSEXT) has positively influenced the adoption with the t-value 1.54 and 0.024 p value at a 5% significance level. It implies that farmers who interacted with extension agents frequently were more likely to adopt. Similarly, Kanyamuka (2017), the likelihood of adopting both inorganic fertilizers and maize legume intercropping at the 5% alpha level significantly increased.

6. Conclusion

The study concludes that improved rice technologies System of Rice Intensification and Integrated Soil Fertility Management adoption have a positive impact on the farmers' socio-economic lives. Rice yield can be increased if all households adopt one of the improved rice technologies in South Kivu as a package. According to the findings, significant challenges to rice production in the studied area included a lack of water channel irrigation in Walungu and climate change, which causes water draughts in Uvira. Furthermore, poor marketing systems (it implies non-regulation of market price) are barriers to higher rice production in South Kivu. According to the study's findings regarding the logistic regression, certain variables related to policy have impacted the uptake of ISFM and SRI. Demographic factors like (Gender, Education level of the household's head), Socio-economic factors (off-farm income) have positively impacted the adoption of SRI and ISFM. While lack of livestock, has negatively influenced the adoption of SRI and ISFM. The study concludes that Institutional factors like the presence of Extension services, a farmer's membership in a cooperative, positively influence the adoption of SRI and ISFM. The results of this study signified that the application the improved techniques increases the production of adopters. The implications of the results are straightforward, even when the adoption of rice - improved technology is relatively poor in South Kivu.

References

- Abubakar et al, Garba Y, Gana AK, Jacob et al. 2019. "Factors influencing adoption of rice improved production practices by farmers in adopted villages, Niger state, Nigeria." *Adv Plants Agric Res.* (1):183–189. DOI: 10.15406/apar.2019.09.00433.

- Ambali, Areal F.J, Georgantizis N. 2021. "Improved Rice Technology Adoption: The Role of Spatially Dependent Risk Preference." *Agriculture* 11,691.
- FAO. 2020. "Support for the National Agricultural Investment Programme in the Democratic Republic of the Congo - GCP/DRC/051/CPR." *www.fao.org*. <https://www.fao.org/publications/card/en/c/CB0266> EN.
- Hattabou, Anna. 2006. "Diffusion of innovation Theory." *Academia* p.1.
- IPAGRI. 2021. *Rapport Bi-Annuel 2018-2019*. Bukavu /South Kivu: Bureau Production et Protection des Vegetaux (PVV).
- Kanyamuka, Joseph S. 2017. "Adoption of Integrated Soil Fertility Management technologies and its effect on maize productivity: a case of the legume best bets project in mkanakhoti extension planning area of Kasungu district in central Malawi." *Thesis*. Kasungu: Msc (Agricultural and Applied Economics), April.
- Kassie. 2019. *Determinants of Adoption of MaizeBH540 among Small holder farmer:Case of Odera Wadera South Gondar Zone Amhara National Regional*. Etiopia: Univerisity of GONDAR, Department of Agricultural Economics.
- Murhi et al. 2018. "Education and Agricultural productivity in Democratic Republic of Congo: Case of South-Kivu Province." *International Journal of Elementary Education*. Vol. 7, No. 1, 2018, pp. 712. doi: 10.11648/j.ijeeedu.20180701.12.
- Mwangi M, and Samuel Kariuki. 2015. "Factors Determining Adoption of New Agricultural Technology by Smallholderr Famers in Developing Countries." *Journal of Economics and Sustainable Development*.
- P.M. Dontsop Nguezet, V. Manyong, T. Abdoulaye, A. Arega, M.S Amato, J.H Ainembabazi, D.Mignouna, C.Okafor. 2016. "Non-farm activities and Adoption of Improved Cassava and Beans Varieties in South Kivu DRC." *Tropicultura* 34, 3 262-275.
- Rogers, EM. 2003. *Diffusion of Innovations. Fifth edition*. USA: Free Press.

- Sadoulet, Elisabeth. 2016. "Review of Theories of Learning for Adopting:Technology adoption in developing country agriculture." *Paper prepared for the Ferdi and SPIA workshop*. Clermont-Ferrand (France), Ferdi. p.163.
- Sophie Theis, Nicole lefore,Ruth Meinzen,Elizabeth Bryan. 2018. "What happens after technology adoption? Gendered aspects of smallscale irrigation technologies in Ethiopia, Ghana, and Tanzania." *Agriculture and Human Values* 35:671–684 <https://doi.org/10.1007/s10460-018-9862-8>.
- Vanlauwe, B., Descheemaeker, K., Giller, K. E., Huising, J., Merckx, R., Nziguheba, G., Wendt, J., and Zingore, S. 2015. "Integrated soil fertility management in sub-Saharan Africa: unravelling local adaptation." *SOIL Journal of the European Geosciences Union* SOIL, 1, 491–508, <https://doi.org/10.5194/soil-1-491-2015>.

Evaluating the Impact of Artificial Turf on Youth Mental and Physical Health: A Comprehensive Analysis

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Abstract

The research document investigates the impact of artificial turf on mental and physical health among youth. Artificial turf, made of synthetic materials designed to resemble real grass, has gained popularity as a surface for various sports and recreational activities, due to its strength, low maintenance, and all-weather suitability. However, concerns about potential health effects due to continuous exposure have been raised, specifically among young individuals who regularly participate in sports and outdoor activities. The literature review includes a study by Singh and Chauhan (2019) on young Indian athletes aged 14-18, which uses a questionnaire-based survey to collect data on the effects of playing on artificial turf on physical and mental health. The study utilizes a questionnaire to gather socio-demographic data, assess positive impacts of turf, and identify potential negative impacts. Most respondents are found in the age group of 21-25, indicating keen interest among college students in using artificial turf. The majority of the respondents belong to the Other Backward Class/Other Economically Backward Class (OBC/OEC) and Above Poverty Line (APL) category. The users are mostly unmarried and have a graduation degree. One major finding was that the youth tend to use the turf more on weekends, mostly for an hour or less. About half of the respondents (56.9%) were using the artificial turf at night. A significant percentage (78.5%) of the respondents reported not suffering from Anterior Cruciate Ligament (ACL) tear while playing on the turf and the majority (52.3%) reported not facing ankle sprains while playing. The study concludes that the artificial turf has both positive and negative impacts, but the negative impacts like injuries such as ankle sprains and ACL tears were low. It suggests that further investigation may be necessary for a more comprehensive understanding of the effects of

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artificial turf on young users' mental and physical well-being. Though majority respondents indicate low negative impact, choosing artificial turf for sports and recreational use must involve a balance of benefits and potential disadvantages.

This research focused on understanding the impacts of artificial turf on the mental and physical health among youth. Detailed data was collected from a sample comprised of young individuals aged 15-30 via a questionnaire, revealing trends, usage habits, and perceived impacts of artificial turf. The results indicated that college-aged participants were the most common users. While the study found low negative impact on turf usage in form of potential injuries such as ACL tears or ankle sprains, it signalled that potential benefits and drawbacks of artificial turf need to be balanced carefully. Future research directions to provide a more comprehensive understanding of the effects of artificial turf on users' well-being were suggested.

Keywords: *Artificial Turf, Mental Health, Physical Health, Youth, Sports, Well-being, Injury, Synthetic Grass, Outdoor Activities, Artificial Grass, ACL tear, Ankle sprains*

1. Introduction

The ubiquity of artificial turf in various sports and recreational contexts has seen a significant upsurge due to its robustness, minimal maintenance requirements, and the ability to be used in all weather conditions. Despite these benefits, concerns have been expressed about its possible impact on mental and physical health, particularly among the youth. Youthful age is a critical time when lifestyle habits concerning physical activity are being developed, and these habits can play a pivotal role in shaping one's overall health. Traditionally, natural grass fields have been the popular choice for sporting activities due to their cushioning and stress-absorbing capabilities; however, artificial turfs, often made of synthetic materials like rubber and plastic, constitute a rapidly expanding alternative. These, though, are substantially different from real grass in features and composition. The goal of this study is to explore and

comprehend the implications of artificial turf on the well-being of young individuals and to highlight any potential impacts on their general health. The focus is on presenting a comprehensive exploration that captures an array of perspectives to make this a constructive resource for future related studies. The research considers both the benefits and potential issues concerning artificial turf to provide a holistic examination of the subject matter.

Artificial turf, with its properties of durability, low maintenance, and suitability for all weather conditions, has increasingly been adopted as playing surfaces in various sports and recreational activities. However, there are growing concerns about its potential effects on the physical and mental well-being of individuals, especially young people. Youth is a critical stage of life when physical activities play a significant role in determining one's physical and mental health. Usually, natural grass fields, which provide a soft and stress-absorbing surface, are preferred. However, artificial turf, primarily made of synthetic materials like rubber and plastic, is gaining popularity due to certain benefits. However, it is crucial to understand that artificial turf significantly varies from natural grass in composition and characteristics. This study aims to deeply understand the impact of artificial turf on the mental and physical health among young people and shed light on any potential consequences for their general health. The goal is to present a comprehensive account that might provide helpful insights in this area and serve as a foundation for further related research. The importance of balancing the perceived advantages and potential drawbacks of artificial turf is emphasized.

2. Literature Review

The literature review component of the research aims to critically examine and evaluate studies associated with the impact of artificial turf on the mental and physical health of youth. Artificial turf, designed with synthetic materials to mimic real grass, has been the spotlight of various research due to its increasing popularity as a playing surface for diverse sports and activities.

One such study by Singh and Chauhan (2019) probed the impact of artificial turf on the physical and mental health of young Indian athletes. Their research comprised 150 young athletes aged between 14 and 18, with surveys being used to collect data on the effects of playing on artificial turf. Furthermore, the literature review identifies the potential health concerns voiced over the continuous exposure to these artificial surfaces, especially in relation to youth who are regularly engaged in outdoor and sports activities. The review underscores the importance of these studies in shaping strategies that can help ensure the well-being of youth using artificial turfs, while also informing future investigations and facilitating further research on the topic. The studies conducted both in India and internationally provide a global perspective to the understanding of this issue.

Sharma and Gupta's paper compares the physical and mental health effects of young football players in India playing on synthetic turf versus natural grass surfaces. The study includes 80 players aged 10 to 16 and utilizes physiological and psychological assessments. The authors present a thorough analysis of relevant literature, highlighting the advantages of artificial turf, such as increased durability and lower maintenance costs, while also addressing concerns like a higher injury risk, heat exhaustion, and infill material

toxicity. Overall, the research provides valuable insights into the health outcomes of youth football players on synthetic turf compared to natural grass surfaces in India, contributing to the existing body of literature and informing potential policy decisions on the use of artificial turf in sports facilities. Philip's study says that, in recent times, Kerala's football culture has witnessed a notable transformation as artificial turf fields have replaced improvised pitches on river beds and rice fields. This trend is particularly prominent in north Kerala, where around 500 artificial turfs have emerged, with Kozhikode district alone hosting 150 of them, primarily maintained by local males, many of whom are Gulf returnees. The popularity of these lush fields has led players to book time slots and negotiate rent, replacing the traditional village grounds. Former Indian footballer I M Vijayan views this shift as significant for the state's sports scene, fostering the development of a new generation of players and helping to compensate for the loss of traditional playgrounds. The accessibility of turf fields, available for use at night and in any season, accommodates players of all ages.

In a study conducted by Díaz-García et al. (2023), the impact of different soccer scoring systems on players' physical, tactical, and mental demands was examined. They had 18 youth-elite male soccer players play three 8 vs. 8 games with varying scoring rules: official score system, double the value of the goal—4 min, and double the value of the goal—8 min. The results indicated that the "double the value of the goal—4 min" scoring system led to the highest levels of mental and physical challenges. All three games resulted in increased mental exhaustion, with significant differences between the "double the value of the goal—4 min" system and the other two. Players tended to adopt more direct play during the "double the value of the goal—4 min" game. Changing the

scoring system can influence players' physical effort, tactics, and mental tiredness during soccer training.

In a study conducted by T. Greyling in 2016, the relationship between playing surface and lower limb muscle exhaustion in professional soccer players was investigated. The research involved 22 players, and they underwent a fatigue regimen on both grass and artificial surfaces in a cross-over study design. Measurements of force generation, force rates, and jump height were taken before and after fatigue using a force plate. Statistical analyses revealed correlations between various baseline variables. After fatigue, there were significant increases in propelling and concentric forces on the grass surface, while propelling force and propulsion force rate were significantly increased on the artificial surface. Interestingly, there were no clear differences between the two surfaces in terms of changes from baseline to exhaustion. The study suggests that different adaptation mechanisms may be used to deal with fatigue on different playing surfaces, emphasizing the importance of prescribing surface-specific training to reduce the risk of injuries in soccer players.

3. Methodology

The methodology of this research involves multiple elements, including the research design, sampling techniques, data collection methods, and data analysis approach. For the research design, a descriptive study is conducted to learn about an existing problem. The population (or universe) is defined as all males between the ages of 15-30 playing football in artificial turf in Aluva and Paravoor taluk (span new sports academy and O'4' sports). Convenient sampling technique was chosen due to the practicality and easy accessibility of participants. The total sample size is fixed at 65 based on the requirement for successful completion of the study. Data was collected primarily

through self-prepared questionnaires containing 40 questions. The questionnaire, divided into three sections, focused on Socio-Demographic Data, Positive Impacts of Turf, and Negative Impacts of Turf. For data analysis and interpretation, IBM SPSS 29, a statistical package for the social sciences, was used. The research process also considered ethical aspects, ensuring all respondents provided informed consent and maintained information confidentiality. Before the actual data collection, a pre-test was conducted in April 2023 to validate the questionnaire and its relevancy. The methodology was designed to ensure that the results are accurate and trustworthy, translating into valid conclusions and recommendations.

In the "Data Analysis and Interpretation" chapter, data collected from the 65 respondents was presented using figures and tables. Data was collected through a questionnaire containing 40 questions divided into three sections: socio-demographic data, positive impacts of turf, and negative impacts of turf. Section 1 regarding socio-demographic data revealed that the majority of respondents (63.1%) belonged to the age group 21-25, indicating that college-going students were more interested in using artificial turf. Most respondents were found to belong to the OBC/OEC category (63.1%), and were from the Above Poverty Line (APL) category (66.2%). Most respondents were unmarried (87.7%) and most of them have Undergraduate/Postgraduate education (80%). Section 2 focused on the positive impacts of turf. This part of data analysis considered various parameters like availability of transportation, mobile phone accessibility, the frequency and duration of using turf etc. Section 3 dealt with the negative impacts of turf through questions aiming to identify any serious injuries or problems faced by the respondents. To

assure objectivity, the investigator only used an objective technique when interpreting the data and there was no subjectivity. This section concluded that the correct interpretation yields accurate judgements and recommendations. For in-depth statistical analysis, tests like T-Test and Anova were also conducted to find out any significant differences among different groups.

4. Key Findings

1. The majority of the respondents (63.1%) were in the 21-25 age group, indicating that college-going students were more interested in using the artificial turf.
2. Approximately 63.1% of the respondents belonged to the OBC/OEC category.
3. The majority of the respondents (66.2%) belonged to the Above Poverty Line category, pointing to financial limitations for using the turf.
4. The majority (87.7%) of the respondents were unmarried, suggesting they have more time to play.
5. The educational status of the respondents showed that 80% had an undergraduate/postgraduate degree.
6. Over half the respondents (55.4%) preferred not to disclose their job status, possibly because they were studying.

1. The most frequent users of the artificial turfs are college-going students aged 21 - 25 years, making up 63.1% of the respondents.
2. Most respondents (87.7%) were unmarried, implying that they have more leisure time to use the facilities.
3. The users primarily belong to the Above Poverty Line category (66.2%), suggesting certain financial constraints associated with the use of artificial turfs.
4. Around 80% of the respondents had educational qualifications of an undergraduate degree or above, indicating a higher prevalence of turf usage among more educated individuals.
5. The analysis of the respondents' reactions to various statements related to their mental state shows mixed feelings about the use of artificial turfs. Some found it positive and

had a high level of agreement with statements such as feeling relaxed and confidently dealing with problems, while others had neutral or disagreeing responses, particularly to the statements related to feeling down, depressed, or hopeless. 6. The study indicated concerns about possible injuries or problems related to turf usage, demonstrating a need for further investigation and mitigation measures in the future.

1. Responses to statements about participants' mental state show some participants found the use of turf positive, feeling relaxed and confident. 2. The study raises concerns about possible injuries during turf usage, hinting at potential negative impacts.

1. Use of artificial turf might be linked to both positive and negative feelings. Respondents expressed complex responses over statements concerning their mental state, with some feeling relaxed while others also expressed feelings of being down, depressed, or hopeless.

2. There seem to be concerns about potential injuries while using artificial turf, with some impact on both professional and personal lives of respondents though specifics are not detailed. These findings suggest that while artificial turf may provide recreational opportunities, there could also be psychological and physical drawbacks.

5. Conclusion

Data interpretation and analysis led to several outcomes. Few significant variations were discovered when measuring pressures after wear on artificial and grass surfaces. The inconsistent behaviours of forces in response to weariness suggest that different adaptation mechanisms might be used to deal with a potential condition of fatigue. Therefore, it might be suggested to prescribe surface-specific training to promote muscle adaptation and reduce the risk of injury.

References

- Stier, J. C. (2015). Turfgrass Benefits and Issues. *Turfgrass: Biology, Use, and Management*, 105–145.
- Wright, J. M. (2010). Playing Field Issues in Sports Medicine. *Current Sports Medicine Reports*, 129-133.
- Bailey, R. H. (2019). Physical activity: An underestimated investment in human capital? *Journal of Physical Activity and Health*, 929-931.
- Bergman, P. (2010). Health promoting outdoor environments – Associations between greenery, views and physical activity among adolescents in Sweden. *International Journal of Environmental Health Research*, 363-377.
- Calloway, S. P. (2019). Injury Surveillance in Major League Soccer: A 4-Year Comparison of Injury on Natural Grass versus Artificial Turf Field. *The American Journal of Sports Medicine*, 2279–2286.

Case Study: Why Companies Fail to Create a Great Indian Ramzan Commercial?

Arun Gopi¹

1. Introduction

A data based in-depth look at the core values and trends in the world of the Islamic consumer, and how they will affect your brand. Every company should think about “How brands can reach Muslim Consumers?”. The Muslim consumers are called as the rise of the “third billion”. There are staggering 1.8 billion Muslims living across the world today. This case study deals with, why companies are not expensively promoting their products during Ramzan. Why ad agencies are failing to create a buzz in the advertisement marketplace with superb Ramzan ad campaigns as comparing with other festivals in India.

2. Micro Targeting

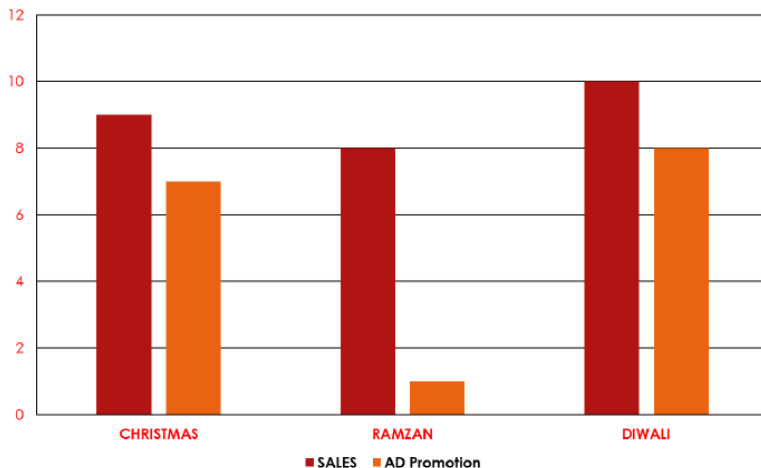
Marketing strategy that focuses on very small group with common interest. Micro targeting means targeting a specific individuals or small group having common interest and influence their thoughts or action. It is marketing strategy based on location, gender, religion age etc. The marketers will study the details regarding the customers’ interest.

As Kerpen (2011) shows, effective microtargeting is predicated on several crucial actions. First, it's important to precisely identify the needs of the intended audience. This is accomplished by researching the target market segment, taking into account consumer behaviourism in relation to comparable items and user behaviour as a result of social media networking usage. The next stage involves creating a

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product that aims to address these demands as much as possible, using the right language, strategy, and reaction to the identified needs. The third phase consists of introducing the product to the intended market, facilitating a microtargeted conversation, and assessing the outcomes. Social media is a much more approachable alternative to databases of consumer data, which may be necessary if the targeted market segment is thoroughly studied.

Figure 1. Sales and Ad Promotion comparison during different festivals in India



“Promotions at the time of Ramzan had become a blind spot that has gone unchallenged”. From the outside, you don’t see Ramzan as something that can be taken lightly. Creative people often feel constrained presenting ideas around Ramzan. As a Marketer we had to understand “How big is the Ramzan Economy?”. Muslim Consumers are disappointed in current engagement by Brands and retailers. Brands and organizations need to understand the RAMADAN seasons,

its behavioural transformations and, its key moments for engagement.

- Do you think Ramzan is a missed marketing opportunity?
- What is the top-line areas where marketers could plug the gaps by creating offerings?
- What in your view is the biggest reason behind the number of ads in Ramadan?

References

- Dave Kerpen (2011), *Likeable Social Media: How to Delight Your Customers, Create an Irresistible Brand, and Be Generally Amazing on Facebook*, McGraw-Hill. Kindle Edition;
- Kotler, Philip. (1984), *Marketing Essentials*. Englewood Cliffs, N.J., Prentice-Hall.
- Oliver, R., L. (1980), 'A Cognitive Model of the Antecedence and Consequences of Satisfaction Decisions', *Journal of Marketing Research*.



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