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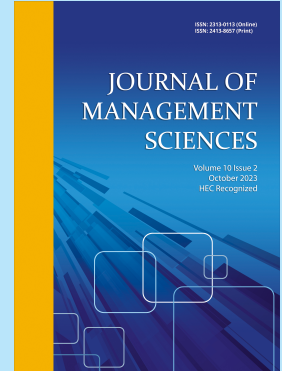
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Embracing Sustainable Development Goals to Build Community Resilience after COVID 19

Noman Ahsan *

Abstract: Community Resilience is instrumental in building a strong nation-state. It is the long-term potential of communities to resist, adapt to, and emerge from adversity. This underlying research intends to examine community resilience with the causal effect of a six-modular approach (SMA) and the moderating effect of two variables, i.e., Social Group and Guardianship. The six modular approach (SMA) consists of five independent variables: higher education, healthcare, economic well-being, preservation of social capital, and inclusive communication. Moreover, good governance serves the role of a mediator in the study. The COVID-19 pandemic posed significant challenges to countries around the world, including Pakistan. In response, the Government of Pakistan integrated the Sustainable Development Goals (SDGs) into its national development agenda. This integration demonstrates a commitment to global sustainability and provides a fertile ground for innovation. In their pursuit of resilience, communities can harness the power of innovation to address the unique challenges posed by the pandemic and other crises. Thus, this situation opens avenues for conducting rigorous research and proposing policy reforms to achieve a sustainable future for our present and upcoming generations. To achieve the stated objective, quantitative research is conducted by collecting data from Higher Education Institutions (HEI) students through a self-administered questionnaire. Non-probability convenience sampling is employed, resulting in a sample size of 1000 pupils. Eighteen hypotheses are developed to gauge their perspectives on community resilience, with twelve proving statistically significant and six showing statistical insignificance due to a p-value higher than 0.05. This research provides fresh insights, and it is beneficial for policymakers, academicians, authorities, and various state institutions. Hence, it will help them formulate strategies to build resilience in society, and consequently, Pakistan will rebuild itself as a prosperous sovereign state.

Keywords: Sustainability, Higher Education, health care, economic well-being, preservation of social capital, inclusive communication, good governance, community resilience, Structural Equation Modeling, Covid-19, Pakistan.

Introduction

Community Resilience is defined as the capacity to continue operating in the face of catastrophes. It is argued that community resilience is a crucial part of emergency planning and a way to guarantee social stability in the face of emergencies, especially pandemic

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(Cohen, Leykin, Lahad, Goldberg, & Aharonson-Daniel, 2013). Several scientific fields, including environmental sciences, engineering, sociology, psychology, and economics, have explored community resilience. Countless natural and human-caused disasters around the world have caused havoc resulting in the increased interest in community resilience. Koliou et al. (2020) said that policy makers should be well versed with the existing models of resilience to combat potential disasters. Patel, Rogers, Amlôt, and Rubin (2017) conducted a systematic review to derive a definition of community resilience and no common, agreed definition has been found. However, the author identified nine core common elements including; local knowledge, economic investment, resources, health, communication, interconnectedness, bureaucracy, direction, frame of mind and preparedness.

The majority of traditional theories of resilience are concerned with preparation for disasters. Disaster planners, government organizations, businesses, and community members all get benefits by developing community resilience. Nowadays, threats and disasters are frequently increasing, especially those brought on by urbanization, increased globalization, and climate change. The risk to communities rises as they continue to expand in both size and complexity.

Aldrich and Meyer (2015) observed that despite the increasing incidence of disasters, there has been insufficient attention given to the study of social capital at the community level. This highlights the pressing need to reinforce both social and physical infrastructure in the pursuit of sustainable societies. In his extensive work on unraveling the dynamics of social cohesion during the COVID-19 pandemic, Artaza (2020) emphasized the importance of safeguarding underprivileged segments of the population to preserve social cohesion and resilience. These insights underscore the characteristics of a socially vibrant and healthy society, one where individuals actively engage with each other and their communities, ultimately enhancing social capital.

The Covid-19 Pandemic had turned into a global crisis and Pakistan was no exception, though the country was facing multiple challenges prior to the pandemic; however, it is critical to note that poverty in Pakistan has significantly increased due to socio-cultural, political and economic effects of coronavirus. This deadly virus has caused a serious damage to the already unstable and struggling economy further causing decline in tax revenues.

Global entities including Governments institutions, multinational organizations, local businesses, small and medium enterprises, non-government welfare organizations, educational establishments, health sector and others immediately focused on constructing processes that may safeguard their operations and businesses with due diligence. While Active digital platforms supported coordination, communication and connectivity, enterprises responded quickly to revamping their supply chains, introducing remote work solutions, and making decisions with startling speed. Organizations that immediately responded to the COVID-19 downturn were able to effectively handle the disruptions than those that did not. Moreover, a meaningful shift is expected to occur in the commercial model of both business-to-business (B2B) and business-to-consumer (B2C) companies.

In such case, communities can create novel approaches, technologies, and strategies through innovation to increase their capacity for adaptation. Innovative warning systems, disaster response tools, and community-based disaster risk reduction initiatives are

a few examples of the ways that communities can get ready for and respond to disasters better. Moreover, innovation encourages a sense of ownership and cooperation by including community members in decision-making processes and giving them knowledge and skills (Moayerian, McGehee, & Stephenson Jr, 2022). Residents can be given the tools and tactics they need to actively participate in initiatives to improve resilience. Communities can become more resilient and better able to survive in the face of disaster by encouraging innovation locally and incorporating it into resilience-building efforts. By empowering communities, innovation fosters sustainability and well-being while proactively addressing the complex and dynamic character of contemporary concerns.

According to Yan et al. (2021), global education system is facing formidable challenges due to coronavirus. Conventional schooling system was transformed into online schools in order to impart education to students. The shift from traditional classroom arrangement to virtual set-up, where video teleconferencing through Zoom, Blackboard and Google Team, social media, and asynchronous discussion forums serve as the key platforms for knowledge generation and peer communication, must thus be made by students. According to the author, students used various learning mediums like; smart-phones, cell phones, tablets, TV in online learning. Furthermore, students adopted various learning approaches such as; social platforms, recorded lectures or solve independently by searching online. However, consistent internet availability is essential for students' success in online learning. Students voiced complaints about their terrible experiences with online learning platforms, inadequate teacher communication, too many tasks, poor course design, eyestrain from extended screen staring, and noise. Likewise, Bhamani et al. (2020) said that coronavirus has had an effect on parents. While most institutions have begun offering classes online, sudden closings have left pupils lacking in one-one meetings, which is essential for improvement. As they must secure their children's education, this has turned into a challenging routine for parents who work from home online. Being responsible for their children's education has made this a difficult habit for parents who work from home online.

Meanwhile the Education sector explored options for conduction of effective learning through the use of online platforms and distance learning practices; the real challenge however, remained with public schools, colleges and universities that were ill equipped to confront a challenge that required social distancing and isolated learning driven by digitalization. Though availability of digital resources for coordination, and communication were the most daunting test, lack of training among teaching and non-teaching staff and less familiarity of students with digital knowledge not just disabled their opportunity to learn and comprehend but also open new debates on the ability of the younger generation to establish their marks as a valuable resource in the world of today.

Furthermore, the healthcare system was extraordinarily laden with patients infected with the virus, raising questions on the strength of the healthcare system. Though healthcare system in Pakistan was appreciated for its response in adoption of strategic policies to contain the virus (DAWN, 2020), Healthcare professionals continuously demanded for government support in providing facilities to effectively identify effected patients. Moreover, it is urgently necessary to enhance results for COVID-19 patients by providing personal protective equipment and implementing administrative procedures to guarantee

greater health and safety for medical personnel. Therefore, it is safe to assume that despite international recognition for prompt Covid-19 response, supporting the neglected healthcare system is essential. While the masses were concerned for the emergent and apparent challenges amid Covid-19 such as scarcity of resources, increased poverty and income inequalities, education challenges and healthcare challenges many failed to identify its grave impact in reducing social capital and inclusive communication that showed a varying trend (both positive and negative) during multiple waves.

As a country committed to the cause of Sustainable Development Goals, Pakistan must remain compliant to its standards (targets) to ensure achievement of these goals by 2030. This research aims to gauge the holistic role of six critical variables during Covid-19 including - (1) Health care (2) Education (3) Economic well-being (4) Good governance (5) Preservation of social capital (6) Inclusive communication; and establish their association to accomplish the targets of the SDGs by 2030. Hence, the objective of the research is: To analyze the impact of (Higher Education, Economic Wellbeing, Healthcare Delivery, Healthcare Delivery, Inclusive Communication, Preservation of Social Capital and Good Governance) on Community Resilience.

This research makes a significant contribution by investigating the multifaceted impact of six crucial variables, including higher education, economic well-being, healthcare delivery, inclusive communication, preservation of social capital, and good governance, on community resilience, particularly in the context of the Covid-19 pandemic. The novelty of this study lies in its comprehensive examination of these variables and their association with community resilience, offering fresh insights into how these factors interact and influence a nation's ability to withstand and recover from crises. Additionally, this research aligns with Pakistan's commitment to the Sustainable Development Goals (SDGs), aiming to provide valuable guidance for policymakers, academics, and institutions to formulate strategies that promote resilience and contribute to the achievement of SDG targets by 2030, ultimately fostering a sustainable and prosperous future for the nation.

Literature Review

Sustainable Development Goals

The Sustainable Development Goals (SDGs) are a set of 17 global objectives established by the United Nations to address a wide range of critical challenges facing our world, encompassing social, economic, and environmental dimensions. These goals, adopted in 2015 as part of the 2030 Agenda for Sustainable Development, seek to eradicate poverty, ensure equality, protect the planet, and promote peace and prosperity. They encompass diverse objectives such as ending hunger and poverty, ensuring quality education, achieving gender equality, combating climate change, and fostering sustainable economic growth. The SDGs provide a universal framework for nations, organizations, and individuals to work collectively towards a more equitable, sustainable, and resilient future.

Community Resilience

Coronavirus was initially initiated in Wuhan, China, and quickly crossed borders in few months, causing deaths and a disastrous impact on economies hence, the ability to "bounce back" is crucial to build community resilience. Hence, it is necessary to remain progressive on the path of sustainable development and strengthen community resilience, the state may remain focused on six key areas of sustainable development.

1. Health care - (Fulfil SDG 3)
2. Education - (Fulfil SDG 4)
3. Economic well-being - (Fulfil SDG 8)
4. Good governance - (Fulfil SDG 16)
5. Preservation of social capital
6. Inclusive communication

Named the Six Modular Approach (SMA), it establishes that for a developing nation like Pakistan it is almost impossible to attend and progress simultaneously in all dimensions of goal targets following the coronavirus implications. Nonetheless, a more attentive approach towards six variants will ensure significant progress towards achievement of sustainable development and building community resilience. [Ahmad, Chowdhury, Siedler, and Odek \(2022\)](#) said that coronavirus has posed enormous obstacles for poor nations, which are already underdeveloped in terms of resources and lack proper social safety nets. Lockdown has specifically had a negative effect on marginalised communities (such as labourers, fish wholesalers, and small business owners) and workers in the informal sector who depend on meagre daily salaries for their livelihood. Authors explored the community's initial response to the pandemic in the contentious context of the urgent reaction for the COVID-19 outbreak in Bangladesh. The results of investigation of 24 in-depth interviews with people of this community reveals that the central and local government structures in place at the time have not been able to address the situation. However, we highlight the importance of group efforts at the local level, coordinated by individuals and local leaders, in the struggle against adversity. [Ningrum, Chotib, and Subroto \(2022\)](#) examined recent research on urban community resilience in relation to the COVID-19 in an effort to highlight the need of developing models for urban community resilience in the event of a future pandemic. After locating, filtering, and ranking the titles and abstracts of 703 records, authors came up with 47 publications that met the inclusion and exclusion criteria. Three factors that have an impact on community resilience are used to group the insights. The first is the pandemic-related vulnerability of the urban community. The second is the many categories of local organisations that are addressing the pandemic's effects. Third, important factors for fostering community resilience.

[Suleimany, Mokhtarzadeh, and Sharifi \(2022\)](#) said that it was made clear how important it is to strengthen community resilience in 2019 due to pandemic and the difficulties it presented to populations around the world. Frameworks for assessment can be extremely

useful in this situation and serve as a direction for initiatives to promote resilience. A focus on sectoral evaluation has arisen due to the lacking of assessment framework. An integrated methodology for evaluating communities' pandemic resilience is what this study attempts to present. Authors used a systematic analysis of the literature that is included in the most well-known scholarly databases for this aim. Numerous criteria and characteristics have an impact on a community's ability to withstand pandemics, according to research.

Lu, Wang, and Zhan (2023) said that an increased attention is needed to uplift the lives of rural communities as they directly confront catastrophes. The absence public infrastructure and basic amenities have made the life of underprivileged strata more vulnerable. Hence, it is the need of the hour to take preventive measures, focus on the issues of displaced persons and provide better living conditions to the people belong to informal economy.

Mannarini et al. (2022) said that their study set out to uncover patterns of linkages between sense of community (SOC), community resilience, and psychological well-being via the lens of the effects of the 2019 coronavirus disease (COVID-19) on several spheres of life. At the COVID-19 outbreak (June-September 2020), survey information was gathered from a global sample of adults ($n = 824$). To determine the relationships between SOC and community resilience with the perceived effects of the emergency situation and with psychological wellness, we evaluated a mediation model using a structural equation model. Results showed that SOC was positively correlated with wellbeing and that it reduced the negative effects of COVID-19 across a number of life areas.

Healthcare

A population that is in good health is more productive, makes greater earnings, and lives longer; good health is crucial to the happiness and well-being of all people. Furthermore, it has a significant impact on affluence and even economic expansion. Moreover, the Sustainable Development Goals (SDGs) place a high priority on health and well-being. "Ensure healthy lives and promote well-being for all at all ages" is the goal of SDG 3.

Feroz, Ali, Feroz, Akber, and Meghani (2021) conducted an exploratory qualitative study on healthcare providers during pandemic in Karachi. Difficulties experienced by front-line healthcare workers in COVID-19 wards. Healthcare professionals were more apprehensive about getting sick and infecting their loved ones. While taking care of the patients, healthcare professionals reported a lack of PPEs and sanitizers. According to hospital staff, families would act violently towards the medical staff if they refused to accept more patients. Due to the pandemic's rapid evolution, Pakistan's whole healthcare system is under strain, and hospitals are unable to keep up with the demand for essential supplies like ventilators, beds for intensive care units, and personal protective equipment.

Likewise, Feroz et al. (2021) mentioned that their qualitative study found several issues, along with solutions, for healthcare professionals handling COVID-19 patients. The study further stated that paramedical staff during interviews mentioned a number of issues that affected their capacity and motivation to care for COVID-19 patients. Lack of PPEs and hand sanitizers, unclear SOPs, ad hoc management of the hospital's outpatient

area for COVID-19 screening and testing, aggressive behaviour on the part of COVID-19 positive patients' families, and the hospital's limited ability to treat and manage an escalating number of COVID-19 positive patients were a few of these issues.

Moreover, [Sethi, Sethi, Ali, and Aamir \(2020\)](#) observed in a study that examines the difficulties involved and how it affects medical practitioners both personally and professionally. In both public and private institutions in Pakistan, health experts from various disciplines were involved in the study. Healthcare personnel experience stress, financial instability, and overwork while providing care for patients and their families during COVID-19.

Education

Regardless of the global progress in Information technology, digitalization or machine learning and intelligence, education remains the key for knowledge, cognition and comprehension for individuals in any nation. Thus, education helps individuals prosper, and evolve through experiences and learning of knowledge, skills, and morals. Therefore, the Sustainable Development Goal placed education as a primary goal as SDG 4 that aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." (Global Goals, 2015).

[Iqbal, Ashiq, Rehman, Rashid, and Tayyab \(2022\)](#) said that this study examines students' opinions and experiences of the many components of online learning while they are enrolled in Pakistani universities and higher education institutions (HEIs) that switched to online modes of teaching during the COVID-19 epidemic. This study's main objective was to measure how satisfied students were with their institutions' and teachers' level of support, with how various communication and evaluation methods were used, and with the environment at home where they were studying. It also looked into the aspects that participants saw as having a good and negative impact on online education. This study was carried out using an online questionnaire-based cross-sectional survey research approach. Data were gathered from 707 respondents who attended various universities and HEIs in Pakistan.

[Mahmood et al. \(2020\)](#) said that pandemic has caused educational institutions all around the world to close. The research article examines several teaching methods. These pedagogical techniques can support the adoption of online learning in higher education. The case study creates multiple online teaching strategies without sacrificing student learning. These techniques will aid in creating effective online learning sessions. The report put up various ideas for online education in poor nations. It involves speaking slowly and having professors' model various vocal techniques. Sharing materials prior to the class will also aid in the creation of interactive online lessons. These tactics are essential for improving student learning. The research recommended that the Higher Education Commission work with the telecom industries. This will aid in resolving problems with the Internet.

[Farooq, Rathore, Mansoor, et al. \(2020\)](#) said that globally, the new coronavirus (COVID-19) pandemic has had a negative impact on the economy, social life, and educational services. During this extended time of lockdown, medical colleges and universities are

struggling to offer their students with a proper education. Countries with advanced technology have e-learning and online medical education infrastructure in place. The majority of low-income nations, like Pakistan, do not operate in this manner. In this article, we discuss the difficulties encountered by Pakistani medical faculty members and students who are pursuing online medical education during the COVID-19 pandemic. These include concerns with internet connectivity, retaining student involvement, online examinations, and issues with comprehending the particular dynamics of online education. They also include a lack of staff training and institutional support. a coordinated strategy encompassing all parties, intuitional backing, and usage.

According to [Zhou and Zhang \(2021\)](#), non-digital options (print textbooks or hand-outs) were supplied in the United States when there was a scarcity of desktop, tablets and smart phones. Curriculum and grading policy adjustments were also made. Governments created movies and webinars to teach people about quarantine techniques and information, built an online platform for individuals to share their wellness regimens, and distributed financial aid as intervention tactics to encourage wellness in order to deal with pandemic issues. In order to address the problems of inexperienced teachers and a lack of online learning resources, the Chinese Ministry of Education incorporated nationwide assets (such as ordering the major communications companies to maintain a stable internet connection), experienced instructors, and set up spaces for students and teachers to share their online learning/teaching methods and experiences.

Economics

The economic sector is critical to achieving SDG 8, which aims to promote inclusive, and sustainable economic growth, full and productive employment, and decent work for all. The economic sector is the primary engine of a state and development and can heavily contribute to advancing not just SDG 8 but other interlinked goals of Agenda 2030 (UNP, 2022). For example, the economic sector can create jobs and provide opportunities for income generation. It can also help to reduce inequalities by providing access to essential services and goods, and by promoting social inclusion. In addition, the economic sector can contribute to environmental sustainability by supporting the transition to low-carbon economies ([Anbumozhi, Kawai, & Lohani, 2015](#)).

A stable economic sector can help promote sustainable development by promoting economic growth which is typically characterized by an increase in the gross domestic product (GDP). Moreover, it can improve living standards and reduce poverty by increasing productivity and efficiency, as well as expanding into new markets and sectors. This will result in creating new jobs and opportunities, which in turn can uplift the lives and livelihoods of people across the globe ([Dyran & Sheiner, 2018](#)).

Small and medium-sized businesses can expand and thrive with the help of the economy. SMEs are often a key source of employment and innovation in economies and by providing support to them, entrepreneurship can be increased which in turn contributes to overall economic growth. Furthermore, infrastructure development is highly dependent on the economic sector in a number of ways; such as investments in transportation, communication, and other infrastructure projects. This can help to improve connectiv-

ity and increase economic activity, contributing to the achievement of SDG 8 (Nnyanzi, Kavuma, Sseruyange, & Nanyiti, 2022). Lastly, the very sector can play a role in promoting sustainable practices, like using renewable energy sources and reducing waste. This contributes to environmental protection and the preservation of natural resources for future generations.

Asghar, Batool, Farooq, and ur Rehman (2020) said that globally, the effects of the Covid-19 epidemic seem to be fairly unpredictable. The countries are making efforts to mitigate its effects on their economies. Production, distribution, and way of life have all been impacted. More than 5 million people have died as a result of the global coronavirus pandemic, which has also crippled trade. Pakistan and other emerging nations anticipate significant economic setbacks as a result of this predicament. This study examines the relationship between the incidence of cases and the quantity of tests performed to determine the effect of the Covid-19 pandemic on the economy of Pakistan. It also looks at how the Covid-19 pandemic's demand-side and supply-side shocks have affected the economy of Pakistan. On the supply side, this epidemic has disrupted both the domestic and global supply chains, leading to a lack of basic supplies.

Rasheed, Rizwan, Javed, Sharif, and Zaidi (2021) said that with over 67 million confirmed cases and over 1.5 million fatalities worldwide, including Pakistan, the COVID-19 pandemic has impacted over 210 nations. With more than 420,000 infected people and more than 8300 fatalities, community transmission of the coronavirus occurred quickly in Pakistan due to the population density, healthcare infrastructure, prevailing poverty, and environmental variables. This study examines the immediate and long-term impacts of COVID-19 peak on Pakistan's socioeconomic and environmental conditions. In the FY 2021, it is predicted that there will be a 10% economic loss, or 1.1 trillion Pakistani rupees. Lockdowns, social exclusion, and travel restrictions were among the government's pandemic obstruction tactics that have been rigorously examined to see how they affected the livelihoods of nearly everybody.

Sareen (2020) said that one of the nation's most severely impacted by COVID-19 is Pakistan, where the pandemic's effects on the economy have exacerbated a situation that already existed. This essay examines the impact of the public health issue on several of Pakistan's most important economic sectors. Even though the government has taken certain mitigating measures, they are not enough to fully offset the pandemic's effects. The research examines how Pakistan's military-dominated hybrid political system might be affected if the country's economy nearly collapsed. Finally, it considers how Pakistan's economic crisis can affect the country's strategic environment.

Good Governance

Good governance is essential for addressing many challenges facing societies around the world, including poverty, inequality, and environmental degradation. It is also crucial for promoting economic growth and development, as well as for building resilient and sustainable societies. One key aspect of good governance is the rule of law, which is essential for protecting human rights and ensuring that all members of society are treated equally and fairly under the law. The rule of law also helps to create an environment of

trust and confidence in institutions, which is critical for promoting social cohesion and stability.

Another important factor of good governance is participation, which allows for the inclusion and engagement of all stakeholders in decision-making processes. This helps to ensure that decisions are made in a way that is inclusive and reflective of the needs and interests of the broader community. Participation is also essential for building trust in institutions and promoting accountability (OECD, 2015). Transparency is another crucial facet of governance, as it helps to build trust in institutions and promote accountability. It is important that decision-making processes are open and transparent, and that information about the use of resources is readily available to the public.

Good governance also requires that institutions should be responsive to the needs and concerns of the public. This can involve measures such as consultative processes, open communication channels, and effective complaint mechanisms. A stable structure of governance promotes inclusiveness, ensuring that all members of society have the opportunity to participate and have their voices heard. This is particularly important for marginalized and vulnerable groups, who may otherwise be excluded from decision-making processes (OECD, 2015).

Inclusive Communication

According to [Anson, Bertel, and Edwards \(2021\)](#), COVID-19 and its associated "infodemic" provide the application of risk communication a new sense of urgency. The main strategy for combating the pandemic has been to tell the public accurately about hazards and preventative measures, particularly before the vaccines started to be distributed in early 2021. Effectively sharing the information about health hazards with vulnerable groups is very important including; elderly people, persons with disabilities, socioeconomically disadvantaged and ethnic and linguistic minorities. The work is made more challenging by the fact that vulnerable populations are frequently hard to reach by risk communicators and occasionally susceptible to misinformation as well as sickness. The study concludes by promoting scientifically supported risk communication tactics that explicitly and purposefully take into account social complexity and the lived experiences of vulnerable populations. [Beene, Koelling, and Thompson \(2020\)](#), in their study focused on the production and dissemination of public health Info-graphic that follow guidelines for inclusive design, and accessibility. According to this study, it is the responsibility of libraries and other community centers to create and disseminate public health information, particularly in times of emergency. Whether they produce their own visual communication or repurpose content from other sources, librarians can incorporate social justice measures into their visual communication by following best practices for purposeful, strategic, and inclusive public health visual information. Similarly, [Wopereis et al. \(2022\)](#) said that the significance of effective and inclusive communication is highlighted by crises like the ongoing COVID-19 outbreak. It is essential that citizens understand how to protect both themselves and society at large. Groups having specific communicative needs, like non-native speakers, immigrants, those with low literacy rates, and those with sensory impairments, are underrepresented by governments. This project demonstrates how

video productions can support policy guidelines to educate a wider audience.

Preservation of Social Capital

[Szreter and Woolcock \(2004\)](#) articulated a 3-part framework, distinguishing between various types of social capital: bonding (trusting and co-operative relations between members of a network who see themselves as being similar, p. 654), bridging (relationships between people who know that they are not alike, p. 655), and linking (norms of respect and networks of trusting relationships between people who are interacting across explicit, formal or institutionalized power or authority gradients in society, p. 655). In order to effectively ensure the inclusive delivery of COVID-19 health services, this article contends that considerations of social capital, such as virtual community building, encouraging solidarity between high-risk and low-risk groups, and trust building between decision-makers, healthcare professionals, and the public, offer a powerful frame of reference.

In crisis situations, social capital offers a number of advantages, and communities with high levels of social capital react more effectively than those with low levels of social capital. Hence, it is suggested that people, communities, and governmental organizations enhance and widen social networks. [Putra, Sunarsih, Novitasari, and Setini \(2020\)](#) study's objective is to investigate and assess how social capital, business strategy, and innovation capabilities affect corporate performance. The findings demonstrate that social capital is essential for generating knowledge about consumers, raw materials, and competitors as well as for acquiring information quickly that is helpful for innovating.

[Giavrimis and Nikolaou \(2020\)](#) said that the COVID-19 pandemic has affected how people connect with one another and has changed fundamental social institutions like the economy and education. The individuals' social capital is viewed as an essential component for social inclusion in the context of covid19, which is marked by the restriction of their social activities, social distancing, and minimization of face-to-face communication. Positive social ties can flourish when there is a high level of social capital. [Zhang and Sung \(2023\)](#) said that when pandemics strike, social capital—the very thing that helps people recover from natural disasters and create resilience—becomes a source of risk.

[Zheng, Khan, and Hussain \(2020\)](#) said that in the COVID-19 crisis, traditional learning abruptly gave way to digital learning, which ultimately presented difficulties for both students and teachers. The impact of personality traits on student social networks appears to be a neglected field of research during the COVID-19 pandemic. In order to collect data during the height of the COVID-19 pandemic, we specifically want to explore the relationship between social capital and proactive personality. The objective of this study is to investigate the moderating effects of perceived social support on the associations between proactive personality and both Internet self-efficacy and the quality of online interactions. Additionally, the mediating impacts of internet self-efficacy & online interaction quality were examined under the moderating influence of perceived social support. The authors of this study discovered that during the COVID-19 epidemic, students' proactive personalities improved their social capital through the effectiveness of their online interactions. Similar to this, during the COVID-19 pandemic, perceived social support boosted the mediating role of online interaction quality in the relationship between a proactive per-

sonality and social capital. Also highlighted are the consequences and potential directions for future research.

Hypotheses Development

In light of above discussion, 18 hypotheses have been proposed:

- H₁: There is a significant impact of Economic Well-being on Community Resilience*
- H₂: There is a significant impact of Economic Well-being on Good Governance*
- H₃: There is a significant impact of Higher Education on Community Resilience*
- H₄: There is a significant impact of Higher Education on Good Governance*
- H₅: There is a significant impact of Good Governance on Community Resilience*
- H₆: There is a significant impact of Healthcare Delivery on Community Resilience*
- H₇: There is a significant impact of Healthcare Delivery on Good Governance*
- H₈: There is a significant impact of Inclusive Communication on Community Resilience*
- H₉: There is a significant impact of Inclusive Communication on Good Governance*
- H₁₀: There is a significant impact of Preservation of Social Capital on Community Resilience*
- H₁₁: There is a significant impact of Preservation of Social Capital on Good Governance*
- H₁₂: Social Group significantly moderates the relationship between Good Governance and Community Resilience*
- H₁₃: Guardianship significantly moderates the relationship between Good Governance and Community Resilience*
- H₁₄: Good Governance significantly mediates the relationship between Preservation of Social Capital and Community Resilience*
- H₁₅: Good Governance significantly mediates the relationship between Economic Well-being and Community Resilience*
- H₁₆: Good Governance significantly mediates the relationship between Higher Education and Community Resilience*
- H₁₇: Good Governance significantly mediates the relationship between Healthcare Delivery and Community Resilience*
- H₁₈: Good Governance significantly mediates the relationship between Inclusive Communication and Community Resilience*

Methodology and Data

The research on building community resilience through the six modular approach is designed on mixed methods approach. Owing to the distinctiveness and nature of the research being presented, the researchers approached the study from two major viewpoints of investigation: (i) Quantitative approach is majorly used in the development of household survey instrument and collection of data on public perception. The main goal of quantitative research is to test the hypotheses of a conceptual model. (ii) Qualitative approach is utilized for the development of open-ended interview questionnaire to delib-

erate with experts on research outcomes and suggest policy recommendations to various stakeholders of this particular research.

For this research, the target population comprises all households in Karachi. To construct a structured sampling framework, a non-probability sampling method was utilized to survey 1000 households. Undergraduate university students were targeted to represent diverse social groups and statuses within the city. Prior to obtaining their consent, these students were informed about the research's purpose, significance, data collection instructions, and ethical guidelines. Data collection followed purposive sampling criteria: respondents had to be at least 18 years old, enrolled in an undergraduate program, well-informed about their households' dynamics, and willing to provide household information while being present during data collection.

This study uses Statistical Package for Social Science (SPSS) to test the demographics. However, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used for both the estimate measurement model and the structural model.

Questionnaire

As the research design incorporated mixed methods approach; therefore, for the purpose of this study two comprehensive data collection instruments were constructed.

First, household survey questionnaire – this self-administered questionnaire was developed on Google forms, to collect data and record public perception on the modular variables including (i) Health care (ii) Education (iii) Economic well-being (iv) Good governance (v) Preservation of social capital (vi) Inclusive communication. The questions were closed ended and designed on a 5-point Likert scale, wherein 1 represents strongly disagree, while 5 represents strongly agree.

Second, interview questionnaire – interview questionnaires were developed to conduct an in-depth analysis of the context and consequences of the responses recorded during the household survey. The interview questionnaires were designed as open-ended deliberative questions and synchronized with the conceptual framework for form policy recommendations.

Data Analysis

Data analysis has been done by using two software: SPSS and SmartPLS. The SPSS V 22.0 has been used for demography/ respondents' profile while SmartPLS 4 has been used to determine psychometric properties (reliability and validity) of the scale and structural equation modeling (SEM).

Descriptive Analysis

As per statistics of gender, 51.5% are female and 48.3% are male respondents. Further, the outcomes of age depict that most of the respondents belong to the age group of 20-30 i.e., 85.7%. Then, 9.4% respondents lie in the age group of 31-40 years. Concerning, place of

birth, majority of the respondents i.e., 91.3% are from Karachi and then from Hyderabad. Based on the data of current degree/certificate in which respondents are enrolled, it has been observed that 53.2% students are graduate, 15.7% are masters, and then remaining are MPA, PhD, MPhil, MHRM, and Masters. In addition, 78.7% are unmarried and 20.8% are married students.

Measurement Model

Structural Equation Modelling (SEM) is one of the most widely used approaches in the quantitative social sciences (Smelser, Baltes, et al., 2001).

Reliability and Validity

Construct Reliability refers to consistency of results thus; it checks internal consistency of the data set across items. There are two measures used to calculate reliability: Cronbach Alpha and Composite Reliability however, there are conditions to apply them in the data set. If the researcher is conducting Exploratory Factor Analysis (EFA), then the threshold value of Cronbach Alpha is considered whereas Confirmatory Factor Analysis (CFA) takes into account the threshold value of Composite Reliability. Hence, this study is based in testing the hypotheses (i.e. CFA) therefore, value of Composite Reliability will be emphasized. The threshold value of Composite Reliability is equal to 0.7 or greater than it (Hair et al., 2011). In table 1, the values of all the constructs meet the criteria of Composite Reliability hence, construct reliability is established.

Table 1
Construct Reliability and Convergent Validity

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
CR	0.813	0.889	0.727
EcoWel	0.834	0.879	0.551
Edu	0.773	0.867	0.686
GG	0.869	0.899	0.563
HCD	0.818	0.881	0.650
IC	0.878	0.912	0.674
Psc	0.763	0.756	0.564

Note: Edu= Education, HCD= Healthcare delivery,
EcoWel= Economic wellbeing, GG= Good
Governance, PSc= Preservation of social capital,
IC= Inclusive Communication, CR= Community
Resilience

Moreover, Construct or internal validity refers to accuracy of results. It is classified into Convergent Validity and Discriminant Validity. Convergent validity explains the degree of agreement or there should be high correlation among the items of construct. The measure of convergent validity is Average Variance Extracted (AVE). AVE basically validates the construct i.e. it describes the amount of variance in the data set. The threshold value of AVE is 0.5 or greater than it (J. Hair, Black, Babin, & Anderson, 2010). The value less than 0.5 means items explains more errors than the variance in the construct. In table

1, the values of all the constructs meet the criteria of Average Variance Extracted hence, convergent validity is established. Table 1 exhibits reliability and validity of constructs.

Discriminant Validity

Discriminant validity refers to the degree of difference or there should be no correlation among the constructs in a model.

Table 2
Discriminant Validity of constructs through Fornell-Larcker Criteria

	CR	EcoWel	Edu	GG	HCD	IC	Psc
CR	0.853						
EcoWel	0.572	0.743					
Edu	0.600	0.605	0.828				
GG	0.713	0.682	0.673	0.750			
HCD	0.606	0.616	0.647	0.701	0.806		
IC	0.583	0.700	0.646	0.716	0.784	0.821	
Psc	0.508	0.623	0.530	0.610	0.484	0.627	0.751

Table 3
Discriminant Validity of constructs through Heterotrait-Monotrait Ratio (HTMT)

	CR	EcoWel	Edu	GG	HCD	IC	Psc
CR							
EcoWel	0.679						
Edu	0.737	0.734					
GG	0.808	0.792	0.803				
HCD	0.729	0.735	0.805	0.810			
IC	0.687	0.732	0.779	0.821	0.823		
Psc	0.730	0.874	0.890	0.842	0.806	0.889	

The three measures for discriminant validity are: Fornell-Larcker Criterion, Heterotrait-Monotrait Ratio (HTMT) and cross loadings. For Fornell-Larcker Criterion, all the diagonal values must be greater than values of their respective columns and rows. Threshold Value of Heterotrait-Monotrait (HTMT) must be less than 0.8 or should not exceed 0.9 (Henseler, Ringle, & Sarstedt, 2015) and value of cross loading should be greater than 0.5 (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014). Furthermore, cross loading refers to how well the items of each variable defines the particular variable and Items should have higher loadings in its own construct than other constructs (J. Hair et al., 2010).

Table 2 exhibits Discriminant Validity of constructs according to Fornell-Larcker Criterion. All the diagonal values are greater than the non-diagonal values. Hence, Discriminant validity is established. Table 3 exhibits Discriminant Validity of constructs according to Heterotrait-Monotrait Ratio (HTMT). All the values in the table meet the criterion hence, Discriminant validity is established. Table 4 exhibits Discriminant Validity of constructs according to cross loadings. All the values in the table meet the criterion hence, Discriminant validity is established.

Table 4
Discriminant Validity of constructs through cross loading

	CR	EcoWel	Edu	GG	HCD	IC	Psc
CR1	0.828						
CR2	0.857						
CR3	0.873						
EcoWel1		0.627					
EcoWel2		0.700					
EcoWel3		0.883					
EcoWel4		0.804					
EcoWel5		0.662					
EcoWel6		0.749					
Edu1			0.856				
Edu2			0.779				
Edu3			0.848				
GG1				0.749			
GG2				0.731			
GG3				0.671			
GG4				0.767			
GG5				0.791			
GG6				0.648			
GG7				0.874			
HCD1					0.795		
HCD2					0.898		
HCD3					0.747		
HCD4					0.775		
IC2						0.769	
IC3						0.846	
IC4						0.870	
IC5						0.820	
IC6						0.795	
Psc1							0.914
Psc2							0.906

Bootstrapping

R-Square

R square is also known as coefficient of determination. The value of R² indicates that latent variables adequately explains the change in dependent variable. The higher value indicates the goodness of fit model. Value of R Square between 0.25, 0.50 and 0.75 shows weak, moderate and strong effect (J. F. Hair, Ringle, & Sarstedt, 2011). The R² value of Community resilience is 66% and Good Governance is 65%.

Path Coefficient

The measure used for statistical significance is the T and P values. The threshold value for the T value is 1.96 or above, while the threshold value for the P value is 0.05 or less. Beta value represents the strength of the individual relationship. The results are presented in table 5. Moreover, mediation results are reported in table 6.

Table 5
Path coefficient

Hypotheses	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (—O/STDEV—)	P values	Hypotheses Summary
H1	EcoWel ->CR	0.249	0.238	0.070	3.131	0.000	Supported
H2	EcoWel ->GG	0.196	0.182	0.111	1.761	0.078	Not Supported
H3	Edu ->CR	0.179	0.181	0.038	4.743	0.000	Supported
H4	Edu ->GG	0.221	0.222	0.046	4.792	0.000	Supported
H5	GG ->CR	0.811	0.815	0.022	37.225	0.000	Supported
H6	HCD ->CR	0.236	0.242	0.059	4.016	0.000	Supported
H7	HCD ->GG	0.290	0.296	0.070	4.146	0.000	Supported
H8	IC ->CR	0.060	0.068	0.096	0.623	0.533	Not Supported
H9	IC ->GG	0.073	0.084	0.118	0.624	0.533	Not Supported
H10	Psc ->CR	0.150	0.151	0.051	2.909	0.004	Supported
H11	Psc ->GG	0.184	0.185	0.063	2.931	0.003	Supported
H12	Soc.Group x GG ->CR	0.002	0.003	0.033	0.052	0.959	Not Supported
H13	Guardian x GG ->CR	0.048	0.046	0.036	1.316	0.188	Not Supported

Discussion of Hypotheses Results

Hypothesis 1 states that there is a significant impact of Economic Well-being on Community Resilience and it is Not Supported. It means that in the context of covid19, economic well-being does not play any role in building community resilience. It is alarming for an underdeveloped country like Pakistan. Furthermore, countries that have low purchasing power and its people are living below poverty line will rank low in community resilience. There is an urgent need to pay heed to provide basic necessities of life to the citizens at affordable price. Hypothesis 2 states that there is a significant impact of Economic Well-being on Good Governance but in results, it is Not Supported. It means that in the context of covid19, economic well-being does not play any role in enforcing Good Governance. It means that peoples' happiness is not related to quality of governance in low-income countries like Pakistan. The problem lies in economic crises faced by a country that's why less focus is exerted on components of good governance (delivery of human rights: civic, social, political and economic). As a matter of fact, Pakistan lacks regulatory framework and rule of law due to poor governance.

Hypothesis 3 states that there is a significant impact of Higher Education on Community Resilience and it is supported. It means that higher education has played its due role in building community resilience. Despite the fact that Pakistan bore the brunt of covid19, educational institutions have made unprecedented efforts to impart quality education which resulted into building community resilience. Hypothesis 4 states that there is a significant impact of Higher Education on Good Governance and it is supported. Education plays a vital role in developing awareness and transforming the lives of people and citizens will demand better regulatory practices, provision of human rights and rule of law. Consequently, egalitarian society will be formed and country will be free from of social evils.

Hypothesis 5 states that there is a significant impact of Good Governance on Community Resilience and it is supported. This indicates a positive picture which means that if sincere efforts are made to enforce good governance then it will help to build community resilience. The Government of Pakistan has taken stringent steps to overcome the crises of pandemic and community has shown its resilience. The death toll and number of positive cases were controlled after imposing lock down, establishing quarantine

Table 6
Specific Indirect Effects (Mediation Analysis)

Hypotheses	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (—O/STDEV—)	P values	Mediation	Hypotheses Summary
H14	Psc->GG->CR	0.150	0.151	0.051	2.909	0.004	Partial Mediation	Supported
H15	EcoWel->GG->CR	0.159	0.148	0.091	1.748	0.080	No Mediation	Not Supported
H16	Edu->GG->CR	0.179	0.181	0.038	4.743	0.000	Partial Mediation	Supported
H17	HCD->GG->CR	0.236	0.242	0.059	4.016	0.000	Partial Mediation	Supported
H18	IC->GG->CR	0.152	0.528	0.096	5.528	0.000	Full Mediation	Supported

units and providing free-of-cost vaccination. Hypothesis 6 states that there is a significant impact of Healthcare delivery on Community Resilience and it is supported. Healthcare services are instrumental for building a strong nation. If citizens are mentally and physically strong, they can contribute positively to the society. They will be less vulnerable and more resilient.

Hypothesis 7 states that there is a significant impact of Healthcare delivery on Good Governance and it is supported. Healthcare services are crucial for the survival of the people. It ultimately leads to good governance. Hypothesis 8 states that there is a significant impact of Inclusive Communication on Community Resilience, but as per the results, it is Not Supported. It means that some loopholes were found in disseminating the information. All parts of the province were not equally provided timely information that creates chaos and some people were left behind and faced difficulties in day-to-day activities. Subsequently, community resilience is affected.

Hypothesis 9 states that there is a significant impact of Inclusive Communication on Good Governance, but as per the results, it is Not Supported. It indicates that means of communication were not effective despite some measures taken by the Government of Pakistan. The outreach is an issue for a country like Pakistan where technology is not advanced and majority of the population live in rural areas. Hypothesis 10 states that there is a significant impact of Preservation of Social Capital on Community Resilience and it is supported. It is a positive sign that people reached out to other members of the society during pandemic, created a strong bond and it results into a strong society.

Hypothesis 11 states that there is a significant impact of Preservation of Social Capital on Good Governance and it is supported. Networking among people is essential for social cohesion and it helps to build a fabric of society. Hypothesis 12 states that Social Group significantly moderates the relationship between Good Governance and Community Resilience, but as per the results, it is Not Supported. It means that social group is not playing any role in either strengthening or weakening the relationship between IV and DV. It means that those who belong to any specific social group or having any affiliations are not influencing the mechanism of good governance and community resilience. The insignificant result shows that citizens have not interpreted the role of social activists appropriately.

Hypothesis 13 states that Guardianship significantly moderates the relationship between Good Governance and Community Resilience, but as per the results, it is Not Supported. It means that guardianship status of the respondents is not influencing either good governance or community resilience. Hypothesis 14 states that Good Governance significantly mediates the relationship between Preservation of Social Capital and Community Resilience and it is supported. This is a healthy sign as good governance is connecting social capital and community resilience. Hence, presence of good governance has myriad of benefits.

Hypothesis 15 states that Good Governance significantly mediates the relationship between Economic Well-being and Community Resilience, but as per the results, it is not supported. This means that good governance is not intervening or bridging the gap between economic well-being and community resilience. Hypothesis 16 states that Good Governance significantly mediates the relationship between Higher Education and Com-

munity Resilience and it is supported. This paints a rosy picture and good governance is drawing connections between higher education and community resilience. It means that good governance is crucial to impart quality education and building community resilience.

Hypothesis 17 states that Good Governance significantly mediates the relationship between healthcare delivery and Community Resilience and it is supported. Good governance is essential to promote healthcare services and build community resilience. Hypothesis 18 states that Good Governance significantly mediates the relationship between Inclusive Communication and Community Resilience and it is supported. Good governance is essential to develop Inclusive Communication and build community resilience.

Conclusion and Recommendations

The greater community resilience can be accomplished more quickly with the aid of enforcing and harnessing SDGs due to innovation. Communities can improve their preparedness, adaptability, and capacity to lessen the effects of disasters by fostering an innovation-friendly culture and investing in cutting-edge techniques and technologies. This will ultimately help to achieve SDGs for things like poverty reduction, climate action, sustainable infrastructure, education and other goals. Therefore, the purpose of the study is to investigate the impact of six modular (SMA) approach on community resilience during the time of covid-19. Good governance serves as mediator whereas Guardianship and Social Group are moderators in the study. In order to achieve the stated objective, quantitative research is done by collecting data from the students of Higher Education Institution (HEI) through self-administered questionnaire. Furthermore, non-probability sampling i.e. convenience is used. The sample size is 1000 pupils and to gauge their perspective regarding community resilience, 18 hypotheses are developed, among which twelve are statistically significant while other six are statistically insignificant due to a p-value higher than 0.05.

On the basis of extensive research from varying data collection instruments namely (i) household survey (respondents – undergraduate students) and (ii) expert interviews (respondents – field experts and academicians) the following recommendations have been formulated to strengthen resilience in communities through commitment to the SDGs six modular approach:

Based on the education, it is recommended to embrace contemporary technologies for knowledge acquisition and transform global education practices by incorporating practical training and reflective thinking. This can be achieved through the deployment of education technologies like TV programs, smartphone apps, and web platforms that are customized to suit the local context, thereby enhancing the learning experience for students. To improve communication between students, parents, and educational activities, the development of centralized data dashboards is essential. Furthermore, it is crucial to prioritize providing access, availability, and training in digital platforms for both public and private education sectors. Additionally, creating competency standards and assessment criteria for blended and distance learning is vital to ensure the effectiveness of on-

line education programs. During crises like the pandemic, it is advisable to provide clear instructions, manuals, and guidelines to students, faculty, staff, and parents to navigate uncertainties effectively. To plan for the future of education, the creation of a sustainable platform for deliberation and discussion of educational needs, policies, and actions is recommended. Ensuring access to internet services and technical assistance in all educational institutions at all levels is imperative, not only as a current necessity but also to achieve the 2030 Sustainable Development Goals, particularly in education. Lastly, addressing education inequalities, especially among marginalized groups like young girls and children with special needs, is vital. This includes a focus on enhancing both the quality and equity of education, along with implementing effective outreach plans to empower marginalized communities and build resilience in times of crisis.

Recommendations for healthcare in the context of building community resilience after Covid-19 include several key points. Firstly, it is crucial to acknowledge and appreciate front-line healthcare workers during medical emergencies by offering financial and non-financial incentives to combat anxiety, fatigue, and demotivation. Secondly, addressing the mental health challenges faced by healthcare professionals is essential. Providing them with professional help and implementing standard operating procedures to prevent future mental health issues is imperative to ensure a resilient healthcare workforce. Thirdly, there is a pressing need to secure medical settings for healthcare staff. This involves ensuring access to suitable personal protective equipment (PPE), delivering adequate training, and conducting drills. Supportive management and leadership are crucial during crises to effectively communicate updated clinical guidelines to the staff. Lastly, in light of the anticipation of future health emergencies, governments and institutions must adopt a proactive and preventative approach. This entails extensive multidisciplinary research and the development of well-thought-out plans to build community resilience and readiness for a wide range of healthcare challenges, beyond just Covid-19.

The recommendations for enhancing economic well-being and building community resilience, as outlined in the research, encompass several key points. Firstly, there is a crucial need for the government to foster trust among the public. This can be achieved by implementing measures to support local Small and Medium Enterprises (SMEs), including bank lending, deferred power bills, subsidies, soft loans, and tax breaks. These efforts are essential to translate individual economic gains into communal prosperity, ultimately contributing to community resilience. Secondly, Pakistan should urgently transition towards a low-carbon economy by embracing energy conservation methods. The heavy reliance on fossil fuels and emission-intensive industries poses a significant economic burden, especially as the country faces challenges related to high oil prices and diminishing natural and financial reserves. This transition is vital for maintaining a sustainable and resilient physical environment. Additionally, strengthening the digital infrastructure alongside conventional physical infrastructure is imperative. A robust digital framework is essential to expand trade opportunities, both domestically and internationally, facilitating the growth of local businesses and traders. Lastly, Pakistan should consider moving beyond GDP as the sole metric for measuring economic success and development. Exploring an integrated index that incorporates economic and social well-being indicators can provide a more holistic understanding of prosperity and progress. This shift in mea-

surement can align with modern discussions on economic and social progress, enabling more comprehensive assessments of the nation's well-being.

To strengthen community resilience, it is recommended to enhance communication channels by introducing audio-visual aids, particularly in rural areas, to disseminate information effectively to vulnerable groups. Additionally, the establishment of informal community centers, possibly managed by local mosques, can serve as hubs for awareness on various issues, free from local social or political influence. Lastly, improving information outreach during disasters is crucial, requiring expanded internet networks and the utilization of modern communication methods for efficient message delivery. These measures aim to address communication gaps and promote resilience in Pakistan. To preserve and strengthen social capital for community resilience post-Covid-19, key recommendations include building strong local cooperation and community participation, fostering solidarity among diverse groups, and addressing issues of intolerance against minorities and marginalized communities. These measures aim to enhance trust, harmony, and cooperation among various stakeholders, ultimately contributing to a more resilient and inclusive society.

To enhance good governance and foster community resilience in the post-COVID-19 era, key recommendations include promoting Public-Private Partnerships (PPPs) to address resource limitations, improving communication and coordination through digital platforms for public input, developing and evaluating crisis plans with a focus on Disaster Risk Resilience (DRR), establishing dedicated disaster management funds, involving key stakeholders in policy reforms to prevent conflicts, and strengthening accountability mechanisms during policy implementation. These measures collectively aim to enhance governance practices and ensure effective responses to future challenges and crises.

Limitations and Future Recommendations for Scholars

While this research benefited from valuable support and funding from the Sindh Higher Education Commission, it is essential to acknowledge certain limitations that may guide future scholars in their endeavors within the field of community resilience and sustainable development. Firstly, due to time constraints, this study employed purposive sampling with specific conditions. Future scholars are encouraged to consider allocating more time and resources to conduct longitudinal studies, allowing for a deeper exploration of the extensive research domain. One notable challenge encountered was in data collection from undergraduate students, who exhibited intellectual awareness and active participation in providing fair and valid opinions. However, their limited familiarity with formal research protocols necessitated continuous supervision, resulting in substantial time investment during data collection. Future researchers should anticipate similar challenges and allocate sufficient resources for guidance and training. While this study aimed to represent a variety of regional groups within its sample, focusing on participants from Karachi, a multi-cultural industrial hub in Sindh, was primarily due to financial constraints. Future scholars are encouraged to secure additional funding to expand their research scope to include participants from diverse regions, thus providing a more comprehensive perspective. Lastly, to enhance the robustness of the conceptual model, future research can

consider incorporating other moderating and mediating variables, such as income group, region, and gender. These variables can offer valuable insights into the complexities of community resilience and sustainable development, allowing for a more nuanced understanding of the subject matter.

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