

## DRIVERS AND IMPACT OF SOCIAL MEDIA AS AN INFORMAL SOCIAL SECURITY MECHANISM IN DISTRICT CHARSADDA, PAKISTAN

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**Abstract**

This study examines the role of social media as an informal social security mechanism in District Charsadda, Pakistan, focusing on the drivers that influence individuals' perceptions of social protection. The research uses a survey of 465 respondents, capturing demographic information such as age and education level, alongside variables representing digital and social drivers, including ease of crowdfunding, social stigma/shame, social media usage, social isolation, and community-based support mechanisms. Descriptive analysis reveals that the majority of participants are aged 21–30 years, while the most common educational attainment is intermediate or bachelor's degree, indicating a relatively young and educated sample. Frequency and percentage distributions demonstrate that access to social networks and digital tools is widespread, providing the foundation for informal support systems. In terms of analytical strategy, the study employs regression analysis with robust standard errors to examine the relationships between these predictors and informal social security, measured through perceptions of financial, emotional, and social support. Results indicate that ease of crowdfunding has the strongest positive impact, reflecting the growing importance of digital platforms in facilitating rapid financial assistance during emergencies. Community-based initiatives, represented by popular YouTube programs such as Aam Olas, also exhibit a significant positive effect, highlighting the enduring relevance of localized support networks. Additionally, reduced social stigma is positively associated with informal social security, suggesting that anonymity and inclusivity in online spaces encourage individuals to both seek and provide support without fear of judgment. In contrast, social media usage and social isolation, while conceptually relevant, do not show statistically significant direct effects in the model, suggesting that their influence may depend on interaction with other social or community factors. Among demographic controls, education level is positively associated with perceptions of informal social security, indicating that more educated individuals are better able

to leverage social networks and digital tools, whereas age does not have a significant effect. Variance Inflation Factor (VIF) tests confirm that multicollinearity among independent variables is negligible, supporting the robustness of the model. Overall, the findings highlight the importance of combining digital platforms with community-based support and social inclusivity to strengthen informal social security systems. The study contributes to the understanding of how modern communication tools can complement traditional social protection mechanisms, providing policy-relevant insights for local governments, NGOs, and community organizations aiming to improve access to support among vulnerable populations.

## INTRODUCTION

Traditionally, social security has been viewed as a key human right and an important aspect of sustainability. It is a remedial device that comprises a series of entitlement schemes that coexist to promote that individuals and families can have a minimum standard of living to encourage their well-being when they face risks of losing their income through, but not limited to, poverty, unemployment, illness, disability, or old age. In addition to its monetary provisions, social security plays a vital role in promoting social justice and reducing inequality by mitigating the effects of economic shocks and strengthening both individual and collective resilience to crises. More optimistically, a conception of social protection guarantees income security and provision for basic human needs and dignity, such as food, health, education, housing, and contentment, ultimately supporting growth. The outcomes of social protection schemes, like many forms of equitable redistribution, are not consistent and vary greatly when comparing developed and developing nations (Sayeed, 2004).

In many developing countries, formal social security systems remain weak, fragmented, and underfunded, leaving vast segments of the population outside their coverage. This challenge is particularly acute for informal workers and self-employed individuals, who constitute the majority of the labor force in such economies. Unlike formal sector employees, who may benefit from structured unemployment insurance, pension schemes, or health benefits, informal workers often lack access to institutionalized protections. Consequently, they remain highly vulnerable to income insecurity and external shocks, including economic downturns, natural disasters, and health crises. The growth of the informal economy across the

developing world has exacerbated this problem, widening the gap between constitutional promises of protection and the lived reality of workers. Scholars argue that genuine development cannot be measured solely in terms of economic growth but must also account for the degree of social justice, equality, and security achieved within a society (Shaikh, 2016; I. Tariq et al., 2021).

Pakistan holds a mirror to these issues. Although the Constitution grants equal rights and access to every citizen toward social security, the informal structure and former social protection system are narrow in their scope and effectiveness. Old-age benefit schemes, disability allowances, and health facilities are government initiatives, and these do not meet the demands of many, predominantly in rural and marginalized areas. The unemployment benefits are few, the pension systems are frail, and there a scanty coverage of health care. Consequently, huge sections of the population, particularly informal workers, continue to suffer economic and social security losses (Shuhong & Zia Ud Din, 2017). The combination of these factors has propelled individuals and communities to have recourse to informal support systems for survival.

Through generations, informal social security schemes have assumed a crucial part in the social fabric of Pakistan. Unlike government-organized schemes, community-based systems are based on common humanity: shared values, mutuality, and reciprocity. They manifest through various channels, including family support, neighborhood networks, religious institutions, non-governmental organizations (NGOs), and other traditions.

Pakistan is an example of those challenges. The Constitution guarantees equality and access to social security for all citizens without restriction. Still, the formal social protection framework of the country is thin in terms of both function and efficacy. The initiatives of the government include old-age benefit schemes, allowances for disabilities, and health facilities, but they are inadequate in terms of fulfilling the needs of millions, particularly in rural and marginalized areas. There are hardly any unemployment benefits; pension systems are weak, while health care coverage is very scant. As a result, large sections of the population, especially informal workers, continue to experience economic and social insecurity (Shuhong & Zia Ud Din, 2017). Such gaps have brought individuals and communities to informal support systems for survival.

Social security mechanisms have long been a significant part of the social scene in Pakistan. As opposed to state-structured programs, these mechanisms are based on shared beliefs, solidarity, and interdependence. They express themselves through different channels such as family support, neighborhood networks, religious establishments, non-governmental organizations (NGOs), and traditional systems of reciprocity. Such mechanisms offer not only money but also psychological and emotional help, which serves to enhance social resilience and cohesion during crises. These arrangements, while informal, play a vital role in ensuring that there is a safety net for the vulnerable, particularly where state capacity is weak or does not exist (de Paula & Scheinkman; Nkosiya & Edwell, 2007).

In recent years, though, a new dimension has been brought to the overall landscape of informal social security: the growth of social media as a platform for solidarity and assistance. With the growing penetration of digital technologies and internet availability in Pakistan, social media has branched out to become an informal system of social protection. Lack of efficient formal systems has hastened the transition, given that people and communities are increasingly turning to platforms such as Facebook, WhatsApp, and Twitter to request help, exchange needs, and mobilize resources. Social media facilitates quick information dissemination, making it possible for emergencies to spread quickly to large audiences

within an instant. This promptness has enabled it to be a useful instrument for coordinating fundraising events, reaching charities, and disseminating crises that could otherwise go unnoticed to wider society (Unni & Rani, 2003).

Several factors have contributed to the evolution of social media as an informal social security mechanism in Pakistan. First, the inadequacy of government-led welfare programs has forced people to seek alternative avenues of support. Second, the communal and trust-based culture of Pakistani society aligns well with the participatory nature of social media, where networks of friends, family, and strangers can come together for collective action. Third, social media platforms offer efficiency and transparency in the collection and distribution of resources, reducing delays that often accompany traditional forms of assistance. Fourth, the scale and reach of digital platforms enable individuals to access support far beyond their immediate communities, thereby expanding the scope of informal security. Lastly, repeated crises—whether natural disasters, health emergencies, or economic shocks—have demonstrated the effectiveness of these platforms in mitigating vulnerabilities and reducing the scope of damage (Sayeed; Shaikh, 2016).

In the context of Pakistan, and particularly in vulnerable districts such as Charsadda in its Khyber Pakhtunkhwa province, social media has become a lifeline for many. Communities in this region, historically marginalized by weak infrastructure and limited state presence, have leveraged digital platforms to address urgent needs ranging from healthcare expenses to disaster relief. Through online fundraising, community mobilization, and awareness campaigns, social media has filled critical gaps left by the formal system. It has enhanced individual and collective resilience by enabling rapid responses to crises and reducing dependency on traditional, slower-moving support networks.

This study, therefore, seeks to examine the factors that have contributed to the evolution of social media as an informal social security mechanism in District Charsadda. By exploring how digital platforms facilitate resource mobilization, promote solidarity, and provide financial and emotional support, the research highlights the transformative role of technology in addressing vulnerabilities in fragile social protection systems. In doing so, it not only

underscores the importance of social media in bridging institutional gaps but also contributes to broader debates on informal security, community resilience, and social justice in developing contexts.

## 2: Literature Review:

This section reviews the existing literature to examine the role of social media as an informal social security mechanism. It summarizes existing research on the economic, social, and cultural factors that drive the use of social media for support.

Mumtaz and Sumarto (2024) studied how people in conflict-affected areas of Pakistan, where violence and insecurity are common, manage to get help and support in their daily lives. They found that in such areas, the government often fails to provide proper welfare services like financial help, healthcare, or social safety nets. Because of this, people are forced to depend on informal sources of support, such as help from relatives, neighbors, religious groups, or even political parties and local influential people. The authors use the term "*insecure welfare regimes*" to describe this kind of situation, where the state is either absent or ineffective, and people must turn to other ways to survive. Their research shows that while these informal systems do help people in times of need, they are not always fair or reliable. Access to support often depends on personal connections, loyalty to certain groups, or belonging to a particular community. In some cases, people even have to align themselves with political or militant groups just to get basic help. This can lead to more suffering and social harm in the long run, especially for the poor and vulnerable. This study is useful for the current research because it explains how, in the absence of strong formal welfare systems, people in insecure areas turn to informal support networks. It also provides a background for understanding how modern tools like social media may now play a role in these informal support systems. In places like Charsadda, where formal help may be limited, social media could be an important platform for people to ask for and offer support, just like traditional informal networks have done in the past. Similarly, Suleman and Iqbal's (2024) study emphasizes the post-COVID period, rather than focusing solely on the lockdowns. While much of the existing literature addresses violence during the peak of the pandemic, few studies have explored how its

residual impacts may continue to affect family dynamics. Their study finds that both financial stress and social isolation have long-term psychological and behavioral consequences. Economic recovery has been slow for many households, and inflation continues to affect daily living costs. At the same time, the erosion of community trust and reduced interpersonal engagement have left many individuals emotionally vulnerable and socially isolated. These continuing conditions make the home environment volatile, particularly in patriarchal societies like Pakistan, where women often have limited legal or financial autonomy.

Gul, S., Anjum, M. N., & Bajwa, M. A. (2023) focused on psychological drivers in crowdfunding behavior and on three main underlying perceptions: perceived behavioral control, trust, and entrepreneurial intentions, to gain insight into the study. Their findings showed that the willingness to participate in crowdfunding is primarily contingent on self-beliefs regarding one's ability to use this medium (i.e., perceived behavioral control), the degree they trust the platform and project owners, and how active they are in pursuing entrepreneurial activities. The effects coincide with technology adoption and behavioral finance theories from the self-efficacy perspective in financial decision-making (Bandura, 1982) and trust in digital transactions (Gefen et al., 2003). Therefore, the study relates well to the intentions of a person concerning entrepreneurship as an antecedent of crowdfunding behavior. This relates to other studies conducted on motivation in alternative finance (Mollick, 2014) but adds new dimensions regarding psychosocial factors in investment decisions within peer-to-peer funding ecosystems. Last but not least, the authors link common social psychological concepts to applied commerce in fintech; that is, this gives an idea of the understanding of how individual differences shape user participation in the emerging finance ground. The democratization of finance can thus be improved through research. Indeed, a successful crowdfunding ecosystem should, firstly, lower the access barriers through a user-friendly design; then, it needs to elucidate the underlying reasons for lack of participation through the mechanism of need trust building. These would be insightful to examine how human factors determine digital finance adoption and influence the ongoing

nexus of entrepreneurship on online funding mechanisms.

In recent years, crowdfunding has emerged as a promising alternative financing method, particularly for young entrepreneurs who face challenges accessing traditional financial resources such as bank loans or venture capital. Alshebami (2022) explores the role of crowdfunding platforms as a substitute financing source for young Saudi entrepreneurs, offering empirical evidence on the growing importance of these platforms in supporting new business ventures in Saudi Arabia. This study underscores the significance of crowdfunding as an accessible and viable solution for startups, particularly for entrepreneurs who lack the financial backing or collateral required by conventional financial institutions. In this context, crowdfunding platforms present an innovative solution by enabling entrepreneurs to raise capital from a large pool of small investors, bypassing the obstacles typically encountered with more conventional funding routes. Alshebami's research shows that crowdfunding serves as an effective alternative, particularly for entrepreneurs who are unable to meet the high expectations of traditional lenders due to factors such as lack of experience or an undeveloped credit history. Furthermore, Alshebami's findings point to the dual benefits of crowdfunding: not only does it provide entrepreneurs with the capital they need to launch their ventures, but it also allows them to engage with a broader audience and gauge the public's interest in their business ideas. This interaction with potential customers early on can validate the entrepreneurial concept, reducing perceived risk and potentially leading to further investment and support. By raising funds from individuals who are not necessarily institutional investors, crowdfunding enables entrepreneurs to access capital in a more democratic and less restrictive manner, thereby democratizing entrepreneurship and facilitating innovation. One such challenge is the lack of awareness about crowdfunding platforms and their functionalities. Many young entrepreneurs may not be familiar with how to effectively use these platforms or may have concerns regarding trust and transparency in online crowdfunding models. In conclusion, Alshebami's study provides valuable insights into the potential of crowdfunding as a substitute financing source for

young entrepreneurs in Saudi Arabia. It reveals the growing relevance of crowdfunding platforms in addressing the financing gap faced by startups and offers empirical evidence on how these platforms are reshaping the financial landscape for emerging businesses. The research suggests that, with the right support and education, crowdfunding can play a pivotal role in fostering entrepreneurship and innovation in Saudi Arabia, particularly among the younger demographic who are eager to bring their business ideas to fruition.

Hameed (2022) examines the critical role that media play in addressing the delay in justice within Pakistan's legal system. Hameed suggests that media, including both traditional outlets like television and newspapers and newer platforms like social media, can act as a powerful tool to address these issues. In the paper, Hameed explains that the media serves as a public watchdog by bringing attention to cases of judicial delays and the systemic problems in the courts. When the media reports on these issues, it can put pressure on the government and judiciary to act more efficiently and transparently. Additionally, the study highlights the role of media in educating the public about their legal rights and how to navigate the judicial system. Moreover, media coverage can encourage judicial accountability by holding judges and lawyers accountable for their actions, as public scrutiny often leads to more transparent and timely decision-making. Hameed also discusses the impact of social media in recent years, noting that platforms like Facebook and Twitter have amplified the role of the media in holding public figures accountable. Social media has made it easier for citizens to share their grievances about delayed justice and for journalists to quickly investigate and report on such matters. As a result, social media serves as a faster, more immediate way to bring attention to judicial issues compared to traditional media outlets. The study argues that both traditional and new forms of media continue to collaborate with the government and civil society to improve the justice system. The study is valuable for understanding how media can be a critical partner in promoting a more efficient and transparent legal system, particularly in countries like Pakistan, where delays in justice are a significant issue.

Perrin, A. (2015) noted that in 2005, only about 7% of American adults reported using social media, but



by 2015, that number had risen dramatically to 65%. However, significant increases were also seen among older adults, especially those aged 30–49, whose usage jumped from 8% in 2005 to 77% in 2015. Even adults aged 65 and older, once the least likely to be online, showed growing participation, reaching 35% by 2015. Perrin's article also notes that social media platforms such as Facebook, Twitter, LinkedIn, and Instagram were not only used for personal interaction but also for news consumption, job networking, political engagement, and social activism. The study concludes that the massive rise in social media use over the decade reflects broader technological and cultural changes, and that online networks have become an essential part of daily life for a majority of the adult population.

The reviewed literature highlights that in contexts where formal social protection systems are weak or inaccessible, individuals increasingly rely on informal mechanisms for support, ranging from community networks to digital platforms. Social media, in particular, has emerged as a powerful tool for crowdfunding, information sharing, and mobilizing collective action, bridging the gap between traditional solidarity systems and modern technology. Overall, existing studies underscore the transformative potential of social media in enhancing social resilience and providing informal social security, especially in vulnerable and underserved communities.

### 3: Methodology:

#### 3.1 Study design:

Primary data has been collected through purposive sampling on the utilization of social media for informal social security mechanisms in District Charsadda. A purposive sampling method and a questionnaire survey from the general population have been adopted to collect data. Purposive Sampling is a non-probability sampling technique in which the researcher purposely selects certain individuals, groups, or cases considered representative or well-informed about the topic of interest (Tariq & Jameel, 2020). The goal is to choose a sample that best suits the purpose of the research. Purposive sampling focuses on a targeted group that can provide in-depth insights or specialized information. The findings will help to identify the existing mechanisms and provide recommendations for improvement. Pakistan is a

developing country, and most people living here are either poor or middle-class. They have limited accessibility to social security. The data for this study is hence collected from the people of District Charsadda.

#### 3.2 Target Population:

Charsadda district is chosen due to its socio-economic characteristics and relevance to regional literature. Most residents engage in the informal sector, including agriculture, small businesses, and labor markets. The district is highly vulnerable to natural calamities such as floods, which frequently destroy homes, displace populations, and disrupt livelihoods. These challenges increase reliance on social media as a platform for seeking help, sharing problems, and accessing crowdfunding. Given the presence of programs and facilitators, many resources and support systems are accessed digitally, making Charsadda an ideal site for this research.

#### 3.3 Sampling Method and Sample Size:

The sample size is calculated using Taro Yamane's formula (Efobi & Anierobi, 2013), resulting in 400 respondents, who are selected through purposive sampling. This approach enables the collection of in-depth insights on the role of social media in providing informal social support, helping to understand its impact on the well-being of vulnerable populations in the district.

#### 3.4 Data Collection:

Primary data for this study were collected using a well-structured five-point Likert scale questionnaire (ranging from strongly disagree to strongly agree), developed based on the study's theoretical framework and adapted from previous literature (Alshebami, 2022). Data is gathered from the general population of District Charsadda through purposive sampling, which allows the researcher to select information-rich participants with relevant knowledge or experience (Shaheen et al., 2016).

The dependent variable, 'informal social security,' is measured by means of an index made up of related survey items. The reliability of the questionnaire and its scales was confirmed using Cronbach's Alpha, thus ensuring the measurement was consistent. Factors such as the simplicity of crowdfunding, the level of

digital awareness, and social isolation were unambiguously delineated and given a rationale grounded on previous literature. The data that has been gathered is analyzed using Stata software for the estimation of descriptive statistics, correlation, and regression analyses, thereby producing strong empirical results.

### 3.5 Econometric model:

The drivers of the rise of social media as an informal social security mechanism are estimated with the help of a multiple regression model. The dependent variable is social media as social security. Independent variables are social media, Ease of crowdfunding, Aam olas, social stigma/shame, and social isolation.

$$SS_i = \beta_0 + \beta_1(SM_i) + \beta_2(EC_i) + \beta_3(AO_i) + \beta_4(SS_{ti}) + \beta_5(SI_i) + U_i$$

SS: SS stands for social security

EC: EC stands for ease of crowdfunding

AO: AO stands for Aam Olas

SS<sub>t</sub>: SS<sub>t</sub> stands for social stigma or shame

SI: SI stands for social isolation

SM: SM stands for social media

$\beta_0$  is the intercept,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ , and  $\beta_5$  are slopes of independent variables, and  $U_i$  is the error term of the model.

### 3.6 Theoretical framework:

The rapid expansion of social media has significantly reshaped how people interact and access social support. This study examines how social media functions as an informal social security mechanism, particularly in contexts where formal welfare systems are limited or ineffective. The framework focuses on how individuals use social media platforms to seek financial, emotional, and social assistance, similar to the support traditionally provided by welfare institutions. In this model, social security serves as the dependent variable, while the independent variables—social media usage, ease of crowdfunding, Aam Olas initiatives, social stigma or shame, and social isolation—are explored to understand their influence on individuals' access to informal support networks.

#### Social security: (Dependent variable)

Social Security is a comprehensive system of government programs protecting individuals and families from life's risks, ensuring wealth, health, and

well-being. It includes pensions, disability benefits, unemployment insurance, healthcare, childcare, housing, and food support (Handayani & Asian Development Bank, 2016). These programs reduce poverty, inequality and promote stability and human rights. Effective systems are marked by diverse benefits, accessibility, participation, and adaptability (Shuhong & Zia Ud Din, 2017). Human security emphasizes financial support in crises, covering risks like old age, disability, and unemployment, with funding from taxes, fees, and grants. While social security offers financial stability and support to vulnerable groups, it faces challenges of economic instability, demographic changes, and weak leadership. Governments respond with policy reforms, technology, workforce development, international collaboration, and evidence-based strategies (K. Ali & Wasim, 2020).

#### Aam Olas: (Independent variable)

Amm Olas is a popular Pashto-language YouTube program by an individual named Yousaf Jan Uthmanzai. His program shows how social media can function as an informal social security mechanism. It provides quick responses to emergencies, connects people across social and economic divides, and builds trust between donors and beneficiaries. In contexts where the state cannot fully provide welfare, such community-based digital initiatives play a critical role in reducing vulnerability and strengthening social protection at the grassroots level.

#### Social media: (Independent variable)

Social media has become an important source of informal social security in Pakistan, complementing formal systems that provide financial aid, health services, and jobs. It enables fundraising, employment opportunities, and mutual support, especially in areas like Charsadda, where access to welfare is limited. Connecting people encourages economic exchanges, knowledge sharing, and resource distribution. Minority groups, such as transgender people, also benefit by expressing themselves, building networks, learning about rights, and raising awareness. This digital space fosters belonging, improves well-being, and supports inclusion. Moreover, social media promotes collaboration, dialogue, and citizen mobilization toward global goals, while raising

government awareness on development issues (Perrin, 2015).

#### **Ease of Crowdfunding: (Independent variable)**

Crowdfunding has the potential to transform lives by providing new ways for individuals and communities to access financial support for urgent needs, such as medical bills and disaster relief. Platforms like GoFundMe, Kickstarter, and Indiegogo enable micro-crowdfunding campaigns that fill gaps in traditional healthcare systems, especially for those who do not meet eligibility criteria (Hui et al., 2012). Successful campaigns often foster partnerships between donors and recipients, particularly in underserved areas. However, challenges include unequal access, exclusion of those without internet, and concerns about trust and accountability (Sultana & Qureshi, 2021). Linking crowdfunding to social security can enhance financial support and combine traditional and modern resources. Future technologies, such as blockchain, may improve fund collection and security, while evolving social norms can encourage wider participation. Although crowdfunding cannot replace conventional healthcare funding, it offers unique benefits, cost-efficiency, and opportunities to improve support for vulnerable communities (Alshebami, 2022).

#### **Social stigma/shame: (Independent variable)**

Due to stigma and social exclusion, many people are turning to social media for financial support instead of seeking help from family or friends. Fear of judgment encourages individuals to find alternative ways to meet their needs. Social networks provide an accessible and non-judgmental space to share personal and financial problems, helping users maintain dignity and avoid shame (Jang, 2022). The rapid growth of social media allows people to raise funds quickly, address financial challenges, and access online donations or assistance programs. Anonymity on these platforms enables sharing experiences without fear of judgment, enhancing social interaction and communication even among strangers (M. Tariq & Jameel, 2020).

#### **Social isolation: (Independent variable)**

Social isolation has led many individuals to turn to social media as traditional support networks like

family and friends become less accessible. People under psychological stress, facing financial or personal challenges, increasingly rely on online platforms for help. Social media allows users to maintain anonymity while sharing their problems, connecting with similar individuals, and receiving immediate feedback from a large support network. It also helps those with physical, speech, or mental disabilities overcome social detachment and alienation. By fostering a sense of community and belonging, social media bridges gaps in physical, social, and emotional isolation. Posting content online enables individuals to reach a wide pool of potential supporters across social and national boundaries, offering both emotional and practical assistance (Zaheer, 2018).

## **4 Results:**

### **4.1 Introduction**

This section focuses on the analysis of the collected data from respondents in order to find out the drivers and impacts of social media as an informal social security mechanism in District Charsadda. This section serves to reflect on the demographic characteristics of respondents, as well as the statistical analysis of the variables of interest. Descriptive statistics are first applied to summarize the socio-economic profiles of the participants, such as age, gender, and education level, etc. Graphs, including tables and charts, are used to indicate the distribution of these characteristics. The next step involves regression analysis, which is employed to test the association between the independent variables (aam olas, ease of crowdfunding, social stigma, social isolation, and social media) and the dependent variable, social media as social security. The findings in this section provide a foundation for interpreting the role of social media as a substitute or supplement for traditional social safety nets in the study area.

### **4.2 Demographic Information of the Respondents: Descriptive Statistics:**

This section provides an overview of participants' demographic profiles. Table 4.2.1 presents frequencies, percentages, means, medians, modes, and standard deviations for variables such as age, gender, education, employment status, household size, marital status, monthly income, income



satisfaction, social media financial support, and social media use.

**Table 1: Descriptive Statistics**

Variable	Freq	Percent	Obs.	Mean	Median	Mode	Std. Dev
<b>Age</b>			465	2.14	2	2	1.05
10 to 20 years	135	29.03%					
21 to 30 years	204	43.87%					
31 to 40 years	68	14.62%					
41 to 50 years	41	8.82%					
51 years or above	17	3.66%					
<b>Education level</b>			465	4.31	4	4	1.22
No education	10	2.15%					
Primary education	33	7.10%					
Matriculation	54	11.61%					
F.sc/inter	154	33.12%					
Bachelor's	134	28.82%					
Master's or higher	80	17.20%					

**Source: Authors' Computation**

#### **Interpretation of Demographic Data:**

The above table provides an overview of the key characteristics and behaviors of the 465 participants in the study. These statistics summarize important demographic variables, including age, education level. By examining measures such as frequencies, percentages, means, medians, modes, and standard deviations, the data reveals patterns and variations within the sample, thereby helping to understand the population under study better.

The average (mean) age category is 2.14, corresponding to the 21- to 30-year-old group. The median age category is 2, meaning that half of the

participants are 30 years old or younger. The standard deviation is 1.05, indicating a moderate spread in age groups among the participants.

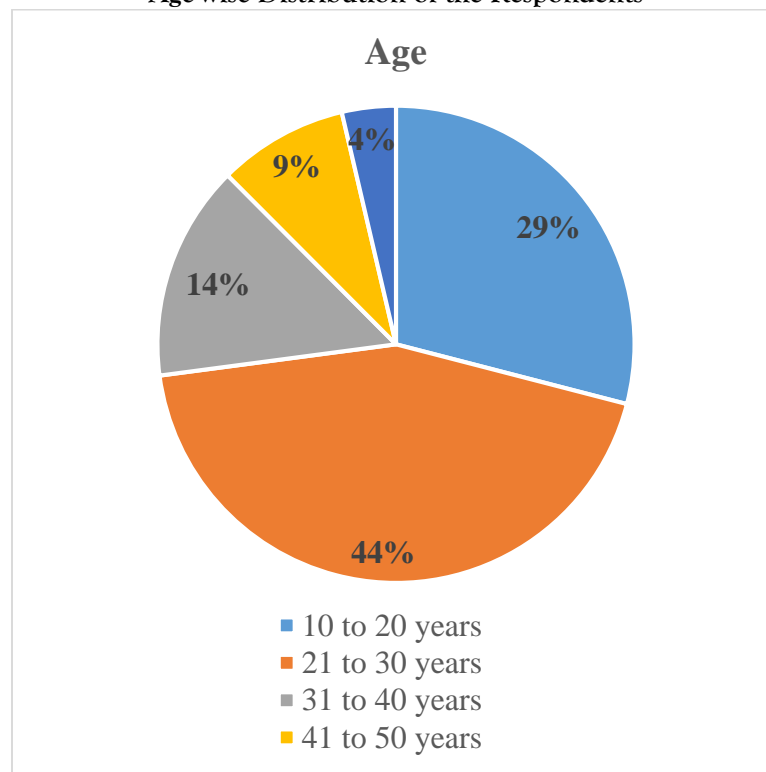
Regarding education level, the most common category is F.Sc/Intermediate, reported by 33.12% of participants, followed by Bachelor's degree at 28.82%. The mean education level is 4.31, which aligns closely with these two categories (assuming coding from 1 = no education to 6 = master's or higher). The median is 4, again pointing to the F.Sc/Intermediate level. The standard deviation is 1.22, indicating a moderate variation in educational backgrounds across the sample.

**Demographics Visualizations:**

The demographic visualization gives insights into the vital attributes of the respondents and thus briefly explains the sample population. Most average age lies under the 21-30 years age category, thus becoming the main concentration. The overall qualification of

education shows that a greater number hold the F.Sc/ Intermediate qualification (33.12%) than a Bachelor's degree (28.82%). Employment status indicates that 53.12% persons were employed, while 46.88% were unemployed.

**Figure 1**  
**Age-wise Distribution of the Respondents**



Source: Authors' Computation

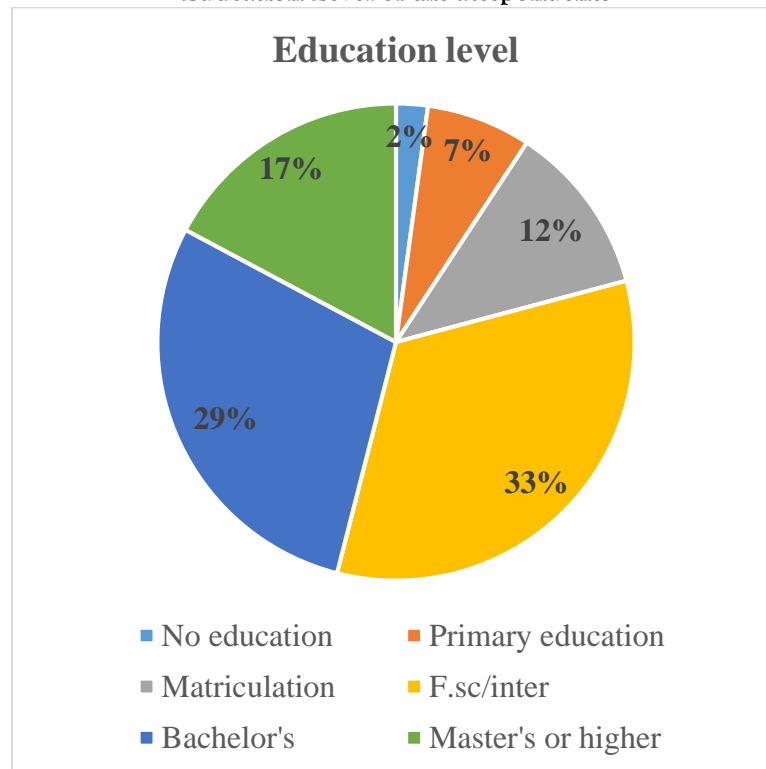
**Interpretation:**

The pie chart shows the age distribution of respondents. The largest group of respondents falls in the 21 to 30 years age range, making up 44% of the total. The second-largest group is those aged 10 to 20 years, representing 29%. Respondents aged 31 to 40 years make up 14%, while 41 to 50 years account for 9%. The smallest group is those above 50 years, comprising only 4% of the respondents.

In terms of the variable, age has a coefficient of 0.0171 with a robust standard error of 0.0297. This suggests that a one-unit increase in age (for example, one additional year) is associated with a 0.0171-unit increase in perceived social security, holding all other

factors constant. However, given the relatively large standard error compared to the coefficient, this effect is not statistically significant. This means that, in this model, age does not have a meaningful or reliable impact on individuals' perceptions of social security.

Figure 2  
Education Level of the Respondents



Source: Authors' Computation

#### Interpretation:

The pie chart data shows the education levels of a group of people. Only a very small portion, 2%, have no formal education. About 7% have completed primary school, and 12% have finished matriculation (high school). A larger group, 33%, have studied up to intermediate level (FA/FSc). Nearly one-third, 29%, have completed a bachelor's degree, while 17% have a master's degree or higher. Overall, the data indicate that most people in this group have at least some secondary or higher education, with fewer people having very low or no education.

Based on the results, the variable, Edu level, has a coefficient of -0.0333 with a robust standard error of 0.0203. This indicates that a one-unit increase in education level is associated with a 0.0333-unit decrease in perceived social security, holding other variables constant. However, since the coefficient is relatively small and no significant stars are shown, this relationship is likely not statistically significant. In simple terms, education level does not have a strong

or clear effect on individuals' perceptions of social security in this model.

#### 4.3 Regression Analysis Using Robust Standard Errors:

Regression analysis was conducted to identify the predictors of social media as a form of social security, using robust standard errors to ensure reliable results. This method allows us to examine the association between various independent variables—such as aam olas, ease of crowdfunding, social stigma/shame, social media, social isolation, age, and education level. To address the problem of Heteroscedasticity, robust standard errors are used, as they provide valid statistical inference even in the presence of heteroscedasticity. The use of robust estimation ensures that the coefficient estimates remain unbiased and the standard errors are adjusted to account for non-constant variance in the residuals. In this study, robust standard errors were applied to improve the reliability of the regression results and ensure that the

interpretations drawn from the analysis are both valid and statistically sound.

**Table 2: Results of the Regression Analysis (Dependent Variable: Social Security)**

<i>Variables/ Predictors</i>	<i>Coef</i>	<i>Std. error</i>	<i>t-value</i>
Aam olas	0.130**	(0.059)	2.20
Ease of Crowdfunding	0.365***	(0.059)	6.16
Social Stigma	0.173***	(0.050)	3.42
Social Media	0.094	(0.062)	1.50
Social Isolation	0.037	(0.054)	-0.69
<i>Control variables</i>			
Age	0.024	(0.027)	-0.89
Education level	0.051**	(0.020)	-2.45
Constant	0.273***	(0.081)	3.36
Observations	465		
R-squared	0.449		
Robust standard errors in parentheses *** $p < 0.01$ , ** $p < 0.05$ , * $p < 0.1$			

Source: Authors' Computation

### Interpretation

The table displays the findings of the regression analysis that was carried out using robust standard errors to counteract any possible heteroskedasticity, thus providing more precise and uniform estimates. The study explores the connection between a few predictors, which include Aam Olas, Ease of Crowdfunding, Social Stigma/Shame, Social Media, and Social Isolation, and the dependent variable, social security. The model is based on 465 observations and has an R-squared of 0.449, thereby explaining nearly 44.9% of the variation in informal social security. This suggests a moderate level of explanatory power of the chosen predictors, which is considered satisfactory in the social science field.

Among the outcomes, Aam Olas is shown to have a positive and statistically significant impact on informal social security, represented by a coefficient of 0.130 and a t-value of 2.20, which is significant at the 5% level. This implies that the more people are provided with access to community-based support or local welfare programs, the more they will perceive their social protection to have increased.

In the same vein, the connection with Ease of Crowdfunding is established as the strongest and most significant one, with a coefficient of 0.365 and a

t-value of 6.16, significant at the 1% level. The conclusion to be drawn from this is that when people find it easy to set up fundraising or get online financial support through social networks, their feeling of being economically and socially secure is greatly enhanced.

Moreover, Social Stigma/Shame was found to have a positive and very significant connection ( $\beta = 0.173$ ,  $t = 3.42$ ,  $p < 0.01$ ), which implies that less stigma attached to seeking help—perhaps owing to the anonymity and inclusiveness of virtual spaces—people will be more willing to both receive and give support, thus promoting informal social protection.

On the other hand, Social Media ( $\beta = 0.094$ ,  $t = 1.50$ ) and Social Isolation ( $\beta = 0.037$ ,  $t = -0.69$ ) fail to show any statistically significant effects, pointing to the situation where the use of social media is a positive contributor but its impact by itself might not be strong enough without other factors like trust or network engagement coming into play as support.

Demographic factors have been controlled for, and Education Level ( $\beta = 0.051$ ,  $t = -2.45$ ,  $p < 0.05$ ) is the one to be credited for the positive effect, showing that people who have more education are more likely to be aware of and to get access to informal support.

On the contrary, Age ( $\beta = 0.024$ ,  $t = -0.89$ ) is not significant, which means that the effect of age on informal social security is not strong. The constant

term (0.273,  $p < 0.01$ ) suggests the level of social security in the absence of all the predictors. All in all, the findings validate that the digital and social factors—mostly the stigma of helping people and the ease of crowdfunding—are the main contributors to the informal social security strengthening in the area of the study.

#### 4.4 Multicollinearity Check: Variance inflation factor (VIF)

The Variance Inflation Factor (VIF) test was conducted to check for the presence of

multicollinearity among the independent variables in the regression model. Multicollinearity occurs when two or more predictors are highly correlated with each other, which can distort the estimation of regression coefficients and reduce the reliability of the results. A VIF value of 1 denotes no correlation, but any value above 10 can generally be regarded as an indication of serious multicollinearity. We employ this test for the sake of the reliability and accuracy that these estimates depend on.

**Table 3: Variance inflation factor (VIF)**

Variables	VIF	1/VIF
social media	2.25	0.44
Social isolation	2.04	0.49
Aam olas	2.00	0.50
Social stigma shame	1.84	0.54
Ease of crowdfunding	1.68	0.59
<b>Demographics</b>		
Age	1.11	0.90
Edu level	1.11	0.90
<b>Mean VIF</b>	1.72	

#### Interpretation of Multicollinearity Results:

The VIF (Variance Inflation Factor) test was performed in order to identify the presence of multicollinearity among the independent variables. Multicollinearity occurs when the independent variables are so correlated amongst themselves that it results in altered regression coefficients and unaffordable models. A VIF value above 10 (or 5 in more stringent conditions) is usually regarded as a serious issue. The VIF values of this research are all considerably below the standard limit, showing that

there is no multicollinearity. Below is the comprehensive description of each VIF value:

The VIF measurement of 2.25 assigns a minor degree of correlation between the variables. It implies that the social media variable is not too much related to the rest of the inputs in the model. Thus, it can be stated that this input has its own relevance as far as the dependent variable is concerned and does not significantly overlap with the other inputs.

The VIF of 2.25 for the social media variable indicates no serious multicollinearity with other predictors in the model, as it is below the threshold of 5. This



points to the fact that social media is statistically independent and adds value to the explanation of the dependent variable. The VIF value also supports the idea of social media being reasonably interactive with other variables without distorting the results of the model and thus playing a unique and reliable role in impacting informal social security.

The VIF for social isolation is 2.04, which is still acceptable; however, it is approaching the limit. In other words, it is slightly correlated with other variables, but the correlation is still weak enough not to be a source of multicollinearity. Consequently, social isolation is a factor whose contribution to explaining the variations in the dependent variable is independent.

A VIF of 2.00 for Aam Olas suggests minimal correlation with the other independent variables. This indicates that Aam Olas can be safely included in the model without compromising the information or having statistical distortion due to multicollinearity.

The VIF of 1.84 for the variable social stigma/shame points to a minor correlation with the other predictors. This reassures that the role of social stigma/shame on the dependent variable can be understood in isolation and will not be affected by the correlation between the predictors.

The VIF of 1.68 for ease of crowdfunding indicates that this variable has a very low level of correlation with other explanatory variables. This factor denotes that the variable reflects different dimensions of informal social security mechanisms and thus can be regarded as a trustworthy predictor in the regression model.

The demographic factor age is characterized by a VIF value of 1.11, which is very low and thus confirms the statistical independence of the variable from other predictors. Therefore, age can be safely incorporated into the model as a control variable without causing multicollinearity.

In the same way, education level presents an incredibly low VIF of 1.11, which means there is no significant correlation with any other variable. This further strengthens the model and supports the claim that education level alone accounts for variations in the use of social media as an informal security mechanism.

## 5.1 Conclusion

The findings of this study underscore the pivotal role of social media and digital tools in enhancing informal social security mechanisms in District Charsadda. Analysis of 465 respondents indicates that informal support systems are shaped by multiple interrelated factors, including the accessibility of online financial resources, local community assistance programs, and social perceptions surrounding help-seeking behaviors. Among these, ease of crowdfunding emerges as the most influential factor, demonstrating that digital platforms facilitate timely financial support, reduce reliance on formal welfare systems, and enable individuals to respond effectively to crises. This finding highlights the potential of social media not merely as a communication tool but as an essential medium for mobilizing collective resources and strengthening community resilience.

The study also confirms the continued importance of traditional community-based initiatives, exemplified by Aam Olas, which provide structured local support. The positive and significant effect of Aam Olas suggests that while digital tools are valuable, they are most effective when integrated with established community networks, ensuring reliability, trust, and local accountability. Moreover, the reduction of social stigma in seeking help, particularly in online environments, significantly enhances informal social security. Anonymity, inclusivity, and reduced fear of judgment allow individuals to access assistance more freely and encourage active participation in support networks.

Interestingly, while social media usage and social isolation were hypothesized to impact informal social security, the results indicate that their effects are not statistically significant when considered independently. This implies that social media alone cannot substitute for direct community engagement or reduce the barriers to help-seeking; instead, it functions best as a complementary tool alongside other supportive mechanisms. Demographic analysis reveals that education level positively influences access to and perception of informal social security, reflecting the role of awareness, digital literacy, and social network management in effectively utilizing support systems. Age, however, does not demonstrate a significant effect, suggesting that access and

utilization of informal social security mechanisms are not strongly determined by age in this context. Variance Inflation Factor (VIF) analysis confirms minimal multicollinearity among variables, validating the robustness of these findings. Taken together, the results indicate that informal social security is strengthened most effectively when digital platforms, community-based programs, and inclusive social norms work in tandem. The study provides evidence that policy interventions should focus on promoting digital financial tools, supporting local assistance programs, and reducing social barriers to help-seeking. These strategies can help create a resilient and responsive informal social protection ecosystem capable of addressing the needs of vulnerable populations in District Charsadda.

## 5.2 Recommendations

1. Encouraging the use of online crowdfunding platforms can help individuals and households access timely financial support during crises. For policymakers, this is useful because it reduces the pressure on formal welfare systems, enables efficient resource mobilization, and ensures that vulnerable populations receive immediate assistance when needed.
2. Formalizing and supporting local community-based initiatives ensures that social support networks operate reliably and transparently. Policymakers can use these programs to supplement formal social security, improve trust in local systems, and create sustainable safety nets that reach marginalized groups.
3. Initiatives to reduce social stigma encourage people to seek help without fear of judgment. For policymakers, addressing stigma is crucial because it increases the participation rate in social programs, improves social cohesion, and enhances the overall effectiveness of informal social security mechanisms.
4. Providing training on how to use social media and digital tools to access informal social support can empower individuals, particularly those with lower education levels. Policymakers can leverage this by designing programs that increase awareness and capacity, ensuring equitable access to digital resources and maximizing the impact of online support systems.
5. While social media alone is insufficient, combining it with trusted community networks strengthens informal social security. Policymakers can

adopt this approach to ensure digital tools complement existing local support structures, improving outreach and the reliability of assistance provided.

6. Partnerships among government agencies, NGOs, and local communities create a coordinated approach to informal social security. Policymakers benefit from this by efficiently utilizing resources, reducing duplication of efforts, and designing policies that address the real needs of vulnerable populations.
7. Conducting studies to assess long-term impacts and scalability of digital and social interventions provides evidence-based guidance. Policymakers can use such research to refine strategies, implement effective programs across regions, and ensure that policies remain responsive to emerging social and technological trends.

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