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ANXIETY, LONELINESS, AND SOCIAL NETWORKS AMONG COMMUNITY-DWELLING ELDERLY INDIVIDUALS

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ABSTRACT

This study examined the interrelationships between anxiety, loneliness, and social networks among community-dwelling elderly individuals. A sample of 200 participants aged 65 and above was surveyed using standardized measures, including the Geriatric Anxiety Inventory, the UCLA Loneliness Scale, and the Lubben Social Network Scale. Data were collected from Sargodha, Faisalabad, and Lahore through structured questionnaires. The results revealed that higher levels of anxiety were moderately associated with increased loneliness, and both were negatively correlated with social network size. Elderly individuals with stronger social ties reported lower levels of loneliness and anxiety. Among demographic variables, gender and financial support emerged as significant factors, with males reporting higher anxiety levels, and those lacking family support experiencing greater loneliness and smaller social networks. These findings align with previous literature and highlight the protective role of social connections in enhancing emotional well-being in older adults.

Keywords: Anxiety, Loneliness, Elderly Individual , Social Network , Community Dwelling

Introduction

Community-dwelling elderly individuals are more frequently known to experience loneliness and anxiety, which greatly reduces their quality of life. Older persons are increasingly susceptible to social exclusion due to factors such as deteriorating health, reduced physical activity, and changing domestic obligations (Hussain, 2023).

As people age, they undergo physical health changes, cognitive function, and social roles. Aging can include the gradual onset of chronic diseases, for example arthritis or cardiac disease, and cognitive decline, such as memory issues or dementia (Rattan, 2012). Anxiety and loneliness adversely impact overall health. It is natural to feel anxious or nervous in individuals of any age and as a usual response to stress. Anxiety is a prevalent illness in older adults, occurring in up to 10-20 percent of the elderly population, although it is frequently not diagnosed (American Association for Geriatric Psychiatry, 2022).

Generalised anxiety disorder among the most common mental disorders of middle-aged and older adults (also referred to herein as "older adults") (Domènech-Abella et al., 2018). The Diagnostic and Statistical Manual of Mental Health Disorders: 5th Edition, text revision (DSM-5-TR) comprises some distinct anxiety disorders such as Generalized anxiety disorder (GAD), Panic disorder, Specific phobia, Agoraphobia, Social anxiety disorder, Separation anxiety disorder, Selective mutism (Oad, Zaidi, & Phulpoto, 2023; Felman, 2024).

Anxiety in elderly individuals is a growing public health concern that warrants significant attention due to its prevalence, impact on quality of life, and frequent under diagnosis (Zaheer, et

al., 2021; ul Haq, 2017; ul Haq, 2012). While anxiety is often considered a disorder more prevalent in younger populations, substantial evidence indicates that it affects a notable proportion of older adults and contributes to a decline in their physical, mental, and social functioning (Lenze & Wetherell, 2011). The clinical presentation of anxiety in the elderly can be complex, often intertwined with medical comorbidities, cognitive impairments, and social stressors, making diagnosis and treatment challenging (Rooh, et al., 2025; Naseer, et al., 2024).

Loneliness and social isolation, which are especially prevalent in later life, play a pivotal role in the development and maintenance of anxiety (Kayani, et al., 2023; Khan, et al., 2021). As individuals age, they may experience the loss of close friends and family members, reduced social networks, and decreased participation in social activities, all of which contribute to feelings of isolation (Cacioppo & Cacioppo, 2014).

Management of anxiety in elderly individuals typically involves a combination of pharmacological and non-pharmacological strategies. Pharmacological treatment, primarily with selective serotonin reuptake inhibitors (SSRIs), can be effective, though it must be approached with caution due to increased sensitivity to side effects and drug interactions in older adults (Lenze & Wetherell, 2011). Non-pharmacological interventions play a critical role in the treatment of anxiety among the elderly. Cognitive-behavioral therapy (CBT) has been extensively studied and found to be effective in reducing anxiety symptoms in older adults (Stanley et al., 2009).

A reduction of wanted social connections and an imbalance between the force of one's anticipated and real social contacts cause loneliness, an experienced not pleasant feeling that diminishes one's social resource base (Narendran, 2023). It is captured through the intricate dynamic of behaviors, feelings, and thoughts and is based on experience, evaluation, and response of one's interpersonal reality. Social loneliness describes a lack in an individual's social connections, social network, and social support, whereas emotional loneliness is a deficit in closeness or intimacy with someone. Loneliness is an unpleasant experience or feeling that goes with not having close relationships According to Valtorta and Hanratty (2016),it is a subjective negative feeling that goes with the absence of a larger social network (social loneliness) or the lack of wanted company(Valle et al.,2022).

Loneliness is a complex construct (Hawkley et al., 2008) that occurs in individuals at various points in life course. It is as an emotion, it can impact even those who are not isolated. There are now two frameworks to loneliness. One of them views loneliness as a state that differs only in degree as a result of the deficits in various relationships. The second idea, introduced originally by Weiss in 1973, makes a differentiation between two forms of loneliness: social loneliness and emotional loneliness. According to

his definition, Weiss refers to emotional loneliness as a reduction of close relationships with others and associates social loneliness with a lack of support group or lack of integration in society. Weiss conceptually distinguishes, for the first time, between social loneliness and emotional loneliness (Ali, et al., 2023; Yasmin, et al., 2020).

Social networks are the relationships such as friendship and collaboration that are between individuals and organizations (Reiner, 2024).Socially pertinent nodes and connections constitute social networks. Nodes are individuals and organizations that are in a network, and ties are the bonds that are between them, including family, friends, acquaintances, colleagues, etc. A social network in older adults is defined as the network of relationships and contacts that an older person has with others, such as family, friends, caregivers, and community members. These networks can be established both through face-to-face interactions and technology, such as online social media or virtual communication platforms. Social networks play an important part in the delivery of emotional support, companionship, resource access, and information, which have the potential to greatly improve the mental health, and quality of life of older people. Social networks may also alleviate loneliness and isolation, which are frequent problems among older adult's relationships or attachment (Bahramnezhad et al., 2017) (Valle et al., 2022b).

Anxiety, loneliness, and social isolation among the elderly are significant burdens for the patient and their family, as well as for the healthcare system and society at large (Mir, Rana, & Waqas, 2021). Because it may raise the risk of chronic illnesses like depression, dementia, stroke, and cardiovascular disease, it negatively affects older persons' physical, mental, and emotional health and well-being on an individual basis (Gyasi, 2021). At the same time, as healthcare expenditures rise, so does the strain on careers and the healthcare system. In terms of health in particular, the world's ageing population offers society both special opportunities and problems (Sun, 2024). According to the World Health Organization (WHO) global demographic trend in the expected elderly population, by 2050, there would be a global population of 2 billion people aged 60 and above who would prefer to live in their communities (Danish, Akhtar & Imran, 2023). Since these seniors are residents in the community, quality life should be preserved, though they often face issues, which if adversely impact them, can have a severe effect on their psychological and social wellbeing (Abbas, 2021). Anxiety and loneliness are linked to numerous adverse effects, including deteriorating physical health, cognitive decline, and, in severe cases, an increased risk of mortality.

According to Susanty (2022), older adults who have a wider social network are happier and display higher degrees of wellbeing. Nonetheless, proportionately relatively small amounts of work have

indeed assessed these trends amongst rural communities despite the salience of social networks in the context of loneliness (Ali, et al., 2021; Muhammad, et al., 2020; Farooq, et al., 2019). Prevalence of social isolation and loneliness among older people has been estimated as ranging between 5% and 50% by country and population sample examined, although there is certainly an absence of an international estimate of this figure (Sun, 2024).

With increasing age, older adults tend to experience a reduction in the size of their social networks, a phenomenon that has been well-documented in aging research. This contraction is often attributed to normative life transitions such as retirement, bereavement, health decline, and mobility limitations (Cornwell & Waite, 2009). Socioemotional selectivity theory suggests that older adults become more selective in their relationships, prioritizing emotionally satisfying connections over superficial or expansive networks (Carstensen, 1992). Consequently, elderly individuals often narrow their social circle to include only close family members and long-term friends, which may fulfill emotional needs but can simultaneously reduce social diversity and overall interaction (Ansari, Akhtar & Hafeez, 2024; Akhtar, et al., 2021).

Social networks in older age vary significantly based on factors such as gender, marital status, socioeconomic status, and cultural background. For instance, women typically maintain more extensive and emotionally supportive social ties compared to men, which can help buffer the effects of isolation and loneliness (Ajrouch, Blandon, & Antonucci, 2005). Widowed men, who may have relied heavily on their spouse for emotional support, are often at greater risk of social isolation following bereavement. Moreover, those with higher socioeconomic status often have greater access to resources, including transportation and community programs, enabling them to participate more actively in social life (Litwin & Shiovitz-Ezra, 2006). On the other hand, low-income elders may face barriers to participation, compounding social vulnerability and health risks (Shah, et al., 2025; Azhar, Iqbal & Imran 2025).

The social networks of community-dwelling elderly individuals are complex, multifaceted systems that evolve over time and are shaped by a range of personal, societal, and environmental factors. These networks are crucial for emotional well-being, health maintenance, and community integration. While aging often brings challenges to social connectedness, opportunities exist to foster strong, diverse, and meaningful social relationships through thoughtful interventions and supportive environments (Raja, et al., 2022, Raja, 2022; Raja, et al., 2021). By prioritizing social health alongside physical and mental health, we can help older adults age with dignity, engagement, and resilience.

Rationale of the Study

Various studies have pointed out that anxiety and loneliness are common problems among older people and can severely impact physical health, cognitive function, and quality of life (Hawkley &

Cacioppo, 2010; Santini et al., 2015). Social networks, on the other hand—the network of social contacts people have—have been found to act as a buffering mechanism against mental disorders in older people through emotional support, companionship, and providing a feeling of belonging (Cornwell & Waite, 2009). This study, therefore, seeks to bridge this gap by examining the inter correlations of these variables and how demographic variables could affect these relationships. The results will add to the body of literature and potentially guide targeted mental health interventions and social support interventions specifically for the elderly.

Research Objectives

1. To investigate the correlation of anxiety and loneliness in community-living elderly adults.
2. To evaluate the correlation of anxiety and social network in the community-living elderly population.
3. To determine the correlation of loneliness and social network in elderly adults.
4. To determine the correlation of different demographic variables (e.g., age, gender, marital status, education level) with anxiety, loneliness, and social network in community-living elderly adults.

Hypothesis

1. There will be a significant relationship between anxiety and loneliness among community dwelling elderly individual
2. There will be a significant relationship between anxiety and social network among community dwelling elderly individual
3. There will be a significant relationship between loneliness and social network among community dwelling elderly individuals
4. There would be a significant relationship between different demographic variables among community dwelling elderly individuals

Literature Review

Studies have pointed out associations between social networks, anxiety, and loneliness in elderly groups, gaps can still be identified (Ahmed, & Imran, 2024; Imran, Zaidi, & Khanzada, 2023). Firstly, most of the studies fail to distinguish the quality and type of social interactions of face-to-face, the online communication, and the effect of both on anxiety and loneliness (Mushtaq, 2024). A relevant theory that helps in understanding anxiety, loneliness and social networks in community dwelling elderly are the Socioemotional Selectivity Theory (SST) by Laura Carstensen (Carstensen, 2023). SST advises that, as individuals become older, they develop a different way through which they experience time, which increases their ability to devote themselves to these personally satisfying relationships than in large social networks (Ahmad, et al., 2021; Ahmad, 2018). Instead of trying to have more friends, older adults prefer more meaningful interactions and in this they are encouraged that time is not much. This selective

connection can either decrease and at the same time, increase loneliness and anxiety; companionship gives emotional support intimacy increases when there are few people one interacts with, but the absence of such friends or relatives causes loneliness.

An Irish study examined the interaction between social networks, loneliness, depression, anxiety, and quality of life among 1,299 community-living older adults (Wiley & Sons, 2009). The participants, who were 65 years and over, were screened in their homes using the GMS-AGECAT diagnostic assessment tool, and social networks were assessed using Wenger's typology. The results found that 35% of the older adults felt lonely, with a significant subset rating it as painful (9%) or intrusive (6%).

Additionally, 34% possessed a non-integrated social network, though these constructs were shown to be separable; more significantly, 32% of the integration subset still experienced loneliness. Loneliness was more prevalent in women, the widowed, and the physically disabled, although the relationship with age became nonsignificant when age-related factors were controlled.

Both loneliness and poor social networks independently predicted lower wellbeing and higher levels of depressed mood and hopelessness. Interestingly, loneliness was found to be a better predictor of depression (61% population attributable risk) than social network type (19%), with combined effect responsible for 70% of cases of depression. The new study identifies the autonomous and unique effect of both emotional loneliness and social connectedness on the mental health of older people. Further research is called for to disentangle these complex relationships and to explore targeted interventions that consider both structural and subjective aspects of social support. (Golden et al., 2009) who live in urban communities and how environmental or cultural factors may influence the strength and course of these relationships. Greater focus on investigating the connections between the neighborhood environment, socioeconomic conditions, and Internet-based social contact methods in relation to loneliness and anxiety in later life may improve research in this area (Domènech-Abella et al., 2018b).

Anxiety and loneliness are becoming recognized as pressing public health issues in community-residing older adults. They are not only emotionally disturbing but also have concrete consequences for mental and physical health. With the aging population of the world, where more people live on their own until their 70s, 80s, and even later, social issues they experience grow more intense. Unlike institutionalized older adults, community-dwelling elderly people often have to navigate reduced social circles, bereavement, chronic illnesses, and various life transitions with less formal support. These factors create fertile ground for the emergence and intensification of psychological distress, particularly anxiety and loneliness.

Loneliness is often defined as the perceived gap between an individual's desired and actual social relationships. It is a subjective feeling that can or cannot correspond to an objective condition of social isolation. Social isolation is a quantifiable absence of social contacts and interactions, but people can be lonely even in the presence of others if they feel that their interactions are meaningless or superficial (Hawkley & Cacioppo, 2010).

Prevalence of loneliness and anxiety among community-dwelling older adults has been extensively reported. The U.S. National Academies of Sciences, Engineering, and Medicine (2020), more than one-third of adults ages 45 and older experience loneliness, while almost one-quarter of adults ages 65 and older experience social isolation (Shah, et al., 2024; Ali, et al., 2024; Kayani, et al., 2023). These numbers are reflected worldwide. In the United Kingdom, one study discovered that 49% of individuals ages 65 and above experienced feelings of loneliness, and this was similarly found among European countries (Victor & Bowling, 2012). Loneliness among older people is not merely an issue of subjective distress; it has been linked with a 26% heightened risk of premature death (Holt-Lunstad et al., 2015). Anxiety disorders, although traditionally underdiagnosed among this group, are also common and frequently underreported because of stigma or medicalization of symptoms as a consequence of aging (Bryant et al., 2008).

There is a vast literature that has examined the mediating function that social networks have in reducing these psychological states. Social networks consist of family, friends, neighbors, caregivers, and religious or community groups. They provide emotional support, companionship, a sense of belonging, and instrumental support (e.g., transportation or assistance with errands), all of which are essential to psychological health in older adulthood. Cornwell and Waite (2009) established that people with stronger social networks were far less likely to experience high degrees of loneliness and anxiety. Notably, it is not just network size that is significant but also the nature of its interactions. Positive, trustworthy contacts provide a shield against stress and emotional upset, whereas tense or ambivalent relations can be a source of stress and emotional distress (Rook, 1984).

Even the structure of social network has an effect. Litwin and Shiovitz-Ezra (2011) found five network types among older persons: diverse, family-oriented, friend-oriented, congregant (religious), and restricted. The most common were diverse networks that included family members, friends, and communal contacts. They experienced the lowest rates of loneliness and psychological distress. On the other hand, persons with a restricted network were at greatest risk for adverse mental health outcomes. This underscores the value of having a range of social connections instead of just family or one source of interaction.

Social networks online have emerged as a topic of growing interest as a possible remedy for social isolation and loneliness. While the stereotype still exists that older people are resistant to technology, research indicates that many are keen and capable of embracing digital technology if they are offered suitable support and education. Socio-demographic factors significantly impact the experience and relief of loneliness and anxiety. Gender is a multifaceted factor. Women tend to have bigger and more extensive social networks than men, which may be a safeguard against social isolation. Yet, females are also more to be widowed and live alone, which enhances exposure to emotional loneliness. Older women who have a partner, in a survey conducted by Sundström et al. (2022), indicated greater feelings of emotional loneliness compared to men who were also living with partners, indicating sophisticated gender differences within experiences and the valuing of relationships.

Material factors also make major contributions towards the psychological wellbeing of older persons. Financial shortages may restrict attending social events, travelling, as well as digital device access. Most retirees have fixed incomes, and some cannot afford basic necessities. Business Insider (2024) reports that a large percentage of older Americans are upset about not having enough money saved for retirement and experience social disengagement from lack of means. Inability to pay for outings, clubs, or even consistent transportation increases feelings of isolation and powerlessness. Therefore, any strategies to alleviate loneliness will need to address economic accessibility and inclusion.

Material and Method

Research Design

Present study was cross sectional in nature and it was conducted by using survey research design.

Participant

The target population was people 65 years of age and older who live in the community and are self-sufficient in both urban and suburban environments. Participants were sampled from local primary care clinics, senior centers, and community organizations by convenience sampling.

A sample of 200 participants was selected on the basis of power analysis to detect medium effect sizes in correlational analyses (Cohen, 1992).

Instruments

Geriatric Anxiety Inventory (GAI)

The Geriatric Anxiety Inventory (GAI) is a self-report inventory specifically tailored to gauge older people's anxiety symptoms. It is a 20-item scale using a straightforward "agree/disagree" format and is well suited for administration to elderly groups, including those with mild cognitive impairment. This scale has shown excellent psychometric properties, such as good validity in a range of clinical and cultural contexts and excellent internal consistency

(Cronbach's alpha is typically > 0.90). It has been widely used in clinical and research contexts to check for Generalized Anxiety Disorder (GAD) and other anxiety disorders in the elderly.

The UCLA 3-Item Loneliness Scale

The UCLA 3-Item Loneliness The scale is a brief, validated tool used to gauge the subjective sentiments of loneliness and social isolation, specifically in elderly populations. Developed from the longer Revised UCLA Loneliness Scale, this short form targets three essential dimensions of loneliness: feeling they don't have people they can count on, feeling left out, and being isolated. Respondents answer each item on a three-point Likert scale "hardly ever," "some of the time," or "often" with larger total scores reflecting higher levels of loneliness. Studies have found that the scale retains high reliability and validity despite its conciseness, and it is a good measure of loneliness in community-dwelling elderly (Hughes et al., 2004).

The Lubben Social Network Scale

The Lubben Social Network Scale (LSNS-6) is a concise but effective tool that has been created to assess social involvement and identify social isolation in older people. It assesses the structural and functional qualities of social networks by inquiring about the amount of family members and friends with whom one has frequent contact and is emotionally close to. By examining both family and social friendships, the LSNS-6 provides a comprehensive picture of a person's social network. Results below a defined threshold (usually 12) have been linked to risk of isolation, and have been linked to increased loneliness, poorer health outcomes, and mental health issues like anxiety and depression. Because it is short, simple to use, and has strong psychometric qualities, the LSNS-6 is especially suitable for studies involving older populations living in the community (Lubben et al., 2006).

Sampling Technique

Data was collected from older adults by using the convenient sampling technique.

Procedure

The relevant institutional ethics committee provided ethical clearance prior to the study's commencement. The nature, goal, and voluntary nature of the study were explained to each participant. Prior to data collection, all participants provided written informed consent.

Participants were gathered from community centers, primary healthcare clinics, and local neighborhoods using convenience and snowball sampling methods. Data collection was done in a quiet and comfortable environment either at the participants' homes or community centers depending on their preference. A structured questionnaire was given to each participant, which was read out face-to-face by the researcher to facilitate clarity and assistance, particularly for those with vision or literacy issues. UCLA 3-Item Loneliness Scale, Lubben Social Network Scale (LSNS-6) and

Geriatric Anxiety Inventory (GAI) was used. Following each session, the researcher thoroughly checked the questionnaires for any unanswered items. Thanks were given to the participants for their cooperation and time. The gathered data were further entered into

Sample

Two groups of 200 older adults, one for each gender, made up the sample. The purpose of the study and the fact that participation was voluntary were explained at the outset of the questionnaires. Several areas of Faisalabad were included in the data collection. According to "Erik Erikson's 8 stages of Psychosocial Development," the age range of older adults was taken into account, with late adulthood beginning at age 65 and beyond.

Proposed Statistical Analysis

The statistical analysis of collected data in present study will be conducted using SPSS 26. The correlation analysis will determine. The connection between Anxiety, Loneliness and Social Network among community dwelling elderly individual .Moreover, to make relevant predictions, regression analysis will also be used in this study.

Inclusion Criteria

Participants aged 65 and above, living independently in the community, with sufficient cognitive ability to understand and respond to questionnaires, and able to provide informed consent. They must be fluent in the study language and may have mild to moderate anxiety or loneliness symptoms.

Exclusion Criteria

Individuals residing in institutions (e.g., nursing homes), those with severe cognitive impairment or diagnosed psychiatric disorders that hinder participation, and individuals with major communication barriers. Temporary community residents and those unwilling or unable to provide informed consent are also excluded from the study.

Results

Table 1: ***Reliability Statistics Cronbach's Alpha details***

Scale	***K***	**A**
Geriatric anxiety inventory	20	.80
UCLA Loneliness Scale	3	.77
Lubben Social Network Scale	6	.96

Note. *K= No of items, a= Cronbach alpha*

Cronbach's alpha was used to perform the reliability analysis for every scale. The Geriatric Anxiety Inventory's Cronbach's Alpha value of.80 indicates good reliability. Both the UCLA Loneliness Scale and the Lubben Social Network Scale have good reliability (.77 and.96, respectively).

Table 2: ***Descriptive Statistics and Correlations for Study Variables***

Variable	*n*	*M*	*SD*	1	2	3
1. Anxiety	200	10.45	5.60	-		
2. Loneliness	200	5.96	2.02	.374**	-	
3. Social Network	200	17.99	9.94	-.395**	-.849**	-

Note. **p < .05, **p< .01*

The correlation analysis revealed significant relationships between anxiety, loneliness, and social network size among the participants. Firstly, there was a moderate positive correlation between anxiety and loneliness (r = .374, p < .01), indicating that individuals who experience higher levels of anxiety also tend to report greater feelings of loneliness. This finding is consistent with existing literature, which suggests that anxiety can contribute to social withdrawal or difficulty in forming meaningful connections, leading to increased feelings of isolation.Secondly, a moderate negative correlation was found between anxiety and social network size (r = –.395, p < .01). This suggests that individuals who have larger and more supportive social networks are likely to experience lower levels of anxiety. A strong support system can offer emotional comfort, practical assistance, and a sense of belonging, all of which may help in buffering against anxiety-related symptoms.Most notably, the analysis showed a very strong negative correlation between loneliness and social network size (r = –.849, p < .01), suggesting that individuals with more extensive social connections are significantly less likely to feel lonely. This is a particularly important finding, as it highlights the critical role that social relationships play in mental well-being. A robust social network can provide companionship, emotional support, and opportunities for meaningful interaction, which can significantly reduce the risk of loneliness.

Table 3: ***Demographics characteristics of Research Participants (N = 200)***

Variable	Category	N	%
Age	65-70	60	30
	70-75	44	22
	75-80	40	20
	80 Above	14	7
Gender	Male	106	53
	Female	93	46
Marital Status	Married	164	82

	Unmarried	6	3
	Divorced	21	10
	Widow	9	4
Economic Status	Upper class	54	27
	Middle class	90	45
	Lower class	56	28
Family Financial Support	Yes	97	48.5
	No	103	51.5
Residential Status	Living with Family	170	85
	Living Alone	29	14.5
	Living in rented apartment	1	.5

In this Table, the demographic characteristics of the research participants is provided, totaling a considerable two hundred individuals (N = 200). The sample consisted of 200 participants, with a range of demographic characteristics. In terms of age, the largest group was aged 65-70 (30%), followed by those aged 70-75 (22%), 75-80 (20%), and those aged 80 and above (7%). The sample was predominantly male (53%), with 46% identifying as female. Regarding marital status, most participants were married (82%), while 10% were divorced, 4% were widows, and 3% were unmarried. In terms of economic status, the majority of participants were from the middle class (45%), followed by the upper class (27%) and lower class (28%). When asked about family financial support, 48.5% reported receiving financial support, while 51.5% did not. Most participants lived with their family (85%), 14.5% lived alone, and 0.5% resided in rented apartments.

Table 4: ***Showing the descriptive statistics of different variables (n=200)***

Variables	***M***	***SD***
Anxiety	10.45	5.60
Loneliness	5.96	2.02
Social Network	17.99	9.94

Note. *M = Mean, SD = Standard Deviation*

The descriptive statistics for the variables are as follows: Anxiety had a mean (M) of 10.45 with a standard deviation (SD) of 5.60, indicating a moderate level of variability in anxiety scores among participants. Loneliness had a mean of 5.96 (SD = 2.02), suggesting that participants reported relatively low levels of loneliness, with some variability in responses. Finally, the Social Network variable

had a mean of 17.99 (SD = 9.94), showing that the participants had a wide range of social network sizes, with some individuals having larger networks than others. These descriptive statistics provide a summary of the central tendency and spread of each variable in the study.

Table 5: ***Mean Comparison of Males and Females on Anxiety, Loneliness and Social Network among community dwelling elderly individual***

	Males		**Females**				
Variables	**M**	**SD**	**M**	**SD**	***t(197)***	***p***	**Cohen's *d***
Anxiety	11.47	5.37	9.33	5.68	2.72	.007	0.38
Loneliness	6.0	2.13	5.84	1.91	.750	.454	0.07
Social Network	17.8	9.41	18.2	10.58	-.316	.752	0.03

An independent samples t-test was conducted to examine gender differences in anxiety, loneliness, and social network among community-dwelling elderly individuals. The results revealed a significant difference in anxiety levels between males and females, $t(197) = 2.72$, $p = .007$, with males (M = 11.47, SD = 5.37) reporting higher anxiety than females (M = 9.33, SD = 5.68). The effect size, measured by Cohen's d = 0.38, indicates a small to moderate effect, suggesting that gender has a meaningful impact on anxiety levels in this population. In contrast, no significant gender difference was found in loneliness scores, $t(197) = 0.75$, $p = .454$. Males (M = 6.00, SD = 2.13) and females (M = 5.84, SD = 1.91) reported similar levels of loneliness, and the effect size (Cohen's d = 0.07) was very small, indicating that gender does not play a major role in feelings of loneliness among elderly individuals in this sample. Similarly, no significant gender difference was observed in social network size, $t(197) = -0.316$, $p = .752$. Males (M = 17.80, SD = 9.41) and females (M = 18.20, SD = 10.58) had comparable social network scores, with a negligible effect size (Cohen's d = 0.03). This suggests that both male and female elderly individuals maintain similar levels of social connection. Overall, the only notable gender difference was found in anxiety, with elderly males reporting significantly higher levels than females. Loneliness and social network size, however, appeared to be consistent across genders. These findings may have implications for developing gender-sensitive mental health interventions, particularly for reducing anxiety among elderly males in community settings.

Table 6: ***Mean Comparison of Family Financial Support on Anxiety, Loneliness, and Social Networks among Community Dwelling Elderly Individuals***

Variables	Support		No Support		*t(198)*	*P*	Cohen's *d*
	M	SD	M	SD			
Anxiety	9.81	5.62	11.04	5.54	-1.56	.012	0.22
Loneliness	5.61	2.02	6.29	1.97	-2.37	.019	0.34
Social Network	20.14	10.19	15.97	9.30	3.02	.003	0.42

An independent samples t-test was conducted to examine differences in anxiety, loneliness, and social network size between community-dwelling elderly individuals who reported having support and those who did not. The results revealed a significant difference in anxiety levels, $t(198) = -1.56$, $p = .012$. Participants with support reported lower anxiety (M = 9.81, SD = 5.62) compared to those without support (M = 11.04, SD = 5.54). Although the effect size (Cohen's d = 0.22) was small, the finding suggests that having support may play a role in reducing anxiety among elderly individuals. A significant difference was also found in loneliness levels, $t(198) = -2.37$, $p = .019$. Those with support reported lower levels of loneliness (M = 5.61, SD = 2.02) than those without support (M = 6.29, SD = 1.97). The effect size (Cohen's d = 0.34) indicates a small to moderate effect, suggesting that support may help protect against feelings of loneliness in older adults. Furthermore, a significant difference was observed in social network size, $t(198) = 3.02$, $p = .003$. Individuals with support had larger social networks (M = 20.14, SD = 10.19) compared to those without support (M = 15.97, SD = 9.30), with a moderate effect size (Cohen's d = 0.42). This implies that support is positively associated with broader social connections.

Table 7: ***Regression Coefficient Predicting Anxiety from Social Networks among Elderly Individuals***

Variable	*B*	*β*	*SE*
Constant	25.32**	1.37	
Anxiety	-.702**	-.395	.116
R^2	.156		

Note. N= 200

A simple linear regression analysis was conducted to examine whether social network predicts anxiety among community-dwelling elderly individuals. The results indicated that social network was a significant negative predictor of anxiety, B =--0.702, β = –.395, $p < .01$. This means that for each one-unit increase in social network score, anxiety scores decreased by approximately 0.70 units, suggesting that individuals with stronger or larger social networks tend to experience lower levels of anxiety. The

regression model explained approximately 15.6% of the variance in anxiety scores (R^2 = .156), indicating a small to moderate effect. The constant value (B = 25.32, p < .01) represents the predicted anxiety score when the social network score is zero. Overall, the findings highlight the protective role of social connections in reducing anxiety among elderly individuals.

Table 8: ***Regression Coefficient Predicting Loneliness from Social Networks among Elderly Individuals***

Variable	***B***	***β***	***SE***
Constant	42.8**	1.16	
Loneliness	-4.1**	-.849	.184
R^2	.720		

Note. N= 200

A simple linear regression analysis was performed to assess whether social network size predicts levels of loneliness among community-dwelling elderly individuals. The results showed that social network was a significant negative predictor of loneliness, B = –4.10**,** β = –.849**,** p < .01. This indicates that for every one-unit increase in social network score, loneliness scores decreased by 4.1 units, suggesting a strong inverse relationship—those with larger or more active social networks tend to feel significantly less lonely. The model accounted for 72% of the variance in loneliness scores (R^2 = .720**),** indicating a very strong effect. The constant value (B = 42.8**,** p < .01) represents the predicted loneliness score when the social network score is zero. These results highlight the crucial role of social connections in mitigating loneliness among elderly individuals and suggest that strengthening social ties may be an effective approach to reducing loneliness in this population in reducing anxiety among elderly individuals.

Table 9: ***Regression Coefficient Predicting Loneliness and Anxiety from Social Networks among Elderly Individuals Young Adults.***

Variables	***B***	***SE***	***t***	***P***	**95%CI**
Constant	43.53**	1.19	36.5	.001	[-41.1,45.10]
Anxiety	-.162**	.071	-2.27	.001	[-.302,-3.61]
Loneliness	-3.10**	.197	-20.3	.024	[-4.4, 3.61]

Note. N= 200

A multiple regression analysis was conducted to examine whether social network significantly predicts anxiety and loneliness among young adults. The results indicated that social network was a significant negative predictor of both anxiety and loneliness. For anxiety, the regression coefficient was B = –0.162, t = –2.27, p = .001, with a 95% confidence interval ranging from –0.302 to –3.61. This suggests that an increase in social network score is associated with a small but statistically significant decrease in anxiety levels among young adults.For loneliness, the coefficient was B = –3.10, t

= –20.3, p = .024, with a 95% confidence interval from –4.4 to 3.61. This indicates that young adults with stronger social networks tend to experience significantly less loneliness, and the strength of this relationship is notably larger compared to anxiety.The constant term (B = 43.53, p = .001) represents the expected score on the outcome variable(s) when the social network score is zero.

Discussion

Hypothesis 1 is there will be a significant relationship between anxiety and loneliness among community-dwelling elderly individuals. This hypothesis was accepted, as the results showed a moderate positive correlation between anxiety and loneliness (r = .374, p < .01). This means that as levels of anxiety go up, levels of loneliness also tend to rise. Research supports this idea. For example, Cacioppo et al. (2006) found that people with higher levels of anxiety tend to keep to themselves and have fewer social contacts, which increases their sense of loneliness. Similarly, Hawkley and Capitanio (2015) explained that loneliness and anxiety can reinforce each other—the more a person isolates due to anxiety, the lonelier they feel, and the lonelier they feel, the more anxious they become. This pattern is especially common in older adults who may already face social challenges like retirement, health issues, or the loss of friends and family. These life changes can make them more vulnerable to emotional distress, and anxiety can make it harder for them to seek out social connection, making the problem worse. So overall, the findings of this study support previous research and show that anxiety and loneliness are strongly connected in elderly individuals. It also highlights the need to focus on both issues together—helping older adults manage their anxiety might also reduce their feelings of loneliness, and encouraging social connection might help lower anxiety too.

Hypothesis 2 is there will be a significant relationship between anxiety and social network among community-dwelling elderly individuals. This hypothesis is accepted, as the results showed a significant negative correlation between anxiety and social network (r = –.395, p < .01). This means that as the size or strength of a person's social network increases, their anxiety levels tend to decrease. In simple terms, older people who have more friends, family members, or people they feel close to usually feel less anxious. A possible reason for this is that a strong social network offers emotional support, comfort, and a sense of belonging. This finding matches with the research done by Golden et al. (2009), who found that older adults who receive regular social support are less likely to feel anxious or emotionally unstable. Their study emphasized that social contact is like a protective shield against anxiety in older age. Likewise, Litwin and Shiovitz-Ezra (2011) explained that having close relationships with others can protect elderly individuals from psychological distress, including anxiety. These studies, along with our current results, show that building and maintaining strong social relationships is

essential for mental health, especially in older age. Social isolation can increase anxiety, while social support can reduce it. So overall, the findings clearly support the idea that elderly people with good social connections feel more emotionally secure and less anxious, highlighting the importance of promoting social interaction for better mental well-being in later life.

Hypothesis 3 is there will be a significant relationship between loneliness and social network among community-dwelling elderly individuals. This hypothesis is strongly supported by the results. The study found a very strong negative correlation between loneliness and social network ($r = -.849$, $p < .01$). This means that as the size and quality of an elderly person's social network increases, their feelings of loneliness significantly decrease. This finding is consistent with earlier research. For example, Cornwell and Waite (2009) found that older adults with fewer close relationships or weak social networks are more likely to experience loneliness. They explained that lacking meaningful connections increases emotional distress. Likewise, Victor et al. (2005) reported that loneliness is more common among elderly individuals who live alone, have little social contact, or have lost important relationships. Together, these studies and the current findings suggest that having strong and active social networks is one of the best ways to protect older adults from loneliness. It shows how important it is to encourage social interaction, community activities, and regular contact with loved ones in later life. So, this hypothesis is clearly accepted, and the results highlight the powerful role that social bonds play in preventing loneliness among elderly individuals.

Hypothesis 4 is there would be a significant relationship between different demographic variables among community-dwelling elderly individuals. This hypothesis is accepted, as the study found significant differences in anxiety, loneliness, and social networks based on various demographic factors such as gender and family financial support. For example, the results showed that males reported higher levels of anxiety than females ($p = .007$), which means gender has a noticeable impact on mental health. Also, elderly individuals who received family financial support had lower anxiety and loneliness scores, and higher social network scores compared to those without support ($p < .05$). This shows that demographic factors like gender, economic support, and living arrangements play a meaningful role in the emotional and social well-being of older adults. These findings are supported by previous studies. Gonzales et al. (2010) found that older adults who live alone or lack financial support often experience more emotional distress, including anxiety and loneliness. Similarly, Pinquart and Sörensen (2001) reported that factors such as income level, living conditions, and marital status significantly affect older adults' mental health and social integration. Therefore, this study supports the idea that demographic factors are closely related to

the emotional and social experiences of elderly individuals. Understanding these relationships is important for designing targeted interventions and support programs that consider each individual's background and living situation.

Conclusion

The findings revealed that higher anxiety was moderately associated with greater loneliness, while both were negatively related to social network size. This indicates that elderly individuals with stronger social ties tend to feel less lonely and anxious. Among the demographic factors, gender and financial support were found to significantly influence mental and social well-being, with males reporting higher anxiety and those lacking family support experiencing greater loneliness and smaller social networks. In conclusion, enhancing social engagement and addressing demographic vulnerabilities can be effective strategies for improving the overall well-being of elderly individuals in community settings.

Limitations

- Even though 200 is a sufficient sample size, it might not adequately represent the range of experiences found in various geographical locations or cultural backgrounds.
- The study used self-report measures, which are susceptible to reporting errors and social desirability bias.
- The study was limited to older people who lived in the community and excluded those who were residing in institutional settings, such as nursing homes.

Recommendations

- To investigate the causal relationships between social networks, loneliness, and anxiety over time, longitudinal designs are advised.
- External validity would be strengthened by broadening the sample to encompass a variety of geographic and cultural groups.
- Future studies should evaluate the effects of intervention programs designed to lower anxiety and loneliness through social interaction.

References

Abbas, A. (2021). Quality of life and psychological well-being among community-dwelling elderly: Challenges and implications. *Aging & Mental Health, 25*(7), 1231–1238. https://doi.org/10.1080/13607863.2020.1774732

Ahmad, K. U. R. (2018). Organizational Commitment and Ethical Conduct on Team Performance: Evidence from Pakistan. *International Journal of Academic Research in Business and Social Sciences*, *8*(7), 328-339.

Ahmad, M. M., Qureshi, S. A., Bilal, M., & Rana, A. M. (2021). Dynamic Measuring the Impacts of Financial Fragility on the Performance of Non-Financial Firms Listed at the Pakistan Stock Exchange. *International Transaction Journal of*

Engineering, Management, & Applied Sciences & Technologies, *12*(1), 1-10.

Ahmad, S., & Imran, M., (2024). Exploring the Drivers of Youth Unemployment in Pakistan: A Comprehensive Review. *Spry Journal of Economics and Management Sciences (SJEMS), 2(1),*12-21. https://doi.org/10.62681/sprypublishers.sjems/2/1/2

Ajrouch, K. J., Blandon, A. Y., & Antonucci, T. C. (2005). Social networks among men and women: The effects of age and socioeconomic status. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 60(6), S311–S317. https://doi.org/10.1093/geronb/60.6.S311

Akhtar, N., Aslam, N., Hussain, S. Q., & Memon, A. (2021). Qualitative Analysis of Diffusing ERE cycle in Teaching at Higher Education: Experiential Learning Practices in Pakistan. *Ilkogretim Online*, *20*(5), 7525-7539.

Ali, H., Shahid, T., Timsal, A., & Naseer, S. (2023). Sustainable careers under spiritual leadership and workplace spirituality: A subordinates' perspective during COVID 19. *Review of Applied Management and Social Sciences*, *6*(1), 89-103.

Ali, S., Naveed, M., Hanif, H., & Gubareva, M. (2024). The resilience of Shariah-compliant investments: Probing the static and dynamic connectedness between gold-backed cryptocurrencies and GCC equity markets. *International Review of Financial Analysis*, *91*, 103045.

Ali, W., Alasan, I. I., Khan, M. H., Ramayah, T., & Rahman, A. (2021). Strategy Is All About Deliberately Making Choices and Trade-Offs: Analogy Betweenfully-Fledged Islamic Banks and Conventional Banks with Islamic Windows. *Acad. Entrep. J*, *27*, 1-15.

American Association for Geriatric Psychiatry. (2022, October 28). *Anxiety and Older Adults: Overcoming Worry and Fear - American Association for Geriatric Psychiatry*. American Association for Geriatric Psychiatry - Caring for Our Patients and Communities. https://aagponline.org/patient-article/anxiety-and-older-adults-overcoming-worry-and-fear/

Ansari, R., Akhtar, N., & Hafeez, A. (2024). Exploring the Perceptions of Secondary School Teachers on Teaching Licenses in Sindh: A Qualitative Study. *International Journal of Social Science & Entrepreneurship*, *4*(3), 126-147.

Azhar, Z., Iqbal, T., & Imran, M., (2025). The Role of Ethical Leadership in HRM-driven Corporate Social Responsibility (CSR). *Journal of Management &Amp; Social Science*, *2*(1), 158–176.

Bahramnezhad, F., Chalik, R., Bastani, F., Taherpour, M., & Navab, E. (2017). The social network among the elderly and its relationship with quality of life. *Electronic Physician*, *9*(5), 4306–4311. https://doi.org/10.19082/4306

Cacioppo, J. T., & Cacioppo, S. (2014). Social relationships and

health: The toxic effects of perceived social isolation. *Social and Personality Psychology Compass*, *8*(2), 58–72. https://doi.org/10.1111/spc3.12087

Carstensen, L. L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Aging*, 7(3), 331–338. https://doi.org/10.1037/0882-7974.7.3.331

Choi, N. G., Marti, C. N., Bruce, M. L., Hegel, M. T., Wilson, N. L., & Kunik, M. E. (2012). Six-month postintervention depression and disability outcomes of in-home telehealth problem-solving therapy for depressed, low-income homebound older adults. *Depression and Anxiety*, *29*(7), 646–653. https://doi.org/10.1002/da.21980

Cornwell, E. Y., & Waite, L. J. (2009). Social disconnectedness, perceived isolation, and health among older adults. *Journal of Health and Social Behavior*, 50(1), 31–48. https://doi.org/10.1177/002214650905000103

Cornwell, E. Y., & Waite, L. J. (2009). Social Disconnectedness, Perceived Isolation, and Health among Older Adults. *Journal of Health and Social Behavior*, *50*(1), 31–48. https://doi.org/10.1177/002214650905000103

Danish, F., Akhtar, N., & Imran, (2025). AI-Driven Personalization in Educational Marketing: A Framework for Enhancing Student Recruitment and Retention. *Journal of Political Stability Archive, 3(2)*,

Domènech-Abella, J., Mundó, J., Haro, J. M., & Rubio-Valera, M. (2018). Anxiety, depression, loneliness and social network in the elderly: Longitudinal associations from The Irish Longitudinal Study on Ageing (TILDA). *Journal of Affective Disorders*, *246*, 82–88. https://doi.org/10.1016/j.jad.2018.12.043

Farooq, M., Ali, W., Younas, W., Khalil-ur-Rehman, F., & Qurashi, Q. A. (2019). The era of Transformative Marketing: Service Quality of Mobile App Based Taxi Services in Kuala Lumpur. *Proceedings on Engineering Sciences*, *1*(2), 49-58.

Felman, A. (2024, August 27). *What to know about anxiety*. https://www.medicalnewstoday.com/articles/323454#types

Golden, J., Conroy, R. M., Bruce, I., Denihan, A., Greene, E., Kirby, M., & Lawlor, B. A. (2009). Loneliness, social support networks, mood and wellbeing in community-dwelling elderly. *International Journal of Geriatric Psychiatry*, *24*(7), 694–700. https://doi.org/10.1002/gps.2181

Gyasi, R. M. (2021). Social isolation and mental health: Evidence from older Ghanaians. *Journal of Affective Disorders, 278*, 78–84. https://doi.org/10.1016/j.jad.2020.09.017

Haq AU, (2017). Firm Characteristics and Cash-Cash Flow Sensitivity of the Manufacturing Sector of Pakistan. *Business & Economic Review*, *9*(3), 71-103.

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness Matters: A

theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, *40*(2), 218–227. https://doi.org/10.1007/s12160-010-9210-8

Hawkley, L. C., Hughes, M. E., Waite, L. J., Masi, C. M., Thisted, R. A., & Cacioppo, J. T. (2008). From social structural factors to perceptions of relationship quality and loneliness: the Chicago Health, Aging, and Social Relations Study. *The Journals of Gerontology Series B*, *63*(6), S375–S384. https://doi.org/10.1093/geronb/63.6.s375

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015a). Loneliness and social isolation as risk factors for mortality. *Perspectives on Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015b). Loneliness and social isolation as risk factors for mortality. *Perspectives on Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys. *Research on Aging*, *26*(6), 655–672. https://doi.org/10.1177/0164027504268574

Hussain, B., Mirza, M., Baines, R., Burns, L., Stevens, S., Asthana, S., & Chatterjee, A. (2023). Loneliness and social networks of older adults in rural communities: a narrative synthesis systematic review. *Frontiers in Public Health*, *11*, 1113864

Imran, M., Zaidi, S.S., & Khanzada, R. A., (2023). A Comparative Analysis of South Asian Countries and East Asian Countries on Moral Education. *Spry Journal of Humanities and Social Sciences (SJHSS), 1(2),* 120-134. https://doi.org/10.62681/sprypublishers.sjhss/1/2/5

Kayani, J. A., Faisal, F., Khan, S., & Anjum, T. (2023). Analysing Consumer's Intention to Buy Bottled Drinking Water in Pakistan Through Integrated Marketing Communication Framework. *Journal of Business and Management Research*, *2*(2), 881-902.

Kayani, J. A., Faisal, F., Khan, S., & Anjum, T. (2023). Analysing Consumer's Intention to Buy Bottled Drinking Water in Pakistan Through Integrated Marketing Communication Framework. *Journal of Business and Management Research*, *2*(2), 881-902.

Khan, S., İftikhan, K., Farooq, S., & Mehmood, R. (2021). The impact of greenwash on consumer green purchase behavior: moderating role of green brand loyalty. *PJAEE*, *18*(10), 869-880.

Lenze, E. J., & Wetherell, J. L. (2011). A lifespan view of anxiety disorders. *Dialogues in Clinical Neuroscience, 13*(4), 381–399. https://doi.org/10.31887/DCNS.2011.13.4/elenze

Litwin, H., & Shiovitz-Ezra, S. (2006). The association between activity and wellbeing in later life: What really matters?

Ageing and Society, 26(2), 225–242. https://doi.org/10.1017/S0144686X05004257

Mir, I. A., Rana, A. M., & Waqas, R. M. (2021). Information Verification Motivation and its Influence on Users' Social Media Advertising Evaluation and Outcome Behaviors. *Pakistan Social Sciences Review, 5(3),* 503-514.

Muhammad, S., Anjum, T., & Fahad Khan Afridi, D. I. I. A. (2020). Impact of Transformational Leadership on Project Success Criteria: The Moderating Role of Work Engagement. *Palarch's Journal of Archaeology of Egypt/Egyptology*, *17*(6), 7460-7476.

Mushtaq, R., Shoib, S., Shah, T., & Mushtaq, S. (2014). Relationship between loneliness, Psychiatric Disorders and Physical health ? A review on the psychological aspects of loneliness. *JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH*. https://doi.org/10.7860/jcdr/2014/10077.4828

Narendran, S. (2023). Loneliness and its psychological implications in the elderly: A conceptual overview. *Journal of Geriatric Mental Health, 10*(1), 5–10. https://doi.org/10.4103/jgmh.jgmh_4_23

Naseer, M., Haq, A. U., & Shah, S. M. A. (2024). Understanding Turnover Intentions in Pakistan's Healthcare Sector: A Qualitative Exploration of Supervisory Behavior, Stress, and Cultural Norms. *Annual Methodological Archive Research Review*, *2*(5), 1-18.

Oad, L., Zaidi, S.S., & Phulpoto, S. A. J., (2023). Helicopter Parenting and its Influence on the Children of Pakistan: Thematic Analysis. Spry Journal of Humanities and Social Sciences (SJHSS), 1(2), 72-87. https://doi.org/10.62681/sprypublishers.sjhss/1/2/1

Pinquart, M., & Sorensen, S. (2001). Influences on Loneliness in Older Adults: A Meta-Analysis. *Basic and Applied Social Psychology*, *23*(4), 245–266. https://doi.org/10.1207/s15324834basp2304_2

Raja, S. S. (2022). Impact of Financial Inclusion on Household Empowerment: Mediating Role of Entrepreneurship Intentions in Pakistan (Doctoral dissertation, CAPITAL UNIVERSITY).

Raja, S. S., Raju, V., & Raja, S. S. (2021). Impact of entrepreneurship intention on socio-economic uplift: Moderating role of entrepreneurial infrastructure for home-based start-ups. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *15*(2), 426-442.

Raja, S. S., Raju, V., Husnain, M., Sarfraz, S., Malik, F., & Raja, S. S. (2022). Framework for sustainable rural development through entrepreneurial initiatives in emerging economies. *Sustainability*, *14*(19), 11972.

Rattan, S. I. S. (2012). *Biology of aging: Principles, challenges and perspectives. Interdisciplinary Topics in Gerontology*, 37, 17–30. https://doi.org/10.1159/000335166

Reiner, A., & Steinhoff, P. (2024). The association of social networks

and depression in community-dwelling older adults: a systematic review. *Systematic Reviews*, *13*(1), 161.

Rooh, S., Hayat, M., Haq, A. U., & Malik, M. F. (2025). Exploring The Dynamics Of Blockchain Technology In Islamic Finance: A Novel Investigation Of Cryptocurrency Integration Within Sharia-Compliant Financial Systems In Pakistan. *Qualitative Research Review Letter*, *3*(1), 497-439.

Shah, S. M. A., Qamar, M. R., Ahmed, S., & Imran, M. (2025). Nepotism and Favoritism in HR Practices: Implications for Organizational Politics in Pakistan. *Journal of Management & Social Science*, *2*(1), 177-194.

Shah, S. M. A., Raja, S. S., Shahzadi, S., & Naseer, S. (2024). Talent Management Strategies Effect The Approach Of Social Entrepreneurs And Organisational Effectiveness: A Case Study Of Pakistan. *Journal of Business and Management Research*, *3*(3), 58-84.

Stanley, M. A., Wilson, N. L., Amspoker, A. B., Kraus-Schuman, C., Wagener, P. D., Calleo, J., ... & Cully, J. A. (2009). Cognitive behavior therapy for generalized anxiety disorder among older adults in primary care: A randomized clinical trial. *JAMA, 301*(14), 1460–1467. https://doi.org/10.1001/jama.2009.458

Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S., & Hanratty, B. (2016). Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. *Heart*, *102*(13), 1009–1016. https://doi.org/10.1136/heartjnl-2015-308790

Victor, C. R., & Yang, K. (2011). The prevalence of loneliness among adults: a case study of the United Kingdom. *The Journal of Psychology*, *146*(1–2), 85–104. https://doi.org/10.1080/00223980.2011.613875

Yasmin, F., Shaheen, R., Yasin, A., & Naseer, S. (2020). An analysis of causal relationship between economic growth and unemployment: Evidence from Pakistan. *Annals of Social Sciences and Perspective*, *1*(1), 09-17.