NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.1-20

Son Preference and the Desire for an Additional Child in Pakistan

Memoona Qazi[1,2,*] & Nasra M. Shah[1]

[1]Lahore School of Economics (LSE), Lahore, Pakistan
[2]United Nations Development Programme (UNDP), Pakistan
[*]Corresponding author: qazimemona94@gmail.com

Abstract

With a Total Fertility Rate of 3.6 and a population growth rate of 2.55%, Pakistan's fertility transition has been relatively slow, hindering progress towards achieving many of the country's Sustainable Development Goals (SDG) targets. This paper examines the role that son preference plays in determining the desire for additional children. Among other factors, this desire for another child is largely influenced by women's ideal number of sons, which in turn, shapes their future fertility-related decisions and behavior. Using data from the 2017-18 Pakistan Demographic and Health Survey (PDHS), we employed logistic regression on 9,674 currently married women to examine whether son preference influences the desire for an additional child. The empirical evidence suggests that women whose ideal number of sons is 2 or 3+ are 1.27 and 2.01 times more likely, respectively, to desire another child compared to women with a lower ideal number of sons. We also examined the role of the number of living children in shaping future fertility behavior and found that even among women with four or more living children, the desire to continue childbearing remained high among those with a larger number of ideal sons. The findings suggest that investments in female education and women's empowerment (SDGs 4 and 5), along with promoting women's employment (SDG 8) and strengthening social security systems that support older persons, could help reduce the high demand for sons in the country.

Keywords: population; fertility desires; future fertility; son preference; Pakistan

Article History: Submitted: 25/07/2024, Accepted: 27/06/2025, Published: 28/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

A quick glance at Pakistan's demographic trends suggests that the country's fertility transition has progressed rather slowly over the past decade and a half. During the period from 1998 to 2017, the population grew at an annual rate of 2.4%, a figure that has since increased to 2.55%, according to the 2023 Population Census. According to the Population Reference Bureau's *World Population Data Sheet 2022* it shows that the country's rate of natural increase stood at 2.0% in 2022, ranking second only to Afghanistan in South Asia and above the regional average of 1.4%. (PRB, 2022).

Similarly, the Pakistan Population Situation Analysis Report 2020 by UNFPA projects a substantial rise in the country's population, estimated

overall increase of approximately 84% between 2017 and 2050. Pakistan, the fifth most populous country in the world, faces mounting pressure from its growing population, adding to the challenges of achieving its Sustainable Development Goals (SDGs).

With a TFR of 3.6 and women aged 40 and above reporting an average of 5.3 children (NIPS, 2019), it is imperative that we halt population growth and bring down the fertility rate. In this context, understanding fertility intentions, behaviors and preferences is essential. Fertility intentions, in particular, have been widely recognized as a key predictor of reproductive behavior and future fertility outcomes (Friedman et al., 1994; Bongaarts, 2001; Bashir, 2017; Tanvir & Arif, 2018).

Why the urgency? The persistent desire for an additional child further slows the fertility transition, as evidenced by the very gradual decline of only 1.3 children since 1990–91, when women in Pakistan had an average of 4.9 children, as compared to the present average of 3.6 (PDHS, 2017-18). Son preference can be viewed as a key driver of fertility, as studies reveal that the prevalence of modern contraceptive use among women in Pakistan would have been 19% higher in the absence of son preference (Channon, 2017). Similarly, a more recent study by Javed & Mughal (2020) shows that son preference also has a strong impact on birth spacing in Pakistan, finding that women whose first two children were boys were 13% – 17% more likely to delay their next birth compared to those whose first two children were girls.

In patriarchal societies like Pakistan, son preference and fertility often go hand in hand, and it would not be incorrect to say that the preference for sons even influences contraceptive prevalence in the country. Moreover, the perception of sons as contributors to household welfare and social security in a patriarchal society reinforces the view that sons are assets, while daughters are perceived as a financial burden on families (WHO, 2011). Zaidi (2013) also observes that progression to subsequent parity and continued childbearing are motivated by a strong desire for sons, indicating that fertility decisions are influenced by efforts to achieve an ideal number of sons. Hence, the desire to attain a certain ideal number of sons plays a significant role in maintaining high fertility (Westley & Choe, 2007; Population Council, 2015).

This study builds on the premise that understanding the underlying motivations behind fertility-related decisions is essential for addressing what some demographers have termed the ‘population explosion’ that Pakistan currently faces (Baig, 2021). The remainder of the paper is structured as follows. The next section reviews the relevant literature from both global and Pakistani contexts. The following section describes the data and methodology by providing details of the sample and the empirical analysis, followed by the

results section, which presents findings from the regression analyses. The final section concludes and offers possible policy recommendations based on the study's findings.

2. LITERATURE REVIEW

Fertility decisions are influenced by various attitudes and behaviors among couples and individuals worldwide. However, when it comes to preferences regarding the gender of the child, son preference appears to be particularly prevalent in certain parts of the world, especially in South and East Asia. Countries such as South Korea, China, India, Nepal, Bangladesh, and Pakistan continue to experience male dominance and control, where patriarchy and gender inequality remain deeply entrenched and strongly influence reproductive preferences in the region.

Some studies have examined the role of son preference in shaping women's lives within the context of persistence of patriarchal norms and unequal gender roles (Ali, 1989; Ganatra et. al., 2001; Guilmoto, 2009; Saeed, 2015; Agha, 2018; Ahmed et. al., 2021). Similarly, research from Bangladesh, India, Pakistan, Nepal, Sri Lanka, China, and South Korea has consistently confirmed the persistence of son preference in the region, which has translated into reproductive attitudes and behaviors that promote sex preference (Jayaraman et. al., 2009).

Cultural norms and beliefs shaped by patriarchy exert such a strong influence on people's lives that they often persist even after migration to foreign countries. Studies have revealed a strong persistence of cultural norms among Asian immigrants to Canada (Almond et al., 2013), the United States (Almond et al., 2008; Abrevaya, 2009) and the United Kingdom (Dubuc et al., 2007), where sex ratios (male to female) tend to be substantially elevated at higher birth parities when previous children are daughters. Similarly, Ezdi & Baş (2020) found that Turkish immigrants in Germany also exhibited gender preference in their fertility behavior, with son preference influencing the transition to second and third births.

The relationship between patriarchy and son preference is well established, and the two often reinforce each other. Some feminists and demographers have examined son preference as an indicator of patriarchal structures in order to assess gender inequality and power relations within the family (Gruber & Szoltysek, 2016). Indeed, the strength of son preference is closely linked to the level of patriarchy prevalent in society. The higher the levels of patriarchy and gender discrimination, the stronger the preference for sons among members of that society (Cain, 1993).

Religion has also been studied as a factor promoting son-preferring behaviors among Asian immigrants to Canada. Almond et al. (2013) found that while Christians and Muslims do not appear to use abortion for gender selection, they nevertheless showed a desire for male offspring, as these communities continued childbearing until they reached their desired number of sons -a phenomenon known as differential stopping behavior.

Basu & De Jong (2010) also assert that where sex-selective abortion is not socially acceptable, couples usually resort to continued fertility until their desired number of sons is reached. Studies from India, Bangladesh, and Nepal have similarly indicated the relevance of family size and sex composition in predicting future reproductive behavior (Repetto, 1972; Jayarman, et. al., 2009). Likewise, a study from India revealed that parity progression driven by son-preferring behaviors resulted in 7% more births in the country (Chaudhuri, 2012).

For Pakistan, Guilmoto (2009) found that son preference was largely a result of the persisting patriarchal norms and an overwhelming reliance on non-egalitarian gender roles. A study by Bongaarts (2013), which examined a sample of 61 countries, reported that Pakistan had the second-highest level of son preference among the countries included in his analysis. Another study asserted that this preference was driven by the perception of men as breadwinners, providers of social security, and maintainers of kinship ties, which placed male children at a higher value than female children (Agha, 2018). Basu & Koolwal (2005), in this regard, observed that bearing a male child played a pivotal role in improving a woman's status, particularly in terms of her autonomy and decision-making power within the household. Thus, the resulting shift in power and improved familial status are key factors motivating women to pursue sons rather than daughters (Barber, 2000; Butt & Asad, 2017; Javed & Mughal, 2018; Zimmerman, 2018).

It has also been revealed in some studies that pregnancies become increasingly unwanted as the number of surviving sons increases, indicating that couples in Pakistan continue childbearing primarily in pursuit of sons (Zaidi & Morgan, 2016; Javed & Mughal, 2020). Moreover, some studies have indicated that the sex of the surviving children not only determines progression to higher birth parities but also influences contraceptive use (Khan & Sirageldin, 1977; Rukanuddin, 1982; Hussain et al., 2000; Saeed, 2015; Zaidi & Morgan, 2016). A study by Wazir (2018) also found that in Pakistan, son preference and contraceptive use are significantly associated. Women with two sons had a contraceptive prevalence rate of 42 percent, compared to women with two daughters, whose contraceptive prevalence rate was 29.2 percent. Therefore, in Pakistan, son preference manifests itself in larger family

sizes, resulting in elevated fertility levels and thereby slowing the country's progress towards achieving replacement-level fertility (Zaidi & Morgan, 2016).

The literature has further revealed that while couples in India, Nepal and China often resort to sex-selective practices and use of new reproductive technologies (NRTs) (Purewal, 2010), couples in Pakistan usually rely on continued childbearing – known as differential stopping behavior – until they reach their ideal or desired number of sons as discussed above (Zaidi & Morgan, 2016; Channon, 2017; Javed & Mughal, 2020; 2022).

Thus, the scholarship on son preference in Pakistan aligns with international literature, which suggests that fertility behaviors are influenced by desires related to future goals. However, what sets Pakistan apart from its neighboring countries is the way son preference manifests itself in the country, through differential stopping behavior, reflected in continued childbearing until the desired number of sons is achieved (Bongaarts, 2013; Zaidi, 2013).

This study investigates the role that son preference plays in determining individual's future childbearing goals by employing different indicators of son preference, namely the respondent's ideal number of sons and the comparison between the ideal actual number of living sons. In addition, we examine whether the ideal number of sons continues to shape women's desire for an additional child once their number of living children is taken into account. By providing an updated empirical analysis of son preference and incorporating the concept of the ideal number of sons as a key measure, this research aims to contribute to the formulation of specific policy proposals. It also offers a comprehensive understanding of fertility-related choices and the reproductive behavior of women in Pakistan.

3. DATA AND METHODS

The analysis in this study is based on data from the Pakistan Demographic and Health Survey (PDHS) 2017-18. This nationally representative survey interviewed 15,068 ever-married women aged 15–49 across the country, including Azad Jammu and Kashmir and Gilgit-Baltistan. Information on the socioeconomic characteristics of the household population in the PDHS provides important context for interpreting demographic and health indicators.

Since this study focuses on women's desire for an additional child, the sample was restricted to women who were currently married. For meaningful analysis, women who reported that they or their husband was sterilized or who were infecund, were excluded from the sample. The final

analytical sample used in this study comprised 9,674 currently married women drawn from the four provinces.

Indicators of Son Preference

Since son preference arises from fertility behaviors motivated by individuals' desires, therefore, this study looks at son preference in conjunction with fertility desires to understand how the phenomenon manifests itself in Pakistan. Hence, the respondent's *Desire for an Additional Child* is used as a dependent variable in the analysis. The variable is binary in nature as it is measured from the woman's response to a direct question asking if she desires an additional child or not, with the response being either yes or no (coded as yes= 1; no= 0). The PDHS consists of some questions on fertility preference, which can be used to study latent son preference.

For the current analysis, two variables were constructed to be used as indicators of son preference, namely (1) *Ideal No. of Sons* and (2) *Ideal vs. Living No. of Sons*. The variable "Ideal No. of Sons" is derived from the response to a question asking the woman, "If you could go back to the time, you did not have any children and choose exactly the number of children to have in your whole life, how many would that be? How many would you like to be boys…?" This question was asked in a continuous manner. A categorical variable was then constructed where the variable takes the value of 0 if ideal sons ≤ 1; 1 if ideal sons = 2 and 2 if ideal sons ≥ 3.

The variable ideal vs. living No. of Sons was constructed by using the information on the respondents' ideal and living number of sons, respectively. This variable was recoded as follows:

0 if ideal = living sons; 1 if ideal > living sons; and 2 if ideal < living sons.

The study controlled the respondent's socioeconomic characteristics, as they could possibly impact her desire to make a fertility-related decision. These variables include the respondent's age, rural/urban residence, wealth status, education level and current employment status. Since the outcome variable for the current study looks at whether the respondent desires another child or not, which is binary in nature, so logistic regression analysis technique was applied in this study. The following logistic regression equation was used to test the impact of the two indicators of son preference on the outcome variable:

$$\text{Ln}\,(P / 1 - P) = \beta_0 + \beta_1 X_1 + \quad + \beta_n X_n + e$$

Where P denotes the probability of a currently married woman with the desire of having an additional child, such that y = (0, 1), β0 is the regression constant, while β1,…,βn show the regression coefficients for the particular

independent variables X1,…, Xn, respectively, while *e* refers to the error term in the regression analysis.

Thus, in order to test the hypotheses for son preference, logistic regressions were run for women's desire for an additional child by employing the socioeconomic characteristics of the respondent in the first model, and then the indicators of son preference in models 2 and 3. In addition, a separate analysis was conducted to test how the respondent's number of ideal sons influences their desire to have an additional child after controlling for their current number of children (model 4).

4. RESULTS

The percentage distribution of a sample of 9,674 currently married women used in the study is shown in Table 1. According to the survey, forty percent of women reported their ideal number of sons was two, while around thirty-one percent had an ideal of 3 or more sons. A little over half of the respondents did not have any formal education (51.7%), 13.5% reported having primary education, while those reporting secondary and higher education were 19.8% and 15.0% respectively.

Table 1: Percentage and frequency distribution of currently married women by selected characteristics

Variable	Frequency	Percentage
Total	**9,674**	**100.0**
Socioeconomic Characteristics		
Age		
Less than 25	2,258	23.3
Between 25 & 34	4,176	43.2
35 and above	3,240	33.5
Residence		
Urban	4,896	50.6
Rural	4,778	49.4
Education Level		
No Education	5,005	51.7
Primary	1,307	13.5
Secondary	1,915	19.8
Higher	1,447	15.0

Wealth Status*		
Poorest	1,848	19.1
Poorer	1,860	19.2
Middle	1,809	18.7
Richer	1,937	20.0
Richest	2,220	23.0
Currently Employed		
Not Employed	8,403	86.9
Employed	1,271	13.1
Independent Variable		
Ideal Number of Sons		
Ideal Sons ≤ 1	2,811	29.0
Ideal Sons = 2	3,894	40.3
Ideal Sons ≥ 3	2,969	30.7
Ideal vs. Living No. of Sons		
Ideal = Living	2,815	29.1
Ideal > Living	2,491	25.7
Ideal < Living	4,368	45.2
Dependent Variable		
Desire for an Additional Child	6,007	62.1
Yes (Have Another)	3,667	37.9
No (No More)		

Source: Authors' calculations

* Wealth status as grouped in the DHS dataset was used. The DHS index was based on the ownership of consumer goods and housing characteristics.

Table 2 below reports the cross-tabulation percentages for all explanatory variables used in this study with respect to the outcome variable and their significance levels to provide a descriptive analysis of all the variables used. It reveals that the desire to have another child was inversely associated with the woman's age; 92% of younger women, aged less than 25, desired another child compared with 33% of the oldest women aged 35 or higher. Moreover, it was found that 66.8% of respondents who wanted to have another child were those having an ideal number of 3 or more sons. Similarly, respondents who wanted to have another child were substantially those who

had yet to achieve their ideal number of sons (93.5%). Contrary to this, women who did not want another child were mainly those who had exceeded their ideal number of sons (64.7%).

Table 2: Desire for an additional child of currently married women aged 15-49 by socioeconomic characteristics

Background Characteristic	Desire for an Additional Child			
	Have Another (Yes)	No More (No)	Total	Significance
Total	**62.09**	**37.91**	**9,674**	
Age				
Less than 25	92.1	7.9	2,258	
Between 25 & 34	68.2	31.9	4,176	*0.000*
35 & above	33.4	66.6	3,240	
Residence				
Urban	59.0	41.1	4,896	*0.000*
Rural	65.4	34.6	4,778	
Education Level				
No Education	62.7	37.3	5,005	
Primary	59.1	40.9	1,307	*0.123*
Secondary	62.1	37.9	1,915	
Higher	62.8	37.3	1,447	
Wealth Status				
Poorest	70.7	29.3	1,848	
Poorer	65.8	34.3	1,860	*0.000*
Middle	59.4	40.6	1,809	
Richer	59.9	40.0	1,937	
Richest	55.9	44.1	2,220	
Currently Employed	63.5	36.5	8,403	*0.000*
Not Employed	53.0	47.1	1,271	
Employed				
Ideal No. of Sons				
Ideal Sons ≤ 1	57.4	42.6	2,811	
Ideal Sons = 2	61.9	38.1	3,894	*0.000*
Ideal Sons ≥ 3	66.8	33.2	2,969	
Ideal vs. Living Sons	75.9	24.1	2,815	
Ideal = Living	93.5	6.5	2,491	*0.000*
Ideal > Living	35.3	64.7	4,368	
Ideal < Living				

Source: Authors' calculations

Note: ***p<0.01, **p<0.05, *p<0.1

The logistic regression estimates for both indicators of son preference, namely "Ideal No. of Sons" and "Ideal vs. Living Sons" of the respondent, are shown in Table 3. The association between son preference and the desire for having an additional child is found to be statistically significant for both indicators of son preference.

Table 3: Son preference indicators and desire for an additional child, logistic estimation

Variable	Dependent variable is Desire for an Additional Child (yes= 1, no= 0)		
	(1)	(2)	(3)
	Socioeconomic Characteristics	**Ideal No. of Sons**	**Ideal vs. Living No. of Sons**
Ideal No. of Sons (Ref: ≤ 1 sons)			
Ideal Sons = 2		1.270***	
		(0.0752)	
Ideal Sons = 3 +		2.012***	
		(0.1377)	
Ideal vs. Living Sons (Ref: Ideal = Living Sons)			
Ideal > Living			3.575***
			(0.3407)
Ideal < Living			0.206***
			(0.0122)
Age (Ref: < 25 years)			
25 – 34 years	0.183***	0.174***	0.291***
	(0.1562)	(0.0149)	(0.0263)
35 + years	0.043***	0.039***	0.0782***
	(0.0038)	(0.0034)	(0.0073)
Residence (Ref: Urban)			
Rural	1.006	1.010	0.921
	(0.0567)	(0.0572)	(0.0568)
Education Level (Ref: No Education)			
Primary	0.826**	0.898	0.822**
	(0.0634)	(0.0698)	(0.0698)
Secondary	1.009	1.137	1.049
	(0.0749)	(0.0868)	(0.0859)
Higher	1.493**	1.743***	1.426**
	(0.1288)	(0.155)	(0.1379)
Wealth Status (Ref: Poorest)			
Poorer	0.759***	0.791**	0.708***
	(0.0624)	(0.0656)	(0.0666)

Middle	0.540***	0.592***	0.510***
	(0.0467)	(0.0518)	(0.0492)
Richer	0.543***	0.614***	0.503***
	(0.0511)	(0.0587)	(0.0522)
Richest	0.468***	0.543***	0.429***
	(0.0475)	(0.0559)	(0.0484)
Currently Employed (Ref: No)			
Yes	0.759**	0.776***	0.685***
	(0.053)	(0.0545)	(0.0538)
Constant	18.702***	12.588***	25.252***
	(2.0442)	(1.4852)	(3.1827)
Observations	9,674	9,674	9,674

Source: Author's calculations

Note: Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3 presents the results of the logit estimation for 3 models; model (1) shows the impact of respondents' socioeconomic characteristics on their desire for an additional child. When compared with the poorest households, the desire for an additional child significantly drops by 58% among women belonging to the richest households.

Models 2 and 3 show the estimated results of the regression analysis between indicators of son preference and the outcome variable. In model 2, the son preference indicator *'Ideal Number of Sons'* is added to test for its independent effect, while model 3 is used to check for the independent effect of the second indicator of son preference, namely *'Ideal vs. Living Sons'*. Model 2 reveals that the odds of wanting another child substantially increased when the respondent's ideal number of sons increased. Compared to the reference category of 'Ideal Sons ≤ 1', the odds of wanting an additional child increased by 1.3 times for women with an ideal of 2 sons, while they increased by 2 times for women with an ideal of 3 or more sons.

Model 3 reveals that the desire for an additional child is less in the case of women who have already achieved their ideal number of sons, as opposed to those who are yet to reach their ideal number of sons. For instance, compared to those whose ideal number of sons was equal to their living number, the odds of women wanting an additional child increased by 3.6 times when their ideal number of sons was greater than their living sons. In contrast, for those whose living sons had exceeded their ideal number, the odds of wanting another child was 79% less when compared to the reference category of *Ideal = Living Sons*. The regression estimates for the socioeconomic

characteristics show that when compared with the poorest households, the desire for an additional child significantly drops by 58% among women belonging to richest households.

Table 4 below reports the findings from an additional analysis where the impact of respondents' *Ideal Number of Sons* on the *Desire for an Additional Child* is studied after controlling for the respondents' *Number of Living Children*. Three different models are used to analyze the robustness of the findings; here, the models differ according to the number of living children category the respondents fall into; hence, the number of observations (N) varies in each model.

Table 4: Ideal number of sons and desire for an additional child -controlling for number of living children

Variable	Dependent variable is Desire for an Additional Child		
	Number of Living Children		
	(1)	(2)	(3)
	0 – 1	**2 – 3**	**4 and more**
Ideal No. of Sons (Ref: ≤ 1 sons)			
Ideal Sons = 2	4.328***	2.323***	0.730***
	(1.0551)	(0.2110)	(0.0901)
Ideal Sons = 3+	6.296***	6.023***	2.349***
	(2.855)	(0.7982)	(0.2602)
Age (Ref: < 25 years)			
25 – 34 years	0.739	0.574***	0.852
	(0.1839)	(0.0684)	(0.2652)
35 + years	0.188***	0.143***	0.337***
	(0.0469)	(0.0192)	(0.1046)
Residence (Ref: Urban)			
Rural	0.793	1.069	0.776**
	(0.1855)	(0.1029)	(0.0751)
Education Level (Ref: No Education)			
Primary	0.631	0.751**	0.857
	(0.2363)	(0.1006)	(0.1135)
Secondary	0.515*	0.886***	0.847
	(0.1895)	(0.1074)	(0.1320)
Higher	0.567*	0.946**	0.976
	(0.2166)	(0.1331)	(0.2207)
Wealth Status (Ref: Poorest)			
Poorer	0.394*	0.791	0.653***
	(0.1958)	(0.1346)	(0.0730)

Middle	0.626	0.539***	0.473***
	(0.3499)	(0.0912)	(0.0609)
Richer	0.614	0.552***	0.346***
	(0.3458)	(0.0990)	(0.0523)
Richest	0.473	0.482***	0.285***
	(0.2740)	(0.0907)	(0.0534)
Currently Employed (Ref: No)			
Yes	0.892	0.700**	0.774*
	(0.2721)	(0.0836)	(0.0943)
Constant	60.898***	3.618***	1.343
	(30.138)	(0.6677)	(0.4462)
Observations	2,966	3,356	3,352

Source: Author's calculations

Note: Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The odds ratios from logistic regressions in model 1 reveal that the likelihood of wanting an additional child among women with 0 – 1 living child increases by 4.3 times for those whose ideal number of sons is 2 when compared with those whose ideal number of sons is less than or equal to 1. Similarly, when compared to the ideal of less than or equal to 1 son, those whose ideal sons were 3+ were 6.3 times more likely to want an additional child if they had 0 – 1 living child.

For 3,356 women who had between 2 and 3 living children, the likelihood of wanting an additional child among respondents with 2 ideal sons increased by 2.3 times when compared to the reference category of less than or equal to 1 ideal son. Similarly, for women with 3+ ideal sons the likelihood of wanting another child increased by 6 times when compared to the reference of less than or equal to 1 ideal son. Thus, the ideal number of sons has a significant and direct impact on the desire for an additional child, even if we control for the respondents' living number of children.

The logistic estimates for model 3 reveal that among 3,352 women who had 4+ living children, the likelihood of wanting an additional child among women with 2 ideal sons decreases by 27% when compared to those whose ideal sons were less than or equal to 1. This 27 per cent decline in the likelihood of wanting an additional child among women having 4 or more children reflects that these women may have perhaps achieved their ideal number of sons, which is 2. However, for women whose ideal number exceeded 3 sons, the probability of wanting an additional child increased by 2.3 times when compared to those whose ideal sons were less than or equal to 1. Thus, even among those with 4+ living children, there was no desire to stop

childbearing until the desired number of sons had been reached among those wanting a minimum of 3 sons.

5. DISCUSSION

This study attempted to understand the extent to which the desire for an additional child among currently married women is impacted by their son preference behaviors exhibited through two different indicators of son preference; namely, their *Ideal Number of Sons* and the comparative number of ideal and living sons, that is, *Ideal vs. Living Sons*. The empirical results of this study reinforce the findings from previous literature indicating that son preference is indeed among the driving forces behind high fertility rates in Pakistan.

It was found that son preference plays a crucial role in shaping women's future reproductive intentions and decisions. The conclusive evidence suggests that the desire for an additional child is strongly affected by a preference for sons. Compared to women who wanted at least one son, those who wanted 2 sons were 1.3 times more likely to desire another child; and the likelihood of this desire was 2 times more among women whose desired number of sons was three or more. Furthermore, women who had not yet achieved their ideal number of sons were 3.6 times more likely to want another child than those who had achieved their ideal number of sons. On the contrary, women who had achieved their ideal number of sons were 79% significantly less likely to desire another child.

The evidence provided in this paper is further supported by previous literature on son preference, both from around the world and studies specific to Pakistan. It has been previously argued that future fertility decisions are taken to approximate an ideal number of sons (Hussain et al., 2000) and, in doing so, couples exhibit differential stopping in their fertility behavior. The practice of differential stopping in fertility behavior is widespread in Pakistan and is indicative of contraceptive use in the country as Pakistanis resort to additional births and/or continued childbearing in the pursuit of having at least one son (Zaidi & Morgan, 2016).

To further understand the net effect of son preference on the desire for an additional child, a separate analysis was carried out, controlling for the respondents' number of living children. A significant, positive association was found between the respondents' desired number of sons and their desire for another child at each level of parity among those with 0 – 1, 2 – 3, and 4+ living children. For example, women who had 2 – 3 children but wanted 3+ sons were six times more likely to desire another child compared to those who reported the desire for at least one son. Thus, even among those at higher

levels of parity, the desire to continue childbearing was significantly higher for those who desired more sons. The above findings clearly indicate that ideal number of sons is a very real and meaningful concept that is likely to have a direct bearing on future fertility behavior.

There is considerable evidence from previous literature on Pakistan that shows that women in the country exhibit son-preferring behaviors. Zaidi (2013) found that women having all daughters were more likely to want another child as opposed to those who have one or more sons. Women sometimes may pursue sons because of the increased social value that comes with bearing sons in the form of an increase in women's decision-making power and familial status (Dyson & Moore, 1983; Basu & Koolwal, 2005; Zimmerman, 2018). Similarly, women also pursue sons when they feel pressured by their in-laws and husbands, as giving birth to a boy helps continue the family bloodline, which helps them pass on their 'family name' and inheritance through generations (Barber, 2000).

Economic considerations also play an integral part in women pursuing sons and ultimately drives the demand for additional children upwards. In patriarchal societies, men are considered the main source of earning and are supposed to provide for the rest of the family. Sons are thus placed on a higher pedestal due to the associated economic benefit as they earn and provide for the parents (Aslam & Kingdon, 2008; Sultana, 2010). Sons, therefore, have a higher social as well as economic utility in patriarchal household settings with an increased contribution towards household earnings. In this regard, having sons is seen as an asset as they come with a higher market return to parents than daughters, who are merely a burdensome liability.

In the absence of efficient social security schemes and safety nets to provide for people in their old age, parents tend to rely on sons for securing their future and view them especially as support for old age since daughters are wedded off to live with their husbands' families (Aslam & Kingdon, 2008; Tanvir & Arif, 2018). Hence, efforts directed at curbing the fertility rates must cater to this aspect of son preference as the results of this study revealed that women belonging to wealthier strata of society are significantly less likely to desire more sons and want additional births.

6. CONCLUSION

The regression estimates from this study provide conclusive evidence to support the hypothesis that the desire for an additional child is significantly affected by son-preferring behaviors of women in Pakistan. It focused on two ways of measuring this preference: by looking at how many sons a woman ideally wants, and whether she has reached that ideal number in terms of the

number of living sons she already has. - The study's findings align with existing research, confirming that a preference for male children significantly contributes to elevated fertility rates in Pakistan as couples resort to differential stopping behavior in order to achieve their ideal number of sons. Our analysis on the comparative number of ideal vs. living number of sons reveals how women who had achieved their ideal number of sons were 79% less likely to want an additional birth as opposed to those who were yet to achieve their ideal number. Previously, Hussain et al. (2000) and Zaidi & Morgan (2016) have suggested that couples often make future fertility decisions based on their goal of reaching a certain number of sons and continuing childbearing in the pursuit of having a son(s). Moreover, this study has also revealed that the current number of living children does not necessarily stop women from exhibiting son preference behaviors. This additional analysis further strengthened our hypothesis as it revealed that the desire for achieving an ideal number of sons was so strong that even those women who were at higher levels of parity reported the wish to continue childbearing.

The results of this study underpin the importance of tackling this strong and persistent presence of a culture of son preference in our society. The persistent preference for boys over girls has major effects at the national level, which must be addressed immediately. For instance, it drastically reduces any efforts to curb the country's fertility rate, thereby slowing down Pakistan's fertility transition. Moreover, it also slows down the country's progress towards achieving several of our SDG targets, especially those set out in SDG 3 and SDG 5, which relate to gender equality and ensuring healthy lives for all at all ages (Qazi, 2023). Women resorting to continued childbearing even after having 4 children end up putting their life at risk as well as the life of the newborn child. In this regard, the implications of son preference attitudes are far and wide-reaching as evident in the country's demographic profile as Pakistan's fertility, maternal and child mortality rates are among the highest in the region.

Therefore, a concerted effort is required by all the stakeholders to direct their resources towards investing in women's education and encouraging female labor force employment. Moreover, gender sensitization and awareness should be part and parcel of national health and education policies so that a widespread change can be brought about in the diffused norms relating to this culture of son preference. Efforts to alter son preference behaviors should therefore be an important part of the overall goals of programs designed to offer family planning with a view to reducing the rate of population growth in the country.

7. LIMITATIONS

A few limitations which might have influenced our model estimates are noted herewith. First, the results of the study may reflect omitted variable bias due to some missing variables interacting with the variables of interest. Such missing variables, not available in the DHS dataset, may include broader cultural norms about son preference or family pressure about producing sons. Second, the study may have experienced reporting bias as the desired number of sons can be affected by the respondents' number of living children and/or sons.

REFERENCES

Abrevaya, J. (2009). Are there missing girls in the United States? Evidence from birth data. *American Economic Journal: Applied Economics, 1*(2), 1–34.

Agha, N. (2018). Social security or cultural benefits: Why is son preference common in rural Pakistan? *Asian Journal of Social Science, 46*(1–2), 35–51.

Ahmed, F., Ferdoos, A., & Faiz, F. A. (2021). Patriarchal family tendencies and socio-economic and psychological effects in Pakistan. *Pakistan Journal of Social Research, 3*(3), 458–467.

Ali, S. M. (1989). Does son preference matter? *Journal of Biosocial Science, 21*(4), 399–408.

Almond, D., & Edlund, L. (2008). Son-biased sex ratios in the U.S. 2000 census. *Proceedings of the National Academy of Sciences, 105*(15), 5681–5682.

Almond, D., Edlund, L., & Milligan, K. (2013). Son preference and the persistence of culture: Evidence from South and East Asian immigrants to Canada. *Population and Development Review, 39*(1), 75–95.

Aslam, M., & Kingdon, G. (2008). Gender and household education expenditure in Pakistan. *Applied Economics, 40*(20), 2573–2591.

Baig, H. (2018, June 10). The population bomb. *The News International*. Retrieved from https://www.thenews.com.pk/print/847080-the-population-bomb

Barber, N. (2000). *Why parents matter: Parental investment and child outcomes*. Greenwood Publishing Group.

Bashir, S. (2017). *Reproductive behavior in Pakistan: Incorporating men and couples to understand change over time* (Doctoral dissertation). Bowling Green State University.

Basu, A. M., & Koolwal, G. B. (2005). Two concepts of female empowerment: Some leads from DHS data on women's status and reproductive health. In *A focus on gender: Collected papers on gender using DHS data* (pp. 15–33). Calverton, MD: ORC Macro.

Basu, D., & De Jong, R. (2010). Son targeting fertility behavior: Some consequences and determinants. *Demography, 47*(2), 521–536.

Bongaarts, J. (2001). Fertility and reproductive preferences in post-transitional societies. *Population and Development Review, 27*, 260–281.

Bongaarts, J. (2013). The implementation of preferences for male offspring. *Population and Development Review, 39*(2), 185–208.

Butt, B. I., & Asad, A. Z. (2017). Factors affecting son preference phenomenon and women familial status in Pakistan. *Orient Research Journal of Social Sciences, 2*(2), 186–204.

Cain, M. (1993). Patriarchal structure and demographic change. In N. Federici, K. O. Mason, & S. Sogner (Eds.), *Women's position and demographic change* (pp. 43–60). Oxford, UK: Clarendon Press.

Channon, M. D. (2017). Son preference and family limitation in Pakistan: A parity- and contraceptive method-specific analysis. *International Perspectives on Sexual and Reproductive Health, 43*(3), 99–110.

Chaudhuri, S. (2012). The desire for sons and excess fertility: A household-level analysis of parity progression in India. *International Perspectives on Sexual and Reproductive Health, 38*(4), 178–186.

Dubuc, S., & Coleman, D. (2007). An increase in the sex ratio of births to India-born mothers in England and Wales: Evidence for sex-selective abortion. *Population and Development Review, 33*(2), 383–400.

Dyson, T., & Moore, M. (1983). On kinship structure, female autonomy, and demographic behavior in India. *Population and Development Review, 9*(1), 35–60.

Ezdi, S., & Baş, A. M. (2020). Gender preferences and fertility: Investigating the case of Turkish immigrants in Germany. *Demographic Research, 43*, 59–96.

Friedman, D., Hechter, M., & Kanazawa, S. (1994). A theory of the value of children. *Demography, 31*(3), 375–401.

Ganatra, B., Hirve, S., & Rao, V. N. (2001). Sex-selective abortion: Evidence from a community-based study in western India. *Asia-Pacific Population Journal, 16*(2), 109–124.

Gruber, S., & Szołtysek, M. (2016). The patriarchy index: A comparative study of power relations across historical Europe. *The History of the Family, 21*(2), 133–174.

Guilmoto, C. Z. (2009). The sex ratio transition in Asia. *Population and Development Review, 35*(3), 519–549.

Javed, R., & Mughal, M. (2018). Have a son, gain a voice: Son preference and female participation in household decision making. *The Journal of Development Studies, 55*(12), 2526–2548.

Javed, R., & Mughal, M. (2020). Preference for boys and length of birth intervals in Pakistan. *Research in Economics, 74*(2), 140–152.

Javed, R., & Mughal, M. (2022). *Still no son? Speed up: Son preference and birth spacing in Pakistan*. South Asia @ LSE.

Jayaraman, A., Mishra, V., & Arnold, F. (2009). The relationship of family size and composition to fertility desires, contraceptive adoption and method choice in South Asia. *International Perspectives on Sexual and Reproductive Health, 35*(1), 29–38.

Khan, M. A., & Sirageldin, I. (1977). Son preference and the demand for additional children in Pakistan. *Demography, 14*(4), 481–495.

National Institute of Population Studies (NIPS) [Pakistan], & ICF. (2019). *Pakistan demographic and health survey 2017–18*. Islamabad, Pakistan: NIPS and ICF.

Population Council. (2015). *Evidence of son preference and resulting demographic and health outcomes in Pakistan*. Retrieved from https://knowledgecommons.popcouncil.org/departments_sbsr-pgy/665/

Population Reference Bureau. (2022). *World population data sheet: Special focus on demographic impact of COVID-19*. Retrieved from https://www.prb.org/collections/data-sheets/

Purewal, N. K. (2010). *Son preference: Sex selection, gender and culture in South Asia*. Oxford, UK: Berg.

Qazi, M. (2023). Where are we on population? *The News International*. Retrieved from https://www.thenews.com.pk/print/1128743-where-are-we-on-population

Repetto, R. (1972). Son preference and fertility behavior in developing countries. *Studies in Family Planning, 3*(4), 70–76.

Rukanuddin, A. R. (1982). Infant-child mortality and son preference as factors influencing fertility in Pakistan. *The Pakistan Development Review, 21*(3), 297–328.

Saeed, S. (2015). Toward an explanation of son preference in Pakistan. *Social Development Issues, 37*(2), 17–36.

Sultana, A. (2010). Patriarchy and women's subordination: A theoretical analysis. *Arts Faculty Journal, 4*, 1–18.

Tanvir, A., & Arif, R. (2022). *Measuring mother's empowerment through culture of son preference in Pakistan* (Working Paper). Lahore School of Economics.

UNFPA Pakistan. (2020). *Pakistan population situation analysis 2020*. Retrieved from https://pakistan.unfpa.org/en/publications/pakistan-population-situation-analysis-2020

Wazir, M. A. (2018). Fertility preferences in Pakistan. In A. Jones & R. Kaur (Eds.), *Family demography in Asia* (pp. 247–259). Cheltenham, UK: Edward Elgar.

Westley, S. B., & Choe, M. K. (2007). *How does son preference affect populations in Asia?* (East-West Center Working Paper No. 84). Honolulu, HI: East-West Center.

World Health Organization. (2011). *Preventing gender-biased sex selection: An interagency statement*. Geneva, Switzerland: Author.

Zaidi, B. (2013). *In the pursuit of sons: Sex-selective abortion and differential stopping in Pakistan* (Doctoral dissertation). University of North Carolina at Chapel Hill.

Zaidi, B., & Morgan, S. P. (2016). In the pursuit of sons: Additional births or sex-selective abortion in Pakistan? *Population and Development Review, 42*(4), 693–710.

Zimmermann, L. (2018). It's a boy! Women and non-monetary benefits from a son in India. *World Development, 104*, 226–238.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.21-43

Blurring the Line Between Real and Artificial: Virtual Influencers, Visual Communication, and the Third-Person Effect

Huda Imran[1,*], Ahmad A. Hassan[1]

[1]Department of Media and Development Communication University of the Punjab, Lahore, Pakistan
*Corresponding author: hudaimran529@gmail.com

Abstract

With the advent of AI-based virtual influencers, there are new opportunities and ethical issues in online marketing. Although the literature on human influencers is rich, little has been said about audiences' perceptions and reactions to artificial personas. Based on the Visual Communication Theory and the Third-Person Effect, this study performs a qualitative content analysis of five well-known virtual influencers on Instagram. Post and audience interaction (manually coded) demonstrated patterns of authenticity, consumer trust, purchasing behaviour, and ethical issues. The results indicate that virtual influencers have a strong impact on fashion and lifestyle decisions and that viewers tend to interact with them as real people. It also introduced transparency and manipulation issues, especially since the followers didn't know these personas didn't exist. The paper identifies marketing opportunities and ethical risks associated with virtual influencers, which can inform current discussions of digital trust, consumer persuasion, and the ethical use of AI in advertising.

Keywords: virtual influencers; artificial intelligence; digital marketing; visual communication theory; third-person effect
Article History: Submitted: 07/07/2025, Accepted: 17/11/2025, Published: 22/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

The accelerated development of artificial intelligence (AI) has transformed how individuals interact online and the way organizations pursue marketing. The most significant trend in this sphere is the rise of so-called virtual influencers: personalities created by artificial intelligence to provide entertainment, sell products, and simulate human interaction. Such virtual characters confuse the distinction between the real and the fake (Hofeditz et al., 2022). In contrast to human influencers whose actions and online personas can be unpredictable, the actions and images of virtual influencers are controlled by brands or developers. This regulation is an opportunity for communicating similar messages, polished images, and protected reputations (Vrontis et al., 2021). Although this has provided a promising prospect for

brands to reach their audiences, it also poses critical ethical concerns regarding honesty, authenticity, and trust.

"Influencer marketing" has proven to be one of the most powerful preference manipulators, and millions of dollars are spent each year on endorsements and sponsored content (Hudders et al., 2020). The rise of AI influencers is not only an example of a technological breakthrough but also a sign of broader cultural shifts in digital self-representation and emerging ethical concerns related to authenticity, trust, and persuasion. These online personae are actively influencing how individuals perceive products, shape their purchasing behavior, and connect with brands. Hence, it is important that marketers, regulators and researchers are aware of their roles.

Although they are on the rise, there is very limited research about virtual influencers. We already understand the traditional influencers much better (Hudders et al., 2020; Hernandez-Mendez & Baute-Diaz, 2023) than their AI-based counterparts, which are only just beginning to attract scholarly attention (Allal-Cherif et al., 2024). The lack of systematic research is troubling: although brands are already spending a lot of money on these virtual personalities, the long-term effects on consumer trust, persuasion, and ethical marketing are not well understood.

The literature points to two notable gaps. First, little is known about whether consumers are aware of the artificiality of virtual influencers and how this awareness affects their perceptions of authenticity and trust (Jayasingh et al., 2025). Second, the ethical aspects, particularly the potential for manipulation, unrealistic beauty standards, and transparency, are not sufficiently discussed (Jamil & Qayyum, 2021; Li et al., 2023). These apertures need to be filled in a way that leads to theoretical information and practical principles on ethical online marketing.

Research Objectives and Questions

To address the aforementioned gaps, this study pursues following two main objectives.

1. To analyse the extent to which AI-generated virtual influencers affect consumer attitudes and behaviours, in comparison to human influencers.
2. To analyse the ethical concerns related to virtual influencers, it is important to consider the impact of transparency, authenticity, and manipulation on consumer perceptions and trust.

These objectives are addressed through the following research questions:

1. What are the implications of AI-generated virtual influencers for consumer behaviour compared to human influencers?

2. What are the ethical issues brought forth by virtual influencers, and how do these issues affect the perception of consumers and their trust?

This research will help advance the current debate on AI in marketing as it provides give empirical evidence regarding how consumers interact with virtual influencers. It will forge ahead the literature on digital trust and persuasion through applying the theory of 'Visual Communication" and "The Third Person Effect" and it draws attention to the ethical risks that need to be considered in future policy and regulatory discussions Eventually, the aim of this work is to bridge the gap between technological innovation and responsible practice on account of contributing to the strategic effectiveness and ethical responsibility of marketing in AI.

2. LITERATURE REVIEW

One of the most dramatic trends in contemporary marketing has been the emergence of virtual influencers, digitally generated personalities powered by artificial intelligence (Vrontis et al., 2021; Allal-Chérif et al., 2024). Unlike human influencers, whose reputations can be influenced by unpredictable actions, virtual influencers are completely brand-managed characters (Hudders et al., 2020). This is what makes them reliable and provocative, capable of creating high-quality and consistent material, whilst also presenting meaningful ethical issues of transparency and manipulation (Hofeditz et al., 2022; Li et al., 2023). To get a clearer picture of how these digital personae are transforming consumer culture, this review summarizes the current literature on four related themes: authenticity and perceived credibility, consumer decision-making and purchase intent, audience engagement and relationship-building, and ethical issues regarding transparency, manipulation, and aesthetic ideals (Hudders et al., 2020; Vrontis et al., 2021; Fauzi et al., 2024).

2.1. Authenticity and Perceived Credibility

Authenticity is one of the most important dimensions of influencer marketing. When audiences view influencers as real and credible, they tend to be more interested in the influencer even when they are conscious of the commercial aspect of endorsements. Hudders, De Jans & De Veirman (2020) provide a useful framework by adapting the "Stern Revised Communication Model" to influencer marketing, which focuses on the interaction among the source (the influencer), the message (the content), and the audience (the consumer). In this context, the persuasion process revolves around the credibility of the influencer.

The virtual influencers add another dimension to the aforementioned model. On the one hand, they eliminate the risks posed by human influencers,

such as scandals, deviations, or reputational damage (Hudders et al., 2020). At the same time, they also challenge traditional notions of authenticity. They can be treated like human beings by the audience at first, but once their artificiality is exposed, their credibility is a concern. As Hofeditz et al. (2022) show, trust in virtual influencers is easily shattered; their carefully crafted perfection is appealing, but the unmasking of their artificiality can undermine the authenticity viewers seek.

The idea of authenticity is especially tricky when it comes to AI-driven personae since these influencers are created to imitate human warmth and relatability. According to Sokolova & Perez (2021), influencers who seem spontaneous and emotionally genuine are more popular with the audience. Virtual influencers can replicate such signals, facial expressions, casual speech, and personal narratives. But the question is: does simulated authenticity have the same persuasive power as human authenticity? This is even more urgent in markets such as Pakistan, where cultural identity and trust are inseparably linked with the sense of credibility. According to Jayasingh et al. (2025), consumers' awareness of AI's status plays a significant role in determining whether they will believe these influencers. Therefore, the irony is that the more ideal a virtual influencer is, the more likely they are to be dismissed as fake and unreal.

2.2. Consumer Decision-Making and Purchase Intent

The second theme in literature relates to how influencers, human and virtual, influence consumer decisions. Many studies have reported that influencers' credibility directly affects consumer attitudes towards products and brands. For example, in the context of tourism, an influencer can have a significant impact on consumer purchase intentions when they are perceived as trustworthy by their audience, according to Hernandez-Mendez & Baute-Diaz (2023).

Virtual influencers take this dynamic further by providing more flexibility. Rahman (2022) categorizes influencers into mega, macro, micro-, and nano-influencers based on follower count and describes how consumers are influenced by imitation across each type. However, virtual influencers may mimic the features of any of these types depending on how they are created and promoted. This allows them to serve as multidimensional marketing channels that can focus equally on niche communities and mass audiences (Hernandez-Mendez & Baute-Diaz, 2023).

Li et al., (2023) also provides further evidence by examining sales of luxury brands through live-streaming. They discovered that virtual influencers tend to perform better than human streamers because they align more closely

with brand identity. They are also a safe bet for sticking to the script, unlike human influencers, who could go rogue, making them a better choice for companies that want consistent representation. This has obvious consequences for the emerging markets like Pakistan, where consumer confidence towards e-commerce is still developing. On the one hand, the uniformity of messages of AI influencers can make reluctant buyers feel safer; on the other hand, their unnatural beauty can make them suspect manipulation.

The possibility of behavioural impact is not limited to direct buying. Credible influencers generate positive feelings that lead to indirect lifestyle changes, as Hernandez-Mendez & Baute-Diaz (2023) claim. For example, followers can not only buy a product suggested by an influencer but also start to imitate the influencer's overall lifestyle. Virtual influencers, who can maintain a consistent display of idealized lifestyles, can be especially useful in promoting such aspirational mimicry.

2.3. Audience Engagement and Relationship-Building

A third canon of literature emphasizes the relational dimension of influencer marketing. Influencers do not just make transactions; they build long-term relationships with audiences that increase brand loyalty. According to Vrontis et al. (2021), emotional ties are the most powerful influencer of the effectiveness factor, as it helps establish the relationship between consumers and brands.

Virtual influencers are uniquely positioned to succeed in this field. Because they are created through AI and algorithmic design, they can be customized to resonate with specific demographics. This includes not only their physical appearance, but their tone of voice, cultural references, and online behaviour. In other words, Fauzi et al. (2024) highlight the use of algorithmic engagement strategies by virtual influencers who respond to their audience's preferences in real time and tailor their interactions accordingly. They do not get tired, have personal crises, or face the challenges of balancing work and life that human influencers do, which enables them to maintain a steady level of engagement.

The other important factor in establishing trust is cultural adaptation. Naina is the first AI influencer in India whose style is both traditional and modern and resonates with local people. Her example suggests that the more cultural references virtual influencers can integrate, the more relatable and resonant they can become. This capacity to localize digital personae can increase acceptance in Pakistan, where cultural norms strongly influence consumer perceptions (Imran et al., 2025). At the same time, however, it raises

ethical concerns if audiences are not informed that the influencer is an artificial.

Engagement is not uniform across all virtual influencers, however. Influencers like "Lil Miquela" manage to create community discourse about activism and social problems, but others, like "Shudu," are more aesthetically than socially relevant. This difference suggests that although AI can simulate some types of engagement and relationship-building, the extent of openness regarding identity remains a matter of content strategy.

2.4. Ethical Concerns

The ethical implications of virtual influencers are perhaps the most controversial in literature. According to Jamil & Qayyum (2021), consumers are more likely to believe information from influencers when it is framed positively, a distinct advantage for AI influencers, who can be programmed to provide only brand-friendly information. However, it is this advantage that makes manipulation and propaganda so dangerous, because viewers are unaware of just how carefully the messages are filtered.

One ethical concern is transparency. Other virtual influencers, like "Lil Miquela," do not hide their artificial nature, which increases trust by minimizing the feeling of deception. Some are, though, unclear as to whether they are non-human, and the followers are left unsure whether they are dealing with an actual person. This lack of information can negatively impact informed consumer choice and be viewed as a form of deception (Li et al., 2023).

The other issue is the marketing of unrealistic beauty standards. An example of this is "Shudu," who has been criticized for hyper-realistic perfection that no human being can achieve. Virtual influencers can contribute to the worsening of body image and self-esteem problems amongst their followers by normalizing such ideals. "Imma", on the other hand, has been accused of being too materialistic with its regular consumer-related content. While AI-managed personae do not suffer from human frailty, the two examples demonstrate how AI can perpetuate harmful cultural scripts.

These dynamics are explained with the theoretical concepts of Visual Communication Theory and Third-Person Effect. The Visual Communication Theory focuses on the role of carefully selected images in influencing perception at a subconscious level. (Messaris, 1997). Virtual influencers are idealized visual objects optimized for persuasion. In the meantime, the Third-Person Effect (Davison, 1983) implies that people believe others are more affected by the media than they are. In this case, it implies that viewers may be unaware of their susceptibility to virtual influencers and may be influenced

by them in subtle ways. This subconscious impact and perceived invincibility are exactly why ethical regulation of virtual influencer marketing is such a pressing need.

These challenges only become more complex in countries such as Pakistan, where digital literacy and regulation are only now beginning to evolve (Imran & Maqsood, 2024). The lack of clear disclosure standards leaves consumers very vulnerable to manipulation. Meanwhile, the perfect AI character can attract people to follow it vehemently, leading to the urgency for its ethical regulation.

2.5. Synthesis

Taken together, the literature indicates that virtual influencers combine the aspirational credibility of human influencers with the flawless consistency of algorithmic design. They can be used to influence consumer attitudes, purchase intent, and engagement. However, these benefits cannot be discussed outside the ethical realm of transparency, manipulation, and normalization of unrealistic standards

Virtual influencers are already known to be effective marketing tools worldwide. Their potential is even higher in Pakistan and similar markets, where social media use is increasing and a Westernized digital culture has aspirational appeal (Imran et al., 2025). But the trust deficit is a concern, as consumers are unaware of their artificiality, which is further aggravated by the absence of regulatory oversight.

Organizing this review into four themes: authenticity, decision-making, engagement, and ethics. This study examines how virtual influencers operate and where the potential dangers lie. Ultimately, it points to the need for further culturally situated research projects that assess longer-term impacts and consider regulatory landscapes that balance innovation with ethical responsibility.

3. THEORETICAL FRAMEWORK

This research is based on two theories: Visual Communication Theory and the Third Person Effect. These two theoretical models are crucial for examining the performance of virtual influencers in the context of digital marketing and the ethical concerns that accompany this field.

Visual Communication Theory emphasizes the powerful impact that images can have on viewers' perceptions, emotions, and behaviour. Messaris (1997) observes that visual messages are received more quickly than verbal messages, and they tend to influence perceptions at a subconscious level. This has made visual media a useful tool of persuasion and self-identification.

This theory applies to virtual influencers. Personae created with AI are carefully crafted to be attractive to specific demographics, with visuals selected for facial expressions, posture, skin tone, clothing, and even lighting. In contrast to classical human influencers, virtual influencers never go off-brand and maintain a perfect, visually edited on-brand image, unlike real people (Hofeditz et al., 2022). They are highly mediated visual objects, i.e., brands can supply the idealized image of lifestyle, models, or ideology with very little risk.

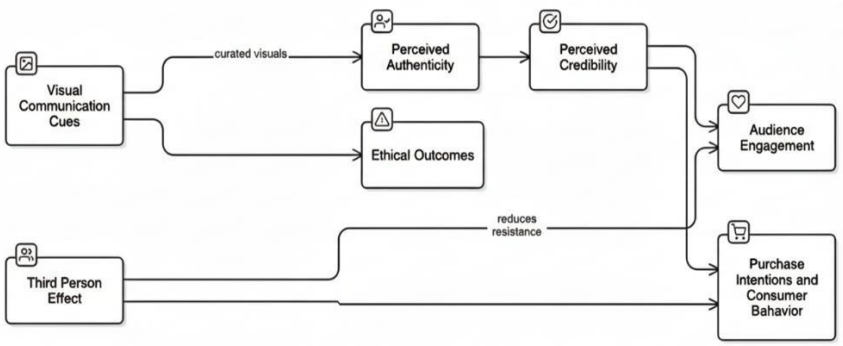
Thus, Visual Communication Theory provides a basis for examining the role of virtual influencers as persuasive visual symbols. Their perfection and aesthetic continuity can complement messages of aspiration, trigger emotions, and shift consumer desires in subtle, subconscious ways.

The Third-Person Effect (TPE) is a concept first proposed by Davison (1983) and describes the phenomenon in which people believe others are more affected by what they hear or see in the media than they are. This sense of invulnerability usually contributes to the underestimation of individual susceptibility to persuasive media and to the overestimation of the influence on others.

This psychological phenomenon is especially applicable to virtual influencers. The followers might think they are not susceptible to the effects of a digital persona because it lacks a real human presence. But this is not usually the case. Virtual influencers could prove more subtle and influential, thanks to their polished look, emotionally powerful content, and the ease with which they can be branded into a standard operating system. According to Allal-Cherif et al. (2024), such a distancing effect may lead audiences to be more willing to interact with virtual influencers without critical assessment and more susceptible to suggestions.

Thus, the Third-Person Effect can be used to the advantage of virtual influencers, who can position themselves as aesthetically attractive, apolitical, and non-threatening, thereby minimizing resistance and scepticism. This framework helps explain why consumers can trust virtual influencers, despite their intellectual understanding that they are artificial, and why their buying behaviour can be manipulated without their awareness.

Figure 1: Theoretical Framework



4. RESEARCH METHODOLOGY

4.1. Research Design

The research design adopted in this study is qualitative. Content analysis has been used to understand the effects of AI-generated virtual influencers on consumer perceptions, trust, and purchasing behaviour, and to investigate ethical issues associated with their use in marketing. The qualitative approach is the most appropriate, as the aim is not to produce statistical generalizations but to develop deeper insight into meanings, interpretations, and ethical aspects. Employing qualitative content analysis, the researchers used the traditional method described by Hsieh & Shannon (2005).

This inductive approach enabled the categories and themes to be generated from the data rather than predefined codes. This method was especially suitable, given that the current body of literature on the ethical and behavioural consequences of virtual influencers is rather limited, thereby allowing new insights to emerge during the analysis.

The main objective of this methodological design was to investigate, on the one hand, the impact of virtual influencers on consumer trust, engagement, and purchasing intentions, and, on the other hand, ethical risks of AI-based personae, especially the problem of transparency, authenticity, and manipulation, as reflected in consumer-influencer relationships. This two-fold emphasis led to the selection of qualitative content analysis, which offers the flexibility to address both consumer behaviour and ethical dilemmas within a single analytical framework.

4.2. Sampling and Selection of Influencers

The researcher used purposive sampling to identify five leading virtual influencers whose social media activities provided a varied cultural and market insight. Purposive sampling was suitable since it allowed the researcher to select cases deliberately, which in turn are rich in information

and pertinent to research aims (Palinkas et al., 2015). The inclusion criteria were based on four factors: popularity, as measured by the number of followers; geographical diversity; evidence of brand collaborations with reputable fashion, beauty, or lifestyle companies; and frequency of posting, which ensured sufficient data for analysis. On this basis, the study selected Naina (@naina_avtr), Lil Miquela (@lilmiquela), Shudu (@shudu.gram), Imma (@imma.gram), and Rozy (@rozy.oh). These influencers hailed from India, the United States, the United Kingdom/South Africa, Japan, and South Korea, thereby providing a heterogeneous cultural distribution. In addition, their follower counts ranged from over one hundred thousand to several million, which provided variation in levels of reach and engagement. Special focus was placed on Shudu, a hyper-realistic AI model that is linked to luxury brands, whose profile is described in detail in the table of data collection.

4.3. Data Collection

The data was based on publicly accessible Instagram posts by the five chosen virtual influencers during the period from January 2023 to March 2024. The data was collected by capturing the influencers' visuals, captions, endorsements, calls to action, and audience comments and likes. To achieve consistency and comparability across cases, 50 posts were collected per influencer, yielding a corpus of 250 posts and over 12,000 follower comments. The posts were selected to capture a balance between blatantly promotional and lifestyle-focused posts, thus allowing exploration of how various post types aroused consumer trust, interest, and possible buying behaviour.

There were also cases of ethical issues being apparent in the dataset, including transparency issues regarding the status of AI, the endorsement of unrealistic beauty ideals, or the blatantly commercial nature of the endorsements. Such content was added to provide a practical foundation for evaluating ethical risks, rather than basing the evaluation on pure assumptions. A summary of influencer profiles, including the number of followers, geographic focus, and defining features, is provided in Table 1, entitled Profiles of Selected Virtual Influencers and Sampling Details. Table 1 provides a summary of the sampling framework and makes the extent of the data transparent.

Table 1: Profiles of Selected Virtual Influencers and Sampling Details

Virtual Influencer	**Approximate Followers**	**Country/ Region**	**Description and Relevance to Study**
Naina (@naina_avtr)	398K	India	India's first AI influencer, blending traditional and modern cultural trends.
Lil Miquela (@lilmiquela)	3M	USA	Globally recognized AI influencer involved in fashion, music, and social activism.
Shudu (@shudu.gram)	240K	UK/ South Africa	Hyper-realistic AI model known for luxury brand endorsements.
Imma (@imma.gram)	400K	Japan	AI influencer focused on youth fashion and streetwear culture.
Rozy (@rozy.oh)	130K	South Korea	Lifestyle-oriented AI influencer promoting fashion and beauty products.

4.4. Data Analysis

The data was analyzed using the six-stage framework proposed by Braun and Clarke (2006), which is considered the best method for thematic analysis to ensure rigor and transparency. It began with familiarization, wherein the researchers read and reviewed the posts, captions, and comments several times. This was followed by the production of the first codes, which identified certain characteristics of the data, including manifestations of authenticity, trust, or suspicion regarding the identity of the influencers. The third step was the collation of these codes and the identification of possible themes that describe larger patterns, such as authenticity and trust, consumer decision-making, and ethical dilemmas. These themes were compared with the data in the fourth step to determine whether the data were consistent and coherent. The fifth phase was to define and name themes and to develop a coding structure that captured them. The sixth stage was the synthesis of the thematic results with the theoretical models of Visual Communication Theory and the

Third-Person Effect, which placed the results in the context of existing academic discourse.

This coding process illustrates that comments such as “Where can I buy this?” or “Please tag the brand” were coded as indicators of consumer trust and purchasing behaviour, whereas comments such as “Is this a real person?” were coded as ethical concerns related to transparency. Through systematic implementation of Braun and Clarke (2006), the analysis drawn was valid and replicable, and the results were robust and academically defensible.

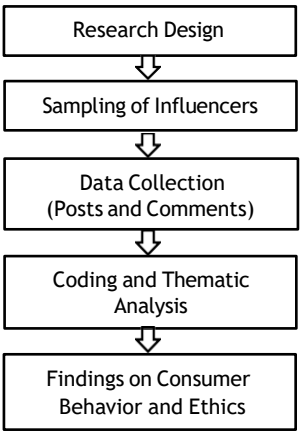
4.5. Ethical Considerations

The research only examined publicly accessible social media content and did not require any direct contact with human subjects. All followers’ comments used in the analysis were anonymized to protect individual privacy. In line with existing scholarship on digital ethics (Kapitan & Silvera, 2016), ethical consideration in this study focused not only on protecting participants but also on examining how virtual influencers themselves raise moral concerns about manipulation, transparency, and the setting of unrealistic standards. In this respect, ethical issues were not merely contextual but constituted a central dimension of the study’s analytical framework.

4.6. Methodological Flow

The research only examined publicly accessible social media content and did not require any direct contact with human subjects. The general research design is systematic and sequential, beginning with the design of a qualitative content analysis, then moving to purposive sampling and the selection of the five most notable influencers, and ultimately leading to post and follower interactions. The data were then coded inductively and analysed thematically using the six-phase framework of Braun and Clarke (2006). Eventually, the findings have been interpreted in light of the study’s theoretical frameworks. An overview of this process is shown in Figure 2, which presents the methodological flow and clarifies how the study has been conducted.

Figure 2: Methodological Flow of the Study



5. FINDINGS

The following section reports the results of the qualitative content analysis of five AI-generated virtual influencers on Instagram. A thematic approach was used to analyze the data, in which recurring patterns were identified through inductive coding of posts, captions, and interactions among followers. The data were revisited several times to identify themes, which were then narrowed and compared with the existing literature to ensure consistency. All themes are presented as individual subsections below to be discussed in detail with examples of Instagram posts and summarized in tables by the reader.

Theme 1: Audience Engagement and Interaction

The analysis showed that virtual influencers gained considerable attention from their followers, though the level and quality of communication differed among profiles. The involvement wasn't limited to the likes; it also led to an active discussion in the comment box.

An example is Naina (@naina_avtr), who posted a Diwali-themed branded outfit featuring a saree. Engagement included purchase-oriented queries and cultural affirmation. Illustrative follower comments included: “Where can I get this saree?” and “You represent modern India so well.” These interactions reflect both consumer curiosity and cultural resonance, suggesting that followers connect with the influencer on an aspirational level despite her AI nature.

Similarly, Lil Miquela (@lilmiquela) drew high engagement on socially conscious posts. For instance, on a post referencing racial justice, followers responded with comments such as: “Thank you for using your platform,” and “You speak up more than most real influencers.” This indicates that audiences

may blur the boundary between human and artificial identities when content aligns with their values.

In contrast, Shudu (@shudu.gram) received largely aesthetic reactions (e.g., "Stunning" or emoji-only replies) on luxury fashion posts, indicating comparatively shallow interaction when cues of human authenticity or dialogue are limited.

Table 2: Patterns of Audience Engagement Across Influencers

Virtual Influencer	Findings
Naina (@naina_avtr)	High engagement with 398K followers, focused on promoting culturally relevant brands. Emotional connection with the Indian audience.
Lil Miquela (@lilmiquela)	Most engagement with 3M followers, focusing on fashion, activism, and music. Strong community building and interaction on social issues.
Shudu (@shudu.gram)	240K followers, limited interaction. Followers admire her hyper-realistic beauty, but she lacks deeper emotional engagement.
Imma (@imma.gram)	400K followers, high interaction related to fashion. Followers frequently engage with her style and ask product-related questions.
Rozy (@rozy.oh)	130K followers, high engagement with lifestyle and product inquiries. Strong trust in her recommendations.

Theme 2: Perceptions of Authenticity

The theme of authenticity emerged as a key factor in how viewers rated virtual influencers. The results show that relatability and cultural alignment significantly affected perceptions of authenticity.

Naina was perceived as genuine as she posted both traditional and modern Indian culture. Her Diwali campaign appealed to her followers, who considered her both modern and culturally rooted.

Lil Miquela was also rated highly on perceived authenticity through active engagement in social causes. Although she is an artificial being, her activism and music gained her the trust of her community.

Conversely, the carefully edited posts by Shudu made her more of a digital art object than a person that one could relate to. Rozy (rozy.oh) is a venture capitalist and lifestyle and beauty influencer in South Korea. Rozy was very active but rarely revealed her identity as an AI, which could be called out from a transparency standpoint.

Table 3: Perceived Authenticity of Virtual Influencers

Virtual Influencer	**Findings**
Naina (@naina_avtr)	Viewed as authentic due to relatable cultural content. Followers perceive her as aspirational but trustworthy.
Lil Miquela (@lilmiquela)	High authenticity through social cause involvement, despite being AI. Engages followers on activism, increasing relatability.
Shudu (@shudu.gram)	Seen more as an art piece than a relatable persona, resulting in lower perceived authenticity despite flawless aesthetics.
Imma (@imma.gram)	High authenticity in the fashion realm. Followers treat her as a credible and stylish figure.
Rozy (@rozy.oh)	Followers view her as an ideal lifestyle figure, though her AI status is less clear, raising questions of transparency.

Theme 3: Influence on Consumer Behaviour

There was a very strong impact on buying behaviour, especially in fashion and lifestyle. Comments often contained product information and demonstrated that endorsements generated consumer interest and buying behaviour.

To illustrate, Imma (@imma.gram) shared a reel of a streetwear outfit that received hundreds of inquiries, such as "Where can I get this jacket?" This trend reveals a linear relationship between AI-generated recommendations and consumer buying behaviour.

The purchase intentions were also stimulated by Rozy in skincare and lifestyle items. Questions like "Is this cream appropriate for oily skin?" were asked in a campaign post about a beauty cream, indicating that people trusted her suggestions, even though they were unsure of her digital status.

In addition to the product itself, Lil Miquela also served as a platform for discussing lifestyle and activism, playing a largely positive role by encouraging conversations around environmentalism and racial equality. In this sense, consumerism activated by the virtual being's impact extended beyond purchasing behaviour to broader social awareness. Although Shudu was considered a representative of luxury fashion, her role was more limited than negative, as her distant, highly aestheticized image reduced her influence on real purchasing behaviour and deeper audience engagement.

Table 4: Influence on Consumer Behaviour Across Virtual Influencers

Virtual Influencer	Findings
Naina (@naina_avtr)	A strong influence on Indian consumers, especially with traditional and modern brand endorsements.
Lil Miquela (@lilmiquela)	Influences both product purchases and lifestyle changes. Significant impact on social awareness and brand loyalty.
Shudu (@shudu.gram)	Primarily influences luxury brand aspirations. Less direct impact on actual purchases compared to other influencers.
Imma (@imma.gram)	A strong influence on fashion purchases. Followers actively seek to emulate her style and purchase endorsed products.
Rozy (@rozy.oh)	strong influence on product purchases, particularly in the beauty and lifestyle sectors. Followers express high trust in her endorsements.

Theme 4: Ethical Concerns and Transparency

The disclosure of AI identity became a major ethical concern. Although Lil Miquela was quite transparent about her virtual identity, others, such as Naina or Rozy, tended to keep their followers guessing, which raises questions about deceit. The fact that numerous fans believed Naina was a real person in comments on her posts shows that some of the endorsements were unclear. The hyper-realistic beauty that Shudu promoted was questionable, as it perpetuated unrealistic beauty ideals, and the consumer-centred posts that Imma was making were potentially dangerous, as they promoted excessive materialism. Ethical issues across profiles stemmed from a lack of spontaneity, and all content was brand-controlled, making endorsements inherently biased.

Table 5: Ethical Concerns in Virtual Influencer Marketing

Virtual Influencer	Findings
Naina (@naina_avtr)	Lack of transparency about AI status raises concerns. Consumers may be unaware they are engaging with a non-human influencer.
Lil Miquela (@lilmiquela)	Transparent about her AI status, which boosts consumer trust. Ethical concerns are minimized due to this openness.
Shudu (@shudu.gram)	Raises concerns about promoting unrealistic beauty standards. Manipulation is possible due to a lack of human imperfection.
Imma (@imma.gram)	Generally trusted, but ethical concerns arise regarding the constant promotion of consumerism through an idealized digital persona.
Rozy (@rozy.oh)	Lack of clarity on the AI-generated nature raises concerns about transparency and potential manipulation of consumer perceptions.

Thematic analysis has enabled the identification of patterns repeated by all five virtual influencers. These trends show that engagement, authenticity, consumer influence, and ethical issues are connected. Upon analyzing Instagram communication and comparing it with literature, it was revealed that viewers tend to believe that AI influencers are real individuals and interact with them on an emotional and commercial level.

Table 6. Summary of Themes Identified Through Thematic Analysis

Theme	Key Insights	Illustrative Examples from Instagram Posts
Audience Engagement and Interaction	Engagement varied from deep conversations to superficial admiration; culturally relevant and socially conscious posts drove stronger interaction.	Naina's Diwali campaign drew comments asking where to buy sarees; Lil Miquela's racial justice post generated community discussions; Shudu's posts received mainly "Stunning" or emoji responses.

Theme	Key Insights	Illustrative Examples from Instagram Posts
Perceptions of Authenticity	Authenticity was linked to relatability, cultural alignment, and openness about AI identity.	Naina seen as aspirational but culturally grounded; Lil Miquela is trusted for activism; Shudu is admired for aesthetics but perceived as less relatable.
Influence on Consumer Behaviour	Followers frequently expressed intent to purchase products or emulate influencer lifestyles, especially in fashion and beauty.	Imma's streetwear reel drew hundreds of purchase queries; Rozy's skincare campaign led to questions about product suitability; Lil Miquela's activism shaped lifestyle attitudes.
Ethical Concerns and Transparency	Transparency about AI identity and the promotion of idealized, brand-controlled personae raised ethical issues of deception and manipulation.	Lil Miquela disclosed her virtual status, boosting trust; Naina and Rozy often left followers confused about their AI nature; Shudu promoted unattainable beauty ideals.

6. DISCUSSION

In this section, the study's findings are discussed in relation to the research objectives. The discussion situates the results in the context of Visual Communication Theory and the Third-Person Effect, and explains how AI-generated influencers impact consumer behaviour, thereby raising ethical concerns.

6.1 Virtual Influencers and Consumer Behavior (RO1)

The results indicated that AI-influencers have a strong influence on consumer interest and buying patterns, especially in fashion and lifestyle. The followers were proactive, asking questions about products, indicating intent to purchase, and imitating the styles they promoted. A good example of this direct consumer influence is the streetwear post by Imma, which received hundreds of questions about where to buy her outfit.

The results can be interpreted in light of the Visual Communication Theory, which attributes a critical role to carefully chosen images, design, and non-verbal messages in shaping the audience's perception (Messaris, 1997).

Virtual influencers always use perfect images and brand-appropriate aesthetics that generate high emotional and aspirational value. This reminds us of the works by Hudders et al. (2020) and Vrontis et al. (2021), in which credibility and visual consistency were prioritized over other factors that contribute only moderately to influencer effectiveness.

These findings are credible because they are structured using thematic analysis. The themes of engagement, authenticity, consumer influence, and ethics were inductively identified by manually coding Instagram posts, captions, and interactions based on the instructions of Braun and Clarke (2006). The analysis was consistent and reliable because the dataset was repeatedly reviewed and triangulated. Despite the fact that purposive sampling was limited to five influencers on Instagram, cultural and geographic diversity was ensured, which justifies the findings.

In this way, RO1 is addressed by showing that AI-generated influencers with well-filtered visual communication can influence consumer attitudes and behaviours in a manner similar to human influencers.

6.2 Ethical Concerns and Transparency (RO2)

The second research aim focused on ethical issues, particularly transparency, authenticity, and manipulation. The results also revealed that Lil Miquela revealed her virtual identity, which increased trust; other celebrities, like Naina and Rozy, crossed the boundary between reality and simulation. These influencers were perceived as human by many followers, which raised the issue of deception. The hyper-realistic beauty of Shudu also yielded unrealistic standards, and the fact that Imma was content with excessive consumerism normalized it.

These observations are consistent with Jamil and Qayyum (2021), who caution that influencer marketing may exploit consumer trust, and with Li et al. (2023), who state that the ideal alignment of AI personalities with brands is a potential source of misinformation for consumers. At the same time, the validity issues that Hernandez-Mendez & Baute-Diaz (2023) refer to are confirmed, as authenticity is the basis of trust construction.

The moral consequences can also be viewed through the lens of the Third-Person Effect (TPE). The results of this study, especially, indicate the perceptual aspect of TPE (Davison, 1983), in which people believe that others are more affected by the media than they are. For example, those who had engaged with more influencer content asked questions about the products or complimented activism, but still reported feeling less vulnerable. Aspects of the behavioural dimension were also present, as these assumptions were

translated into actual consumer behaviours, such as requesting purchase information.

These results contribute to the literature by confirming Allal-Cherif et al. (2024) regarding the perceived superiority of AI influencers over human influencers due to their brand-controlled identity, and by highlighting the risk of manipulation in the absence of transparency.

Therefore, RO2 is resolved by demonstrating that ethical issues, particularly transparency and manipulation, lie at the heart of consumer perceptions and trust in AI-generated influencers. Hence, by fulfilling both purposes, this paper demonstrates that AI-generated influencers can not only influence consumer behaviour through visually persuasive techniques but also create acute ethical issues related to transparency and manipulation. The results highlight the need to regulate virtual influencer marketing to promote ethical practices and to contribute to the existing body of literature on visual persuasion and psychological bias in digital consumer culture.

7. CONCLUSION

The aim of this study was to gain knowledge about the influence of AI-generated virtual influencers on consumer behaviour and the ethical issues that can arise when using them in marketing. The study aimed at two objectives by conducting a thematic analysis on five known Instagram-based virtual influencers: first, to observe how these digital characters shape consumer attitudes and behaviours as compared to human influencers, and second, to reflect on ethical issues related to transparency, authenticity, and possible manipulation in the influencers' interaction with their audience.

The results revealed that virtual influencers play a huge role in consumer decision-making, particularly in fashion and lifestyle. For instance, influencers like Imma and Rozy create posts that encourage curiosity and buying intent, while Lil Miquela's socially responsible post started a community discussion that changed consumer behaviour in how they wear clothes and buy things. These results lead to the realization that visual integration and considered aesthetics- the fundamental ideas of the Visual Communication Theory can be quite efficient in creating trust and engagement with the audience.

At the same time, this research study did show a high level of ethical worry. When the identities of Naina and Rozy became unclear, many of their followers began to question whether the two were real people. Shudu had an unnatural appearance of beauty, and Imma was obsessed with brand promotion, with a heavy leaning towards materialism. These trends justify previous concerns about misleading and manipulative practices and require

stronger protection. One possible explanation for this tension is the Third-Person Effect: most followers felt they were not as influenced as others, yet their degree of engagement and interest in purchasing indicated otherwise, and they were perceptually and behaviourally vulnerable.

Overall, the research shows that AI influencers are not mere online gimmicks. They are effective marketing instruments with the power of convincing competitors- at times even more so than human agents- that their influence may be effective. But such influence should be used responsibly. The question is how marketers and policymakers can strike a balance between the marketing advantages of virtual influencers and the ethical perils of crossing the boundary between persuasion and manipulation.

Future Implications and Directions

The results of this paper point toward promising directions for future research and practice. To begin with, it would be valuable for scholars to look beyond Instagram and examine other fast-growing platforms such as TikTok and YouTube, where the ways people interact with and engage influencers may play out very differently. A combination of methodologies, i.e., surveys, interviews, or maybe some controlled experiments, could be used to justify this extrapolation of this research.

Another important step for future work is to investigate the longer-term impact of virtual influencers. While this study showed clear short-term effects on engagement and purchase behaviour, it is still unclear whether these influences persist over time, particularly regarding trust, loyalty, and how authentic consumers feel the content really is.

The paper also notes that more ethical and regulatory guidelines should be added. The lack of transparency in AI-based marketing is a hot topic, and regulations that enforce such levels of transparency in cases where an influencer is not a human being would do wonders to ensure consumer confidence is maintained. Research could explore how people respond to different ways of making this disclosure, whether being upfront about it builds credibility or makes the message less persuasive.

Finally, cultural context should be looked at more closely. Naina's culturally specific campaigns have shown that tapping into local culture and values can help virtual influencers feel more authentic. Future studies might compare audiences across different countries to see if cultural adaptation is always necessary for credibility, or if it matters more in some regions than others.

REFERENCES

Allal-Chérif, O., Puertas, R., & Carracedo, P. (2024). Intelligent influencer marketing: How AI-powered virtual influencers outperform human influencers. *Technological Forecasting and Social Change, 200*, 123113.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior, 68*, 1–7.

Fauzi, M. A., Ali, Z., Satari, Z., Megat Ramli, P. A., & Omer, M. (2024). Social media influencer marketing: Science mapping of the present and future trends. *International Journal of Quality and Service Sciences, 16*(2), 199–217.

Hernández-Méndez, J., & Baute-Díaz, N. (2023). Influencer marketing in the promotion of tourist destinations: Mega, macro, and micro-influencers. *Current Issues in Tourism, 26*(9), 1332–1342.

Hofeditz, L., Nissen, A., Schütte, R., & Mirbabaie, M. (2022). Trust me, I'm an influencer! A comparison of perceived trust in human and virtual influencers. In R. Beck et al. (Eds.), *Proceedings of the 30th European Conference on Information Systems (ECIS 2022)* (pp. 1–13). Timisoara, Romania.

Hudders, L., De Jans, S., & de Veirman, M. (2021). The commercialization of social media stars: A literature review and conceptual framework on the strategic use of social media influencers. *International Journal of Advertising, 40*(3), 327–375.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, *15*(9), 1277-1288.

Imran, H., & Maqsood, M. (2024). Deepfake deception and the need for media literacy in Pakistan. *Academic Journal of Social Sciences, 8*(2).

Imran, H., Maqsood, M., & Imran, Q. (2025). The deepfake crisis: Exploring new media literacy, information integrity, and trust among Pakistani youth. *Qualitative Research Reports in Communication*.

Jamil, R. A., & Qayyum, A. (2021). Word of mouse vs. word of influencer? An experimental investigation into the consumers' preferred source of online information. *Management Research Review*.

Jayasingh, S., Sivakumar, A., & Vanathaiyan, A. A. (2025). Artificial intelligence influencers' credibility effect on consumer engagement and purchase intention. *Journal of Theoretical and Applied Electronic Commerce Research, 20*(1), 17.

Li, G., Cao, Y., Lu, B., Yu, Y., & Liu, H. (2023). Luxury brands' live streaming sales: The roles of streamer identity and level strategy. *International Journal of Advertising, 42*(7), 1178–1200.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research, 42*(5), 533–544.

Rahman, K. T. (2022). Influencer marketing and behavioral outcomes: How types of influencers affect consumer mimicry. *SEISENSE Business Review*. Retrieved from https://journal.seisense.com/sbr/article/view/792

Sokolova, K., & Perez, C. (2021). You follow fitness influencers on YouTube. But do you actually exercise? How parasocial relationships, and watching fitness influencers, relate to intentions to exercise. *Journal of retailing and consumer services*, *58*, 102276.

Vrontis, D., Thrassou, A., Christofi, M., & Shams, R. (2021). Social media influencer marketing: A systematic review, integrative framework, and future research agenda. *International Journal of Consumer Studies*.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.45-67

Demographic and Clinical Correlates of Quality of Life in Patients with Hepatitis C

Farwa Chaudhary[1,*] and Saima Dawood[1]

[1]Centre for Clinical Psychology, University of the Punjab, Lahore, Pakistan
*Corresponding author: farwachaudhary22@gmail.com

Abstract

This research investigated the demographic and clinical correlates of quality of life (QOL) in patients with Hepatitis C Virus (HCV). Correlational research design was employed and a sample of 102 patients (N=102) was selected using a purposive sampling technique. The Demographic and Clinical Questionnaire, the Mental Health Screening and the Quality of Life-BREF were used to screen and collect data. Results showed a significant negative relation of age with psychological health and a significant positive relation of education and income with subscales of QOL: physical health, psychological health, and environment. Illness and treatment-related variables, such as the number of side effects, duration from diagnosis, and financial burden due to illness, also influenced the QOL of patients. The present research has important clinical implications for future healthcare interventions. It suggests that demographic and clinical factors of patients must be taken into account for better health outcomes.

Keywords*:* Hepatis C Virus; quality of life; physical health; psychological health

Article History: Submitted: 01/09/2022, Accepted: 19/07/2025, Published: 28/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

In recent decades, hepatitis has become a community health issue, though Hepatitis C Virus (HCV) was discovered for the first time in 1989, when most of the patients had symptoms of hepatitis, but it was neither A nor B, then it was termed Hepatitis C (HCV). It was found that HCV is mainly transmitted through blood transfusion; however, Hepatitis Delta Virus (HDV) is unique as it only infects individuals who have already had hepatitis B infection. In some cases, it turns into a severe, asymptomatic and unobserved acute disease, and in some cases, it could be treated completely or could result in chronic hepatitis (Kausar & Yusuf, 2011). According to the World Health Organization, the global prevalence of HCV is 3% and it affects approximately 170 million people annually (Zhang et al., 2020). The prevalence of HCV in different provinces of Pakistan has risen to 5.46%, 2.55%, 6.07%, 25.77% & 3.37% in Punjab, Sindh, Khyber Pakhtunkhwa,

Balochistan, and the federal tribal areas, respectively. The prevalence of HCV in Pakistan is almost 9% and the primary mode of transmission is the reuse of needles and syringes and the donation of blood without screening the donor for HCV (Arshad & Ashfaq, 2017).

Over the past decade, the effect of HCV on Health-Related Quality of Life (HRQOL) of patients has been studied (Foster, 2009). The proposed definition by the World Health Organization Quality of Life Group (WHOQOL; 1993) was employed to operationalize HRQOL. According to WHO (1993), HRQOL is an individual's perception about his/her position in life in the context of culture and value systems wherein they live, concerning their goals, expectations, standards, and concerns (Glavic et al., 2014). The quality of life is a broad and complex concept that cannot be measured without physical and psychological health because an individual's health is likely to affect his/her quality of life. The quality of life includes the following: physical health, psychological health, social life, relationship to the environment, and level of independence (Bowling, 1999). There has been evidence that patients suffering from chronic HCV displayed poor HRQOL in all domains before they received any treatment; however, HRQOL improved after they received treatment (Bezemer et al., 2012). Previously, HRQOL has mostly been studied during different phases of chronic illness, and the role of co-morbid illnesses such as Cirrhosis and Liver failure has been established, resulting in poor quality of life in patients with HCV (Kwan et al., 2008; Kallman et al., 2007). Previous literature also investigated demographic and clinical variables such as age, place of birth, education, employment, being overweight, psychiatric disorders, and feelings about disease in relation to HCV in patients as the disease progressed (Cossais et al., 2019). Evidence exists that the QOL of patients with chronic obstructive pulmonary disease declines with age. Further, higher education improves QOL, however, the presence of comorbid conditions along with increased duration of illness is associated with deteriorated QOL in the Polish population (Rosińczuk et al., 2018). Younossi et al. (2007) concluded the side effects of Interferon Therapy in patients with HCV. They identified fever, chills, tachycardia, headache, flu-like symptoms, depression, and fatigue as potential side effects of Interferon Therapy. They further stated that nausea, vomiting, and diarrhea are common amongst HCV patients. According to the biopsychosocial model of illness, understanding the psychological and social impact of HCV is important to identify how an individual suffers as a whole from the illness. In addition to the living conditions of an individual, the psychological reactions towards the illness must be taken into account (Barreira et al., 2019). Previous research conducted in Pakistan has studied demographic variables such as age, gender,

education, occupation, and residence in relation to symptoms of depression (Mukhtar et al., 2015) and HRQoL (Niyomsri et al., 2023) in HCV patients. In addition, the quality of life of HCV patients on Interferon Therapy was studied and the findings concluded with poor QOL of patients receiving Interferon Therapy (Khan et al., 2017). Further, experiences of stigma and quality of life in HCV and HBV patients in Rawalpindi and Islamabad were also studied using mixed-methods research design. The findings revealed that patients suffering from both HCV and HBV experienced stigma mainly due to the lack of knowledge about the mode of transmission of the disease. They also experienced emotional distress due to the information about the extent of severity of their disease (Rafique et al., 2014). It is evident that there is considerable research investigating QOL in HCV patients; however, there is limited research investigating detailed demographic and treatment-related factors in relation to quality of life in HCV patients in Pakistan. The relationship between the components of HRQOL and patient-related factors is still unclear. This research will fill the gap in literature through its focus on studying such demographic and treatment-related factors in relation to HRQOL, which have not been investigated beforehand.

There is a need to understand demographic variables such as age, gender, education, income, family system, and clinical variables such as duration from diagnosis, mode of treatment, psychological and physical symptoms experienced during the treatment of HCV, and financial problems faced because of illness, etc., in association with QOL. It is important to consider such factors to understand the determinants of the burden of disease and how it may affect the HRQOL of patients. Assessment of HRQOL in such patients will help understand the treatment's outcome and related factors, which would help provide necessary support to these patients.

Hypotheses

H1: Demographic and Clinical variables (age, education, duration of diagnosis, duration of treatment, number of injections, number of times treated, number of side effects, distress due to illness, and number of comorbid conditions) would have a relationship with domains of quality of life.

H2: Demographic and Clinical variables (age, education, duration of diagnosis, duration of treatment, number of injections, number of times treated, number of side effects, distress due to illness, and number of comorbid conditions) would predict domains of quality of life.

H3: There would be group differences in quality of life of HCV patients based on demographic and clinical variables (gender, marital status, monthly family income, family system, residence, mode of treatment, types of treatment

taken, financial problems due to illness, primary carer and inability to go to work).

2. METHOD

2.1. Research Design

A correlational research design was used for this research, as it investigates the relationships among various variables at one point in time, given their varied nature.

2.2. Sample

A total of 102 participants diagnosed with hepatitis C, with an age range of 22-65 (M=47; SD=10.29), participated in the research. The sample size was collected using G-Power analysis with a medium effect size of 0.5. Two government hospitals, one private and one semi-government hospital, were selected based on the availability of research participants, whereas participants were selected through a purposive sampling technique. The patients diagnosed with HCV above 18 years of age who were under treatment (Interferon Therapy) in the active phase were included. Patients diagnosed with any other chronic illnesses (other than Hypertension, Diabetes and Hepatitis C-related conditions), such as coronary heart disease, kidney failure and epilepsy etc. and/or who had undergone liver transplant or those advised for liver transplantation were excluded to rule out health conditions that may be contributing to quality of life other than HCV. Patients with diabetes mellitus and hypertension could not be excluded, as most patients suffered from these conditions. Instead, the record of these conditions was kept using a clinical questionnaire. Patients with a present or past diagnosis of any psychological illness or any physical disability were also excluded. Informed consent was signed by the participants before collecting data. A total of 177 patients with HCV were approached, out of which 21 patients were excluded because they had other medical conditions. Six patients were excluded because they had undergone liver transplantation, and two patients were excluded because they reported symptoms of anxiety and depression on screening.

2.3. Measures

The present research was conducted using the following measures:

Demographic and Clinical Questionnaire 1. The demographic and clinical questionnaire was developed to find out demographic and disease-related variables such as age, gender, education, marital status, monthly family income, time from when the diagnosis was made, mode of treatment, co-morbid conditions, side-effects of treatment, etc.

Mental Health Screening Questionnaire 2. Mental Health Screening Questionnaire (MHSQ; Mirza & Kausar, 2008) is a self-report questionnaire used to screen patients for psychosis, anxiety (OCD), and depression. The scale was developed in the Urdu language for the Pakistani population and includes 5 items. It is a binary scale, so participants had to respond with "Yes" or "No" option. The sample items include, "During the last six months, have you felt sad or depressed for nothing?" and "During the last six months, have you suffered once or more from an acute state of anxiousness, fear, or restlessness?" After screening, only those patients were included who showed no signs of psychological illness. If any patient reported any of the symptoms, he/she was referred to the Department of Psychiatry for further assessment and treatment.

Quality of Life-BREF 3. Quality of Life-BREF (QOL; World Health Organization, 1997) is a self-report questionnaire administered to measure the quality of life of patients with HCV. It has 26 items which are rated on a 5-point Likert scale. It measures four domains: physical health, psychological health, social relationships, and environment. The two additional questions measure the overall state of health ('how much', 'how completely', 'how often', 'how good', or 'how satisfied'). The sample items for physical health include "To what extent do you feel that physical pain prevents you from doing what you need to do?" and "How much do you need any medical treatment to function in your daily life?" The sample items for psychological health include "How much do you enjoy life?" and "To what extent do you feel your life to be meaningful?" The sample items for social relationships are "How satisfied are you with your relationships?" and "How satisfied are you with the support you get from your friends?" The sample items for environment are "How safe do you feel in your daily life?" and "Do you have enough money to meet your needs?" For the current research, the reliability value for physical health is α=0.85; for psychological health is α=0.66; for social relationships is α=0.37, and for environment is α=0.79.

2.4. Procedure

The research topic was presented to the Departmental Doctoral Program Committee, and after obtaining permission from the original authors and those who translated the questionnaires into Urdu. Afterward, permission from the hospital Ethical Committees and the heads of the respective departments was obtained. Further, information regarding patients was obtained from the doctors, and the patients' maintained records were reviewed. Patients were included in the research by maintaining records and following the guidance of their respective doctors. Patients were briefed about the

objectives of the study and written consent was taken before administering the questionnaires. They were informed that information obtained from them would remain confidential and would be used only for research and educational purposes.

3. RESULTS

Results were analyzed using the Statistical Package of Social Sciences (SPSS). Descriptive analysis was used on demographic and clinical variables. Pearson Product Moment Coefficient was used to find the relationship of demographic and clinical variables with quality of life. Linear regression analysis was used to predict domains of quality of life from demographic and clinical variables in patients with HCV. Independent sample t-test and ANOVA were used to find group differences in association with demographic and clinical characteristics in domains of quality of life.

Table 1. Demographic Characteristics of the Participants (N=102)

Characteristics	*M (SD)*	*n (%)*
Age (Years)	47(10)	
Gender		
Men		38(37)
Women		64(63)
Education (Years)	6.5(5)	
Marital Status		
Married		82(80)
Unmarried		4(4)
Divorced/Separated/Widow		16(16)
Monthly Family Income (PKR)		
0-15000		23(23)
15000-30,000		39(38)
30,000-50,000		21(21)
50,000 or above		19(19)
Family System		
Joint		39(38)
Nuclear		63(62)
Residence		
Rural		28(28)
Urban		74(73)
House		
Owned		86(84)
On rent		16(16)

Hepatitis C patients' mean age was 47 years (SD=10.29), wherein 37% were men and 63% women. Table 1 includes the demographic

characteristics of research participants, including age, gender, education, marital status, monthly family income, etc.

Table 2. Clinical Characteristics of the Participants (N=102)

Characteristics	*M (SD)*	*n (%)*
Duration from Diagnosis (Months)	64(63)	
Mode of Treatment		
Oral medication		63(62)
Oral Medication and Injections (Interferon Therapy)		39(38)
Duration of Oral Treatment (Months)	16(29)	
Number of Injections Injected so far	20(32)	
Number of Times Treated before the Present Treatment		
0		4(4)
1		71(70)
2		19(19)
3		7(7)
5		1(1)
Other Types of Treatment Taken		
None		69(68)
Herbal/Homeopathy/Spiritual Treatment		33(32)
Symptoms Experienced During the Course of Treatment		
Fatigue		74(73)
Fever		51(50)
Cough		14(14)
Skin rash		9(9)
Body ache		58(57)
Headache		44(43)
Anxiety		59(58)
Loss of sleep		52(51)
Nausea/Vomiting		25(25)
Diarrhoea		5(5)
Chills		13(13)
Lack of appetite		37(36)
Backache		32(31)
Sore throat		19(19)
Shortness of breath		41(40)
Low mood		36(35)
Anger		61(60)
Irritability		59(58)
Indigestion		37(36)
Weakness		69(68)
Dizziness		29(28)

Drowsiness		16(16)
Flu		4(4)
Weak eyesight		19(19)
Stomach ache		22(22)
Pain in chest		25(25)
Number of Symptoms Experienced During the Course of Treatment	9(6)	
Financial Problem due to Treatment Expenses		
Yes		82(80)
No		20(20)
Distress Caused by Illness (0-10)	8(2)	
Primary Carer		
Patient himself/herself		30(29)
Immediate Family Member (spouse, children, parents or siblings)		66(65)
Other		6(6)
Inability to go to Work/Job		
Yes		57(56)
No		45(44)
Co-morbid Conditions		
Hypertension		30(29)
Diabetes		24(24)
Chronic Liver Disease		36(35)
Cirrhosis		27(27)
Varices		5(5)
Ascites		2(2)
Dyslipidemia		1(1)
Enteritis		1(1)
Number of Co-morbid Conditions	1(1)	
Reported Medium of Infection		
Unknown		69(68)
Contaminated water		13(13)
Immediate family member		1(1)
Surgery/injection/dental procedure		15(15)
Unhygienic food		3(3)
Alcohol use		1(1)

Table 2 includes clinical characteristics of HCV patients such as mode of treatment, duration of diagnosis, co-morbid conditions, and side effects, etc. On average, patients had been diagnosed for 64 months (SD=63.19) when they were taking treatment. 62% patients were on oral medication, while 38% of them were taking both oral medication and injections (Interferon Therapy).

Table 3 shows a correlation matrix showing the relationship of demographic and clinical characteristics with domains of quality of life. Age had a significant negative relationship with psychological health. Education had a significant positive relationship with physical health, psychological health, and environment domains of QOL, which suggests that an increase in education was associated with better physical and psychological health outcomes along with improved facilities and resources. Increased duration of oral treatment was also negatively associated with physical and psychological health. An increase in the number of side effects experienced during treatment was negatively related to physical health, portraying poor physical health outcomes for patients who experienced more side effects during treatment. Illness-related distress was negatively related to physical health, psychological health, and the environment subscale.

In Table 4, multiple regression analysis showed that education was a positive predictor of physical health, psychological health and environment. Duration of diagnosis negatively predicted psychological health. The number of side effects negatively predicted physical health, indicating that patients who experienced an increased number of side effects during the time of treatment reported poor physical health. Illness-related distress negatively predicted psychological health and the environment domain of QOL in HCV patients. Further, significant models emerged for physical health: $F(5, 96)=9.730$, $p<.001$; psychological health: $F(5, 96)=8.756$, $p<.001$ and environment: $F(5, 96)=7.402$, $p<.001$ which accounted for 33%, 31% and 27% variance, respectively.

Table 3. Correlation Matrix for Demographic and Clinical Variables and Subscales Quality of Life for Hepatitis C (N=102)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age (Years)	-	-.15	.16	.16	-.00	.00	-.23*	-.13	.34**	-.08	-.20*	.07	.07
2. Education (Years)		-	.03	-.13	.00	-.12	.07	-.09	-.04	.43**	.44**	.09	.38**
3. DD (Months)			-	.20*	.13	.40**	.10	-.12	.17	.05	.10	-.04	.12
4. DOT (Months)				-	.05	.02	.14	06	.12	-.20*	-.29**	.01	-.16
5. Number of Injections					-	.20*	.34**	.30**	-.04	-.03	-.09	-.05	-.11
6. Number of Times treated						-	.22*	.00	-.12	.01	.04	.13	-.04
7. Number of Side Effects							-	.16	-.24*	-.31**	-.05	-.04	-.01
8. Distress due to Illness								-	.13	-.20*	-.23*	-.06	-.36**
9. NCC									-	-.10	-.12	-.04	.05
10. Physical Health										-	.51**	.28**	.42**
11. Psychological Health											-	.42**	.61**
12. Social Relationships												-	.44**
13. Environment													-

Table 4. Multiple Regression Analysis Predicting Quality of Life from Demographic and Clinical Variables (N=102)

	Quality of Life					
	PH			Psy		
Predictor	B	SE B	β	B	SE B	β
Age (Years)	-.02	.02	-.10	-.03	.01	-.15
Education (Years)	.20	.04	.41***	.14	.03	.38***
DOT (Months)	-.00	.00	-.07	-.01	.00	-.20*
NSE	-.15	.04	-.33***	-.02	.03	-.06
DdI	-.12	.08	-.12	-.15	.07	-.19*
R^2		.33			.31	
F		9.73***			8.75***	

	Quality of Life					
	SR			Env		
Predictor	B	SE B	β	B	SE B	β
Age (Years)	.01	.07	.07	.02	.02	.11
Education (Years)	.04	.10	.10	.16	.04	.35***
DOT (Months)	.00	.02	.02	-.01	.00	-.12
NSE	-.01	-.02	-.02	.02	.04	.06
DdI	-.04	-.04	-.04	-.31	.08	-.32***
R^2		.02			.27	
F		.39			7.40***	

Note: *p<.05, **p<.01, ***p<.001

PH= Physical Health, Psy= Psychological Health, SR= Social Relationships, Env= Environment, DOT: Duration of Oral Treatment, NSE= Number of Side Effects, DdI= Distress due to Illness, B= Unstandardized Beta, SE B= Standard Error (Unstandardized Beta) β=Standardized Beta, R^2 = Variance Explained

Table 5. Statistical Characteristics and Group Differences in Relation to Demographic and Clinical Variables in Physical Health Domain of QOL (N=102)

Category	N	Mean	Quartile		F	*P*-value
			Lower	Upper		
Gender						
Men	38	10	9	14	.00	.98
Women	64	10	9	13		
Marital Status						
Married	82	11	9	13	1.3	.27
Unmarried	4	11	9	13		
Divorced/Separated/ Widow	16	9	9	12		
Monthly Family Income (PKR)						
0-15000	23	9	8	10	3.7	.01
15000-30,000	39	11	9	14		
30,000-50,000	21	11	9	13		
50,000 or above	19	13	10	14		
Family System						
Joint	39	10	9	14	1.3	.90
Nuclear	63	10	9	13		
Residence						
Rural	28	9	9	12	3.5	.07
Urban	74	11	9	13		
House						
Owned	86	11	9	13	.01	.48
On rent	16	10	9	13		
Mode of Treatment						
Oral medication	63	11	9	13	.02	.47
Oral Medication and Injections	39	10	9	13		
Other Types of Treatment Taken						
None	69	10	9	13	.34	.90
Herbal/Homeopathy/Spiritual Treatment	33	11	8	13		
Financial Problem due to Treatment Expenses						
Yes	82	10	9	13	.24	.39
No	20	11	9	14		
Primary Carer						
Patient himself/herself	30	11	9	14	2.1	.12
Immediate Family Member (spouse,	66	10	9	13		

children, siblings or parents)						
Other	6	10	9	12		
Inability to go to Work/Job						
Yes	57	9	8	11	1.7	.001
No	45	13	10	14		

The results of group differences can be viewed in Table 5. There are significant group differences in the physical health of HCV patients. Patients who earned more in comparison to those who earned less reported better physical health. Patients who were unable to work due to illness reported poor physical health.

Table 6. Statistical Characteristics and Group Differences in Relation to Demographic and Clinical Variables in Psychological Health Domain of QOL (N=102)

Category	N	Mean	Lower Quartile	Upper Quartile	F	*P*-value
Gender						
Men	38	14	13	15	3.1	.01
Women	64	13	11	14		
Marital Status						
Married	82	13	12	15	5.3	.007
Unmarried	4	13	12	14		
Divorced/Separated/ Widow	16	12	11	13		
Monthly Family Income (PKR)						
0-15000	23	12	11	13	7.8	.001
15000-30,000	39	13	12	15		
30,000-50,000	21	13	12	15		
50,000 or above	19	14	14	15		
Family System						
Joint	39	13	12	14	3.7	.92
Nuclear	63	13	11	15		
Residence						
Rural	28	13	12	14	3.8	.46
Urban	74	13	12	15		
House						
Owned	86	13	12	15	1.1	.13
On rent	16	13	12	13		
Mode of Treatment						
Oral medication	63	13	12	14	.27	.86
Oral Medication and Injections	39	13	12	15		

Other Types of Treatment Taken						
None	69	13	12	15	2.0	.47
Herbal/Homeopathy /Spiritual Treatment	33	14	12	15		
Financial Problem due to Treatment Expenses						
Yes	82	13	12	14	.68	.005
No	20	14	13	16		
Primary Carer						
Patient himself/herself	30	14	12	15	.36	.69
Immediate Family Member (spouse, children, siblings or parents)	66	13	12	14		
Other	6	13	11	16		
Inability to go to Work/Job						
Yes	57	13	11	14	1.2	.001
No	45	14	13	15		

Women reported poor psychological health in comparison to men (Table 6). There were also significant differences in the psychological health of patients based on their marital status. Divorced/separated/widowed patients reported poor psychological health in comparison to married and unmarried patients. Patients with higher income, fewer financial problems, and the ability to continue working reported better psychological health in comparison to those who earned less, had financial restraints, and were unable to continue working.

Table 7. Statistical Characteristics and Group Differences in Relation to Demographic and Clinical Variables in Social Relationships Domain of QOL (N=102)

Category	N	Mean	Lower Quartile	Upper Quartile	F	*P*-value
Gender						
Men	38	13	12	16	.23	.19
Women	64	14	12	15		
Marital Status						
Married	82	15	13	15	5.4	.006
Unmarried	4	13	10	14		
Divorced/Separated/ Widow	16	13	11	13		
Monthly Family Income (PKR)						
0-15000	23	13	11	13	5.4	.002
15000-30,000	39	15	13	15		
30,000-50,000	21	15	12	15		
50,000 or above	19	15	13	16		
Family System						
Joint	39	13	12	15	.73	.65
Nuclear	63	13	12	15		
Residence						
Rural	28	13	13	15	5.0	.57
Urban	74	13	12	15		
House						
Owned	86	13	12	15	3.2	.28
On rent	16	13	12	15		
Mode of Treatment						
Oral medication	63	15	12	15	.25	.33
Oral Medication and Injections	39	13	12	15		
Other Types of Treatment Taken						
None	69	13	12	15	.12	.73
Herbal/Homeopathy/ Spiritual Treatment	33	13	12	15		
Financial Problem due to Treatment Expenses						
Yes	82	13	12	15	.14	.005
No	20	15	13	16		
Primary Carer						
Patient himself/herself	30	13	12	15	2.1	.12
Immediate Family Member (spouse,	66	15	13	15		

children, siblings or parents)						
Other	6	15	10	16		
Inability to go to Work/Job						
Yes	57	13	12	15	1.6	.85
No	45	13	12	15		

Married patients reported higher scores on social relationships compared to unmarried and divorced/widowed/separated individuals (Table 7). Patients who earned higher and faced fewer financial problems also reported better social relationships than those who earned less and faced more financial problems.

Table 8. Statistical Characteristics and Group Differences in Relation to Demographic and Clinical Variables in the Environment Domain of QOL (N=102)

Category	N	Mean	Lower Quartile	Upper Quartile	F	*P*-value
Gender						
Men	38	12	11	14	3.2	.67
Women	64	12	10	14		
Marital Status						
Married	82	12	11	14	4.2	.01
Unmarried	4	12	10	13		
Divorced/Separated/ Widow	16	10	8	13		
Monthly Family Income (PKR)						
0-15000	23	10	9	12	16.2	.001
15000-30,000	39	12	11	14		
30,000-50,000	21	14	12	15		
50,000 or above	19	15	13	16		
Family System						
Joint	39	13	11	14	.20	.41
Nuclear	63	12	11	14		
Residence						
Rural	28	12	11	13	3.7	.26
Urban	74	13	11	15		
House						
Owned	86	13	11	15	.93	.001
On rent	16	11	8	11		
Mode of Treatment						
Oral medication	63	13	11	14	.006	.46
Oral Medication and Injections	39	12	11	14		

Other Types of Treatment Taken						
None	69	12	11	14	.25	.79
Herbal/Homeopathy/Spiritual Treatment	33	12	11	14		
Financial Problem due to Tr atment Expens es						
Yes	82	12	10	14	2.4	.001
No	20	14	13	16		
Primary Carer						
Patient himself/herself	30	13	11	14	.12	.88
Immediate Family Member (spouse, children, siblings or parents)	66	12	11	14		
Other	6	13	10	15		
Inability to go to Work/Job						
Yes	57	12	10	14	.95	.02
No	45	13	11	15		

Married patients scored higher on the environment subscale in comparison to unmarried and divorced/widowed/separated (Table 8). Patients who earned more, had their own house, faced fewer financial problems, and were able to go to work reported better on the environment subscale than those who earned less, had a rented house, faced high financial difficulties, and were unable to go to work.

4. DISCUSSION

The findings of the present research indicated that age had a significant negative relationship with psychological health. Soosova (2016) states that as age increases, individuals begin developing a fear of death, either of their spouses or themselves, which in turn grows into depression. Also, in older age, most individuals are already living without their partners. The increase in age is also associated with an increase in multiple illnesses, which might lead individuals to hopelessness. These might be the contributing factors towards the decline in psychological health among patients with HCV. These patients might have other illnesses leading them to be more hopeless about the outcome of their treatment as compared to their younger counterparts. Education was a positive predictor of physical health, psychological health, and environment in HCV patients. These findings suggest that patients who were educated were keenly aware of the information channels required for the treatment and knew who to consult for this purpose. They also sought social support for coping with the illness. Having relevant information and seeking appropriate treatment for the illness resulted in better

physical health as compared to those who had no formal education. Land et al. (2012) reported that individuals who are educated have a better understanding of the world they live in, which could be a factor leading to a better quality of life amongst educated individuals.

An increased number of side effects experienced by patients during treatment was a negative predictor of physical health. Faddan et al. (2018) indicated in their research that physical symptoms such as tiredness and fatigue might be responsible for decreased quality of life, along with other physical and psychological symptoms experienced by patients during treatment. With an increase in symptoms, there is a decline in QOL. Most of the symptoms experienced by patients during treatment are physical in nature, such as fatigue, weakness, body ache, etc., resulting in deteriorated physical health.

Duration of diagnosis and illness-related distress negatively predicted psychological health. Previous research has indicated that along with illness is the associated fear of transmitting the virus, which results in an increased level of anxiety among patients. Patients also must deal with the stigma that is associated with the HCV virus (Barreira et al., 2019). These could be the factors of poor psychological health within the existing sample. Also, with the increase in duration, patients experienced more deterioration in their social relationships, resulting in increased levels of distress and poor psychological health.

There are significant group differences in the physical health of HCV patients based on monthly income. Patients with higher income, fewer financial problems, and the ability to continue working experienced better physical and psychological health, while those who earned less, had financial constraints and were unable to continue working experienced otherwise. Better income also predicted social relationships in HCV patients. These were the patients who belonged to high education group, as education can lead to better job outcomes resulting in a higher income (Land et al., 2012). The income and education further aids these individuals to have an adequate social relationship

along with improved psychological health. Also, when one has an adequate income, one's resources are improved in terms of availability of transportation, better opportunities for leisure activities, access to required information, and health care facilities. These could be the factors contributing to increased scores on the mentioned domains of HRQOL.

Women reported poor psychological health in comparison to men. The results are contradictory to the previous research, which was conducted by Bianco et al. (2013), who found women to have better emotional and

mental health among HCV patients. The possible explanation for this contradiction is that in developing countries, men have economic stability, resulting in better mental health for men than women. In a male-dominated society, men have more control and have the decision-making power, resulting in enhanced social support. Not only this, but the assignment of more domestic labor to women and their less participation in public life also contributes to poor psychological health, for it means more responsibility as well as poor social support and poor awareness to manage the illness (Vlassoff, 2007). These findings could be attributed to the better psychological health of men in comparison to women in Pakistan.

There were also significant differences in the psychological health of patients based on their marital status. Divorced/separated/widowed patients reported poor psychological health and social relationships in comparison to married and unmarried patients. Jamadar et al. (2015) stated that there are several factors related to HRQOL of widows/divorced/separated, including their age, education, occupational status, etc. Younger age, low education, and unemployment can lead to poor HRQOL. Being widowed/divorced/separated usually results in loss of social relationships as well. When individuals lose their social relationships, they lose social support along with access to other facilities such as transportation, leisure activities, and access to medical care, etc which in turn, results in poor environmental conditions along with poor physical health.

Patients who reported the financial burden of the illness reported poor psychological health, social relationships, and the environment subscale of HRQOL. Chang et al. (2008) stated that most of the patients with HCV face a certain degree of financial stress that affects their quality of life. It can be observed in current research that 80% of patients reported having experienced financial restraints due to treatment costs. In Pakistan, government hospitals usually cover consultation fees but the treatment cost must be covered by the patients themselves. Further, in private hospitals, patients have to self-finance 100% treatment and consultation costs. This financial burden eventually causes distress among patients, affecting social relationships and access to better environmental conditions.

5. CONCLUSION

The present research concluded that demographic and clinical variables make an important contribution to the determination of HRQOL domains in HCV patients. Factors such as the number of side effects and illness-related stress contributed to physical and psychological health, respectively. The groups of patients also varied in HRQOL domains by

gender, education, income, marital status, and financial problems. Understanding the relationships between demographic and clinical variables and quality of life will help plan future interventions that cater to the needs of all groups separately.

Policy Implications

Based on the findings, the clinical implications of the present research include introducing support groups in Pakistan for these patients as there is no such intervention conducted for patients with any chronic illness including HCV. The demographic and clinical characteristics of the patients must be given special attention in relation to the mental and social health of patients. Groups must be formed keeping those characteristics in mind to help highlight the psychosocial issues related to those particular groups, such as age, sex, education and income. Intervention must be developed to improve HRQOL of HCV patients for better health outcomes.

Limitations and Future Recommendations

It is recommended to conduct in-depth qualitative research to explore patients' reactions at the time of diagnosis and the coping strategies they use. Understanding patients' experiences during illness treatment is also crucial for examining the relationship between treatment and HRQOL. This could provide a detailed overview that would be helpful in the future for managing their psychological issues. Additionally, it is advised to gather a sufficient number of participants from both public and private hospitals to compare their quality of life. Since data were collected from government, semi-government, and private hospitals, hospital-related variables like the availability of facilities might influence patients' quality of life. Future studies should consider these factors.

Acknowledgement

We are thankful to Dr. Muhammad Waqas from Lahore General Hospital for providing information regarding hepatitis C. We would also like to thank Prof. Dr. Ghias Un Nabi Tayab, Prof. Dr. Altaf Alam, and Prof. Dr. Arif Mehmood Siddiqui for allowing us to collect data from their respective departments. Thanks to the World Health Organization (WHO) for providing permission to use the WHO-BREF Urdu version.

REFERENCES

Arshad, A., & Ashfaq, U. A. (2017). Epidemiology of hepatitis C infection in Pakistan: Current estimate and major risk factors. *Critical Reviews in Eukaryotic Gene Expression, 27*(1), 63–77.

Barreira, D. P., Marinho, R. T., Bicho, M., Fialho, R., & Ouakinin, S. R. S. (2019). Psychosocial and neurocognitive factors associated with hepatitis C – Implications for future health and wellbeing. *Frontiers in Psychology, 9*, 1–8.

Bezemer, G., Van Gool, A. R., Van Hart, E., Hansen, B. E., Lurie, Y., Esteban, J., Lagging, M., Negro, F., Zeuzem, S., Ferrari, C., Pawlotsky, J. M., Neumann, A. U., Schalm, S. W., Knegt, R. J., & DITTO-HCV Study Group. (2012). Long-term effects of treatment and response in patients with chronic hepatitis C on quality of life: An international, multicenter, randomized controlled study. *Gastroenterology, 142*(6), 1–7.

Bianco, T., Cillo, U., Amodio, P., Zanus, G., Salari, A., Neri, D., Bombonato, G., Schiff, S., Baggio, G., Ronco, C., Brocca, A., Soni, S., & Minazzato, L. (2013). Gender differences in the quality of life of patients with liver cirrhosis related to hepatitis C after liver transplantation. *Blood Purification, 36*(3–4), 231–236.

Bowling, A. (1999). *Health related quality of life: A discussion of the concept, its use and measurement*. Buckingham, England: Open University Press.

Chang, S. C., Ko, W. S., Wu, S. S., Peng, C. Y., & Yang, S. S. (2008). Factors associated with quality of life in chronic hepatitis C patients who received interferon plus ribavirin therapy. *Journal of the Formosan Medical Association, 107*(6), 454–462.

Cossais, S., Schwarzinger, M., Pol, S., Fontaine, H., Larrey, D., Pageaux, G., Canva, V., Mathurin, P., Yazdanpanah, Y., & Deuffic-Burban, S. (2019). Quality of life in patients with chronic hepatitis C infection: Severe comorbidities and disease perception matter more than liver-disease stage. *PLoS ONE, 14*(5), 1–13.

Faddan, H. H. A., Soliman, A. M. A., & Hassan, E. A. (2019). Correlates of health-related quality of life of chronic hepatitis C children attending Assiut University Children Hospital. *Egyptian Journal of Community Medicine, 37*(1), 72–81.

Foster, G. R. (2009). Quality of life considerations for patients with chronic hepatitis C. *Journal of Viral Hepatitis, 16*(9), 605–611.

Glavic, Z., Galic, S., & Krip, M. (2014). Quality of life and personality traits in patients with colorectal cancer. *Psychiatria Danubina, 26*(2), 172–180.

Jamadar, C., Melkeri, S. P., & Holkar, A. (2015). Quality of life among widows. *The International Journal of Indian Psychology, 3*(1), 56–68.

Kallman, J., O'Neil, M. M., Larive, B., Boparal, N., Calabrese, L., & Younossi, Z. M. (2007). Fatigue and health-related quality of life (HRQL) in chronic hepatitis C virus infection. *Digestive Diseases and Sciences, 52*(10), 2531–2539.

Kausar, R., & Yusuf, S. (2011). State anxiety and coping strategies used by patients with hepatitis C in relation to interferon therapy. *Pakistan Journal of Social and Clinical Psychology, 9*, 57–61.

Khan, M. M., Ahmad, A., & Ali, M. F. (2017). Quality of life among hepatitis C patients on interferon therapy. *Pakistan Journal of Medical & Health Sciences, 11*(4), 1489–1492.

Kwan, J. W., Cronkite, R. C., Yiu, A., Goldstein, M. K., Kazis, L., & Cheung, R. C. (2008). The impact of chronic hepatitis C and co-morbid illnesses on health-related quality of life. *Quality of Life Research, 17*(5), 715–724.

Land, K. C., Michalos, A. C., & Sirgy, M. J. (2012). *Handbook of social indicators and quality of life research*. Dordrecht, Netherlands: Springer.

Mirza, M., & Kausar, R. (2008). *Development of the perceived expressed emotions scale and its illustration on the patients with schizophrenia, OCD and depressive illness* (Doctoral thesis). University of the Punjab, Lahore, Pakistan.

Mukhtar, O., Zaheer, F., Malik, M. F., Khan, J. S., & Ijaz, T. (2015). Socio-demographic study of hepatitis C patients visiting tertiary care hospital. *Journal of Ayub Medical College Abbottabad, 27*(3), 650–652.

Rosińczuk, J., Przyszlak, M., & Uchmanowicz, I. (2018). Sociodemographic and clinical factors affecting the quality of life of patients with chronic obstructive pulmonary disease. *International Journal of Chronic Obstructive Pulmonary Disease, 13*, 2869–2882.

Soosova, M. S. (2016). Determinants of quality of life in the elderly. *Central European Journal of Nursing and Midwifery, 7*(3), 484–493.

Niyomsri, S., Walker, J., Alam, E., Arif, A., Asim, M., Ather, B., Azam, M., Chaudhry, A., Choudhry, N., Foster, G., Hamid, S. S., Hasnain, A., Khan, P. Z., Lim, A. G., Niaz, S., Saba, N., & Vickerman, P. (2023, June). The impact of hepatitis C and socio-demographic variables on health-related quality of life among patients in Pakistan. *Poster presented at the EASL Congress*, Vienna, Austria.

Rafique, I., Saqib, M. A., Siddiqui, S., Munir, M. A., Qureshi, H., Javed, N., Naz, S., & Tirmazi, I. Z. (2015). Experiences of stigma among hepatitis B and C patients in Rawalpindi and Islamabad, Pakistan. *Eastern Mediterranean Health Journal, 20*(12), 796–803.

Vlassoff, C. (2007). Gender differences in determinants and consequences of health and illness. *Journal of Health, Population and Nutrition, 25*(1), 47–61.

World Health Organization. (1997). *Measuring quality of life: The World Health Organization quality of life instruments*. Geneva, Switzerland: Author.

Younossi, Z., Kallman, J., & Kincaid, J. (2007). The effects of HCV infection and management on health-related quality of life. *Hepatology, 45*(3), 806–816.

Zhang, H., Ren, R., Liu, J., Mao, Y., Pan, G., Men, K., & Ma, L. (2020). Health-related quality of life among patients with hepatitis C virus infection: A cross-sectional study in Jianping County of Liaoning Province, China. *Gastroenterology Research and Practice, 2020*, 1–7.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.69-87

Does Grit Affect Personal Growth Initiative Mediated by Self Concept and Moderated by Parental Control in Undergraduates?

Mussarat Jabeen Khan[1,*], Aimen Mushtaq[1], Hania Tariq[1], Iraj Ashfaq[1], Sana Kanwal[1] and Umme Kulsoom[1]

[1]Department of Psychology, International Islamic University, Islamabad, Pakistan.
*Corresponding author: mussarat.jabeen@iiu.edu.pk

Abstract

Personal growth initiative has attracted considerable attention from researchers in recent years. It refers to an individual's willingness to improve himself and his active participation in the process of personal growth. The present study investigates the interrelationships of personal growth initiative, grit, self-concept, and parental control. It also explores the mediating role of self-concept and the moderating role of parental control in the relationship between grit and personal growth initiative. Gender differences in personal growth initiative have also been examined. The sample comprises 400 undergraduate students of Pakistan who are assessed by the Personal Growth Initiative Scale-II, Short Grit Scale, Parental Control Scale, and Self-concept Scale. Results reveal positive correlations between grit, personal growth initiative, and self-concept. Parental control is negatively correlated with personal growth initiative and positively correlated with grit and self-concept. Self-concept mediates the relationship between grit and personal growth initiative, whereas parental control does not moderate this relationship. Females have shown higher personal growth initiative.

Keywords: perseverance; self-identity; parenting style; psychological development; undergraduate students

Article History: Submitted: 14/02/2023, Accepted: 10/07/2025, Published: 26/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

During the past few decades, a great deal of emphasis has been laid on personal growth initiative, a conscious and intentional involvement in self-improvement across various areas of life. It involves cognitive aspects such as mental preparedness and planning as well as seeking and using external resources to guide self-improvement (Robitschek et al., 2012). Women have higher personal growth initiative than men (De Jager-van Straaten et al., 2016), closely related to personality traits such as grit (Houston et al., 2020). Grit is a non-cognitive personality trait that involves perseverance and consistency of an individual pursuing long-term goals despite hurdles and adversities that come along the way. The literature reveals a positive relationship between grit and personal growth initiative, proactive personality, and competitiveness (Houston et al., 2020). In addition, vitality positively associates with grit and personal growth initiative (Bhardwaj & Raravikar, 2018). Gritty people are motivated by expressing persistence and engagement

towards goals that hold some personal meaning for them (Von Culin et al., 2014). Therefore, such individuals are expected to possess a higher level of personal growth initiative. Gritty individuals also tend to have higher readiness for change; they are more motivated and willing to bring behavioural changes in themselves (De La Cruz et al., 2021). That is why readiness for change is an integral component of a personal growth initiative (Robitschek et al., 2012) and affects the quality of grit.

The literature suggests that grit quality affects how people think of themselves, or their self-concept, which refers to how an individual perceives themselves as a social, moral, physical, and spiritual being (Lundgren, 2004). People with higher grit are optimistic and hopeful, which enhances their self-worth, makes them feel good about themselves, and fosters a positive self-image (Athaullah et al., 2021). Gritty people persevere with their goals over a long time and develop a sense of pride and a positive attitude towards themselves (Li et al., 2018).

The direct relationship between self-concept and personal growth initiative has not been explored; however, evidence for a potential connection between the two exists. Self-concept facilitates self-regulation, and the way a person thinks or feels about themselves has emerged as one of the strongest regulators of behaviour (Markus & Wurf, 1987). So, people with a good self-concept show greater involvement in changing their behaviour and thus have a higher personal growth initiative. Additionally, personal growth initiative has shown positive correlation with self-esteem (Luyckx & Robitschek, 2014; Malik et al., 2013; Sirles, 2016) and self-efficacy (Sharma & Rani, 2013; Ogunyemi & Mabekoje, 2007), which are conceptually related to self-concept. Hence, we believe self-concept should be positively linked with personal growth initiative.

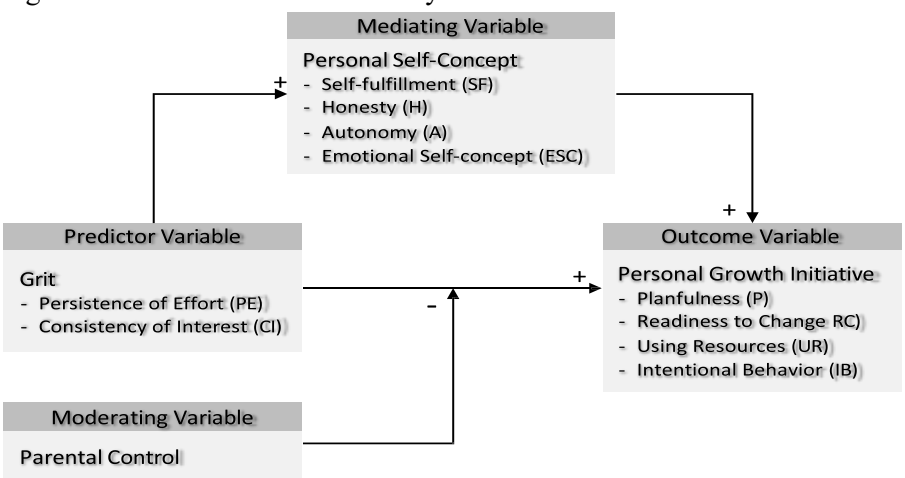
The literature also reveals that parenting influences all variables, i.e., grit, self-concept, and personal growth initiative. Parental control generally consists of supervision that includes setting rules for children's activities (Suchman et al., 2007). And since mothers and fathers use and exert different levels of parental control, personal growth initiative could be directly affected by it. For example, authoritative parenting can have a positive impact on children's personal growth initiative, whereas authoritarian parenting is associated with negative outcomes (Aslam & Sultan, 2014). In general, lower parental control has been associated with greater personal growth initiative (Kwon & Yang, 2020), suggesting a negative relationship. Parental control has a negative impact on children's grit (Van Roo, 2020), and an authoritarian parenting style decreases grit in adolescents (Fatima et al., 2021). However, other studies (Joy et al., 2020) show that parental control can be positively associated with grit.

Parental behaviour also shapes children's self-concept, and greater parental control is associated with negative self-evaluation and self-concept (Deković & Meeus, 1997). Authoritarian parenting style negatively affects self-concept in junior high schoolers (McClun & Merrell, 1998) and adolescents (Altaf et al., 2021), in contrast to preschool boys under maternal control (Flynn, 1993).

1.1. Objectives of the Study

The goal of the present study is to expand our understanding of the role of grit in personal growth initiative by examining the underlying mechanisms of self-concept and parental control, which the literature and the authors believe will mediate and moderate this relationship, among young Pakistani adults. See Figure 1 for the model.

Figure 1: General Model of the Study



1.2. Hypotheses

1. Based on the model (Figure 1), we predict that grit (and its subconstructs PE and CI, see methods section for details) would positively associate with personal growth initiative.
2. Grit would positively associate with personal self-concept (and its subconstructs SF, H, A, and ESC), which would, in turn, mediate and positively relate to personal growth initiative.
3. We expect parental control to negatively moderate the grit and personal growth initiative relationship.

2. METHODS

2.1. Sample

A convenient sample of 200 female and 200 male (N = 400) undergraduate students from different schools, colleges, and universities of Pakistan was sought. The age of participants ranged from 18 to 25 years, divided into two groups (39.6% participants were in the age group 18-20 years, and 60.4% participants were in the age group 21-25 years). In addition, people with physical or psychological disabilities or those who were unschooled were excluded from this study. The present study includes 50% males and 50% females. 58% of participants came from nuclear families, 37.3% from joint families, and 4.8% from blended families. Participants from the upper class (10.8%) were fewer than those from the middle class (87.5%), who were more than those from the lower class (1.7%).

Instrument

Short Grit Scale (Grit-S). The grit of participants was measured by using the Short Grit Scale. Developed by Duckworth and Quinn (2009), Grit-S contains a total of 8 items, each measured on a 5-point Likert scale that ranges from 1 (not like me at all) to 5 (very much like me). Items 1, 3, 5, and 6 are reversed-scored. The items assess two dimensions of grit or subscales, Persistence of Effort (PE, 4 items) and Consistency of Interest (CI, 4 items). All scores are added up and divided by 8. The maximum score on this scale is 5 (extremely gritty), and the lowest score on this scale is 1 (not at all gritty). The scale has good reliability (ranging from α = .73 to .83) across four samples (Duckworth & Quinn, 2009), and the internal consistency of Grit-S was satisfactory (α = .80, Table 1).

Personal Growth Initiative Scale-II (PGIS-II). PGIS-II was developed by Robitschek et al. (2012), revised from PGIS, a 9-item scale also developed by Robitschek (1998). The PGIS-II has 16 items, each answered on a 6-point Likert scale ranging from 0 (disagree strongly) to 5 (agree strongly). It comprises 4 subscales or factors that make up personal growth initiative: Planfulness (P, 5 items), Readiness to Change (RC, 4 items), Using Resources (UR, 3 items), and Intentional Behaviour (IB, 4 items). The test-retest reliability of PGIS-II is satisfactory, ranging from 0.73 to 0.81 (Robitschek et al., 2012), and the internal consistency of PGIS-II was also good in this study, see Table 1.

Parental Control Scale (PCS). PCS is a self-report scale, except the Infant version, developed by Rohner (1989) to assess the degree of control exercised by parents (in terms of strictness or permissiveness) over their children. It consists of 13 items (Infant version, 8 items). Although PCS has

four versions that include Child PCS (for children), Adult PCS (for adults), Parent PCS: Child version (for parents), Parent PCS: Infant version (for parents), we used the Adult PCS version. The authors Rohner & Khaleque (2003) report an overall satisfactory weighted mean coefficient for PCS, α = .73, which is comparable to this study (α = .77; see Table 1).

Personal Self-Concept (PSC) Questionnaire. The PSC Questionnaire consists of 18 items which aim to measure personal perceptions regarding Self-fulfilment (SF, 6items), Honesty (H, 3 items), Autonomy (A, 4 items), and Emotional Self-concept (ESC, 5 items). Each item in the questionnaire is rated on a scale from 1 to 5, where 1 represents *totally disagree* and 5 *totally agree*. The authors report good internal consistency, α = .83 (Goñi et al., 2011); however, the consistency in the present study was satisfactory (α = .85, see Table 1).

2.2. Procedure

A cross-sectional research design was used in this study. After getting permission from the universities, the undergraduate students were approached, and the study was briefly explained to them. They provided informed consent by signing the consent form, then completed the research instruments in paper-and-pencil format, including a demographic sheet. Additionally, some participants completed their instruments online. The privacy of all participants' information was ensured.

3. RESULTS

Table 1 shows the internal consistency (α), mean (M), standard deviation (SD), and other descriptive statistics for several scales and subscales applied within the study. The initial column of the table presents the *Grit-S (Short Grit Scale),* with 8 items (K=8), which boasts a high reliability coefficient (α = .80). Its mean score is 24.89 (SD = 4.86), with a range of 12 to 40. The values of skewness (.04) and kurtosis (.04) imply an approximately symmetric distribution, implying that the data are relatively balanced without severe outliers. The *PE (Persistence of Effort)* scale exhibits a satisfactory reliability coefficient (α = .74), with a mean score of 15.23 (SD = 2.97), and a range of 6 to 20. The skewness (.04) indicates that the distribution is slightly positive with a mild inclination toward higher scores. The *CI (Consistency of Interest*) scale has an α = .73 reliability coefficient with a mean of 14.93 (SD = 3.01) and a range of 7 to 20. The skewness (.18) and kurtosis (.11) scores indicate slight positive skew, suggesting a low probability that participants will endorse higher consistency in their interests. The second half of Table 1 addresses the *Personal Growth Initiative Scale II (PGIS-II)* and its subscales,

including *P (Personal Growth*), *RC (Readiness to Change)*, and *UR (Using Resources)*, as well as other scales like the *Parental Control Scale (PCS*) and the *Personal Self-Concept Questionnaire (PSC)*. These subscales also achieve adequate internal consistency with α values of .76 to .85. Mean scores on these subscales differ, with the *SF (Self-fulfillment)* subscale reporting a mean score of 17.89 (SD = 3.23), whereas the *PCS* subscale indicates a larger mean of 67.46 (SD = 11.67). The *PGIS-II* subscales exhibit a wide range of values, and skew is positive for most, though some show negative skew, reflecting a certain diversity in participants' responses. Generally, the table shows the scales are consistent, and all of them indicate good internal consistency.

Table 1. Descriptive Statistics and Reliability Coefficient (α) of the Scales

Scale/ Subscale	*K*	α	M (SD)	Range		Skewness	Kurtosis
				Min	Max		
Grit-S	8	.80	24.89 (4.86)	12	40	.01	.04
PE	4	.74	15.23 (2.97)	6	20	.04	.05
CI	4	.73	14.93 (3.01)	7	20	.13	.11
PGIS-II	16	.88	53.81 (13.55)	0	80	.62	.29
P	5	.81	12.23 (3.51)	0	25	.23	.21
RC	4	.79	9.75 (4.11)	0	20	.41	.35
UR	3	.76	5.89 (4.74)	0	15	.21	.04
IB	4	.80	8.23 (3.83)	0	20	.30	.02
PCS	13	.77	30.55 (6.83)	14	50	.15	.08
PSC	18	.85	67.46 (11.67)	40	90	.09	.02
SF	6	.79	17.89 (3.23)	13	30	.02	.01
H	3	.76	10.23 (4.21)	8	15	.01	.08
A	4	.80	12.76 (2.53)	9	20	.07	.12
ESC	5	.81	15.23 (3.47)	10	25	.06	.17

Note. Grit-S= Short Grit Scale, PE = Persistence of Effort, CI Consistency of Interest, PGIS-II = Personal Growth Initiative Scale-II, P = Planfulness, RC = Readiness to Change, UR = Using Resources, IB = Intentional Behavior, PCS= Parental Control Scale, PSC= Personal Self-Concept Questionnaire, SF = Self-fulfilment, H = Honesty, A = Autonomy, SC = Emotional Self-concept

Table 2 contrasts gender differences on the scales and subscales itemized in Table 1. The table displays the mean and standard deviation for male and female students and p-values and 95% confidence intervals (CI). For the *Grit-S (Short Grit Scale)*, men were slightly higher (M = 24.62, SD = 4.89) than women (M = 23.35, SD = 5.14), but not significantly different (p = .41), so overall levels of grit between both genders are quite similar. For the *PE (Persistence of Effort)* scale, men scored a mean of 14.23 (SD = 3.07), while women scored very slightly higher (M = 15.42, SD = 2.71), although the difference was not significant (p = .10), suggesting that both samples show equivalent persistence. The *CI (Consistency of Interest) s*ubscale follows the same pattern, with men scoring slightly higher (M = 15.01, SD = 4.23) than women (M = 14.52, SD = 3.47), but the difference is not significant (p = .37).

However, significant gender differences are evident in the *Personal Growth Initiative Scale II (PGIS-II)* and *Self-concept (PSC)* subscales. Females scored much higher on the *Personal Growth Initiative* scale (M = 54.40, SD = 12.19) than males (M = 53.23, SD = 12.63), and the difference was statistically significant (p = .01). In addition, females scored more on the Self-concept (PSC) subscale, with a mean score of 88.18 (SD = 12.50), than their male counterparts at 86.74 (SD = 10.76), and this difference was also significant (p = .04). These findings imply that females are likely to show stronger personal growth initiative and more highly developed self-concept than males

Table 2. Gender Differences on Scales and Subscales

Scale/ Subscale	Men		Women				95% CI	
	M	*SD*	*M*	*SD*	*T*	*P*	*LL*	*UL*
Grit-S	24.62	4.89	25.16	4.82	1.10	.96	-1.49	.41
PE	14.23	3.07	15.42	2.71	1.23	.73	-1.02	.57
CI	15.01	4.23	15.23	3.02	1.07	.42	-1.31	.43
PGIS-II	53.23	14.78	54.40	12.19	.86	.02	-3.82	-1.49
P	11.80	3.70	12.57	4.21	.93	.21	-1.02	.91
RC	9.23	4.03	9.83	3.17	1.23	.17	-1.21	.87
UR	5.13	2.07	6.03	4.21	1.09	.12	-1.02	.62
IB	8.09	4.41	9.12	4.10	1.11	.15	-1.40	.81
PCS	30.42	6.79	30.68	6.87	.38	.36	-1.60	1.08
PSC	88.18	12.50	86.74	10.76	1.23	.01	.85	3.74
SF	17.23	4.10	19.91	3.21	1.02	.52	-2.01	.90
H	10.09	5.09	12.23	4.01	.92	.05	-1.90	.05
A	12.43	3.41	11.71	5.11	1.01	.20	-1.73	.06
ESC	15.20	5.11	13.62	3.04	.79	.17	-1.25	.40

Note. Grit-S = Short Grit Scale, PE = Persistence of Effort, CI Consistency of Interest, PGIS-II = Personal Growth Initiative Scale-II, P = Planfulness, RC = Readiness to Change, UR = Using Resources, IB = Intentional Behavior, PCS = Parental Control Scale, PSC = Personal Self-Concept Questionnaire, SF = Self-fulfillment, H = Honesty, A = Autonomy, ESC = Emotional self-concept
Sample size (Men, $n = 200$)
Sample size (Women, $n = 200$)

Table 3 presents the correlation matrix for Grit-S, PGIS-II, PE, CI, and their subscales. The matrix shows the strength and direction of the associations between variables. Grit-S (Short Grit Scale) is strongly positively correlated with Persistence of Effort (PE) (r = .29), Consistency of Interest (CI) (r = .35), and Personal Growth Initiative Scale-II (PGIS-II) subscales like Readiness to Change (RC) (r = .42) and Using Resources (UR) (r = .27). These findings indicate that grit is positively related to effort and interest consistency as well as to a range of dimensions of personal growth. Additionally, the PE subscale is also positively correlated with RC (r = .43) and Readiness to Change (RC) (r = .61), further supporting the notion that effort persistence and personal growth initiative are related. The CI subscale is highly correlated with PGIS-II subscales such as Readiness to Change (r = .47) and Using Resources (r = .39), suggesting that those with higher interest consistency are more effective at working on personal growth projects. The PGIS-II subscales also reflect positive correlations, specifically with Personal Control (PC) (r = .76), Self-Concept (PSC) (r = .59), and Self-Fulfilment (SF) (r = .81) that are particularly strong, highlighting the salience of personal growth interventions in advancing self-concept and fulfilment.

Table 3. Correlation coefficient Matrix of Grit-S, PGIS-II, PC, and PSC and their Subscales

Scale/Subscale	Grit-S	PE	CI	PGIS-II	P	RC	UR	IB	PCS	PSC	SF	H	A	ESC
Grit-S	-	.29	.35*	.38**	.42**	.04	.27	.54**	.03	.35*	.59**	.81***	.70**	.03
PE		-	.27	.31	.04	.43**	.19	.61**	.35**	.39	.47**	.59	.69**	.38*
CI			-	.40**	.41*	.47**	.09	.43**	.42**	.76**	.39	.85**	.43	.43
PGIS-II				-	.39**	.20	.31	.71**	-.03	.45**	.37	.43**	.26	.02
P					-	.19	.18	.82**	.41	.29	.60**	.29	.46	.41
RC						-	.43*	.63**	.72**	.32	.51	.47**	.53**	.49**
UR							-	.60	.69**	.27	.59**	.43**	.30	.90***
IB								-	.59**	.62**	.43	.38	.39	.31
PCS									-	.14**	.48**	.29	.51	.43
PSC										-	.43	.37	.50	.36
SF											-	.41*	.42	.57**
H												-	.37	.52**
A													-	.49**
ESC														-

Note. Grit-S = Short Grit Scale, PE = Persistence of Effort, CI Consistency of Interest, PGIS-II = Personal Growth Initiative Scale-II, P = Planfulness, RC = Readiness to Change, UR = Using Resources, IB = Intentional Behavior, PCS = Parental Control Scale, PSC = Personal Self-Concept Questionnaire, SF = Self-fulfillment, H = Honesty, A = Autonomy, ESC = Emotional Self-concept ***p* < .01

Table 4 reports the outcome of a simple linear regression analysis that tests for the predictive relationship between grit and personal growth initiative. The regression indicates that grit was a significant predictor of 15% of the variance in personal growth initiative, based on an R value of .15 and a statistically significant *p*-value of .001. The coefficient on grit (B = 1.06) indicates that for every one-unit increase in grit, personal growth initiative rises by about .38 units. The standardized beta coefficient (β = .38) also highlights a moderate to strong positive correlation between grit and personal growth initiative. The corresponding *t*-value (8.24) and p-value (.001) confirm the statistical significance of this result. Overall model fit, as evidenced by the difference in *F*-statistic ($\Delta F = 67.80$), demonstrates a strong relationship between these two variables. This analysis proposes that higher grit levels predict higher personal growth initiative.

Table 4. Simple Linear Regression Analysis shows Grit Predicts Personal Growth Initiative. Sample Size = 400

	B	SEB	*B*	*T*	*p*
Grit	1.06	.13	.38	8.24	.001
R^2	.15				
ΔF	67.80				.001

Table 5 reports the findings of regression analysis on the effect of grit, parental control, and their interaction on personal growth initiative. The analysis shows that grit explains 15% of the variance in personal growth initiative ($R^2 = .15$, p = .00). This indicates that grit is a good predictor of personal growth initiative. However, parental control also explains 15% of variance in personal growth initiative ($R^2 = .15$), but this correlation is not statistically significant (p = .34). In addition, the interaction between grit and parental control (Grit × Parental Control) was examined and resulted in explaining 15% of the variance, but it was not statistically significant (p = .69). This shows that the combined effect of grit and parental control has no significant influence on personal growth initiative. In general, findings indicate that stronger grit is positively related to stronger personal growth initiative (β = .38), and parental control does not significantly influence the relationship between grit and personal growth initiative, given that the relation is negligible (β = -.04).

Table 5. Regression Analysis Estimating the Moderating Role of Grit between Parental Control and Personal Growth Initiative. Sample Size = 400

	Personal Growth Initiative				
Predictor	R^2	B	*B*	*T*	*p*
Step 1					
Grit	.15	1.06	.38	8.24	.00
Step 2					
Grit	.23	1.07	.38	8.26	.00
Parental Control	.15	-.09	-.04	.95	.34
Step 3					
Grit	.27	1.07	.38	8.25	.00
Parental Control	.19	-.09	-.04	.93	.35
Grit X Parental Control	.15	.20	.02	.39	.69

Table 6 tests the mediating role of self-concept in the relationship between grit and personal growth initiative. In Step 1, the R^2 value of .12 means that 12% of the variance in self-concept is explained by grit. This implies a positive relationship between grit and self-concept. In Step 2, the R^2 value of .26 implies that grit and self-concept combined explain 26% of the variance in personal growth initiative, showing a positive relationship between the two variables. The results indicate that self-concept positively influences personal growth initiative ($\beta = .41$), supporting the notion that self-concept is a significant predictor of personal growth initiative. The mediation model shows that self-concept partially mediates the relationship between grit and personal growth initiative. In Step 3, the findings indicate that self-concept strongly mediates this relationship, suggesting the importance of self-concept in fostering personal growth.

Table 6. Mediating Effect of Self-Concept on Grit and Personal Growth Initiative. Sample Size = 400

	Personal Growth Initiative				
Predictor	R^2	*B*	*t*	*P*	*CI*
Step 1					
Grit	.12	.84	7.45	.001	[.61, 1.06]
Step 2					
Grit		.72	5.60	.001	[.47, .97]
Self-concept	.26	.41	7.83	.001	[.31, .53]

4. DISCUSSION AND CONLUSION

The purpose of the current study was to investigate the relationship between grit, personal growth initiative, self-concept, and parental control. Results indicate a positive correlation between grit and personal growth initiative, which is in line with the existing literature, e.g., Houston et al. (2020) and Bhardwaj & Raravikar (2018). Von Culin et al. (2014) indicated that gritty individuals are motivated to reach their highest potential by showing persistence and engagement; therefore, they are more likely to actively seek and participate in activities aimed at improving themselves and will ultimately have higher personal growth initiative. Moreover, gritty individuals have greater readiness for change (De La Cruz et al., 2021); thus, they are willing and motivated to make the behavioural changes required for their personal growth. In addition, the current study found that grit accounts for 15% of the variance in personal growth initiative; thus, grit has emerged as a significant predictor of an individual's personal growth initiative.

Furthermore, as in previous studies, the current findings indicate a positive relationship between grit and self-concept. The individuals who show perseverance and passion in attaining long-term goals develop a sense of pride in themselves and see themselves as persistent. As a result, they have a positive view of themselves (Li et al., 2018), or, in other words, a positive self-concept.

Another important finding of this study is that self-concept is positively correlated with personal growth initiative. It suggests that individuals with a positive self-concept are more likely to engage in personal growth. People with positive self-concept view themselves as worthy, competent (Ybrandt, 2007), and capable (Hilebrand, 1985). Therefore, such people are more likely to initiate personal changes in their lives and strive for personal growth. On the other hand, people with negative self-concept tend to have self-doubts and view themselves as worthless (Badgujar & Mundada, 2014); hence, they are less likely to put effort into working on themselves or taking the initiative for their personal growth.

Results also indicated a negative association between parental control and personal growth initiative. The finding is consistent with previous research, which indicates that higher parental control (such as in an authoritarian parenting style) decreases personal growth initiative (Aslam & Sultan, 2014). Controlling parents do not grant autonomy to their children for making their own decisions, such individuals become dependent on their parents' instructions and guidance (Nijhof & Engels, 2007). Hence, they are less likely to take the initiative for their personal growth.

The hypothesis regarding the negative correlation between parental control and grit has not been accepted, as results indicate a positive relationship between these two variables. This finding is supported by the study of Joy et al. (2020), which found that increased parental control contributes positively to the development of grit. Duckworth (2016) also indicated that to make young people grittier, parents must set high expectations and standards and strictly adhere to them. As a result, young people won't give up easily and will persist in attaining their goals. However, parents should also show support along with control towards their children. Furthermore, the inversion of this correlation can be explained by the cultural factors of Pakistani society. Pakistani society is collectivistic, where parental supervision and control are considered normal and, in fact, necessary, especially for fostering discipline in children's lives. This discipline is also manifested in their pursuit of long-term goals and helps them persevere in achieving them.

Contrary to the hypothesized relationship of parental control and self-concept, the findings indicate a positive correlation between the two variables. The results imply that the individuals whose parents exercise more control over their lives tend to have a more positive self-concept. However, evidence for this correlation is present in the existing literature. Flynn (1993) found that preschool boys whose mothers exerted greater control over them had developed more positive self-concepts. Therefore, a moderate level of parental control is important for the development of a child's positive self-concept. Moreover, another possible explanation for this finding could be the cultural or societal factors. In Pakistani society, parents are given a high status based on religious beliefs. Showing compliance and obedience to their demands is valued, and parental dominance and control are considered acceptable (Bibi et al., 2022). So that's why parental control is not interpreted negatively and might not have detrimental effects on individuals' self-concept; rather, it appears to be beneficial for the development of a positive self-concept.

The present study also revealed that self-concept acts as a mediator in the relationship between grit and personal growth initiative. This mediating mechanism could be explained in such a way that individuals who can persevere with their goals despite hurdles tend to have positive attitudes towards themselves (Li et al., 2018), hence they have a positive self-concept. This positive self-image, in turn, boosts their confidence in their abilities (Usher et al., 2019) and serves as a motivational drive (Judge et al., 1998), enabling them to play an active role in improving themselves and bringing positive changes across various domains of their lives.

The moderation analysis reveals that parental control does not moderate the relationship between grit and personal growth initiative. One possible explanation for this finding is that study participants were in their late adolescence or young adulthood. At this stage of life, parental control might not have as great an impact on their personal outcomes or characteristics (i.e., personal growth initiative and grit) as it did in earlier developmental stages. People at this stage are under greater influence from factors such as peer pressure and impression management, which may profoundly affect their characteristics or behaviors.

Another important finding of our study is that females are significantly higher on personal growth initiative as compared to males, which coincides with the findings of De Jager-van Straaten et al. (2016). Presently, there is no exact explanation as to why females possess higher levels of personal growth initiative. However, Kiecolt & Mabry (2000) conducted a study on motivation behind self-change in students, which suggested that enhancing one's self-esteem is a more significant motivation for women compared to men. So, there is a possibility that females show higher personal growth initiative, which could enhance their self-esteem. Moreover, in Pakistan's cultural context, females are expected to change themselves for the better or improve their conduct, which may increase their tendency to engage in self-improvement.

The reliability of the Grit scale in the present study is satisfactory (α=.06). The Short Grit Scale was originally developed and tested on Western samples, where it demonstrated good reliability. However, the present study is conducted in Pakistan. The contrasting differences in the cultural contexts of these settings may have affected the interpretation and responses of the participants, therefore leading to lower reliability.

4.1 Limitations and Suggestions

This study was aimed solely at exploring correlations among the variables; thus, causal inferences cannot be drawn about them. Experimental research on these variables is required to examine the causal relationships among them. The present study involves only undergraduate Pakistani students aged 17 to 25 years. The same study variables could be examined across different samples in the future to determine whether there are significant changes in their relationships. The use of a non-probability sampling technique would have caused selection bias. In the future, probability sampling techniques could be used to ensure the sample is representative. This was a cross-sectional study in which participants were examined at a single point in time. Future research can extend the scope of

this study by using a longitudinal design to examine similar hypotheses over a longer period. Finally, the use of self-report measures in the current study might have caused bias. In the future, objective measures or parent- or teacher-reported measures of the study variables could be used to reduce subjectivity.

4.2 Policy Implications

This study has several implications. First, it suggests that individuals can be motivated to actively improve themselves and experience personal growth by introducing programs to boost their grit. Furthermore, awareness workshops should be arranged for students and the public to help them realize the importance of personal growth and the significance of perseverance and persistence in pursuing it. Also, how people view themselves is highly significant in their lives; therefore, special attention should be given to a person's self-concept or self-image, which can be improved by enhancing his/her grit. Moreover, a moderate amount of parental control can play a significant role in bringing positive outcomes, such as enhancing an individual's grit and their self-concept. Therefore, programs aimed at teaching parents appropriate parenting practices and maintaining a balance between warmth and control in their interactions with their children should be introduced.

REFERENCES

Altaf, S., Hassan, B., Khattak, A. Z., & Iqbal, N. (2021). Relationship of parenting styles with decision-making and self-concept among adolescents. *Foundation University Journal of Psychology, 5*(2), 74–85.

Aslam, M. A. (2014). Parenting styles: A key factor to self-determination and personal growth of adults. *Manager's Journal on Educational Psychology, 8*(2), 20–24.

Athaullah, N., Mushtaq, A., & Dhanaraj, K. (2021). Grit, self-image and coping strategies among sighted and visually impaired college students. *International Journal of Indian Psychology, 9*(4), 750–755.

Badgujar, J. P., & Mundada, N. (2014). Relationship between parenting style and self-concept of adolescents. *International Journal of Indian Psychology, 2*(1), 71–77.

Bhardwaj, & Raravikar. (2018). Role of vitality in initiating personal growth and grit among students. *Recent Advances in Psychology, 4*(1), 161–165.

Bibi, A., Hayat, R., Hayat, N., & others. (2022). Impact of parenting styles on psychological flexibility among adolescents of Pakistan: A cross-

sectional study. *Child and Adolescent Social Work Journal, 39*(1), 313–322.

Çankaya, E. M., Dong, X., & Liew, J. (2017). An examination of the relationship between social self-efficacy and personal growth initiative in international context. *International Journal of Intercultural Relations, 61*, 88–96.

De Jager-van Straaten, A., Jorgensen, L., Hill, C., & Nel, J. A. (2016). Personal growth initiative among industrial psychology students in a higher education institution in South Africa. *SA Journal of Industrial Psychology, 42*(1), a1283.

De La Cruz, M., Zarate, A., Zamarripa, J., Castillo, I., Borbon, A., Duarte, H., & Valenzuela, K. (2021). Grit, self-efficacy, motivation and the readiness to change index toward exercise in the adult population. *Frontiers in Psychology, 12.*

Deković, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting and adolescents' self-concept. *Journal of Adolescence, 20*(2), 163–176.

Duckworth, A. L. (2016). *Grit: The power of passion and perseverance*. New York, NY: Scribner.

Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT–S). *Journal of Personality Assessment, 91*(2), 166–174.

Fatima, Z., Kaur, B., Kamran, T., & Aftab, R. (2021, May). Relationship between grit and parenting style of mother among rural adolescents of Indian origin. Unpublished manuscript.

Fernández-Martín, F. D., Arco-Tirado, J. L., Mitrea, E.-C., & Littvay, L. (2022). The role of parenting behaviors on the intergenerational covariation of grit. *Current Psychology, 45*, 20872–20882.

Flynn, T. M. (1993). The effect of parental authority on the preschool child's self-concept. *Early Child Development and Care, 84*(1), 103–109.

Goñi, E., Madariaga, J. M., Axpe, I., & Goñi, A. (2011). Structure of the Personal Self-Concept (PSC) Questionnaire. *International Journal of Clinical and Health Psychology, 11*(3), 509–522.

Hildebrand, V. (1985). *Parenting and teaching young children* (2nd ed.). New York, NY: McGraw-Hill.

Houston, J. M., Luchner, A., Davidson, A. J., Gonzalez, J., Steigerwald, N., & Leftwich, C. (2020). The bright and dark aspects of grit in the pursuit of success. *Psychological Reports, 124*(2), 1–20.

Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance, 11*(2–3), 167–187.

Kiecolt, K. J., & Mabry, J. B. (2000). Agency in young adulthood: Intentional self-change among college students. *Advances in Life Course Research, 5*, 181–205.

Kwon, B., & Yang, O. K. (2020). The effects of autonomy support and psychological capital on readiness for independent living through personal growth initiative among youth in out-of-home care. *Asian Social Work and Policy Review, 14*(2), 85–98.

Li, J., Fang, M., Wang, W., Sun, G., & Cheng, Z. (2018). The influence of grit on life satisfaction: Self-esteem as a mediator. *Psychologica Belgica, 58*(1), 51–66.

Lundgren, D. C. (2004). Social feedback and self-appraisals: Current status of the Mead–Cooley hypothesis. *Symbolic Interaction, 27*(2), 267–286.

Luyckx, K., & Robitschek, C. (2014). Personal growth initiative and identity formation in adolescence through young adulthood. *Journal of Adolescence, 37*(7), 973–981.

Joy, K., Veena, P., Aiswarya, R., & Vandana, V. S. (2020). Effect of responsive and controlled parenting upon students' grit. *International Journal for Research in Applied Science and Engineering Technology, 8*(4), 351–354.

Malik, N., Yasin, G., & Shehzadi, H. (2013). Personal growth initiative and self-esteem as predictors of academic achievement among students of technical training institutes. *Pakistan Journal of Social Sciences, 33*(2), 435–446.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38*(1), 299–337.

McClun, L. A., & Merrell, K. W. (1998). Relationship of perceived parenting styles, locus of control orientation, and self-concept among junior high age students. *Psychology in the Schools, 35*(4), 381–390.

Nijhof, K., & Engels, R. (2007). Parenting styles, coping strategies, and the expression of homesickness. *Journal of Adolescence, 30*(5), 709–720.

Ogunyemi, A. O., & Mabekoje, S. O. (2007). Self-efficacy, risk-taking behavior and mental health as predictors of personal growth initiative among university undergraduates. *Electronic Journal of Research in Educational Psychology, 5*(2), 349–362.

Robitschek, C., Ashton, M. W., Spering, C. C., Geiger, N., Byers, D., Schotts, G. C., & Thoen, M. A. (2012). Development and psychometric

evaluation of the Personal Growth Initiative Scale-II. *Journal of Counseling Psychology, 59*(2), 274–287.

Robitschek, C. (1998). Personal growth initiative: The construct and its measure. *Measurement and Evaluation in Counseling and Development, 30*(4), 183–198.

Rohner, R. P. (1989). *Parental Acceptance-Rejection/Control Questionnaire (PARQ/Control)*. Storrs, CT: University of Connecticut.

Rohner, R. P., & Khaleque, A. (2003). Reliability and validity of the Parental Control Scale. *Journal of Cross-Cultural Psychology, 34*(6), 643–649.

Sharma, S. K., & Rani, R. (2013). Relationship of personal growth initiative with self-efficacy among university postgraduate students. *Journal of Education and Practice, 4*(16), 125–135.

Sirles, D. M. N. (2016). *Self-esteem, ethnic identity, and personal growth initiative in the black community* (Doctoral dissertation). Texas Tech University, Lubbock, TX.

Suchman, N. E., Rounsaville, B., DeCoste, C., & Luthar, S. (2007). Parental control, parental warmth, and psychosocial adjustment in a sample of substance-abusing mothers and their school-aged and adolescent children. *Journal of Substance Abuse Treatment, 32*(1), 1–10.

Usher, E. L., Li, C. R., Butz, A. R., & Rojas, J. P. (2019). Perseverant grit and self-efficacy: Are both essential for children's academic success? *Journal of Educational Psychology, 111*(5), 877–902.

VanRoo, C. (2020). *Helicopter parenting, grit, and academic adjustment among college students*. Proceedings of the 22nd Annual Student Research and Creativity Conference, SUNY Buffalo State.

Von Culin, K. R., Tsukayama, E., & Duckworth, A. L. (2014). Unpacking grit: Motivational correlates of perseverance and passion for long-term goals. *The Journal of Positive Psychology, 9*(4), 306–312.

Ybrandt, H. (2008). The relation between self-concept and social functioning in adolescence. *Journal of Adolescence, 31*(1), 1–16.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.89-106

Recursive Temporality: Eternal Recurrence through Planetary Crisis, and Sacred Time in Intezar Hussain's Basti

Zarnab Hassan[1]

[1]Independent Researcher
Email: zarnabhassan99@gmail.com

Abstract

This paper explores the temporal imagination of Intizar Hussain's Basti through an interdisciplinary theoretical framework, drawing on Friedrich Nietzsche's concept of eternal recurrence, Dipesh Chakrabarty's planetary history, and Mircea Eliade's mythic time. It argues that Basti resists linear historicism by staging a cyclical temporality that merges political trauma, ecological collapse, and sacred ritual. This repeating, cyclical structure across philosophy, ecology, and sacred myth is coined as recursive temporality. Guided by three research questions, the study examines how recurrence functions as an ethical and metaphysical structure; how planetary time extends the novel's scope beyond nation and history; and how mythic time sacralizes repetition. The findings reveal that Basti not only narrates national fragmentation but also offers a metaphysical ecology of time; it binds memory, ritual, and environment into a recursive continuum. This analysis situates Basti within emerging postcolonial ecocritical debates and proposes a model for reading South Asian literature through nonlinear, sacred, and planetary chronotypes.

Keywords: eternal recurrence; ecological time; postcolonial fiction; mythic temporality; planetary crisis

Article History: Submitted: 27/06/2025, Accepted: 03/12/2025, Published: 26/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

Time in postcolonial literature is more than a chronological measure; it is a contested terrain shaped by memory, trauma, and metaphysics. In South Asian fiction, narratives frequently disrupt linear progression while echoing the ruptures caused by partition, civil war, and environmental decline. Intizar Hussain's *Basti* (2012) exemplifies this disruption. Rather than following a coherent historical arc, the novel constructs a cyclical, layered temporality in which national collapse, ecological trauma, and metaphysical dislocation recur. This paper has unified the socio-political degeneration, environmental decadence, and mythological recurrence, and called it recursive temporality. It argues that *Basti* reimagines postcolonial time as cyclical, sacred, and planetary. It challenges the "Enlightenment" assumptions of progress, anthropocentrism, and secular historicism.

While *Basti* has been examined in relation to nostalgia and partition trauma, its complex temporal structure remains underexplored, which is where the significance of the study lies. This paper fills the gap by integrating three theoretical paradigms: Friedrich Nietzsche's eternal recurrence (Nietzsche, 1974,1978); Dipesh Chakrabarty's planetary history (Chakrabarty, 2009), and Mircea Eliade's sacred time (Eliade, 1954). Together, these frameworks offer a model of temporality that this paper coins as recursive temporality. It transcends linear historicism and invites a deeper reading of *Basti* as a metaphysical and ecocritical narrative. All three thinkers have approached time differently; however, all three agree on time being a non-linear entity. This study, therefore, brings a new approach to light by providing a threefold interpretative framework: Nietzsche illustrates the recurrence of time as a metaphysical principle; Chakrabarty understands time through planetary crises; and Eliade offers a sacred understanding of cyclical time. This combined study then analyses *Basti* not simply through the socio-political lens, but it also delves deeper into memory, time, and possibilities of renewal. However, this study does not explore the history of the sub-continent, nor does it analyze the politics of the region. It is limited to exploring eternal recurrence, planetary history, and sacred time under recursive temporality as an umbrella term, and within the confines of *Basti* as a literary text. Literary scholars and cultural critics may find this study most useful.

The study is guided by three interlinked research questions:

(1) How does *Basti* embody Nietzsche's eternal recurrence in its depictions of civilizational collapse?
(2) How does the novel reflect Chakrabarty's planetary time and its ecological implications?
(3) In what ways does Eliade's sacred time shape the novel's ritualistic and mythic structure?

Through close textual analysis, this paper traces recurring motifs such as dust, fire, silence, ruins, and sacred cities to explore Basti's multitemporal structure. The analysis unfolds in three stages and concludes with a synthesis that situates Basti within broader debates in postcolonial ecocriticism and temporal theory.

2. LITERATURE REVIEW

2.1. Mapping Time in Postcolonial Literature

Postcolonial literature often resists linear narratives inherited from the Enlightenment and colonial ideologies. Bhabha (1994) and Suleri (1992) emphasize how postcolonial texts collapse hegemonic timelines through memory and myth. Bhabha's "time lag" (p. 227) and Suleri's (1992) concept

of memory as a "ghostly presence" (Suleri, 1992, p. 36) underscore how the colonial past persists in shaping the postcolonial present. In *Basti*, this interplay is central: the narrative loops through memory, myth, and metaphysical collapse. Ahmed (2008) notes that Hussain "abandons the realism of historical sequence in favor of a poetic recursion into memory". Qadir (2014) affirms that the novel "rejects linearity, staging 'Partition' as an endlessly returning rupture". Both of these critics suggest that trauma contains a repeating structure. These critics have foregrounded Enlightenment and colonial perspectives by emphasizing the political aspects of *Basti*. However, recursive temporality with respect to eternally recurring events traced in the light of planetary crises and merged with sacred mythology stays majorly underexplored.

Scholars like Akram (2017) highlight Hussain's symbolic language that "collapses time into symbolic images that defy spatial constraints". This study, on the other hand, only explores symbols in the light of the novel's temporality. Qasmi (2021) views *Basti* as engaging with "spiritual decay and cyclical recurrence". Such readings focus on figurative strategies and metaphysical imagery but rarely explore *Basti*'s temporal framework through ecological or philosophical lenses. This research addresses this gap by offering a multi-theoretical model of time called recursive temporality.

2.2. Nietzschean Recurrence in Literary Criticism

Nietzsche's eternal recurrence has been applied to trauma narratives, though rarely in ecological or metaphysical contexts. Rajagopal (2018) explores "symbolic looping of post-Partition memory" but remains within nationalist historiography. Allison (2001) examines Nietzschean patterns in European modernist texts, where recurrence signals literary fate, but without connecting with South Asian cosmologies.

This study extends Nietzsche's concept by linking *Basti*'s recurrences, such as war, migration, and ecological collapse, to existential questions. It considers whether characters like Zakir could "will" their conditions eternally (Nietzsche, 1974) by reading the repetition of trauma as ethical and metaphysical inquiry. The inquisition into ethical and metaphysical trauma serves as one of the three aspects in recursive temporality.

2.3. Planetary Time and the Ecological Turn

Chakrabarty (2009) insists that the climate crisis demands new forms of historical thinking. Planetary time, he argues in *The Climate of History in a Planetary Age*, collapses the boundaries between human and natural histories and forces us to engage with species-level. Ghosh (2016) echoes this, critiquing how fiction has failed to confront environmental times. He calls for

narrative forms that acknowledge "temporal multiplicity" and geophysical imagination (p. 131).

While *Basti* has rarely been analyzed through a planetary lens, its imagery of drought, desertification, and ecosystem collapse invites such a reading. Qasmi & Akram (2024) recognize the presence of "desolate wasteland" and "degraded ecosystem", but do not frame these as part of a planetary crisis. This study contributes to postcolonial ecocriticism by interpreting Hussain's elemental poetics, which are dust, fire, and silence, as literary expressions of planetary exhaustion. The analysis of planetary degeneration constitutes the second aspect of recursive temporality, to be discussed after metaphysical repetition.

2.4. Mythic Time in Literary Narratives

Mircea Eliade's theory of sacred time, developed in *The Myth of the Eternal Return* (1954), remains foundational in understanding ritual narrative forms. He contends that "no event is unique … but it has occurred, occurs, and will occur, perpetually" (p. 16). Campbell (1988) links this to narrative archetypes and suggests that myth channels cosmic energies into cultural form. Nanda (2007) explores how Hindu cosmologies infuse literature with sacred repetition, where destiny is governed by cyclical rhythms (p. 94).
However, Urdu fiction is seldom studied through this sacred lens. *Basti* offers strong evidence for such reading. Its recurring symbols that include fire, gardens, sacred cities, and moments like "he was searching for his childhood in the alleys of Rupnagar" (Hussain, 2013, p. 51) evoke Eliade's sacred return. Memory becomes a ritual, and loss is experienced cyclically rather than progressively. The recurring memories serve as the final aspect in recursive temporality. Eliade's framework allows the readers to see Zakir's grief not merely as nostalgia but as a sacred mode of being where he affirms his loss through endurance.

2.5. Synthesis and Gap Identification

Most critical work on *Basti* explores its historical, cultural, or psychological dimensions. As per the researcher's knowledge, no study has been found on temporal architecture as an interplay of recurrence, ecology, and sacredness. This study, therefore, proposes a new triadic framework, recursive temporality, that combines Nietzsche's recurrence, Chakrabarty's planetary time, and Eliade's sacred temporality to reveal how *Basti* constructs a nonlinear, spiritually dense understanding of time.

In doing so, it joins ongoing debates in postcolonial ecocriticism and narrative temporality. It situates *Basti* not only as a national allegory but as a literary site where political violence, metaphysical yearning, and ecological

collapse are entangled in the web of recursive temporality. Such a reading repositions Hussain within global conversations about how literature mediates trauma, survival, and time. Future studies could extend this model to explore other South Asian texts, especially those engaging with myth, ritual, and planetary anxiety.

3. THEORETICAL FRAMEWORK

This study draws on an interdisciplinary framework that brings together continental philosophy, postcolonial theory, the environmental humanities, and religious studies to examine how *Basti* reimagines time through the concept of recursive temporality. Time in the novel is not merely a sequence of historical moments: it is layered, recursive, and infused with ecological and sacred dimensions.

This study is guided by three theorists, based on close reading and textual analysis: Friedrich Nietzsche, Dipesh Chakrabarty, and Mircea Eliade. While differing in focus, each of them unsettles the modern belief in linear progress and introduces alternative ways of thinking about temporality, which is through metaphysical recurrence, planetary crisis, and sacred return. These three terms, when joined, are called recursive temporality.

Nietzsche's (1974) concept of eternal recurrence is drawn from *The Gay Science* and *Thus Spoke Zarathustra*. It posits that life repeats itself infinitely. In *Basti*, this recurrence is reflected in Zakir's repeated experiences of war, silence, and exile, which recur not as events in history but as existential loops. Memory becomes ontological—a mode of existence rather than a mere act of recollection.

Chakrabarty's (2009, 2021) theory of planetary time adds a crucial ecological dimension. He argues that climate change collapses the boundary between human history and geological time, forcing us to think as a species rather than as nations. *Basti* mirrors this collapse through recurring images of dust, drought, and fire, turning war-torn cities into planetary ruins. The novel thus aligns with Chakrabarty's call to rethink historical narratives through the lens of climate and extinction.

Eliade (1959), in *The Sacred and the Profane*, introduces a third register of time that is sacred time. Sacred time is cyclical, reversible, and accessible through ritual. *Basti* draws on this through repeated allusions to Karbala, Mohenjodaro, and Andalus. These are not just historical sites but sacred sites through which Zakir reconnects with a timeless spiritual past.

Together, these three thinkers provide a triangular lens that the researcher calls recursive temporality. Nietzsche anchors metaphysical recurrence, Chakrabarty offers planetary insight, and Eliade opens a sacred dimension.

This framework then helps read *Basti* not only as a political novel but also as a philosophical meditation on time, loss, and renewal.

4. METHODOLOGY

This research adopts a qualitative, interpretive methodology rooted in hermeneutic phenomenology. It privileges close reading and philosophical depth over empirical generalization, which is an approach well-suited to the nonlinear, symbolic texture of *Basti*.

The primary text is *Basti* (Hussain, 2012, trans. Pritchett), supported by peer-reviewed scholarship and theoretical texts. Analysis involves four key steps: identifying temporal motifs (e.g., repetition, silence, elemental imagery); close reading of symbolic episodes; applying the three-part theoretical lens to these moments; and reflecting on the broader metaphysical implications of Zakir's experience of time.

Ethical Guidelines

Human subjects were not involved in this study. It adheres to ethical standards of representation, especially in its handling of trauma, memory, and religious imagery.

5. RESULTS AND DISCUSSION

5.1. Eternal Recurrence and the Gyre of Historical Memory

Nietzsche's concept of eternal recurrence, which has been most fully explored in *Thus Spoke Zarathustra* (1978) and *The Gay Science* (1974), is a metaphysical idea that challenges Enlightenment linearity. His proposition that "this life as you now live it and have lived it, you will have to live once again and innumerable times again" (Nietzsche, 1974, p. 273) eventually forces the readers to reconceive time not as progress but as repetition. In other words, this life is a recurrence without redemption. When applied to literary narratives shaped by trauma, war, and loss, this concept opens up a radical lens for reading history as an existential loop. In Intizar Hussain's Basti (2012), Nietzsche's eternal recurrence offers a profound interpretive framework for understanding the cyclical catastrophes that structure Zakir's internal and external worlds. This also forms the first aspect in recursive temporality, and this section shall discuss it in detail.

The structure of Basti itself resists chronological continuity. It refuses linear historicism and instead unfolds as a series of recursive memories, fragmented dreams, and metaphysical reflections. The recurring collapse of civilizations such as Delhi, Baghdad, Dhaka, or Mohenjo-Daro all function not as isolated historical events but as recurring echoes in a metaphysical cycle. Zakir is not a conventional protagonist with a forward-moving arc;

rather, he is a witness, a dreamer, and a carrier of civilizational memory. "Once again, history repeats itself," he remarks quietly, as Lahore succumbs to yet another war and another internal decay (Hussain, 2012, p. 111). This utterance is not mere cynicism but a fundamental recognition that war, displacement, and violence are not unique events: these recur like Nietzsche's eternal wheel. As Barma (2020) observes, Basti "undermines nationalist teleologies by turning history into a mythic return of loss" (p. 141). It manifests a structure that blurs the line between temporality and timelessness. Nietzsche's theory does not advocate fatalism, which illustrates that everything is fated, but he proposes radical acceptance of life and time. In *The Gay Science* (1974), he asks: "Would you not throw yourself down and gnash your teeth and curse the demon who spoke thus?" (Nietzsche, 1974, p. 273). Yet he also implies that affirming recurrence is the test of true strength. Zakir, similarly, does not collapse under the weight of repetition. He mourns, but he also preserves through memory, through silence, through the simple act of remaining in a disintegrating city. The fragmented narrative of Basti reflects Zakir's inner state: one where the personal is inextricable from the metaphysical, and where the present is haunted by echoes of the eternal past. As Memon (1981) writes, "Husain's characters do not act to resolve time but to endure it, suspended between recollection and repetition" (p. 88). This eventually makes the novel an existential meditation on survival.

Eternal recurrence in Basti also functions narratively, as the novel repeatedly returns to key motifs such as trees being cut, the dust rising in the streets, abandoned homes, and the deathlike silence of once-lively towns. Zakir states, "And then unfathomable silence, a fearful quiet. The whole city seemed to be motionless, holding its breath." (Hussain, 2012, p. 219). This sentence has been repeated with slight variations, punctuating multiple stages of the novel. Silence here is not merely absence but the return of emptiness, with historical, philosophical, and emotional significance. The recurrence of violence and civilizational decay transforms the novel's temporality into a gyre rather than a line. As Faiz Ahmed Faiz notes in his poetry, which Hussain's novel indirectly echoes, "Again the same paths, again the same shadows" (Faiz, 2006). This spiral temporality resonates with Nietzsche's concept of eternal recurrence.

Moreover, Zakir's sense of time dissolves into circularity: "Which came first, the past or the future?" he muses (Hussain, 2012, p. 64). The novel breaks the traditional, linear sequence of historical events, as it reflects Nietzsche's challenge to the idea that history moves forward with purpose. The narrative structure of Basti avoids linear progression, instead employing dream sequences, recursive memories, and mytho-historical blending to enact

recurrence as both theme and form. Zakir experiences history not as a continuum but as simultaneity, where each moment collapses into all others. As Barma (2020) observes, the novel "deconstructs Partition not as a single rupture but as a haunting continuity that disturbs historical time" (p. 102). Similarly, Gautam et al. (2024) argue that Basti "mediates memory through recursive returns, disrupting any singular historical interpretation" (p. 8). This reinforces the text's elliptical structure and metaphysical depth.

The emotional and ethical implications of eternal recurrence in Basti are significant. Nietzschean recurrence requires that we affirm even the darkest repetitions. Hussain's narrative challenges the reader: can one love history even when it hurts? Can one return to the site of loss, not to overcome it, but to live with it eternally? Zakir, who never truly leaves his childhood, his city, or his broken past, enacts a form of this affirmation. The novel invites its readers to sit with grief, not to transcend it, but to return to it, again and again, until its recurrence becomes part of one's moral ecology. As Memon (1981) notes, Hussain's fiction is shaped by "a search for continuity in the face of collapse" (p. 74), suggesting that repetition is not regression but philosophical endurance. Likewise, Charan (2021) highlights how Basti reveals "hope amidst the chaotic state of affairs" (p. 5). This frames the act of return not as despair but as quiet resilience.

This echoes the Nietzschean ethos of amor fati which is the love of fate as an ethical imperative. Zakir, who stays in Lahore as others flee, who does not revise his memories into nationalist triumphs, becomes a Nietzschean figure not of strength but of endurance. The acceptance of recurrence in Basti is not heroic but elegiac, not triumphant but quietly resolute. As Hussain himself reflects in essays, "We cannot separate myth from history, nor grief from remembrance" (Hussain, 2003, p. 15). Zakir's character truly embodies acceptance of repetitive wars and displacement, which has resulted in his detachment and dejection.

Other literary texts that echo this Nietzschean spiral include Toni Morrison's Beloved (Morrison, 1987), where trauma loops back into the present through spectral return. As Sethe reflects, "It was not a story to pass on" (Morrison, 1987, p. 274), capturing the haunting persistence of unresolved memory. Similarly, Faiz Ahmed Faiz's poem "Dogs" offers a cyclical vision of suffering and return, where the oppressed reappear in each generation, described as "the herd of homeless curs" who return "again and again" (Faiz, 2006, line 5). In Basti, this spiral is made literal: "Again the same roads. Again the same ruins. Again the same desolation" (Hussain, 2012, p. 180). These works, like Hussain's, refuse Enlightenment chronology and instead

dramatize time as repetition, where the past lingers, recurs, and never fully releases its hold.

Thus, Nietzsche's eternal recurrence in Basti is not only a philosophical structure but also a political critique. In a postcolonial context, where national historiography often demands closure, causality, and celebration, Hussain's refusal to move on is radical. He embeds the nation not in linear liberation but in cyclic collapse where each era repeats the last, and each promise dissolves into dust.

5.2. Planetary Time and the Ecology of Civilizational Collapse

Dipesh Chakrabarty's intervention in temporal studies, particularly in *The Climate of History in a Planetary Age* (2021), challenges the modern secular conception of time as human-centered, progressive, and historical. He proposes a distinction between global history that is the domain of capital, nation-states, and human politics, and planetary history, which operates on geological, ecological, and species-wide scales. "To be human," he writes, "is to partake in multiple temporalities at once" (Chakrabarty, 2021, p. 29). It is precisely this multiplicity of time where history intersects with the planetary that undergirds the metaphysical ecology of Basti.

Unlike traditional postcolonial narratives that treat Partition or national fragmentation as bounded crises, Basti locates its trauma within a much longer, deeper, and denser conception of time. From its opening pages, the novel invokes a language of decay, dryness, and elemental dissolution. Hussain's prose is replete with images of dust, ash, fire, drought, cracked earth, and falling trees. These are not merely metaphors for political instability; they signal a deeper ecological and metaphysical exhaustion. Zakir describes the war-torn landscape as "a wilderness where no birds sing" and Lahore as "a city of smoke, dust, and a silence that had weight" (Hussain, 2012, pp. 151–152). The "silence" that recurs in the novel is not just an emotional response to violence but a planetary register of collapse. As Sheikh (2008) notes, Hussain's fiction reflects "the ecological decay of not just place, but memory and imagination" (p. 172). This aligns natural and civilizational disintegration within a shared symbolic frame. In Basti, environmental ruin becomes both setting and symptom of civilizational exhaustion, as it blurs the line between ecological and historical endings. The recurrence of ecological decadence forms the second aspect of recursive temporality.

Chakrabarty argues that in the Anthropocene, "the human being appears simultaneously as a biological and geological agent" (Chakrabarty, 2009, p. 206). In Basti, the destruction of human settlements such as Delhi,

Baghdad, Dhaka, Lahore is always coupled with the ruin of ecosystems, rivers, and forests.

Zakir remembers a time when trees bore fruit, when wells were clean, when birdsong signaled hope. Now, he wanders in a wasteland. As Rubina Sheikh observes, Basti "captures Lahore as a site of cultural and ecological deterioration, where silence replaces song, and gardens decay into dust" (Sheikh, 2008, p. 172). The degeneration of the natural world mirrors and extends the moral and civilizational disintegration around him. In this sense, the novel stages not only a historical trauma but a planetary one.

Moreover, Basti destabilizes the anthropocentric time of progress and revolution that characterizes much of modern nationalist discourse. The Partition of India, the creation of Pakistan, and later the birth of Bangladesh are not linear political events leading toward a better future; they are eruptions that fold back into myth, memory, and ecological decline. These eruptions are foundational stones in recursive temporality. Zakir experiences each moment of nation-making not as a step forward, but as a wound repeated. Chakrabarty's assertion that "the climate crisis reconfigures our relationship to historical thinking" (Chakrabarty, 2021, p. 16) is mirrored in how Basti presents war as less about political ideologies and more about existential loss.

A parallel can be drawn with Anjum in *The Ministry of Utmost Happiness*, whose personal suffering is intricately tied to the nation's political upheavals and environmental ruination. Anjum's retreat to the graveyard, which is in reality a space of death, becomes a sanctuary for her, echoing Zakir's lingering presence in a dying Lahore. Both characters embody a refusal to leave the ruins behind, insisting instead on witnessing and inhabiting them. As Roy writes, "She lived in the graveyard as though it were a city" (Roy, 2017, p. 45). It is much like Zakir, who wanders Lahore as if its silence still speaks.

Even time itself, in Basti, seems to obey ecological rhythms rather than historical clocks. The day dissolves into night not with certainty, but with slowness, tremors, and silence. Days stretch and collapse under the weight of war, drought, and waiting. As Zakir notes during one such moment, "Time moved like dust. You could feel it settle on your skin, but you couldn't see it" (Hussain, 2012, p. 121). This simile powerfully evokes Chakrabarty's idea that modern time has become too small to accommodate the temporalities of climate, species death, and planetary transformation.

The collapse of Enlightenment time in Basti is thus rendered through the collapse of narrative certainty. There is no linear path to redemption, no revolutionary closure. Instead, Hussain offers an entangled temporal consciousness where time appears in ruins, like the fallen banyan tree or the

poisoned river. Chakrabarty writes that "humans can no longer think of themselves as historical agents alone; they must reckon with their planetary embeddedness" (Chakrabarty, 2021, p. 112). In Basti, the protagonists are not masters of their destiny but witnesses to a disintegrating world: a world where history itself has turned to dust. This temporal disorientation finds a resonant echo in Arundhati Roy's *The God of Small Things*, where memory is no refuge, and "the past [is] a threadbare luxury" (Roy, 1997, p. 120). Like Zakir, Estha and Rahel do not revisit the past for healing; they remain suspended in it, unable to escape its weight. In both novels, time is fragmented, melancholic, and unresolvable; it is haunted by events too worn to offer comfort. Yet these events are too vital to forget.

The planetary crises allow for a productive comparison with other world-literary texts that explore ecological collapse through metaphysical and postcolonial lenses. In *Waiting for Godot*, Beckett conjures a desolate landscape where time stretches and meaning erodes. "Nothing to be done," mutter the characters, as they await signs of life amid barrenness (Beckett, 2011, p. 2). Similarly, in The Emperor Jones, the forest becomes an elemental force, echoing human hubris and impending collapse: "The forest closes in. It is alive, I tell you!" (O'Neill, 2001, p. 15). These texts, like Basti, do not address ecological crises through overt politics but through mood, myth, and metaphysical pressure. Zakir, like Beckett's and O'Neill's haunted figures, dwells in liminal spaces where history and nature collapse into one another. It's a space where waiting, remembering, and witnessing become forms of ecological testimony.

Basti's aesthetics are planetary in both spirit and structure. The story avoids neat endings, moves slowly, and welcomes re-reading. Chakrabarty links such features to planetary thinking, where time loops, characters drift in and out, and memory overtakes plot. This uncertainty reflects the vast, tangled nature of the planetary crisis. The novel's refusal to separate inner grief from environmental decay creates a narrative form where personal and planetary trauma merge. As Hussain puts it, "the world is a wilderness where no birds sing" (Hussain, 2012, p. 110)—a quiet echo of loss too large to resolve. As Gautam et al., (2024) note, Basti's narrative "drips with layered silences," where absence itself becomes a mode of witnessing environmental and emotional collapse.

Zakir's fragmented relationship to place also reflects a planetary disorientation. He is neither nationalist nor exile, neither insider nor outsider. His identity, like the landscape around him, is liminal. "This city… it had changed its face again," he observes (Hussain, 2012, p. 131). Such instability refuses the comfort of rootedness, instead of echoing Chakrabarty's claim that

in planetary time, all ground is unsteady. “The globe is no longer the stable stage on which human history unfolds” (Chakrabarty, 2021, p. 111); it shifts beneath us. Humans are no longer citizens of fixed nations, but inhabitants of a shared, wounded planet caught in overlapping crises.

Furthermore, Basti subtly challenges the postcolonial desire for cultural anchoring. The novel’s characters do not find safety in religious revival, cultural memory, or political slogans. Even sacred symbols such as Karbala, Andalus, and Mohenjodaro are invoked not for stability, but for loss. This de-centering aligns with Chakrabarty’s assertion that “in planetary time, the question is no longer only what the past means for the future, but what kind of futures remain possible at all” (Chakrabarty, 2021, p. 167). Rather than offering a redemptive or forward-looking vision, the novel gestures toward exhaustion of civilizations, meaning, and time itself. Chakrabarty’s insight reframes Basti’s metaphysical despair: history here is not a tool for building futures, but a space where the very idea of the future has grown uncertain. In this vision, sacred memory does not promise regeneration but signals the weight of irreversible loss.

Zakir’s melancholic and recursive temporality is thus both postcolonial and planetary. He cannot return to a pre-partition innocence, nor move forward into a utopian national future. Instead, he lingers in a ruined present, a present haunted by dust, fire, and the ghostly echoes of fallen cities. In this way, Basti transcends from a historical novel to a temporal one. Zakir recalls how “everything had been burnt, and the ashes were flying in the air” (Hussain, 2012, p. 109), evoking a world where historical trauma and ecological ruin are inseparable. As Gautam et al. (2024) observe, the novel’s temporality “mediates memory through silence and myth, rather than through fact or record.” He places it firmly in this new planetary archive.

The ecological imagination in Basti also includes its language. Hussain’s prose style mimics the slow degradation he describes. Sentences are often short, stuttering, or recursively framed. Syntax breaks down as war arrives. The rhythm of the novel itself slows, echoing the geological compression Chakrabarty discusses. In the final chapters, where the city lies broken and silence reigns, the language of the novel becomes nearly elemental: dust, ash, dry wind, stone (Hussain, 2012, pp., 111-176). These words repeat, building a texture of planetary exhaustion. Similarly, in *The Ministry of Utmost Happiness*, Roy writes, “The air smelled of burning and distance and incomprehension” (Roy, 2017, p. 231), a sentence that captures how language itself bears witness to ecological and emotional collapse. Like Hussain, Roy fuses atmosphere and syntax to narrate the slow violence of environmental and civilizational disintegration.

Zakir, then, is not merely a witness to political crisis: he is a character shaped by ecological grief. His sadness is not just national but planetary, born from a deep sense of disconnection not only from people and places, but from time itself. "Nothing is familiar anymore. Not even the sky," he says at one point (Hussain, 2012, p. 134). His alienation mirrors the Anthropocene condition which is a rupture with the rhythms of the world. As Radha Gautam et al. argue, Basti "mediates memory through the decay of natural and human orders alike" (Gautam et al., 2019, p. 10). It shows how ecological loss becomes a form of temporal estrangement.

In conclusion, it can be shown that the ecological decay depicted in Basti functions on both micro and macro levels. On a micro level, it highlights environmental decline through infertile mythical lands that were once fertile and prosperous. On a macro level, it reflects planetary anxieties in today's world. The desolation and deep despair shown through Zakir's character happen in a recurring, repetitive pattern; each trauma and loss repeats in a non-linear way. Therefore, it becomes a part of recursive temporality. Chakrabarty's idea of non-linear modernity, contrasting with the Enlightenment concept of linear time, finds a parallel in Basti's recurring devastations caused by wars and displacement.

5.3. Sacred Time and Ritual Recurrence in Basti

Nietzsche's eternal recurrence and Chakrabarty's planetary time challenge Enlightenment history through philosophy and ecology. Eliade's sacred time offers a third mode in recursive temporality: mythic and ritualistic. In *The Myth of the Eternal Return* (Eliade, 1954), he distinguishes profane time, which is linear and historical, from sacred time, which is cyclical and reversible. "Myth is not a history of the world, but a paradigm for human existence… it repeats archetypal gestures from the beginning" (Eliade, 1954, p. 35). *Basti* echoes this sacred structure. Its fragmented form, recurring symbols, and mythic tone suggest it enacts rather than narrates time. Events repeat; memory becomes ritual; and history resembles myth. Time in the novel turns inward, circling rather than progressing.

The opening lines of *Basti* do not introduce a plot, a conflict, or a protagonist in the Western narrative sense. Instead, they immerse the reader in an atmosphere of collapse and remembrance: "The flame had leapt up. Was it Hindu or Muslim? Neither. The flame had no religion" (Hussain, 2012, p. 1). This flame, ambiguous and elemental, becomes a metaphysical symbol throughout the novel. It represents the timelessness of destruction, the recurrence of purification, and the ritual of sacrifice. Like Eliade's sacred fire, which is "kindled to imitate the first cosmic fire" (Eliade, 1954, p. 87),

Hussain's fire is not tied to a specific war or moment. It is a repetition of all destruction, a mythic recurrence.

Zakir's experience of time is shaped less by personal chronology and more by sacred recurrence. His memories do not follow a straight line. Hussain describes Zakir's experience by stating, "When he puts his finger on one memory, the dense clouds of other memories come drifted along in a train" (Hussain, 2012, p. 32). These memories rise up suddenly, triggered by mythic symbols, familiar scents, or the echo of a sound. Cities are not remembered for their modern political identity but for their mythic weight, such as Andalus, Baghdad, and Mohenjodaro. These are not just historical sites but sacred landmarks on a map of loss. Eliade writes that "to know the origin of something is to enter into a sacred dimension" (Eliade, 1954, p. 45). Zakir keeps circling back to origins, his childhood, his mother tongue, the lost garden, as if trying to rebuild a broken world through ritual rather than reason. In this, Basti gestures toward what Chakrabarty calls "a past that has not passed" (2009, p. 198), a time that continues to stir under the surface; a time that remains sacred and unfinished.

The narrative structure of Basti mimics ritual recurrence. Key phrases are repeated like invocations: "Then the silence began," "Once again," "That day returned." (Hussain, 2012, p.4-6). Each repetition becomes a kind of literary dhikr, a rhythmic remembrance that reactivates sacred time. For instance, during times of war, the silence that descends is described in identical terms across decades. This is not narrative laziness but an Eliadean strategy, meant to suggest that each historical crisis is a repetition of the same archetypal fall. As Eliade puts it, "Sacred time is the time of origins, always returning through ritual" (1954, p. 69). This quote emphasizes that sacred time does not flow forward like history. Instead, it loops back to a divine beginning and then re-enters in a repetitive and ritualistic manner. In *Basti*, these repetitions become portals into a timeless dimension that carry loss, memory and desolation.

Hussain reinforces this sacred temporality through allusions to Islamic, Indic, and biblical myth. The novel recalls the fall of Andalus, the martyrdom at Karbala, and the dispersion of Babylon. These are not just ornamental; they serve as temporal anchors in Zakir's inner world. When Sabirah leaves or the city begins to unravel again, Zakir does not explain it politically; instead, he turns to a mythic echo: "Once again, it was Andalus. The lights went out, and the darkness came in" (Hussain, 2012, p. 106). This reflects Eliade's idea that history is not a series of new events but a repetition of archetypes.

Barma (2020) observes that Zakir's memories "become a mode of escape" whenever he experiences anxiety of displacement (p. 74). With each tragedy, Zakir struggles to recover and responds to the collapse not with analysis but with sacred memory as a form of both endurance and resistance. In a way, these reminisces become a defense mechanism against all the chaos and unfathomable circumstances. Memory is the only anchor that gives Zakir a sense of control and familiarity. It becomes a channel for better understanding the trauma, which eventually helps endure it better.

Finally, sacred time in *Basti* provides space for the characters to defend themselves against contemporary violence. Where historical time leads to disintegration, sacred time allows for endurance. Zakir's source of existence is to repeat the events endlessly like a ritual. He mourns not to heal but to connect. He deliberately remembers by projecting his name, as Farrukhi observes, Zakir means the "one who remembers" (p. iv). This ethics of repetition is grounded in Eliade's thought that makes *Basti* a text not only about loss, but about the ontological dignity of remembering. It asks its readers to abandon linear closure and instead "inhabit recurrence as a space of meaning" (Eliade, 1954, p. 112).

In sum, Eliade's idea of sacred time shapes Basti's mythic sense of time, its ritual-like structure, and emotional intensity. While Nietzsche treats recurring pain as a philosophical and metaphysical challenge, and Chakrabarty links personal loss to environmental decay, Eliade has completed the triangle of recursive temporality by providing a ritualistic and mythical approach where he sacralizes history. His model turns linear trauma into a cycle of mourning. Together, these three views under the framework of recursive temporality aid in analyzing *Basti* where myth, memory, and loss recur eternally.

6. CONCLUSION

This paper has explored *Basti* through recursive temporality that provides intersecting lenses of Nietzsche's eternal recurrence, Chakrabarty's planetary time, and Eliade's sacred temporality. Together, these frameworks have revealed how Intizar Hussain's novel disrupts linear models of history and national progress. Instead, it offers a cyclical, planetary and sacred view of time. Rather than framing *Basti* as a conventional postcolonial narrative of exile and loss, this reading has shown that the novel opens up deeper metaphysical, ecological, and mythic possibilities.

Nietzsche's idea of eternal recurrence helps illuminate how *Basti* constructs a temporality shaped by repetition and return. For Zakir, trauma is not a singular event but a recurring condition. The same wars, silences, and

losses appear again and again. It is not as history repeating itself, but as time folding back on itself. The novel does not seek resolution. On the contrary, it affirms grief with endurance. Nietzsche's concept of will, even in the darkest moments, resonates with how Zakir endures by remembering rather than escaping. In this light, the novel becomes a space for ethical reflection. It becomes a site that acknowledges suffering without demanding closure.

The cyclical structure aligns with Chakrabarty's idea of planetary time. Zakir's world is not simply politically fragmented. Rather, it is ecologically exhausted. Drought, ash, fire, and silence fill the pages of *Basti*, and these all point to a slow, ongoing collapse. This degeneration parallels the socio-political deterioration. Chakrabarty urges readers to rethink the human not only as a political actor but also as part of a damaged planet. He moves from a microcosmic level to a macrocosmic level and links personal tragedy to the planetary decadence. Hussain's use of elemental imagery and the gradual erasure of place and memory echo this call. The novel's attention to planetary disintegration moves beyond national allegory and confronts the larger crisis of the Anthropocene. Here, literature becomes a way to bear witness to both historical and ecological ruin.

Eliade's theory of sacred time becomes the third tier in recursive temporality in analyzing *Basti.* In *Basti*, memory functions not as recovery but as ritual. Mythic cities return again and again. Sacred symbols reappear. The past is not gone; it is reactivated. The novel's non-linear form, its repetitive language, and its evocation of mourning practices suggest a liturgical structure. Zakir does not simply recall the past; he re-enters it and re-experiences all the pain and suffering repetitively. This sacred mode of remembering allows the novel to transform trauma into a form of prayer and turns the narrative into a ritual.

In bringing together these three models, which are philosophical, ecological, and sacred, interlinked under recursive temporality, this study repositions *Basti* as more than a political novel. It is a meditation on time, loss, and the sacred. Its refusal of linearity, its attention to elemental decay, and its ritualistic form challenge the progressive narratives of secular modernity. Hussain's novel mourns the past. He does not aim to move beyond it, but he ensures it stays alive. In an age of ecological crisis and temporal confusion, *Basti* offers a sacred space, Basti (dwelling), where memory, myth, and mourning can still hold meaning. Literature, therefore, becomes a mode of survival instead of simply a means of storytelling.

REFERENCES

Ahmed, F. (2008). *Literature and displacement: Partition and the South Asian novel*. Routledge.

Akram, H. (2017). Imagined ecologies: Symbolism and sacred landscapes in Urdu fiction. *Journal of South Asian Literary Studies, 12*(2), 55–65.

Allison, D. B. (2001). Reading the recurrence: Eternal return and European modernism. *Continental Philosophy Review, 34*(1), 85–102.

Barma, R. (2020). Repetition and ruin: Reading mythic temporality in Intizar Hussain's *Basti*. *South Asian Review, 41*(2), 140–151.

Bhabha, H. K. (1994). *The location of culture*. Routledge.

Campbell, J. (1988). *The Power of Myth*. New York: Doubleday

Chakrabarty, D. (2009). The climate of history: Four theses. *Critical Inquiry, 35*(2), 197–222.

Chakrabarty, D. (2021). *The climate of history in a planetary age*. University of Chicago Press.

Eliade, M. (1954). *The myth of the eternal return: Cosmos and history* (W. R. Trask, Trans.). Princeton University Press.

Eliade, M. (1959). *The sacred and the profane: The nature of religion* (W. R. Trask, Trans.). Harcourt Brace.

Faiz, F. A. (2006). Dogs. In V. G. Kiernan (Trans.), *The true subject: Selected poems of Faiz Ahmed Faiz* (pp. 34–35). Princeton University Press.

Gautam, R., Anwar, S., & Shah, F. (2024). Temporal estrangement and elemental poetics in postcolonial fiction. *Journal of Comparative Literature and Ecology, 9*(1), 1–18.

Hussain, I. (2012). *Basti* (F. Pritchett, Trans.). New York Review Books Classics. (Original work published 1979)

Morrison, T. (2004). Beloved. 1987. *New York: Vintage*, 120-22.

Nietzsche, F. (1974). *The gay science* (W. Kaufmann, Trans.). Vintage Books. (Original work published 1882)

Nietzsche, F. (1978). *Thus spoke Zarathustra* (W. Kaufmann, Trans.). Penguin.

Qadir, A. (2014). Sacred decay: Historiography and rupture in Pakistani fiction. *Postcolonial Text, 9*(3), 121–135.

Qasmi, A. (2021). Spiritual debris: Post-Partition metaphysics in Urdu literature. *Literary Inquiry, 15*(2), 69–82.

Rajagopal, A. (2018). Partition trauma and symbolic repetition in South Asian fiction. *South Asian Studies Journal, 36*(2), 141–153.

Roy, A. (1997). *The ministry of utmost happiness*. Hamish Hamilton.

Sheikh, R. (2008). The heart of Pakistan: Writings on Lahore [Review of the books City of sin and splendour: Writings on Lahore, by B. Sidhwa, & Making Lahore modern: Constructing and imagining a colonial city, by W. J. Glover]. *Transformations: The Journal of Inclusive Scholarship and Pedagogy*, 19(1), 170–176.

Suleri, S. (1992). *The rhetoric of English India*. University of Chicago Press.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.107-127

Learned Resourcefulness and Job Performance: The Mediating Role of Job Satisfaction Among Frontline Healthcare Workers

Faryal Fazal[1,*], Irum Naqvi[2]

[1]Khyber Medical University, Peshawar
[2]National Institute of Psychology, Quaid-i-Azam University, Islamabad
*Corresponding author: faryal.fazal16@gmail.com

Abstract

The present research was conducted to see the relationship between learned resourcefulness, job satisfaction and job performance among frontline healthcare workers. With respect to research factors, group differences across demographics were also examined. A purposive sample (N=400) of frontline healthcare workers, including doctors (n= 254), Nurses (n= 90) and Paramedical staff (n= 56) having age range of 22 to 47 years. The sample was selected from private and public hospitals located in Peshawar, Islamabad/ Rawalpindi, Multan and Charsadda. Measures of Job Performance Scale (Wright et al., 1995), Job Satisfaction Scale (Warr et al., 1979), and Self-control Schedule (Rosenbaum, 1990) were used to measure job performance, job satisfaction, and learned resourcefulness, respectively. Findings showed that job satisfaction is positively correlated with job performance and learned resourcefulness. Findings further indicated that redressive self-control and extrinsic job satisfaction positively predicted job performance. The findings further revealed that female frontline healthcare workers exhibited higher extrinsic job satisfaction than male frontline healthcare workers. Moreover, paramedical staff exhibited higher job performance and job satisfaction than nurses and doctors. Inferences drawn from the present study would reflect both theoretical and practical implications for hospital administrations in enhancing job performance and the development of prevention programs to increase job satisfaction. Similarly, the modules of learned resourcefulness can be employed by mental healthcare professionals.

Keywords: job performance; learned resourcefulness; job satisfaction; frontline healthcare workers

Article History: Submitted: 22/03/2023, Accepted: 25/05/2025, Published: 26/12/2025

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

Frontline healthcare workers form a vital pillar of the healthcare system, enabling efficient and high-quality delivery of services. For millions of patients, they are often the first and sometimes the only point of contact with formal healthcare. These professionals offer a broad range of lifesaving interventions to prevent disease, disability, and death. While many are midwives and general health providers, frontline workers also include local chemists, nurses, and doctors serving underprivileged communities (WHO,

2019). The World Health Organization has expressed significant concern to top healthcare administrators and providers regarding the poor quality of healthcare services, a matter that has received substantial media attention (WHO, 2020). Rising life expectancy and the increasing number of individuals surviving serious conditions have created an urgent demand for a well-staffed frontline workforce (Yu et al., 2020). As thousands of new health professionals enter the field, competition has increased. Consequently, the performance of healthcare worker including doctors, nurses, paramedics, and support staff, has become a focal point for healthcare organizations. Health workers have an important role on the healthcare team, dedicated to delivering high-quality care to patients, clients, or communities (Alafoo et al., 2024). The job performance of health workers is a multidimensional concept. It refers to their ability to give high-quality services in a professional and standard manner (Krijgsheld et al., 2022). Health workers' performance is commonly evaluated through key performance indicators such as patient satisfaction and the overall quality of healthcare services delivered (Sreedharan et al., 2024). In this context, service delivery and overall performance are continually scrutinized (Busari et al., 2017).

Job performance refers to the degree to which an employee can meet the required standards of proficiency in performing organizational activities (López-Cabarcos et al., 2021). Job performance, as a study variable, has been the focus of extensive research for over a decade. It is widely recognized as a crucial factor in achieving organizational effectiveness (Kappagoda et al., 2014). In contrast to many other professions, the work of healthcare professionals holds particular importance, as it directly influences the health and well-being of society, the individuals they serve, and their own personal health (Victoroff et al., 2013). Due to the high demands of their jobs, healthcare workers experience occupational stress for various reasons. These include work-related stress, prolonged hours, emotional demands, resource availability, policies and procedures, interpersonal conflicts, job uncertainty, and financial or family pressure (Okuhara et al., 2021). These stressors can negatively impact healthcare professionals' health, job performance, and clinical outcomes. They also affect job satisfaction, workforce stability, employee engagement, and overall workplace well-being (Van Bogaert et al., 2013).

The majority of healthcare professionals in developing countries like Pakistan are dissatisfied with their pay, benefits, and the standard of living they or their families can enjoy there. This demotivation, in turn, leads to exploring opportunities in developed countries with a stronger pull force (Tasneem et al., 2018). Job satisfaction plays a significant role in enabling

employees to perform effectively in such demanding environments (Inayat & Khan, 2021). It encompasses an employee's emotional response to their job, both positive and negative, and reflects the overall level of happiness associated with their work experience (Singh et al., 2013). Empirical studies (Park & Kim 2009; Gerhart & Fang, 2015) underscore that employee satisfaction is positively linked to improved morale, greater efficiency, and enhanced job performance. Satisfied employees are also less likely to take unscheduled absences or consider leaving their positions.

Given these findings, the job satisfaction of frontline healthcare workers deserves serious attention, especially as it has been shown to significantly influence their performance and the quality of care they deliver.

Recent advances in literature on positive psychology have introduced the concept of learned resourcefulness, which relates to how individuals manage stressful life circumstances and maintain performance at work. According to Rosenbaum (1980), learned resourcefulness skills are acquired informally, beginning in early childhood. As each person's learning experiences differ, the capacity for learned resourcefulness can vary accordingly (Keles, 2015). In the present study, learned resourcefulness is examined as a predictor of job performance, alongside job satisfaction (Adil et al., 2019; Chung et al., 2017; Huang et al., 2005; Papageorgiou et al., 2017). Thus, job satisfaction and learned resourcefulness are treated as predictor variables, while job performance serves as the outcome variable.

2. LITERATURE REVIEW

The present study is grounded in well-established theoretical frameworks, such as the two-factor theory, the job characteristics model, Campbell's model, and Rosenbaum's Learned Resourcefulness Theory. These models help in explaining workplace outcomes among frontline healthcare workers in Pakistan. Recent literature (Umrani et al., 2019; Inayat & Khan, 2021; Rana et al., 2022) has highlighted the direct and indirect associations among learned resourcefulness, job performance, and job satisfaction. Resourcefulness is a concept that has been found to reduce depressive symptoms, and it is associated with process regulators that may be conceptually similar to compassion fatigue (Yolpant, 2019). The study by Inayat & Khan (2021) revealed a favorable association between job satisfaction and job performance among private employees in Peshawar. Additionally, the findings indicate that the performance of satisfied employees exceeds that of dissatisfied ones.

Nurses learned resourcefulness levels influence their intention to leave the job. Previous study found that nurses who exhibit high levels of learned

resourcefulness report greater job satisfaction, less burnout, and less intention to leave the job (Cinar et al., 2016; Wang et al., 2015). Chen et al. (2022) have discussed improved job performance results from emotionally supportive and meaningful workplace experiences. Furthermore, it establishes a substantial positive relationship between the learned resourcefulness and job performance of health provider (Harris et al., 2013). Research indicates that when individuals actively monitor and adjust their behavior to stay on track and receive meaningful external rewards, such as recognition or bonuses, they tend to stay more focused on their tasks and take greater responsibility for their work (Chen et al., 2022). A study by Guzzo et al. (2022) found that simply being older doesn't automatically make someone perform better at work. However, people who've worked longer and gained more experience-something that often comes with age tend to help their teams do better. Their knowledge, reliability, and ability to guide others can improve a group's overall performance. According to Gintner et al. (1989), resourceful employees had higher levels of job satisfaction, higher levels of job performance, and lower levels of intention to resign.

Previous literature (Abbas et al., 2020; Berhanu, 2023; Ning et al., 2023) has studied the mediating role of job satisfaction for different predictors such as staff development and performance, work-life balance and organizational commitment, and organizational culture and employee commitment. However, no study has investigated the mediating effect between learned resourcefulness and job performance. Recent research (Rubacca & Khan, 2020) has investigated the mediating role of job satisfaction. The findings demonstrated that job satisfaction partially mediated the proposed relationship, i.e., between job resourcefulness and contextual performance. Another study revealed that job satisfaction mediated the effect of quality of work life on job performance (Diana et al., 2020). Similar results were reported in research by Ashraf et al. (2013), which found a mediating role for job satisfaction between the work environment and organizational performance among healthcare workers. Therefore, this study aims to address a significant gap by examining whether job satisfaction mediates the relationship between learned resourcefulness and job performance.

This study addresses a critical gap in the existing literature by proposing and testing a conceptual framework that explores the psychosocial determinants of job performance among frontline healthcare workers in Pakistan. Specifically, this research examines the predictive roles of job satisfaction and learned resourcefulness, with a particular focus on the mediating role of job satisfaction between learned resourcefulness and job performance. Although prior studies have explored various predictors of job

performance (Ashraf et al., 2015; Campbell, 1990; Borman & Motowidlo, 1997; Shafiq, 2014; Sarwar et al., 2017) and job satisfaction (Inayat & Khan, 2021; Platis et al., 2015), most have been conducted in Western contexts or have examined these constructs independently. There remains a lack of integrated research that investigates how learned resourcefulness- a cognitive-behavioral skill enabling individuals to self-regulate and cope with stress affects job performance and how job satisfaction may mediate this relationship, particularly in low- and middle-income countries such as Pakistan.

The selection of frontline healthcare workers as our research participants is intentional, given the unique demands and pressures associated with their roles. Their job performance is directly tied to patient outcomes and public health delivery, making their psychological underpinnings especially relevant (Victoroff & Boyatzis, 2013). By focusing on this group, the study aims to provide actionable insights for improving workforce well-being and productivity in healthcare settings.

Moreover, this study contributes to a growing body of literature by offering empirical evidence from Pakistan, a context underrepresented in global research on workplace performance and satisfaction. By contextualizing the psychological mechanisms within this setting, the study adds valuable insights to cross-cultural understandings of job performance and mental resilience in high-stress professions.

Based on the previous researches and research gaps, the following objectives have been proposed:

1. To observe the association between learned resourcefulness, job satisfaction and job performance.
2. To determine the predictive role of demographics on study variables.
3. To evaluate the mediating role of job satisfaction between learned resourcefulness and job performance.

The study proposes the following research hypotheses:

1. Job performance is positively related to job satisfaction and learned resourcefulness among frontline healthcare workers.
2. Learned resourcefulness is positively related to job performance and job satisfaction among frontline healthcare workers.
3. Job satisfaction is positively related to job performance and learned resourcefulness among frontline healthcare workers.
4. Redressive self-control and extrinsic job satisfaction positively predict job performance among frontline healthcare workers.
5. Age is positively related to job performance, learned resourcefulness, and job satisfaction among frontline healthcare workers.

3. MATERIALS AND METHODS

3.1. Participants

The sample was collected through purposive convenient sampling. The participants of the main study comprised doctors (*n* =254), Nurses (*n* = 90) and Paramedical staff (*n*=56). 54. 5 % from Government and Private Hospitals of Peshawar (*n* =218), 13% Rawalpindi (*n* = 52), 15.7% Islamabad (n=63), 4.7% Multan (n=19) and 12% Charsadda (*n* = 48). 56 % of the sample were Males (*n* =224), whereas 44% were females (*n*=176). The age range of the frontline healthcare workers was 22-47 (*M* = 33.1; *SD* = 8.06). Frontline healthcare workers with different demographics, such as age, gender, marital status, number of children, occupation, type of hospital, area of specialty, employment status, job experience, monthly income, family income, work position, work setting, work hours, frequency of dealing with critical patients, and work shifts, were selected.

3.2. Inclusion Criteria

The sample was selected from hospitals located in the twin cities of Islamabad and Rawalpindi, as well as from Multan, Peshawar, and Charsadda. Participants included both male and female frontline healthcare workers who were directly involved in patient care. Eligibility criteria required at least six months of experience in their current role and a work schedule comprising a minimum of eight hours per week in a hospital setting.

3.3. Exclusion Criteria

Frontline healthcare workers with less than six months of experience in their current role, as well as those currently on any form of leave, working remotely, or primarily engaged in community-based healthcare, are excluded. Additionally, healthcare workers not directly involved in hospital-based patient care, including those in hospital administration, management, or specialized fields with no direct patient contact, have also been excluded.

3.4. Instruments

Wright et al. (1995) developed a job performance scale that was used to assess participants' job performance. The scale has eight items. It is a 5-point Likert scale with scoring options: 1= *Strongly Disagree*, 2= *Disagree*, 3= *Neutral*, 4= *Agree*, 5= *Strongly Agree*. There are no reverse-scored items. The scale has the employee rating (self-rating) and the supervisor or immediate boss rating scale. The scale has a minimum score of 8 and a maximum score of 40. Shafique (2008) stated the alpha reliability of the job performance (self-rating and supervisor rating) scales as .78. The author

proposed that alpha reliabilities vary depending on the sample under study. The higher score indicates better job performance.

Rosenbaum's Self-control Schedule was used to assess learned resourcefulness (1980). It is a self-report measure that evaluates a person's capacity to cope with stress and stress response using cognitive strategies. The scale assesses people's inclination to utilize self-control skills, which include positive self-talk in the face of bad experiences, problem-solving abilities, the ability to delay gratification, and self-efficacy beliefs in one's capability to regulate internal states in stressful conditions (Rosenbaum, 1980a). The self-control Schedule is a 36-item scale scored on a 6-point Likert scale ranging from 6=*very characteristic of me, extremely descriptive* to 1=*very uncharacteristic of me, extremely non-descriptive*. Originally, the score for each item could range from +3 to -3, with no neutral response at 0. However, this scaling method makes interpretation difficult when predictive model testing is conducted. Therefore, the scaling method has been modified in numerous studies (i.e., Zauszniewski, 1994, 1995; Zauszniewski & Wykle, 1994). The items are divided into three subscales: redressive self-control (12 items: 1,2,3,5,13,15,23,25,26,30,31,36), reformative self-control (15 items: 7,9,10,11,12,17,18,20,22,27,28,29,32,33,34) and perceived self-efficacy (9 items: 4,6,8,14,16,19,21,24,35). Items 4,6,8,9,14,16,18,19,21,29 and 35 are reversely scored. The score varied from 36 to 216, with higher values representing greater self-control abilities. Self-control Schedule has a Cronbach's Alpha reliability of .82 (Rosenbaum, 1980).

Job satisfaction was measured by the job satisfaction scale (Warr et al., 1979). The scale has 15-items with two subscales: the Extrinsic subscale has 8 items (1,3,5,7,9,11,13,15) while the intrinsic subscale has 7-items (2,4,6,8,10,12,14). The job satisfaction scale is scored on a 7-point Likert scale with scoring options ranging from 1=*extremely dissatisfied* to 7= *extremely satisfied*. There are no reverse-scored items. The scale ranged from 15 to 105, with high ratings demonstrating greater job satisfaction. The two subscales revealed good reliability (intrinsic job satisfaction = .79–.85, and extrinsic job satisfaction = .74 –.78 in Warr et al. (1979).

3.5. Ethical Considerations

Permission for the use of measurement tools in the study was obtained via email. The research booklet comprised a demographic sheet, a job performance scale, a self-control schedule, and a job satisfaction scale. Prior to the initiation of the study, formal permission was obtained from hospital management and relevant authorities across various cities in Pakistan. Frontline Healthcare workers were recruited through purposive sampling.

The study's objectives were clearly communicated to all potential participants. Confidentiality of the information provided was assured, with a guarantee that responses would remain anonymous and would not be disclosed or used against participants. Written informed consent was obtained prior to the administration of the questionnaire. Participants were informed of their right to withdraw from the study at any time, for any reason, including discomfort or a change of mind, though they were encouraged to participate willingly and with full interest. Each participant received a copy of the booklet, including the demographic sheet and all relevant scales. They were provided with clear instructions and guidance to address any queries. The questionnaires were quantitatively assessed, and scores were recorded accordingly. Participants were sincerely appreciated for their time and valuable responses at the conclusion of their involvement.

3.6. Data Analysis

The data analysis was performed using IBM SPSS Statistics 23.0. In the initial phase, we calculated basic descriptive statistics and Pearson correlation for the association of variables. Afterwards, we employed Hayes's PROCESS macro in SPSS (Hayes, 2017) for mediation (model 4) analyses to identify which variables mediate the relationship between learned resourcefulness and job performance. The PROCESS macro is a frequently used method to test mediating effects in psychology and other fields of social sciences (Alfons et al., 2022). A path model was formulated based on mediation analyses to clarify the level of job satisfaction. We used a significance level of $\alpha = 0.05$.

4. RESULTS

This section presents the results of correlation and mediation analysis.

4.1. Correlations

Table 1 demonstrates that age and income have a significant positive correlation with job performance (self-rating and supervisor rating). Working hours are significantly negatively correlated with job performance, learned resourcefulness and job satisfaction. Job satisfaction is significantly positively correlated with job performance. Learned resourcefulness is significantly positively correlated with job performance.

Table 1. Correlation Between Demographic Variables, Job Performance, Learned Resourcefulness, And Job Satisfaction (N=400)

S.N	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Age	-														
2	No of Children	.72**	-													
3	Work Hours	-.07	-.13**	-												
4	Job Exp	.66**	.51**	-.14**	-											
5	Monthly Income	.46**	.14**	.22**	.14**	-										
6	Family Income	-.01	-.001	-.05	-.02	.06	-									
7	JPSLR	.13*	.13*	-.13**	.13*	-.07	.05	-								
8	JPS	.12*	.02	.08	.07	.08	-.03	.25**	-							
9	SCS	.08	.09	-.09	.07	-.03	-.06	.23**	.13**	-						
10	RDSC	-.01	-.009	-.15**	.02	-.09	-.03	.19**	.05	.72**	-					
11	RFSC	.14**	.13*	-.08	.13*	.02	-.09	.25**	.11*	.86**	.53**	-				
12	PSE	-.003	.05	.04	-.05	-.001	.02	-.03	.09	.34**	-.21**	.05	-			
13	JSS	.11*	.15*	-.23**	.14**	-.09	.06	.37**	.16**	.24**	.14**	.23**	.11*	-		
14	EJS	.10*	.15**	-.26**	.14**	-.11*	.05	.37**	.16**	.20**	.14**	.20**	.06	.95**	-	
15	IJS	.11*	.14**	-.17**	.12*	-.06	.06	.34**	.15**	.26**	.12*	.24**	.14*	.94**	.80**	-

Note. Job performance self-rating, JPS= Job Performance Supervisor-rating, SCS= Self-control Schedule, RDSC=Redressive Self- control, RFSC=Reformative Self-control, PSE=Perceived Self-efficacy Scale, JSS= Job Satisfaction; EJS=Extrinsic Job Satisfaction, IJS=Intrinsic Job Satisfaction. ***p<.01.*p<.05*

4.2. Mediation Analysis

The mediation analysis was computed to identify the mechanism by which a relation exists between an independent and a dependent variable (Hayes, 2013). The present study assesses the mediating effect of job satisfaction on the relationship between learned resourcefulness and job performance among frontline healthcare workers. The mediation analysis was performed by using Process Macro developed by Hayes & Scharkow (2013).

Table 2: Role of Job Satisfaction as a Mediator Between Learned Resourcefulness and Job Performance Among Frontline Healthcare Workers (N= 400)

Models	R^2	*F*	*B*	*95% CI*		P
				LL	UL	
Models without Mediator						
Total effect: LR → JP (c)			.11	.05	.17	.00
	.04	14.31				
Model with Mediator						
LR → JSS (Med) (a)			.23	.14	.32	.00
	.06	23.67				
JSS → JP (b)			.08	.06	.10	.00
Direct Effect: LR → JP (c')			.08	.02	.13	.00
	.15	34.84				
Indirect Effect JSS (a×b) c-c'			.03	.01	.06	.00

Note. LR= Learned Resourcefulness (Predictor); JSS= Job Satisfaction (Mediator); JP= Job performance (Outcome); Path a= effect of IV on mediator; Path b= effect of mediator on DV; Path c = total effect without mediator; Path c'= direct effect including mediator; c-c'= Indirect effect; CI= Confidence Interval; ****p<.001**p<.01 *p<.05*

Table 2 illustrates that learned resourcefulness predicts job performance and the relationship is partially mediated by job satisfaction. The coefficient for the direct effect (B = .08, p < .05) is smaller than the total effect (B = .11, p < .05), indicating that job satisfaction explains the relationship between learned resourcefulness and job performance. A direct effect coefficient that reduces to zero indicates perfect mediation. In this case, for path c' = .08 (see Figure 1), the effect is reduced significantly, confirming it as a partial mediation because the P value is significant. This suggests that mediation is occurring, but it is only partial in nature.

Figure 1: Mediating Effect of Job Satisfaction Between Learned Resourcefulness and Job Performance

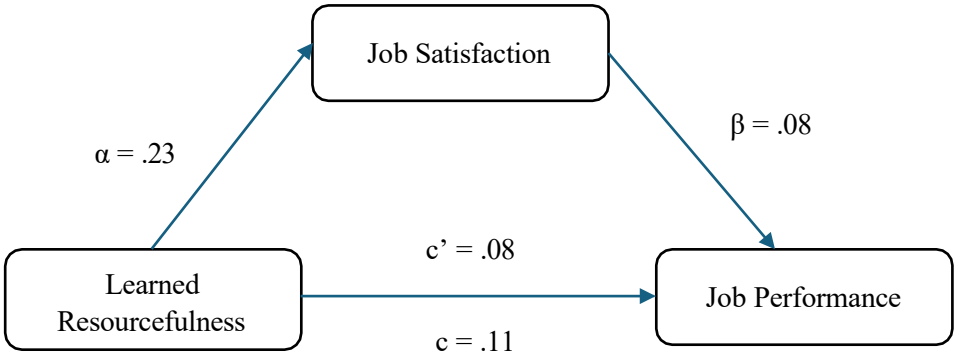


Figure 1 shows that the value of c' is smaller .08 than the value of c= .11, which is a sign that mediation is taking place. It is shown in the figure that job satisfaction is playing mediating role between learned resourcefulness and job performance among frontline healthcare workers.

4.3. Gender and Designation Differences

Independent-samples t-tests and ANOVA were conducted to examine the effects of variables such as gender and designation on the job performance of frontline healthcare workers. Table 3 presents differences in study variables by gender among frontline healthcare workers. Results indicate that females score higher on extrinsic job satisfaction (*M*= 37.73, *SD*= 8.47) than males (*M*= 36.00, *SD*= 9.32). The value of Cohen's d is .20 (<.05), which demonstrates a small effect size. Findings exhibit nonsignificant mean differences for job performance, job satisfaction, intrinsic job satisfaction, and learned resourcefulness.

Table 3: Gender Differences on Study Variables (N=400)

Variables	Male (*n*=224)		Female (*n* = 176)		*t(398)*	*P*	*95% CI*		Cohen's *d*
	M	*SD*	*M*	*SD*			*LL*	*UL*	
JPSR	29.72	4.02	29.69	4.10	.08	.93	-.77	.84	-
JPS	30.11	3.20	30.11	3.70	-.01	.99	-.682	.678	-
SCS	146.51	16.8	145.67	17.2	.48	.63	-.259	4.27	-
REDSC	51.25	8.75	52.19	8.95	-1.04	.30	-2.69	.821	-
REFSC	63.90	9.41	62.65	9.24	1.31	.29	-.617	3.11	-
PSE	31.29	7.31	30.98	7.03	.42	.67	-1.13	1.75	-
JSS	68.91	17.0	70.53	15.6	-.97	.33	-4.87	1.65	-
EJS	36.00	9.32	37.73	8.47	-1.91	.05	-3.51	.044	.20
IJS	32.91	8.56	32.80	7.91	.142	.88	-1.52	1.76	-

Note. M=Mean, SD=Standard Deviation, CI=Confidence Interval, LL=Lower Limit, UL=Upper Limit, JPSE=Job performance Self-Rating, JPSR= Job Performance Supervisor, SCS= Self-control Schedule, REDSC=Redressive Self-control Scale, REFSC=Reformative Self-control scale, PSE=Perceived Self-efficacy Scale, JS= Job Satisfaction Scale, EJS=Extrinsic Job Satisfaction Scale, IJS=Intrinsic Job Satisfaction Scale. ***p<.001. **p<.01. *p<.05.

Table 4 illustrates a one-way ANOVA to compare the mean differences across designations on study variables. The findings show significant differences for job performance self-rating, job satisfaction, and extrinsic and intrinsic job satisfaction. The comparison reveals that paramedical staff score higher on job performance self-ratings, job satisfaction, and extrinsic and intrinsic job satisfaction than doctors and nurses.

Table 4. Mean, Standard Deviation and One-Way Analysis of Variance on Study Variables Across Designation (N=400)

	Doctors (*n* = 253)		**Nurses** (*n* =90)		**Paramedical Staff** (*n*= 56)				*95%CI*		
Variable	M	SD	M	SD	M	SD	F	i-j	η^2	LL	UL
JPSLR	29.26	3.83	30.12	4.58	31.08	3.83	5.34(2,397)**	P>N>D	.00	59.24	60.4
JPS	30.33	3.2	29.95	3.58	29.33	4.04	2.07(2,383)	-	.02	29.31	30.11
SCS	145.59	17.12	145.18	15.13	150.2	18.7	1.81(2,393)	-	.00	144.45	147.85
RDSC	51.17	9.05	51.96	9.04	53.43	7.28	1.54(2,391)	-	.00	50.79	52.54
RFSC	62.89	9.13	63.26	8.93	65.6	10.7	1.94(2,387)	-	.00	62.43	64.28
PSE	31.63	7.21	30.06	6.48	30.72	7.99	1.66(2,394)	-	.00	30.44	31.87
JSS	67.04	15.56	72.33	17.17	77.07	16.23	10.48(2,395)***	P>N>D	.00	68.01	71.24
EJS	35.18	8.5	38.73	9.54	40.8	8.47	12.27(2,395)***	P>N>D	.05	35.87	37.64
IJS	31.86	7.87	33.6	8.59	36.27	8.69	7.06(2,395)**	P>N>D	.03	32.05	33.68

Note. M=Mean, SD=Standard Deviation, CI=Confidence Interval, LL=Lower Limit, UL=Upper Limit, JPSLR =Job performance Self-Rating, JPS= Job Performance Supervisor, SCS= Self-control Schedule, RDSC=Redressive Self-control Scale, RFSC=Reformative Self-control scale, PSE=Perceived Self-efficacy Scale, JSS= Job Satisfaction Scale, EJS=Extrinsic Job Satisfaction Scale, IJS=Intrinsic Job Satisfaction Scale. ***p<.001. **p<.01. *p<.05.

5. DISCUSSION AND CONCLUSION

The purpose of the current research was to determine the relationships among job satisfaction, learned resourcefulness, and job performance. It was also intended to determine the role of demographics and their impact on job performance. The objective of the study was to observe the relationships among the study variables and their relationships with demographics. The results of the correlation matrix suggested that all scales and subscales have established and strong directional potential to measure their respective variables among frontline healthcare workers. In the second hypothesis, it was proposed that job performance is positively related to job satisfaction and learned resourcefulness. Prior studies have shown that job performance is positively related to job satisfaction and learned resourcefulness (Inayat & Khan, 2021; Joelle & Coelho, 2019; Platis et al., 2015). A rational justification could be inferred from these studies that when healthcare workers are satisfied with their jobs, they are more resourceful to cope better through challenging situation ultimately improving the level of job performance.

Subsequently, it was hypothesized that age is positively related with job performance, learned resourcefulness, and job satisfaction. The results are parallel with previous studies which reported that age has positive association with job performance and job satisfaction (Gudeta, 2015; Khan et al., 2011; Zaman et al., 2022). Similarly, literature suggested the positive association between job performance and learned resourcefulness (Yildirim et al., 2007). It was also hypothesized that income is positively related to job performance among frontline healthcare workers. These findings are aligned with earlier studies, which reported that monthly salaries are one of the motivating factors for job performance. The findings are consistent with the literature, which reports that issues such as workload, work-family conflict, poor doctor-patient relationship, inadequate supervision, limited training opportunities, low salary, and limited financial benefits may have a detrimental impact on job satisfaction (Kumar et al., 2013; Shi et al., 2014). The possible reasons for this variation may be the greatest dissatisfaction with payments and benefits. Healthcare professionals are mainly concerned about salary difficulties due to their impact on living standards, in turn, creating a sense of security. As a result, dissatisfaction with low salaries is widespread across different occupations. Many managers believe that rewarding staff with money, bonuses, or raises is the key to motivating and delighting service employees. It has been hypothesized that working hours is negatively correlated with job performance, learned resourcefulness and job satisfaction among frontline healthcare workers. Previous literature revealed

that long working hours have negative correlation with job satisfaction and job performance among healthcare workers (Dall'ora et al., 2015; Zaman et al., 2022). A possible explanation for this finding is that long working hours negatively affect sleep hygiene. A sleep-deprived individual cannot consistently force themselves to stay conscious and alert. Sleep deprivation hinders various forms of performance, including the ability to focus, react quickly, and recall and learn new knowledge and motor skills (Goel et al., 2009). The study also found that job satisfaction acts as a mediator between learned resourcefulness and job performance. The mediating effect of job satisfaction has been studied in previous research (Cho & Kim, 2022), which found that resourceful healthcare workers have a greater sense of satisfaction, leading to better job performance.

Findings further indicated that, among frontline healthcare workers, males and females did not show significant differences in job performance, learned resourcefulness, job satisfaction, or intrinsic job satisfaction. There was a significant difference in extrinsic job satisfaction between male and female frontline healthcare workers. The results of the study indicated significant differences in job performance self-rating, job satisfaction, and extrinsic and intrinsic job satisfaction across designations. The comparison further showed that paramedical staff scored higher on job performance, job satisfaction, and extrinsic and intrinsic job satisfaction than doctors and nurses. These results are consistent with a prior study that found that doctors have lower job satisfaction than nurses and medical technicians (Lu et al., 2016). This type of emotion among dissatisfied doctors is attributed not only to the professional characteristics of doctors, nurses, and medical technicians, but also to the fact that doctors undergo a longer education and training process than nurses and medical technicians, and that their work is more demanding and dynamic. They are not only confronted with patients' problems and requests but also with the rapid advancement of medical technology, which demands learning and research outside working hours. The shift, in particular, reinforces doctors' performance responsibility and strict criteria for doctor-patient contact, compelling them to work in an environment with relatively long hours and high work stress, leading to dissatisfaction with the system.

Results of the present study highlighted the psychosocial predictors of job performance. The psychological predictors examined in this research were learned resourcefulness, perceived self-efficacy, and extrinsic job satisfaction. The findings revealed that frontline healthcare workers with high levels of learned resourcefulness, perceived self-efficacy, and extrinsic job satisfaction demonstrated better job performance. Considering mean

differences, there were non-significant results for gender differences in job performance and learned resourcefulness, except for extrinsic job satisfaction. Job performance, redressive self-control, reformative self-control, and job satisfaction showed significant differences based on gender and designation.

There are some limitations of the present study that could limit generalizability, as well as some suggestions for future studies. Despite efforts to include as much as possible in this study, due to resource and time restrictions, the following shortcomings must be addressed in the future. First, data were collected through a self-reported questionnaire, which has inherent drawbacks, such as the social desirability bias. Social desirability and under/overrating might be impediments to a clear picture of job performance. Second, the data were collected in a few cities in Pakistan, which may limit the generalizability of the findings. For better generalizability, data must be collected from other cities as well. Finally, this study has investigated the relationship between job satisfaction and learned resourcefulness. In the future, scholars should also consider the impact of other variables such as emotional intelligence, work stress, work motivation and commitment.

The present study provided theoretical implications for further investigation of the postulated relationship between job performance, job satisfaction, and learned resourcefulness, with satisfaction as a mediating factor between learned resourcefulness and job performance. The findings of the present study can also have practical significance for the establishment of preventative initiatives to promote job satisfaction. These interventions should focus on improving job satisfaction sources such as perceived ability to provide quality patient care, positive relationships, respect from superiors, supportive leadership, good remuneration, competitive pay and bonuses, involvement in designing personal work obligations, job security, self-growth through professional training and job progress, job autonomy, decision-making chance, and development of integrative approaches.

The components of learned resourcefulness can be used by counselors and psychologists in their interventions to enhance frontline healthcare workers' job performance. Furthermore, this study's findings suggest that therapies and policies can be developed to enhance job satisfaction among frontline healthcare workers. Allowing frontline healthcare professionals to take breaks and rotate care duty for critical patients may allow exhausted bodies and brains to momentarily escape the stressful environment and heal therein.

REFERENCES

Abbas, N., Ashiq, U., & Abbas, A. (2020). Training and employee performance: Mediating role of job satisfaction in civil society organizations of Pakistan. *Journal of Accounting and Finance in Emerging Economies, 6*(4), 1041–1050.

Adil, A., Kamal, A., & Shujja, S. (2019). Perceived authentic leadership in relation to in-role and extra-role performance: A job demands and resources perspective. *Journal of Behavioural Sciences, 29*(1).

Alafoo, A., Mohamed, Z. M., Yusuf, A. M., Mubarak, H., Alaradi, S., & Al-Malali, A. (2024). Occupational stress risk and its impact on job performance among Bahraini healthcare workers: A cross-sectional study. *Cureus, 16*(12), e76413.

Alfons, A., Ateş, N. Y., & Groenen, P. J. (2022). A robust bootstrap test for mediation analysis. *Organizational Research Methods, 25*(3), 591–617.

Ashraf, M. S., Bashir, M., Bilal, M. Y., Ijaz, K., & Usman, M. (2013). The impact of working environment on organization performance: A mediating role of employee's job satisfaction. *Global Management Journal for Academic & Corporate Studies, 3*(1), 131–150.

Berhanu, K. Z. (2023). Mediating role of job satisfaction on the relation between staff development and performance. *Cogent Education, 10*(1), Article 2207408.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71–98). Jossey-Bass.

Busari, A. H., Mughal, Y. H., Khan, S. N., Rasool, S., & Kiyani, A. A. (2017). Analytical cognitive style moderation on promotion and turnover intention. *Journal of Management Development, 36*(3), 438–464.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 1, 2nd ed., pp. 686–707). Consulting Psychologists Press.

Chung, C. C., Lin, M. F., Ching, Y. C., Kao, C. C., Chou, Y. Y., Ho, P. H., & Chang, H. J. (2012). Mediating and moderating effects of learned resourcefulness on depressive symptoms and positive ideation in hospital nurses in Taiwan. *Research in Nursing & Health, 35*(6), 576–588.

Cho, H. K., & Kim, B. (2022). Effect of nurses' grit on nursing job performance and the double mediating effect of job satisfaction and organizational commitment. *Healthcare, 10*(2), 396.

Dall'Ora, C., Griffiths, P., Ball, J., Simon, M., & Aiken, L. H. (2015). Association of 12-hour shifts with job satisfaction, burnout and intention to leave: Findings from a cross-sectional study of 12 European countries. *BMJ Open, 5*(9), e008331.

Diana, Eliyana, A., Susita, D., Aditya, V., & Anwar, A. (2021). Determining the effect of job satisfaction, work motivation, and work commitment on nurse performance amidst COVID-19 pandemic. *Problems and Perspectives in Management, 19*(4), 89–96.

Gerhart, B., & Fang, M. (2015). Pay, intrinsic motivation, extrinsic motivation, performance, and creativity in the workplace: Revisiting long-held beliefs. *Annual Review of Organizational Psychology and Organizational Behavior, 2*(1), 489–521.

Gintner, G. G., West, J. D., & Zarski, J. J. (1989). Learned resourcefulness and situation-specific coping with stress. *The Journal of Psychology, 123*(3), 295–304.

Goel, N., Rao, H., Durmer, J. S., & Dinges, D. F. (2009). Neurocognitive consequences of sleep deprivation. *Seminars in Neurology, 29*(4), 320–339.

Gudeta, S. N. (2017). Job satisfaction across some selected demographic variables among hospital health workers in South-West Shoa Zone, Oromia Regional State, Ethiopia. *International Journal of Clinical Oncology and Cancer Research, 2*(1), 22–28.

Harris, E. G., Ladik, D. M., Artis, A. B., & Fleming, D. E. (2013). Examining the influence of job resourcefulness on sales performance. *Marketing Theory and Practice, 21*(4), 405–414.

Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: does method really matter?. *Psychological science*, *24*(10), 1918-1927.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.

Huang, C. Y., Sousa, V. D., Tu, S. Y., & Hwang, M. Y. (2005). Depressive symptoms and learned resourcefulness among Taiwanese female adolescents. *Archives of Psychiatric Nursing, 19*(3), 133–140.

Inayat, W., & Khan, M. J. (2021). A study of job satisfaction and its effect on the performance of employees working in private sector

organizations. *Journal of Environmental and Public Health, 2021*, Article 1751495.

Joelle, M., & Coelho, A. (2019). The impact of a spiritual environment on performance mediated by job resourcefulness. *International Journal of Workplace Health Management, 12*(1), 18–31.

Kappagoda, U. W. M. R. S., Othman, H. Z. F., & Alwis, G. D. (2014). Psychological capital and job performance: The mediating role of work attitudes. *Journal of Human Resource and Sustainability Studies, 2*(2), 102–116.

Keles, H. N. (2015). The relationship between learned resourcefulness and job satisfaction: A research on staff of higher education in Turkey. *Procedia - Social and Behavioral Sciences, 177*, 132–135.

Khan, A., Khan, M., & Malik, N. (2015). Compassion fatigue amongst health care providers. *Pakistan Armed Forces Medical Journal, 65*(2), 286–289.

Krijgsheld, M., Tummers, L. G., & Scheepers, F. E. (2022). Job performance in healthcare: A systematic review. *BMC Health Services Research, 22*(1), 149.

López-Cabarcos, M. Á., Vázquez-Rodríguez, P., & Quiñoá-Piñeiro, L. M. (2021). An approach to employees' job performance through work environmental variables and leadership behaviours. *Journal of Business Research, 140*, 361–369.

Lu, Y., Hu, X. M., Huang, X. L., Zhuang, X. D., Guo, P., Feng, L. F., Hu, W., Chen, L., & Hao, Y. T. (2016). Job satisfaction and associated factors among healthcare staff: A cross-sectional study in Guangdong Province, China. *BMJ Open, 6*(7), e011388.

Ning, L., Jia, H., Gao, S., Liu, M., Xu, J., Ge, S., Li, M., & Yu, X. (2023). The mediating role of job satisfaction and presenteeism on the relationship between job stress and turnover intention among primary health care workers. *International Journal for Equity in Health, 22*(1), Article 1971.

Okuhara, M., Sato, K., & Kodama, Y. (2021). The nurses' occupational stress components and outcomes: Findings from an integrative review. *Nursing Open, 8*(5), 2153–2174.

Papageorgiou, K. A., Wong, B., & Clough, P. (2017). Beyond good and evil: Exploring the mediating role of mental toughness on the dark triad of personality traits. *Personality and Individual Differences, 119*, 19–23.

Park, J. S., & Kim, T. H. (2009). Do types of organizational culture matter in nurses' job satisfaction and turnover intention? *Leadership in Health Services, 22*(1), 20–38.

Platis, C., Reklitis, P., & Zimeras, S. (2015). Relation between job satisfaction and job performance in healthcare services. *Procedia - Social and Behavioral Sciences, 175*, 480–487.

Rana, W., Mukhtar, S., & Mukhtar, S. (2022). Job satisfaction, performance appraisal, reinforcement and job tasks in medical healthcare professionals during the COVID-19 pandemic outbreak. *The International Journal of Health Planning and Management, 37*(4), 2345–2353.

Rosenbaum, M. (1980). A schedule for assessing self-control behaviors: Preliminary findings. *Behavior Therapy, 11*(1), 109–121.

Rubaca, U., & Khan, M. M. (2020). The impact of perceived organizational support and job resourcefulness on supervisor-rated contextual performance of firefighters: Mediating role of job satisfaction. *Journal of Contingencies and Crisis Management, 29*(3), 281–292.

Sarwar, H., Nadeem, K., & Aftab, J. (2017). The impact of psychological capital on project success: Mediating role of emotional intelligence in construction organizations of Pakistan. *Journal of Global Entrepreneurship Research, 7*(1), 22–28.

Shafique, N. (2008). Personality attributes as predictors of job satisfaction and job performance (Unpublished MPhil dissertation). National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.

Shi, L., Song, K., Rane, S., Sun, X., Li, H., & Meng, Q. (2014). Factors associated with job satisfaction by Chinese primary care providers. *Primary Health Care Research & Development, 15*(1), 46–57.

Singh, J. K., & Jain, M. (2013). A study of employees' job satisfaction and its impact on their performance. *Journal of Indian Research, 4*(1), 105–111.

Sreedharan, J., Subbarayalu, A. V., Kamalasanan, A., Albalawi, I., Krishna, G. G., Alahmari, A. D., Alsalamah, J. A., Alkhathami, M. G., Alenezi, M., Alqahtani, A. S., Alahmari, M., Phillips, M. R., & MacDonald, J. (2024). Key performance indicators: A framework for allied healthcare educational institutions. *ClinicoEconomics and Outcomes Research: CEOR, 16*, 173–185.

Tasneem, S., Cagatan, A. S., Avci, M. Z., & Basustaoglu, A. C. (2018). Job satisfaction of health service providers working in a public tertiary care hospital of Pakistan. *The Open Public Health Journal, 11*(1), 17–27.

Umrani, W. A., Afsar, B., Khan, M., & Ahmed, U. (2019). Addressing the issue of job performance among hospital physicians in Pakistan: The role of job security, organizational support, and job satisfaction. *Journal of Applied Behavioral Research, 25*(1), e12169.

Van Bogaert, P., Kowalski, C., Weeks, S. M., Van Heusden, D., & Clarke, S. P. (2013). The relationship between nurse practice environment, nurse work characteristics, burnout and job outcome and quality of nursing care: A cross-sectional survey. *International Journal of Nursing Studies, 50*(12), 1667–1677.

Victoroff, K. Z., & Boyatzis, R. E. (2013). What is the relationship between emotional intelligence and dental student clinical performance? *Journal of Dental Education, 77*(4), 416–426.

Warr, P., Cook, J. D., & Wall, T. D. (1979). Scales for the measurement of work attitudes and psychological well-being. *Journal of Occupational and Organizational Psychology, 58*(2), 129–148.

World Health Organization. (2020, March 11). WHO Director-General's opening remarks at the media briefing on COVID-19.

Wright, P. M., Kacmar, K. M., McMahan, G. C., & Deleeuw, K. (1995). P = f(M × A): Cognitive ability as a moderator of the relationship between personality and job performance. *Journal of Management, 21*(6), 1129–1139.

Yildirim, A., & Yildirim, D. (2007). Mobbing in the workplace by peers and managers: Mobbing experienced by nurses working in healthcare facilities in Turkey and its effect on nurses. *Journal of Clinical Nursing, 16*(8), 1444–1453.

Yolpant. (2019). Resourcefulness, compassion fatigue, and depressive symptoms in Thai caregivers of elders with dementia (Unpublished master's dissertation).

Yu, X., Zhao, Y., Li, Y., Hu, C., Xu, H., Zhao, X., & Huang, J. (2020). Factors associated with job satisfaction of frontline medical staff fighting against COVID-19: A cross-sectional study in China. *Frontiers in Public Health, 8*, 426.

Zaman, N., Memon, K., Zaman, F., Khan, K., & Shaikh, S. (2021). Role of emotional intelligence in job performance of healthcare providers working in public sector hospitals of Pakistan. *Journal of Mind and Medical Sciences, 8*(2), 245–251.

Zauszniewski, J. A., & Chung, C. (2001). Resourcefulness and health practices of diabetic women. *Research in Nursing & Health, 24*(2), 113–121.

NUST JOURNAL OF SOCIAL SCIENCES HUMANITIES
Vol.11 No.2 (July-December 2025) pp.129-132

Policy Brief

Improving Pakistan's Social Safety Nets: A Policy Analysis

Wajiha Haq

Department of Economics,
School of Social Sciences and Humanities,
National University of Sciences and Technology, Pakistan
Email: dr.wajihahaq@s3h.nust.edu.pk

DOI:
Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

Amidst stagnant economic growth, the Benazir Income Support Program was designed as one of the unconditional cash transfers in 2008 to remove the chronic intergenerational poverty and gender inequality. Over time, the issue of out-of-school children and malnutrition has also been addressed through this program. BISP, now running under an enhanced structure, is one of the biggest social safety nets of South Asia. At present, it is supporting over 9.3 million families at a cost of around PKR 471 billion.[1] Due to the size and significance of the program, it is vital to reflect on whether its disbursement mechanisms are effective. The main source of BISP's funding is the federal budget, though the institution also receives additional funding from international development partners such as the World Bank, DFID, and the Asian Development Bank.

The Benazir Nashonuma Program (BNP) is a sub-program of the main social safety net called the Benazir Income Support Program (BISP). BISP was established in the face of rising global food prices and increasing poverty in the country. The purpose of BISP was to provide unconditional cash transfers to vulnerable groups and to empower women by directing funds to female household members. BNP came into existence in 2021 as a conditional

[1] Government of Pakistan, Benazir Income Support Programme, (2023) https://bisp.gov.pk/SiteImage/Misc/files/PR%20(Dec%2011%2C%2023).pdf, Accessed on 12 November 2025.

cash transfer towards pregnant and lactating women and children under two years of age to improve their nutritional status.

The BNP was a behavioral intervention[2] which was supposed to improve the nutritional status of mothers, reduce child stunting and low birth weight and encourage dietary diversity in the first 1000 days of a child through cash incentives. Pregnant and lactating mothers with boys under 2 years of age received PKR 2000, and with girls received PKR 2500. In return for cash, mothers were mandated to attend all awareness sessions on dietary diversity and visit health centers for antenatal checkups and immunization of the child. The program also included the provision of a lipid-based nutritional supplement (Maamta) to mothers and a micronutrient-based supplement with the recommended daily allowance to children from 6-23 months of age (Wawamum). The program operates through 550 facilitation centers across Pakistan.

2. RESEARCH OVERVIEW

Implementation caveats

Beneficiary selection mainly occurs through the NSER using a poverty scorecard system. NSER is the primary source of identification for eligible households. While NSER works with NADRA, it is not connected to other important national systems. These gaps may result in an inaccurate or partial entry, which compromises its reliability. As a result, these flaws increase the chance of including or excluding the wrong people, making it easier to manipulate targeting. The accuracy and promptness of beneficiary identification are further diminished by third-party partners' limited financial and human resources. Upgraded digital payment methods have been introduced by BISP, but there are still several operational obstacles. Inadequate process designs between point-of-sale agents and partner banks have led to complaints from beneficiaries and general irregularities. Habib Bank Limited handles payments in Punjab, and shop-based franchises that use biometric devices run the business. Transparency has been compromised by these third-party agreements, which have revealed instances of collusion between bank employees, agents, and local staff. Because the camera has low resolution and is unable to effectively scan the CNIC and photos, biometric devices frequently malfunction, causing beneficiaries to experience inconvenience. The procedure has resulted in needless verification delays and non-payment for these extremely minor issues, which has encouraged agents

[2] Hasan, M., & Masood, M. M. (2024). Equitable and Transparent Cash Disbursement under the BISP Program: An Analysis. *Perennial Journal of History*, *5*(1), 144-164.

to take advantage of beneficiaries. It has been observed that some agents take thumb impressions but keep the money because of fictitious mismatches and send the recipients to NADRA for updates, which causes the disbursement to be delayed by up to two weeks.

Additionally, incomplete documentation of device ID/IMEI numbers and paper copies of receipts may make it more difficult to locate or hold individuals accountable. HBL has also established online photo checks, which are not always successful. Inadequate collaboration between BISP, banks, and NADRA may increase the risk of financial leaks and lead to payout issues. The poorest households in some places have unofficially reported having difficulty with access points.

BISP struggles to monitor what it already can because of a staffing shortage. Sixty percent of the monitoring positions in Punjab remain vacant, and only 164 of the 411 positions intended to be filled have been filled. This discrepancy increases the risk of dishonesty, errors, and cheating in Punjab, where 3 million people get aid. It is also more difficult to put out fires when staff management is ineffective.

3. RESEARCH FINDINGS

Additionally, the data on the BISP dashboard reveal approximately equal proportions of men and women beneficiaries, which raises questions about the program's recruitment, as it is for women only. The majority of the assistance is given to women, who encounter numerous obstacles in obtaining it. Most women in low-income households do not have ID cards or phones—only 25% of women have a phone, compared to 68% of men—and only 5.4% have their own bank account.[2]

Other factors include restrictions on a woman's activities, their inability to travel freely, and not being able to access technology. BISP provides short-term cash relief, but it is not enough to support long-term financial growth. Beneficiaries who have no chance of employment or learning a new skill believe that money transferred to them from BISP is a lifeline. Because it has no link to industries that create jobs, the BISP's recipients continue to struggle with poverty.

The real value of the BISP cash transfer has also decreased over time. The inflation increase is more than just a cash transfer.[3] The conditionality of the cash transfer does not include capacity building.

---

[3] Benazir Income Support Programme. (2020). *Evaluation Report*. Government of Pakistan. Retrieved October 10, 2023, from https://www.bisp.gov.pk/SiteImage/Misc/files/BISP*EvaluationReport*Ver%20without*FINAL.pdf*

4. FUTURE PLANS AND POLICY SUGGESTIONS

The National Socio-Economic Registry needs to be updated immediately. Linking it with civil records and national ID systems will enhance its precision and eliminate duplications. Eliminating difficulties in reaching out to deserving people may be achieved by enhancing local checks & balance and increasing access to digital systems.

The key strategy to scale up BISP's impact might be linking cash transfers to livelihood programs, job-oriented training, and skill development. In order to help people find jobs or become entrepreneurs, the agencies can liaise with private businesses and training facilities for upskilling of individuals. In case the household is suffering from malnutrition or disease, priority should be to provide support for preventing further falling into chronic poverty.

Funding can also be provided by the government in collaboration with private companies and provincial authorities. But greater emphasis should be placed to strengthening the tax structure to generate government revenue, so that this program does not suffer from budgetary constraints.

To account for inflation, the program must continuously index the value of cash transfers with inflation rates. This action will allow families to maintain their real spending to keep mothers' nutritional status intact.

The government needs to take measures to ensure that women are well supported by this program and not manipulated by male family members due to a lack of financial education. Women should be given access to mobile banking and digital payment systems.

BISP should focus on hiring and training a skilled and competent team that can handle this project efficiently, detect any irregularities, and take prompt action as needed.

Strict monitoring and evaluation are required to create transparency in the whole system for efficient dissemination and targeted outreach of social protection.

Acknowledgements

This work is funded through the Agriculture, Nutrition, and Health Academy programme (ANH Academy), led by the London School of Hygiene & Tropical Medicine (LSHTM) and Tufts University, with support from the Gates Foundation and UK International Development as INV-042668. Under the grant conditions of the Foundation, a Creative Commons Attribution 4.0 Generic License has already been assigned to the Author Accepted Manuscript version that might arise from this submission.

NUST JOURNAL OF SOCIAL SCIENCES AND HUMANITIES

SUBSCRIPTION FORM

1. Please select your subscription type (annual or per issue; individual or institutional; inland or foreign) as specified in the fee table below.
2. Indicate the number of copies and years/issues required.
3. Enclose a bank draft/pay order in favour of NUST for the total subscription fee (Pak. Rupees or US$) as calculated from the table below.
4. All subscribed copies will be delivered by post.

Subscription Details (please tick/complete as appropriate):

- Type: ☐ Annual ☐ Per Issue
- Category: ☐ Individual ☐ Institution
- Region: ☐ Inland ☐ Foreign
- Year(s): _____
- Volume/Issue(s): _____
- No. of Copies: _____

Name of Individual/Institution: _____

_____

Address: _____

_____

Signature: _____

Date: _____

Please address your order to: Editor-in-Chief, NUST Journal of School of Social Sciences and Humanities (S3H), National University of Sciences and Technology (NUST), Sector H-12, Islamabad, Pakistan

E-mail: njssh@s3h.nust.edu.pk
Website: http://www.njssh.nust.edu.pk

SUBSCRIPTION RATE

Inland	**Annual**	**Per Issue**
Institutions	Rs. 4000.00	Rs. 2500.00
Individuals	Rs. 3000.00	Rs. 1500.00
Overseas		
Institutions	US$ 200.00	US$ 100.00
Individuals	US$ 150.00	US$ 80.00

NUST JOURNAL OF SOCIAL SCIENCES AND HUMANITIES

Guidelines for The Submission of Manuscripts

1. Manuscripts must present original and unpublished work and should not be under simultaneous consideration by any other publisher. They should be substantially different from any previously published material, which may include significant updates, new analyses, or reinterpretations of earlier work. The maximum length of the manuscript is 10,000 words, excluding references, and it should be accompanied by an abstract of no more than 150 words.

2. The manuscript must not contain any identifying information about the authors to ensure anonymity during the review process. A separate title page should be submitted, including the manuscript title, abstract, five keywords, and the full names, positions, institutional affiliations, postal addresses, and email addresses of all authors. The corresponding author must be clearly identified.

3. Submissions must be in an editable MS Word file, using Times New Roman, size 12, double-spaced, with 1.5-inch left margin and 1-inch margins on all other sides. Use MS Word Equation Editor for equations. Tables and figures should be editable in Word or Excel; non-editable figures must be high resolution (300 dpi). Figures generated in Stata should be submitted in EPS (Encapsulated PostScript) format.

4. Ensure accuracy and consistency between mathematical content in the text, tables, and appendices. If derivations are shortened in the text, provide full versions in an appendix or on a separate page.

5. Appendices should appear at the end of the paper, numbered as Appendix 1, Appendix 2, etc., with full titles. Each appendix must be referenced in the main text.

6. Number all tables and figures consecutively using Arabic numerals and refer to them in the text. Place each on the page where it is first cited. Label all graphs, diagrams, and charts as figures, and include titles and footnotes as needed. Use font size 9–11 pt for table content and 7.5 pt for footnotes. Round numerical values in tables to one decimal place.

7. Spell out all abbreviations and acronyms at their first mention in the text. This requirement does not apply to widely recognized or exceptionally long abbreviations. Avoid using abbreviations or acronyms in titles and headings. In tables and figures, abbreviations are permitted but must be explained in a footnote.

8. Keep footnotes minimal and substantive. Do not include reference details in footnotes; instead, provide full citations in the reference list. Number footnotes consecutively using Arabic numerals and use 9 pt font.

9. All submissions must include a reference list with complete bibliographic details. Ensure one-to-one correspondence between in-text citations and the reference list, which should appear after any appendices.

10. Follow the APA 6th edition style for in-text citations and references.

11. All submissions are accepted only through NJSSH website: www.njssh.nust.edu.pk. Details and guidelines for submission are also available on the website. Queries regarding submission may be sent to njssh@s3h.nust.edu.pk.