

PARANORMAL BELIEFS AS PREDICTORS OF MALADAPTIVE EMOTIONAL SCHEMAS IN YOUNG ADULTS WITH FUNCTIONAL NEUROLOGICAL SYMPTOM DISORDER

Amber Roohee

MS Clinical psychology, RICPP, Riphah International University, Lahore.

Munazza Sunbal*

Lecturer, Department of Social Work, Lahore College for Women University, Lahore.

munazzasunbal@yahoo.com

Sonia Mairaj Ahmad

Assistant Professor/Incharge Department of Psychology, RICPP, Riphah International University, Lahore.

ABSTRACT

There is severe threat of permanent impairment in young adults due to the effect of life stressors which bring cognitive and emotional downfall leading to functional neurological symptom disorder. The aim of this research was to measure paranormal beliefs along maladaptive emotional schemas in patients with functional neurological symptom disorder through structural equation modelling IBM SPSS (AMOS 26) analysis. Psychodynamic functions hypothesis theory was applied to describe the role of paranormal beliefs which were carried by the young patients suffering from this mysterious ailment. A purposive sample of 134 participants between 14 years to 24 years has been chosen to administer the questionnaires of RPBS (Toback, 2004) and LESS-II (Leahy, 2002) to assess paranormal beliefs and maladaptive emotional schemas respectively. The final results showed that the two-factor model with 10 items of LESS-II was the better fit with a model of seven factors with 26 items of RPBS. In the model, the index demonstrated good fit ($X^2=645.623$, $P<0.05$, $GFI=0.798$, $CFI=0.949$, $NFI=0.846$, $TLI=0.972$, $RMSEA=0.038$, $CMIN/df=1.407$). It also showed great convergent validity and share approximately 30% of the variance. It is concluded that paranormal beliefs were positively significantly related to maladaptive emotional schemas and, only the belief of psi highly positively significantly predicted the maladaptive emotional schemas in functional neurological symptoms patients. The outcomes provide strong support for the clinical purpose to focus on the paranormal and schemas related to the patient's perception during cognitive therapeutic approaches.

Keywords: Paranormal Beliefs, Emotional Schemas, Functional Neurological Symptom Disorder, AMOS.

INTRODUCTION

Cognitive and emotional dysregulation is the predisposing and perpetuating factor of all psychological disorders including Functional Neurological Symptom Disorder (FNSD). FNSD is mentioned along with earlier termed conversion disorder in the Diagnostic Statistical Manual of Mental Disorder 5-TR (DSM5-TR) by the American Psychiatric Association (2022). FNSD is always being thought an ambiguous illness and numerous types of research have been conducted to explain its underlying causes (Fobian & Elliott, 2019). According to the diagnostic criteria of FNSD in DSM 5-TR (2022), patients exhibit unexplained *sensory symptoms* include (tunnel vision, loss of vision, diplopia, anesthesia, aphasia, and a lump in the throat (Globus.); *motor symptoms* include (paralysis of limbs; tremor, myoclonus or dystonic movements; and gait abnormalities) and others symptoms include (dysphonia/aphonia) with or without dissociative, psychogenic; or non-epileptic seizures. It is recognized that FNSD is instigated by emotional stress and then altered into somatic symptoms without any neurological illness (Espay et al., 2018). It is also suggested that extremely adverse experiences of

* Corresponding Author

a person lead to oversteering and anxiety which affects the top-down regulatory system, and triggers functional neurological symptoms (Morris et al., 2018).

Currently, a large number of the young population of Pakistan are suffering from FNSD (Ijaz et al., 2017) and World Health Organization, (2016) defined youth as people aged between 14 to 24 years. Erikson (1963) supposed that young adult lies in the ‘identity versus role confusion stage’ which explains that these tempestuous years of a person are highly significant for the development to attain a cognitively, and emotionally strong personality through a positive social environment. In addition, the achievements in these years direct towards emotional self-control, independency, and high self-esteem while failure leads to role confusion, inflexible cognitive beliefs, dependency and low self-esteem.

Ahmed and Bokhary (2013) reported that FNSD patients are tense, rigid and emotionally maladaptive. Ijaz et al. (2017) described that only 5 and 13 per cent of patients with FNSD visit psychiatric inpatients and outpatient units in Pakistan respectively. In several countries of the subcontinent including Pakistan, people are highly suffering from FNSD so there is a need to explore its underlying factors which are still not addressed to overcome this most prevailing illness in this region (Bhavsar et al., 2016). Bokhary and Rahman (2013) mentioned that the symptoms of pseudo-seizure and blindness due to FNSD merely get attention because many people are unaware of the main symptoms of mental illness. As a result, they misinterpret them and label them as physical diseases. We also know that people still hide their visits to a psychologist due to the stigma attached to mental illness in developing countries like Pakistan. Consequently, people only want to discuss their physical symptoms rather than their psychological ones. Generally, people in Pakistan relate FNSD to black magic, haunting or paranormal activities (Hashmi et al., 2012).

Paranormal is a phenomenon that cannot meet the criteria of scientific laws (Toback, 1995) whereas paranormal beliefs mean having faith in a nonscientific phenomenon or illusionary experiences (Arslan, 2010). These nonscientific interpretations of the mysterious events further caused anxiety and uncertainty in individuals (Dhillon, 2014). Paranormal beliefs consist of seven different kinds: *Traditional Religious Beliefs* (beliefs in god, power of prayers, soul, supernatural powers, ghosts, devil, and life after death), *Psi* (telepathy or mind reading), *Witchcraft* (black magic, hunting), *Superstitions* (beliefs in luck, omen, supernatural powers), *Spiritualism* (religious beliefs), *Extra- Life Form*, (big foot, and yeti), and *Precognition* (prediction about future by dreams) (Toback & Milford, 1983).

Paranormal believers show a low level of psychological adjustment (Irwin, 2004). People respond to these paranormal experiences according to their existing emotional schemas. Emotional schemas are the thoughts, feelings and behaviours of an individual in an emotional state (Leahy et al., 2011). People with maladaptive emotional schemas are also having poorer psychological coping (Ciarrochi et al., 2002). According to Leahy (2004), maladaptive schemas are divided into fourteen different subtypes. These are *invalidation, incomprehension, guilt, blame, devaluation, simplistic view of emotions, overly rational, loss of control, numbness, duration, low consensus, low expression, rumination, and non-acceptance*. There is need to control them for better emotional health.

Rationale of Study

This study is important because FNSD patients are commonly misdiagnosed after an expensive and time-consuming process due to the complex nature of this illness. Indeed, the ultimate findings of the current research are going to be beneficial for the professionals as they can better know about these patients’ cognitive and emotional discrepancies and their interaction to make this illness perplexing. Additionally, according to the literature reviews, very few researches have been conducted to find out the relationship between the seven dimensions of paranormal beliefs and fourteen subscales of maladaptive emotional schemas in youth with FNSD.

Research Objectives

The objectives of this research are as followings:

1. To explore the relation of Paranormal Beliefs and maladaptive Emotional Schemas in young patients with Functional Neurological Symptoms Disorder.
2. To identify the predictors of maladaptive emotional schemas in young sufferers with Functional Neurological Symptoms Disorder.

REVIEW OF LITERATURE

According to the ancient Egyptian and Greeks, hysteria was wandering of the womb in the feminine body and later, Hippocrates pointed out the role of somatic symptoms in hysteria (Novais et al., 2015).

Different theorists elucidate different accounts for the existence of this illness instead of biological origins; firstly, psychoanalytic focus on the role of conflict, defense mechanisms and inhibited stressors (Breuer & Freud, 1955), Secondly, behaviourists focus on the contribution of nurture for acquiring this disabling ailment (Kring et al., 2012), thirdly, learning theorists' emphases on the principles of classical and operant conditioning to shape the maladaptive behaviours, finally, object-relations theorists agree with the unconscious conflicts of childhood adverse experiences that manifest into physical symptoms to reduce anxiety (Bokharey, 2007). According to the novel Freudian model (Freud, 1912) the troublesome sentiments are bottled-up and come back in the form of neurological symptoms.

Fobian and Elliott (2019) believe that FNSD is considered the second most common diagnosis in hospitals. Minhas (2010) revealed that Dissociative Disorders have a high prevalence in India, Turkey, and Egypt. Hashmi et al. (2012) cited that 12.4 and 4.8 per cent of patients with Dissociative Disorders visit psychiatric inpatients and outpatient units in Pakistan respectively. Dar and Hasan (2016) conducted research with 151 patients aged range 18 to 50 in public hospitals in Lahore and found that emotional and sexual exploitation can lead to dissociation. Perkins (2000) stated that victims of the trauma of physical and sexual abuse in childhood report higher levels of inhibited paranormal beliefs like (psi, precognition and spiritualism) than uninhibited paranormal beliefs like (superstitions, witchcraft and extraordinary life form). Masood and Khalid (2018) revealed that a negative association exists between rationality and superstitious beliefs and also an association between irrationality and superstitious beliefs is positively significant. Ahmad et al. (2018) stated that schizophrenics with grandiosity delusions are more religious believers. Previous research showed that people with any psychopathology exhibit spiritual, and superstitious paranormal beliefs because it is also common in Pakistan that people prefer to interpret their suffering or happiness by external supernatural forces due to their rigid religious beliefs. Prior studies have found that paranormal beliefs and emotional disorders are directly correlated with each other (Rahabarian et al., 2016) and emotional hygiene is inversely related to paranormal beliefs (Saxena, 2017). Leahy (2007) believes that emotional schemas are underlying factors in mental disorders and they need to be evaluated and dealt with in the same way as thoughts and actions are considered in treatment. Batool et al. (2017) found the role of schemas in strict parenting in young patients with personality disorders. Sirota et al. (2018) researched medical students suffering from depression, anxiety and reported maladaptive emotional schemas as compared to a group of emotionally healthy students. Maladaptive emotional schemas are learned behaviours associated with psychopathology (Leahy & Kaplan, 2004).

Theoretical Framework

This study explores the paranormal beliefs endorsed by FNSD patients based on the theoretical framework given by Irwin in 1993 called the 'psychodynamic functions hypothesis' which stated that supernatural beliefs behave as a kind of needs-serving strategy to define obscurity. Paranormal beliefs are avoidance coping strategies (Irwin, 2009). Callaghan and Irwin (2003) claimed that paranormal believers use escape to manage their negative emotionality due to the inability to face stressors in their lives. So, they avoid situations which bring ambiguity and confusion to prevent themselves from stress. In this perspective, Marchlewska et al. (2021) mentioned that paranormal believers support avoidance and stop endorsing solution-oriented strategies (i.e., approach coping). Supporting this idea, approach coping strategy is significantly negatively associated with functional disability (Greenglass et al., 2006). Mackay et al. (2011) reported that paranormal belief also indicates poor stress managing strategy. Dagnall et al. (2022) reported that paranormal beliefs are only related positively to poor mental health and cognitive perceptual factors contribute to making paranormal beliefs malignant in psychopathology otherwise they are benign. The model that paranormal beliefs affect mental health via cognitive perceptual factors should need to be explored in future researches. This study discovers the interaction of paranormal beliefs with another perceptual factor maladaptive emotional schemas in youth with FNSD. Leahy used the model of emotion-focus (Greenberg, 2002)' and meta-cognitive theory (Wells, 1995) to establish the emotional schemas theory. Leahy (2002) illustrated in his 'emotional schema model' that how people respond to an emotional event, actually depends on how an individual perceives a stressor. It can be adaptive or maladaptive. Firstly dealt with normal acceptance response and leads to emotional well-being but latterly, perceive as a threat and leads to psychopathology. This study focuses on what kind of maladaptive emotional schemas would be anticipated by paranormal beliefs in FNSD young patients.

MATERIALS AND METHODS

In this section, the methodology of the research is given in detail.

Research Design: The correlational research design was applied in the current research.

Sampling Strategy: The data was collected by using a non-probability purposive sampling strategy.

Sample: FNSD patients were approached from psychiatric wards of different hospitals in Lahore. The sample size was calculated by G-Power analysis which came out to be 134 participants N= (67 male, 67 female), with ages ranging between 14 to 24 years.

Inclusion criteria: Patients who were already diagnosed with FNSD by a psychologist/psychiatrist were included in this research irrespective of the length and severity of their illness. Moreover, patients having all types of FNSD symptoms were included in the sample like sensory symptoms, motor symptoms and mixed symptoms with or without non-epileptic seizures.

Exclusion Criteria: Patients having any physical, mental, or neurological comorbidity were excluded from the sample. For example; epilepsy, cancer, HIV/Aids, addiction etc.

Measurement Tools

The Revised Paranormal Beliefs Scale (RPBS). The Urdu version of RPBS translated by (Riaz & Kausar, 2013) originally developed by Jerome J. Toback (2004) was used for measuring the level of paranormal beliefs in FNSD patients. It has 26 statements that measure seven different dimensions of Paranormal Beliefs with 7 points Likert scale. It is starting from totally disagree to totally agree. The high score depicts the high level of PBS. The subscales score consists of TRBs = M = (1, 8, 15, 22), Superstitions = M = (4, 11, 18), Psi = M = (2, 9, 16, 23), Spiritualism = M = (5, 12, 19, 25), Witchcraft = M = (3, 10, 17, 24), ELF = M = (6, 13, 20), Precognition = M = (7, 14, 21, 26) and item 23 is reverse scored. The Cronbach's Alpha of this scale is .705 (Haider, 2019).

Leahy Emotional Schemas Short Scale-(LESS-II). The Urdu version of The Leahy Emotional Schema Short Scale translated by (Ali & Bokharey, 2015) originally developed by Robert L. Leahy (2002) was administered to assess the maladaptive emotional schemas reported by FNSD patients. It is a 28-item questionnaire with 14 sub-dimensions that need to report emotional reactions experienced during the last month on a 6-point Likert scale. It is starting from very untrue to very true. For test scoring, we need to reverse Items no. 4, 6, 14, 15, 19, 24, 25 and 26. The subscales are Invalidation= M = (8,16,), Incomprehension = M = (5,10), Guilt =M =(4,14,26), Simplistic view of emotion =M= (18,), Devalue =M= (21,25), loss of control =M=(7,27), Numbnness= M= (15), Overly rational= M= (17), Duration =M= (13), Low consensus = M = (3, 19), Non-acceptance =M=(2,9,12,20,28), Rumination=M= (1,24), Expression=M= (6,23), Blame=M= (11).The scores of items are subtracted from the total score. The Cronbach alpha of this scale is .81 (Leahy, 2002).

Demographic Information Questionnaire

A demographic data sheet was developed to gather personal information about participants which helped to collect an appropriate sample for research.

Data Collection Procedure: Three public and private hospitals of Lahore, including Services Hospital, General Hospital and Fountain House were selected to collect the data. The psychiatrist and psychologists in inpatient and outpatients were requested to refer patients of FNSD for samples.

Initially, a 20-patient sample pilot study was administered to check the suitability of assessment tools and the appropriateness of statistical analysis for sample. The respondent did not report any difficulty in the comprehension of scales. Hence, the data from the pilot study was added to the main study. Total 134 participants including 20 participants of the pilot study were comprised in the main study to assess the relationship between maladaptive emotional schemas and beliefs of the paranormal among young patients of FNSD. The purpose of this research was described to the respondents and their consent was taken. All the included patients were instructed to react to the questionnaire items according to the scale level to which they could mostly relate. To give response freely, patients were briefed about their confidentiality. A single administration took about 30 minutes and the score was computed after completing the assessment.

RESULTS

The demographics of participants were analyzed by IBM SPSS Statistics (Version 26).

Demographics

Table No. 1 Demographics Characteristics of participants

Item	Category	Frequency (n)	Per cent (%)
Gender	Male	67	50
	Female	67	50
Age	14-18 years	57	42.5
	18-24 years	77	57.5
Education	Matric	52	38.8
	Intermediate	46	34.3
	Undergraduate	28	20.9
	Postgraduate	8	6
Types of FNSD	Sensory Symptoms	43	32.1
	Motor Symptoms	61	45.5
	Mixed Presentation	30	22.4

Table 1 shows the demographic features of the participants including gender, level of education, age, and types of FNSD symptoms. In the sample, 50% of respondents were male (n=67) and 50% were female (n=67). About 42.5% (n=57) of respondents were between the age of 14 to 18 years and 57.5% were in 18-24 years. Regarding qualification, 38.8% (n= 52) of respondents were having matriculation certificates, 34.3% (n =46) had intermediate, about 21% (n=28) had undergraduate and about 6% (n = 8) were with the post-graduation degree. The FNSD patients were categorized into three symptoms. About 32% (n=43) had sensory symptoms, 45.5% (n=61) had motor symptoms and 22.4% (n= 30) belonged to the mixed presentation of symptoms.

Analysis of Moment Structures (AMOS-26)

Structure Equation Model (SEM) was used to obtain the factors and paths that influence the maladaptive emotional schemas (observer exogenous/Dependent Variable) based on their covariance matrices. It was further divided into measurement modelling and structural modelling.

1. The Measurement Model

It is used to find out the relationship between indicators and latent variables with Confirmatory Factor Analysis (CFA). The reliability and validity of the instruments were also calculated through CFA. It also predicts a variable as a good indicator. A valid indicator has a loading factor value greater than 0.3. The full model test contains all types of valid indicators (Bagozzi & Yi, 1990; Bentler, 1990).

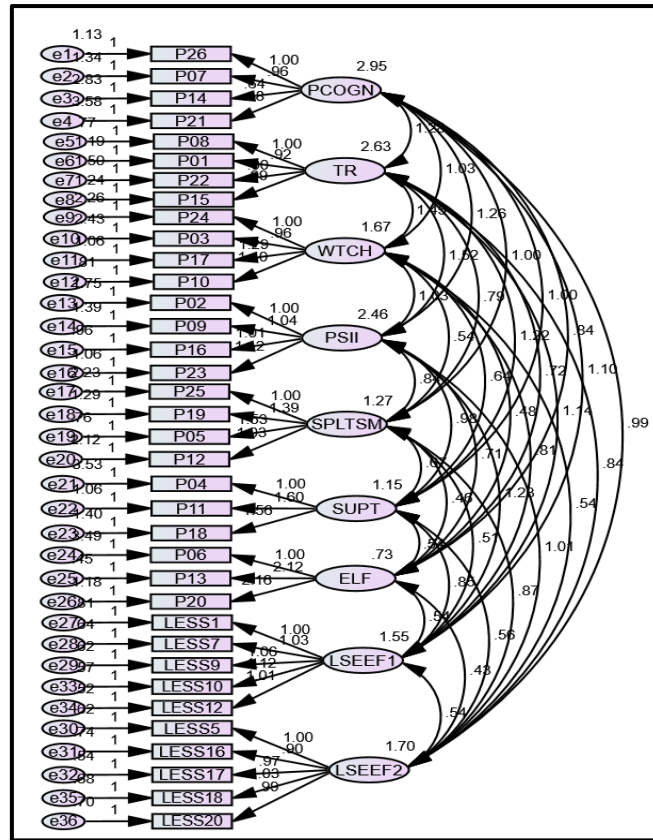


Figure1: Confirmatory Factor Analysis (CFA) measurement model

Figure 1 shows the confirmatory factor analysis (CFA) measurement model. The path coefficients among latent and observed variables were shown with arrows. All path coefficients were significant (p -value < 0.01) at 5%. The factor loadings of each variable are shown on the arrows (Bagozzi & Yi, 1990; Bentler, 1990).

Table No. 2: Confirmatory Factor Analysis Measurement Indexes

Measure	Estimate	Threshold	Interpretation
CMIN	921.828	--	--
F	655	--	--
CMIN/DF	1.407	Between 1 and 3	Excellent
CFI	0.949	>0.90	Excellent
SRMR	0.049	<0.08	Excellent
RMSEA	0.038	<0.06	Excellent
PClose	0.08	>0.05	Excellent
GFI	0.798	>0.90	Acceptable
IFI	0.976	>0.90	Excellent
NFI	0.846	>0.90	Excellent
TLI	0.972	>0.90	Excellent

Table 2 shows that the chi-square distribution significance is the first of the indexes. The significance of the model is depicted through the CMIN/df ratio which must be between the values of 1 to 3. Furthermore, the chi-square (χ^2) was significant (χ^2 (CMIN) =645.623, $p < 0.05$) at a 5%

significance level showing the absolute fit indexes. The CMIN/df ($\chi^2/df= 1.157$) is an acceptable range (Bagozzi & Yi, 1990; Bentler, 1990). The comparative fit index (CFI) is the next, in this model fit measures, which should be greater than 0.90. The CFI (0.975) also strengthen the measurement model of goodness. Finally, root means a square error of approximation (RMSEA) can confirm our model fitness. The RMSEA value (0.034) is less than the cutoff criteria of 0.07 which also suggest an acceptable measurement model fit (Bentler, 1990). Additionally, the baseline criteria of other indexes were also compared to obtained values to confirm the model fit as SRMR (0.048) was less than 0.08 and PClose value (0.09) was greater than 0.05.

The Tucker-Lewis index (TLI), the global fit index (GFI), the normed fit index (NFI), the incremental fit index (IFI), also known as the non-normed fit index were also validated the model fit (Bagozzi & Yi, 1988). . The indexes have the measures as GFI=0.798; IFI=0.976; NFI=0.846; TLI=0.972 which are greater than cut off criteria as a value greater than 0.9 (Bentler, 1990).

Table No. 3 Average Variance Extracted (AVE), Composite Reliability (CR), Maximum Shared Variance (MSV), and Correlation among Constructs

Constructs	CR	AVE	MSV	MaxR (H)	PCOGN	TR	WTCH	PSII	SPLTSM	SUPT	ELF	LSEEF1	LSEEF2
PCOGN	0.761	0.463	0.329	0.840	0.681								
TR	0.891	0.671	0.494	0.897	0.459**	0.819							
WTCH	0.846	0.585	0.482	0.890	0.463**	0.494**	0.765						
PSII	0.893	0.676	0.401	0.898	0.466**	0.598**	0.510***	0.822					
SPLTSM	0.827	0.551	0.351	0.875	0.520**	0.435**	0.374**	0.473**	0.742				
SUPT	0.777	0.549	0.494	0.836	0.541**	0.503**	0.465***	0.585**	0.559***	0.741			
ELF	0.804	0.600	0.348	0.913	0.574**	0.521**	0.430**	0.526**	0.478**	0.590**	0.774		
LSEEF1	0.930	0.728	0.404	0.932	0.515**	0.567**	0.502***	0.633**	0.367**	0.536**	0.504***	0.853	
LSEEF2	0.926	0.713	0.351	0.927	0.440**	0.397**	0.320**	0.494**	0.593***	0.400**	0.388**	0.336**	0.845

Note: TR=Traditional Religious Beliefs, WTCH=Witchcraft, PSII=Psi, SPLTSM=Spiritualism, SUPT=Superstitions, ELF=Extra Life Form, LSEEF=Leahy Emotional Schemas Scale.

Table 3 shows the convergent variables results and composite reliability (CR) or Cronbach's alpha. The internal consistency of items of each variable is measured through the composite reliability CR (Raykov, 1998). A value of 0.7 or greater is its cut-off value (Bagozzi & Yi, 1988).

This study analysis shows the Cronbach's alpha value of the seven dimensions of paranormal beliefs was greater than 0.7. The two factors of emotional schema also have Cronbach's alpha (LSEEF1

& LSEEF2) 0.930 and 0.926 respectively (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). The average variance extracted (AVE) was used to assess the convergent validity of latent variables. (Zollo et al., 2018) and its threshold value must be a value greater than 0.5 (Bentler, 1990). Table 3 shows the AVE of paranormal beliefs dimensions ranging from 0.50 to 0.676 (greater than 0.5). The AVE for LSEEF1 and LSEEF2 were also 0.728 and 0.713 respectively. Lastly, table 3, shows the discriminant validity by comparing the square root values of AVE with correlations of variables. As per the cutoff criteria, the square root values are greater than the correlations among the variables which further confirms discriminant validity.

Descriptive Statistics and Correlations

Table 3 shows the correlation coefficients of all variables. We found that positive and significant correlation between PCOGN and TR ($r = 0.459$, p -value < 0.001). PCOGN has a positive and significant correlation with other dimensions of paranormal beliefs as WTCH ($r = 0.463$, p -value < 0.001), PSII ($r = 0.466$, p -value < 0.001), SPLTSM ($r = 0.520$, p -value < 0.001), SUPT ($r = 0.541$, p -value < 0.001) and ELF ($r = 0.574$, p -value < 0.001). The correlation of TR with the dimension of paranormal beliefs was positive and significant as WTCH ($r = 0.494$, p -value < 0.001), PSII ($r = 0.598$, p -value < 0.001), SPLTSM ($r = 0.435$, p -value < 0.001), SUPT ($r = 0.503$, p -value < 0.001) and ELF ($r = 0.521$, p -value < 0.001). The correlation of WTCH with PSII ($r = 0.510$, p -value < 0.001), SPLTSM ($r = 0.374$, p -value < 0.01), SUPT ($r = 0.465$, p -value < 0.001) and ELF ($r = 0.430$, p -value < 0.001) were also positive and significant. The relationship of PSII was significantly positive with SPLTSM ($r = 0.473$, p -value < 0.001), SUPT ($r = 0.585$, p -value < 0.001) and ELF ($r = 0.430$, p -value < 0.001). SPLTSM relationship with SUPT ($r = 0.559$, p -value < 0.001) and ELF ($r = 0.478$, p -value < 0.01) was positive and significant. The relationship between SUPT and ELF was also positive and significant ($r = 0.590$, p -value < 0.01). This indicated that the seven dimensions of Paranormal Beliefs were positively correlated with each other. This also validates Paranormal Beliefs. In the second stage, the two factors of Emotional Schemas correlation were analyzed. The correlation between LSEEF1 and LSEEF2 was positive and significant ($r = 0.528$, p -value < 0.01). In the current analysis, the correlation of LSEEF1 and LSEEF2 with the seven dimensions of paranormal beliefs was calculated. We found that both emotional schema factors have positive and significant correlations with seven dimensions of paranormal beliefs. LSEEF1 correlation with PCOGN ($r = 0.515$, p -value < 0.001), TR ($r = 0.567$, p -value < 0.001), WTCH ($r = 0.502$, p -value < 0.001), PSII ($r = 0.633$, p -value < 0.001), SPLTSM ($r = 0.367$, p -value < 0.01), SUPT ($r = 0.536$, p -value < 0.001) and ELF ($r = 0.504$, p -value < 0.001) was positive and significant. The correlation coefficient of LSEEF2 was also positive and significant with PCOGN ($r = 0.440$, p -value < 0.001), TR ($r = 0.397$, p -value < 0.001), WTCH ($r = 0.320$, p -value < 0.01), PSII ($r = 0.494$, p -value < 0.001), SPLTSM ($r = 0.593$, p -value < 0.001), SUPT ($r = 0.400$, p -value < 0.01) and ELF ($r = 0.388$, p -value < 0.01). The correlation results of the Paranormal Beliefs with Emotional Schemas two factors model showed that an increase in Paranormal Beliefs positively affects the Emotional Schemas.

2. The Structure Model

It is used to find out the relationship between the latent variables.

Hypothesis testing with SEM

Two steps were taken for hypothesis testing. In the first step, the direct effect of the seven dimensions of Paranormal Beliefs was analyzed on both Emotional Schemas factors (i.e. LSEEF1 and LSEEF2). In the second step, a regression analysis was carried out by taking the total score of both Emotional Schemas factors (i.e. TLSEE) making a single factor with seven dimensions' scores.

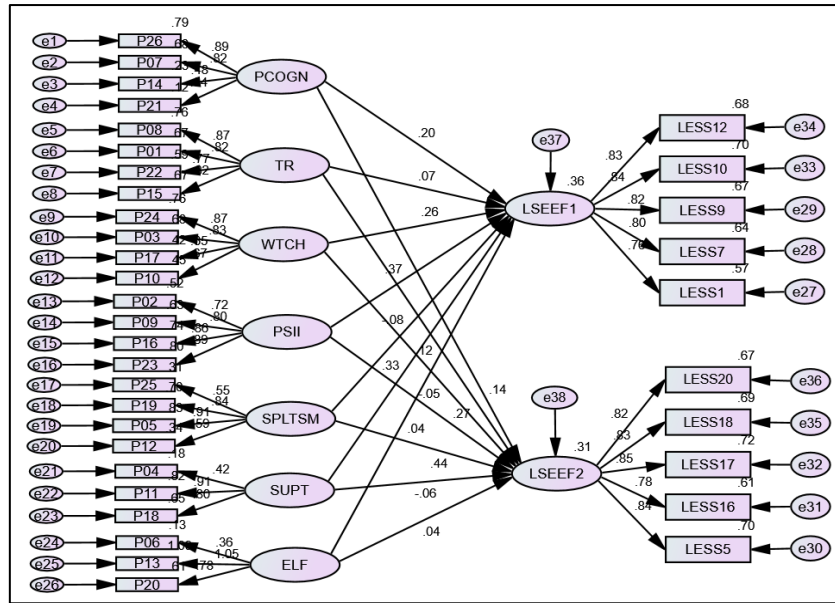


Figure 2: The Structure Equation model. Note. $p < .01$. $p < .001$.

Figure 2 shows the path analysis of seven dimensions of Paranormal Beliefs to Emotional Schemas factors. Standardized results up to two decimal points are shown on the arrows. Regression results of the two factors' emotional schemas are presented in table no.3. In the effect of the first dimension of paranormal belief PCOGN has a positive and significant effect on both factors LSEE1 ($\beta = 0.196, p < 0.05$) and LSEEF2 ($\beta = 0.141, p < 0.05$). The effect of TR on LSEE1 ($\beta = 0.073, p > 0.05$) and LSEEF2 ($\beta = 0.116, p > 0.05$) were positive but insignificant. WTCH have an insignificant and positive effect on LSEE1 ($\beta = 0.257, p > 0.05$) but an insignificant negative effect on LSEE2 ($\beta = -0.052, p > 0.05$). The fourth dimension PSII of Paranormal Beliefs has a positive and significant effect on both emotional factors LSEE1 ($\beta = 0.366, p < 0.001$) and LSEE2 ($\beta = 0.271, p < 0.01$). SPLTSM have the reverse effect on both emotional factors. SPLTSM effect on LSEE1 ($\beta = -0.078, p > 0.05$) was negative and insignificant while its effect on LSEEF2 ($\beta = 0.441, p < 0.001$) was positive and significant. SUPT effect on LSEE1 ($\beta = 0.332, p < 0.01$) was positive and significant but negative and insignificant on LSEEF2 ($\beta = -0.059, p > 0.05$). The seventh dimension ELF of paranormal belief effect on both emotional factors LSEEF1 ($\beta = 0.038, p > 0.05$) and LSEEF2 ($\beta = 0.036, p > 0.05$) was insignificant positive.

Table No. 4 Mediation analysis results

Predictor	LSEE1	R-Square	LSEEF2	R-Square
Precognition (PCOGN)	0.196*		0.141*	
Traditional Religious Belief (TR)	0.073		0.116	
Witchcraft (WTCH)	0.257	R-Square for LSEEF1 = 0.36	-0.052	R-Square for LSEEF2 = 0.31
Psi (PSII)	0.366***		0.271**	
Spiritualism (SPLTSM)	-0.078		0.441***	
Superstition (SUPT)	0.332**		-0.059	
Extraordinary Life Forms (ELF)	0.038		0.036	

Significance level: * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

Table 4 shows the R-square value for each model. R-square value for the first path analysis from seven dimensions of paranormal beliefs to the first factor of emotional schema LSEEF1 was 0.36.

This describes that about 36% of the variation in LSEEF1 can be explained by paranormal beliefs. On the other side, the R-square value for the second path of paranormal beliefs to LSEEF2 showed that 31% variation is explained by the seven dimensions of LSEEF2. A lower value of R-square (less than 0.40) is expected in primary data analysis. These values show a good fit for the model also.

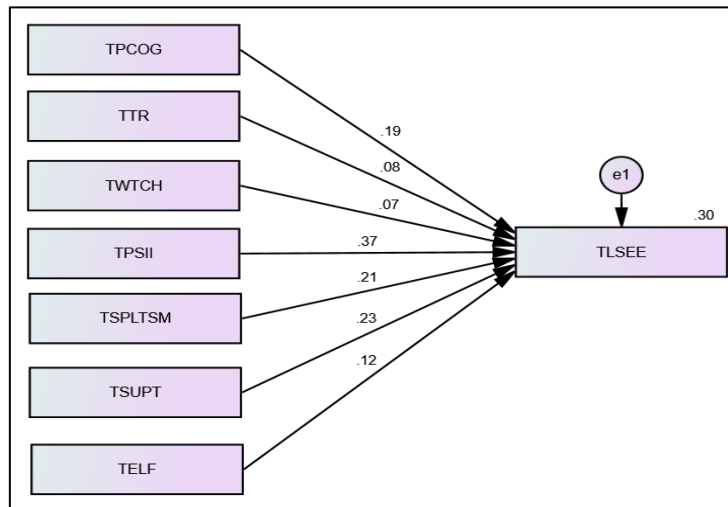


Figure 3: The results of the hypothesized mediated model.

Figure 3 shows the path analysis of the second model. In the second model, only item 23 was reversely scored and calculated the total score of each dimension of paranormal beliefs was (by summing up the responses of each individual). In the same way, the total score of emotional schema was calculated (by taking the sum of all responses of both factors LSEEF1 and LSEEF2).

Table No. 5 Mediation analysis results with total score

Total Score of Predictor	Total Score of LSEE (1 & 2)
Precognition (PCOGN)	0.194**
Traditional Religious Belief (TR)	0.080
Witchcraft (WTCH)	0.072
Psi (PSII)	0.371***
Spiritualism (SPLTSM)	0.211**
Superstition (SUPT)	0.233**
Extraordinary Life Forms (ELF)	0.122*

Significance level: * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

Table 5 shows the results of regression analysis in AMOS to find out the direct effect of seven dimensions of paranormal beliefs on the total score of Emotional Schemas. The standardized coefficient values of regression are shown on the arrows of the AMOS path analysis diagram. The R-square value is shown on the top right side of the TLSEE observed value box. We have found that PCOGN has a positive and significant effect on TLSEE ($\beta = 0.194, p < 0.01$). The TR's effect on TLSEE was also positive but insignificant ($\beta = 0.08, p > 0.05$). WTCH effect on TLSEE was also positive and insignificant ($\beta = 0.072, p > 0.05$).

PSII has a highly significant and positive effect on TLSEE ($\beta = 0.371, p < 0.001$). SPLTSM ($\beta = 0.211, p < 0.01$) and SUPT ($\beta = 0.233, p < 0.01$) both have a positive and significant effect on TLSEE. Finally, the last dimension of paranormal belief ELF has also a positive and significant effect on TLSEE ($\beta = 0.122, p < 0.05$).

In the total score analysis, the r-square has a value of 0.30. The r-square value shows that about 30% of the variation in emotional schemas can be explained by paranormal beliefs. This shows the good fitness of the model.

DISCUSSION

The correlation between paranormal beliefs and maladaptive emotional schemas tended to be quite higher in FNSD patients. Results of the first objective of this study shows that paranormal beliefs of Traditional Religious, Precognition, Witchcraft, Superstitions, Psi, and Extra Life Form is significantly correlated with maladaptive emotional schemas of Factor I (Invalidation, Incomprehensibility, Guilt, Duration and Low consensus). Furthermore, Paranormal Beliefs of Traditional Religious, Precognition, Spiritualism, and Psi, are significantly interlinked with maladaptive Emotional Schemas of Factor II (Loss of Control, Rumination, Numbness, and Non-acceptance). Similarly, Factor I of maladaptive emotional schemas is moderately positively significantly linked with the belief of Spiritualism and Factor II of maladaptive emotional schemas is moderately positively significantly correlated with three dimensions of paranormal belief of Witchcraft, Superstition and Extra life form. These findings appear consistent with previous research in which a positive relationship between paranormal beliefs and emotional dysregulation was obtained. Perkins and Allen (2006) researched the victims of childhood trauma and revealed that they usually hold paranormal beliefs of 'psi' and 'spiritualism'. It shows that people during distress become more religious, and start believing in prayers. Moreover, traumatize children are also believing that faith healers have supernatural powers and they can read others' minds and have powers to change the fate of a person for good or bad. As we know, most people in Pakistan are used to visiting shrines to treat illness as compared to seeking medical help and having strong beliefs in prayers and amulets and they think that they can help them in their sufferings. Likewise, Farooq and Kyani (2012) mentioned that generally people in Pakistan are superstitious and they associate certain colours, days and numbers with distress and start relying more on superstitious rituals to cure them like an evil eye with the burning of chillies, match sticks, sacrifice a black goat and tying a thread around wrist etc. In line with the hypothesis, another indigenous study conducted by Ahmed and Bokharey (2013) stated that FNSD patients are cognitively inflexible and emotionally frail. Furthermore, paranormal believers do not show rational thinking (Gray & Gallo, 2016) but express irrational thinking patterns (Betsch et al., 2020). Hamdorf and Graf (2018) stated in a recent study that paranormal believers are more convinced by tentative treatment methods.

According to the second objective of this study, it is found that paranormal beliefs of 'Psi' have highly significant and positive effect on maladaptive emotional schemas such as Invalidation, Incomprehensible, Guilt, Duration, Low consensus, Loss of Control, Rumination, Numbness, and Non-acceptance. Moreover, Precognition, Spiritualism, Superstition and Extra Life Form is affecting positively and significantly the maladaptive emotional schemas. Likewise, Tradition Religion belief and Witchcraft's effect on maladaptive emotional schemas were also positive but insignificant. Finally, a 30% variation in maladaptive emotional schemas could be predicted by paranormal beliefs. Several studies also illustrated the same outcomes such as people suffering from functional neurological symptom disorder showing several emotional impairments when compared to healthy controls (Aybeck, 2015), youth with psychopathology demonstrating less emotional adaptation (Ciarrochi et al., 2002) and endorsing more paranormal beliefs (Irwin, 2004) to cope with stressors. Ahmed and Bokharey (2013) studied that functional neurological symptom disorder exists in those societies where socio-cultural and spiritual factors allow people to express their emotions in maladaptive ways as they can only express themselves through nonverbally or in somatic symptoms. In addition, Pakistani society does not allow people especially females to express their sexual emotions (Ahmed & Bokharey, 2013). On the other hand, men are also not encouraged to express their emotions in our culture freely. It is considered for a man not to cry because it is taken as a symbol of weakness in our society. Ijaz et al. (2017) revealed that the most common symptoms of FNSD in our culture were swallowing and speech-related symptoms. Khan et al. (2014) concluded that in Pakistan teenagers and young's with FNSD exhibit psychogenic seizures more than any other symptoms.

Paranormal believes are related with maladaptive emotional schemas. This is supported by the theoretical framework (Irwin, 1993) which explained that paranormal believers are motivated by a need serving strategy. Paranormal believers use this strategy to make sense of their emotional perceptual experiences and act accordingly.

In a nutshell, the outcomes of this study propose that individuals with FNSD who have elevated paranormal beliefs endorse higher maladaptive emotional schemas. For example, someone with spiritual paranormal beliefs, having negative feelings towards any elder that would be taken as bad manners despite one's being justified in his/her views make that person feel guilty and ashamed about having those undesirable feelings and continuously invalidate, ruminate, and devalue those incomprehensive thinking and believe that he would be punished by God, gradually become emotionally detached from those non-accepted emotions. By this, he starts feeling stressed, depressed and anxious and presenting somatic symptoms like numbness, and loss of control during emotional charge.

CONCLUSION

The aim of this research was to study the interaction between the seven subscales of beliefs in the paranormal, and fourteen subdomains of maladaptive emotional schemas in a clinical sample of functional neurological symptom disorder. Whilst patients of functional neurological symptom disorder exhibited significantly higher levels of seven dimensions of paranormal beliefs and ten maladaptive emotional schemas as well as, there is evidence that paranormal beliefs of 'psi' were highly predicting maladaptive emotional schemas in young patients of functional neurological symptoms disorder.

Recommendation for future research

Recommendations for future research embrace the need to have a non-psychiatric control group, to estimate the in-depth role of paranormal beliefs and maladaptive emotional schemas. It is also suggested to apply a longitudinal design to study the existence of paranormal beliefs and maladaptive emotional schemas in the patients of FNSD.

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