



RESEARCH PAPER

Impact of Religiosity and Spirituality on Negative Automatic Thoughts, Depression, Anxiety, and Stress among Muslim and Christian Adolescents

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ABSTRACT

The research aims to understand the relationship between religiosity, spirituality, and negative automatic thoughts, depression, anxiety, and stress among adolescents. Religion plays an important part in shaping behavior and attitudes (Ullah et al., 2021). It was hypothesized that religiosity and spirituality will have a significant relationship with automatic thoughts and depression, anxiety, and stress. A quantitative survey research design employing purposive sampling was used, including only individuals between 13-18 years, belonging to either Muslim or Christian faith. 530 participants were part of the research (N=530), comprising of 376 Muslims (Mn=376) and 154 Christians (Cn=154). Religiosity and spirituality had a significant weak negative relationship with personal failure, hostile intent, and depression. The findings of the current research help therapists better understand the psychological health of adolescents in Pakistan. Individuals from other faiths can be added in future research to provide a wholistic picture of Pakistani populace.

Keywords: Religiosity, Spirituality, Negative Automatic Thoughts, Adolescents, Depression, Anxiety

Introduction

Around 20% of the adolescent population around the world is suffering from psychological problems (WHO, 2017), with depression and anxiety being the most prevalent. The prevalence of depression, anxiety, and stress has been a growing concern, especially during the COVID-19 pandemic.

In modern day era, religion continues to be a major predictor in an individual's social dealings and mental health. However, literature is divided as to whether this impact is largely positive or negative. Therapeutic techniques such as religion-integrated cognitive behavioral therapy and Islamic-integrated cognitive behavioral therapy have gained recognition due to their efficacy, especially in the case of religious individuals (Hodge, 2006). Goeke-Morey et al., (2014) found that religion enabled individuals to have a better connection to God, and that the strength of this relationship mediated their coping strategies, thus improving their psychological health and wellbeing.

Contrarily, some research argues that religiosity increases guilt and leads to psychological problems like developing obsessions (Inozu et al., 2012). Similarly, Ahmed et al. (2016) reported that automatic thoughts related to fear of divine punishment were significantly associated with higher levels of religious anxiety among Muslim adolescents. Research by Ashraf et al., (2023) also found that religious self-regulation fully mediated conflict management strategies among international students in Pakistan.

Negative Automatic Thoughts

Thinking patterns exhibit a pivotal role in an individual's psychological well-being, constituting the content of thoughts, the context (process) and its effect on emotions (Beck, 1970). The frequency and intensity of these patterns has been shown to increase the risk of developing a psychological disorder (Ehring et al., 2011).

Negative automatic thoughts are defined as "spontaneous and involuntary exhibition of foreboding and self-critical cognitions, often related to oneself, the future, and the world" (Takeda et al., 2019). Budak et al., (2020) also emphasized upon the repetitive nature of negative automatic thoughts and their spontaneity. Negative automatic thoughts may lead to rumination which is characterized as patterns of passive and pervasively thinking about one's emotional affect as well as the causality and outcomes of these symptoms (Lyubomirsky et al. 2015). Rumination may result in negative emotional states, and therefore is an important correlate of further dysfunctional thoughts, and over-emphasizing on negative aspects of a stressful situation (Kaiser et al. 2019)

The negative automatic thoughts as defined by Schniering and Rapee (2002) in the development of the Children's Automatic Thoughts Scale consist of four predictive factors; *physical threat*, *social threat*, *personal failure*, and *hostility*. Physical threat was defined by Schniering and Rapee (2002) as the recurrent thoughts of fear or worry associated with the perceived external threats from the environment capable of inflicting physical damage to the individual or someone close to them. Social threat refers to the recurrent thoughts of fear or worry associated with the perceived image the others have of an individual, such as their opinion of the individual's appearance or abilities with respect to other children in the surroundings e.g., at school or playgroups etc. Personal failure refers to recurrent thoughts about oneself with respect to achievements or ability to perform certain tasks. Hostile intent is related to recurrent thoughts pertaining to inflicting harm towards other children.

Depression, Anxiety and Stress

Depression is characterized by symptoms such as a depressed mood and loss of interest or pleasure in daily activities (Cai et al., 2020). Research by Rana et al. (2017) found that patients with higher frequency and intensity of negative automatic thoughts showed higher levels of depressive symptoms. Studies have also found negative automatic thoughts to be a positive predictor of depressive symptoms (Buschmann et al., 2017) Stress is described as an unpleasant emotional experience associated with fear, anxiety, irritation, and sadness (Mahipalan & Sheena, 2019). Anxiety is defined as the expectation of danger or future passive events accompanied by feelings of dysphoria or physical symptoms of tension (Al-Yasari & Al-Juboory, 2022). Mental health issues, especially anxiety-related problems among adolescent population have significantly increased in recent years, surpassing even depression in terms of reported cases (Lawrence et al., 2016).

Religiosity

The word "religiosity" has its roots in the Latin word "*religio*", referring to religious. The conceptual viewpoint of religiosity encompasses spirituality, piety, and obedience. Individuals troubled by everyday problems and frustrations are challenged by religious belief and practices (Farhan and Rofi'ulmuiz, 2021). Religion plays an important part in the life of people to shape their behavior and attitudes (Ullah et al., 2021).

Spirituality

Spirituality can be inferred as a person's journey to find meaning and purpose in life (Mitchell et al., 2010). It refers to the manner in which people share a sense of connectivity to the present, to the constructs of their personality, to others, to nature, and to the sacred

(Pulchalski et al., 2009). Spirituality is seen to be an effective coping mechanism for individuals suffering from severe mental illnesses (Mohr, 2013). Especially in patients with chronic illnesses, such as cancer and cardiac issues etc., spirituality has been used as interventions to reduce the levels of depression and anxiety pertaining to the future (Kausar & Bhutto, 2021).

Research Hypotheses

- There will be a significant relationship between degree of religiosity and/or spirituality and automatic thoughts.
- There will be a significant positive relationship between automatic thoughts and depression, anxiety, and stress.

Theoretical Framework

The current research is based on Beck's cognitive theory (1979) and its relation to dysfunctional attitudes, cognitive errors, negative cognitive triad, and automatic thoughts, where cognitive distortions, or faulty thinking patterns are "automatic", meaning that they are not entirely under one's conscious control and are persistent in nature.

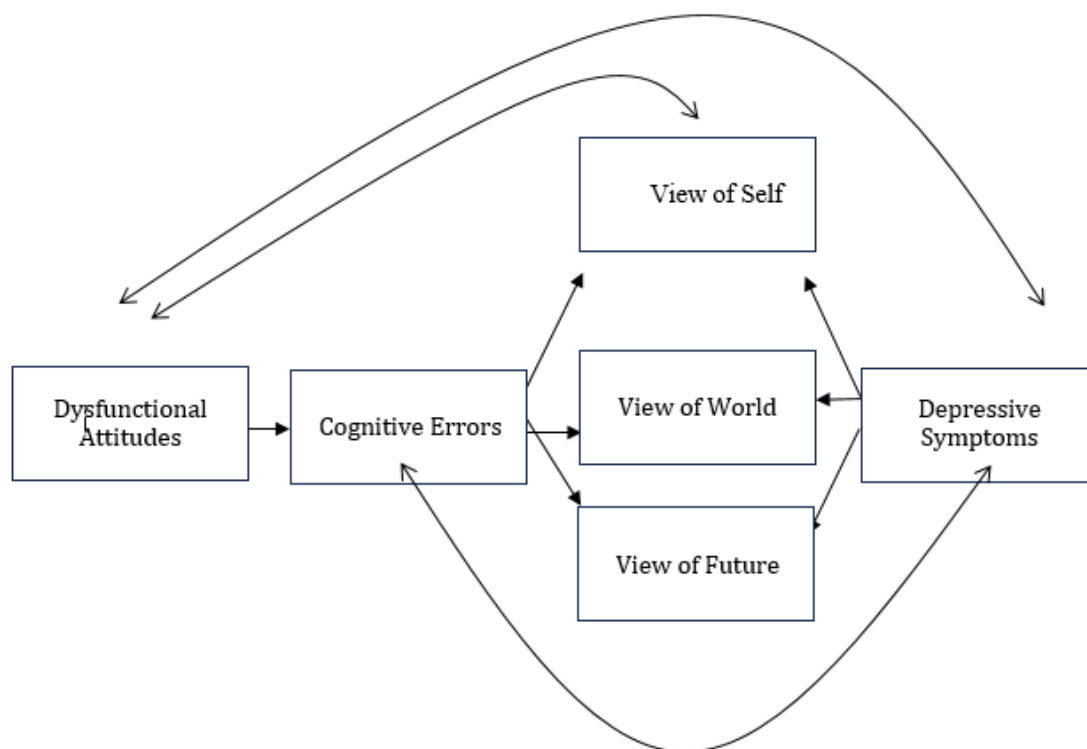


Figure 1. Illustration of Partial Mediation of Beck's Bidirectional Cognitive Theory (1976)

Beck's cognitive theory is considered to be a diathesis-stress model, encompassing both the effect of environmental stressors and cognitive susceptibility or weakness. This bidirectional partial mediation of Beck's model as shown in Figure 1 is supported by recent research in both adults (Pössel and Black, 2013) and adolescents (Pössel, 2017). The integrated model was further linked to the bio-psycho-social-spiritual model proposed by King and Koenig (2013) in "Faith and Medicine", which incorporates God, nature, the inner self, and other beliefs that provide meaning to the individual's life. The current research integrates this model with the Stress-Buffering Hypothesis (Cohen & Wills, 1985), Positive Psychology Theory (Martin Seligman, 2000), Transactional Model of Stress and Coping

(Lazarus & Folkman, 1987), Attachment Theory (Kirkpatrick & Shaver, 1990), Resilience Theory (Norman Garmezy, 1993), and Meaning Making Model (Crystal Park, 2010) to form the theoretical model for the current research, as explained in the table below.

Table 1
Theoretical Framework

Theory	Role of Religiosity/Spirituality in Moderating NATs and DAS
Beck's Triad	Provides positive schemas to counter negative views of self, world, future.
Stress Buffering	Offers social and emotional support , reducing stress load.
Attachment Theory	Forms secure spiritual attachment , aiding emotional regulation.
Resilience Theory	Enhances coping resources and psychological hardiness.
Meaning-Making	Helps reframe negative experiences through existential/spiritual meaning.
Transactional Model	Shapes appraisals and coping , leading to less emotional reactivity.

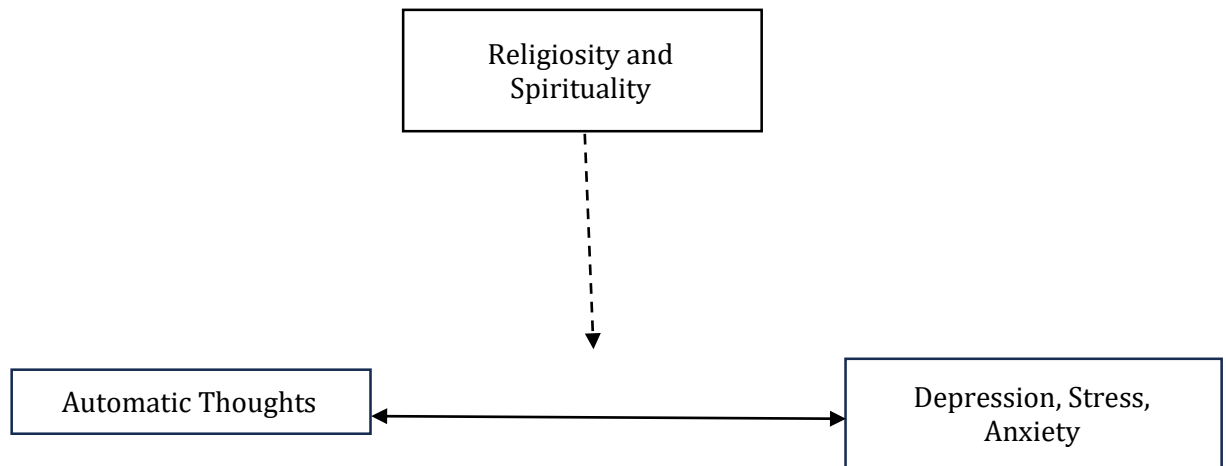


Figure 2: *Proposed Theoretical Model for the Current Research.*

The current research attempts to explore the effect of religiosity and spirituality to better understand the factors contributing to the development of an adolescent's identity, and how their view of self, others and the future are influenced by such constructs as shown in Figure 3.

Material and Methods

A quantitative survey research design was employed for the current research. The participants of the research were selected via purposive sampling after informed consent was given by the participants. A total of 530 participants were part of the research.

Inclusion Criteria

- Participants must be within the age range of 13-18 years.
- Participant must be either Muslim or Christian.
- Participant must be able to comprehend and read English language.
- Participant must not have a prior history of any psychological or chronic medical illness.

Any responses from participants who did not meet the inclusion criteria were excluded from the research.

Measures

The Daily Spiritual Experience Scale (DSES) comprises 16 self-report items created to evaluate everyday encounters with the transcendent in one's daily life. The DSES is comprised of two subscales: religiosity and spirituality. The items in the religiosity subscale in the DSES tap into the religious aspects of one's daily life experiences, while the items in the spirituality subscale ascertain the depth of one's convictions and experiences related to the link with the transcendent and connection with life. The Cronbach's alpha reliability for DSES in the current study was calculated to be $\alpha=.771$.

The Depression Anxiety Stress Scales–Youth version (DASS-Y) is a specialized adaptation of the DASS-21, tailored for individuals between the ages of 7 and 18. The DASS-Y has three distinct subscales with different items exploring three different domains, namely depression, anxiety, and stress. Its purpose is to assess the adverse emotional conditions encompassing depression, anxiety, and stress in young individuals. The Cronbach's alpha for reliability in the current study was estimated to be $\alpha=.908$.

The Children's Automatic Thoughts Scale (Schniering & Rapee, 2002) is a comprehensive assessment tool designed to measure negative self-statements that encompass both internalizing and externalizing issues. The CATS contains four subscales, each assessing a different cognitive domain i.e., physical threat, social threat, personal failure, and hostile intent. The Cronbach's alpha value for the CATS reliability in the research was estimated to be $\alpha=.928$.

Procedure

Permission was obtained from the authors of all measures used in the current research, followed by formally approaching the administration of all data collection centres (schools, colleges, churches etc.). Data was collected from 530 participants (N=530), comprising of 374 Muslim and 154 Christian adolescents. A total of 279 males and 251 females were part of the research. The data was collected, organized, and assessed using the Statistical Package for Social Sciences-Version 25 (SPSS-25). The Cohen's *d* values were calculated manually through an online calculator using descriptive analysis from independent samples t-test between Muslim and Christian participants. All ethical guidelines instructed as per American Psychological Association were ensured. The participants were given an informed consent form and briefed about the purpose of the research. The research was conducted with utmost regard for the respect and confidentiality of the participants.

Results and Discussion

Table 2
Frequency and Percentage of Demographic Variables of The Participants of The Study

Variables	<i>f</i>	%
Age		
13	116	21.9
14	113	21.3
15	77	14.5
16	84	15.8
17	100	18.9
18	40	7.5
Gender		
Male	279	52.6

Female	251	47.4
Education		
7 th Grade	71	13.4
8 th Grade	152	28.7
9 th Grade	85	16.0
10 th Grade	41	7.7
11 th Grade	149	28.1
12 th Grade	32	6.0
Religious Orientation		
Muslim	376	70.9
Christian	154	29.1

Table 3
Descriptive Statistics, Cronbach's Alpha and Univariate Normality of the Study Variables

Variables	Items	α	M	SD	SK	K	Range	
							Actual	Potential
DSES	15	.77	55.69	9.23	-.82	1.68	21-77	0-90
REL	8	.74	31.61	5.39	-1.18	2.54	7-41	0-48
SP	7	.58	28.30	5.41	-.44	.42	9-42	0-42
CATS	40	.93	52.86	27.42	.51	-.86	1-139	0-160
PT	10	.81	13.03	8.33	.51	-.26	0-38	0-40
ST	10	.87	11.00	8.44	1.05	.78	0-39	0-40
PF	10	.87	12.27	9.21	.88	.13	0-40	0-40
HI	10	.76	16.56	7.70	.34	-.29	0-35	0-40
DASS	21	.91	22.87	13.38	.49	-.42	0-59	0-63
DEP	7	.80	10.04	5.23	.85	-.06	0-21	0-21
ANX	7	.78	6.58	4.89	.58	-.51	0-20	0-21
STR	7	.85	6.25	5.27	.20	-.82	0-21	0-21

Note. DSES=Daily Spiritual Experiences Scale, REL=Religiosity, SP=Spirituality, CATS=Children's Automatic Thoughts Scale, PT= Physical Threat, ST=Social Threat, PF=Personal Failure, HI=Hostile Intent, DASS=Depression Anxiety Stress Scales, DEP=Depression, ANX=Anxiety, STR=Stress, α =Cronbach's Alpha, M=Mean, SD=Standard Deviation, SK=Skewness, K=Kurtosis

Table 4
Correlation Analysis of Study Variables Among All Participants (N=530)

	1	2	3	4	5	6	7	8	9
Religiosity	-	.618**	.036	-.068	-.111*	-.089*	-.094*	.020	.040
Spirituality		-	.005	-.054	-.101*	-.122**	-.114*	.083	.026
Physical Threat			-	.614**	.745**	.420**	.660**	.617**	.597**
Social Threat				-	.710**	.367**	.574**	.505**	.529**
Personal Failure					-	.416**	.768**	.563**	.554**
Hostile Intent						-	.422**	.259**	.344**
Depression							-	.648**	.623**
Anxiety								-	.622**
Stress									-

Note. **p<0.01,

*p<0.05

Table 5
Simple Linear Regression Analysis Showing Automatic Thoughts as a Predictor of Depression

	Depression						95% CI	
	R	R ²	ΔR^2	β	t	p	LL	UL
Automatic Thoughts	.751	.564	.563	.751	26.119	.000	.134	.155

Note. β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL=Upper limit

Table 6
Simple Linear Regression Analysis Showing Automatic Thoughts as a Predictor of Anxiety

	Anxiety						
	R	R^2	ΔR^2	β	t	p	95% CI
							LL UL
Automatic Thoughts	.603	.363	.362	.603	17.356	.000	.095 .120

Note. β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL=Upper limit

Table 7
Simple Linear Regression Analysis Showing Automatic Thoughts as a Predictor of Stress

	Stress						
	R	R^2	ΔR^2	β	t	p	95% CI
							LL UL
Automatic Thoughts	.628	.394	.393	.628	18.529	.000	.107 .133

Note. β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL=Upper limit

Discussion

Table 1 and 2 illustrate the descriptive statistics for all the study variables. The values indicate that the DSES data was left skewed, while data for both CATS and DASS-Y were right skewed. Similarly, data was light-tailed for all scales compared to normal distribution. The table also shows Cronbach's Alpha values for all the study variables. The values indicate that the scales were highly reliable and adequate for further statistical analysis. The statistical analysis revealed a significant weak negative relationship between religiosity and personal failure ($r=-.111$, $p<.05$), hostile intent ($r=-.089$, $p<.05$) and depression ($r=-.094$, $p<.05$). Spirituality also showed significant weak negative relationship with personal failure ($r=-.122$, $p<.05$), hostile intent ($r=-.122$, $p<.01$), and depression ($r=-.114$, $p<.05$).

The first hypothesis stated that there will be a significant relationship between religiosity, spirituality, and automatic thoughts. The results in Table 4 show that there is a strong positive correlation between religiosity and spirituality, while a weak negative correlation exists between automatic thoughts and both religiosity and spirituality as seen in the dimensions of personal failure and hostile intent. The findings may be a result of the nature of religion itself, i.e., the extrinsic and intrinsic religious practices. Extrinsic practices refer to the use of religion to gain social or personal gain, while intrinsic practices encompass the internalized beliefs given by the religion. Every individual practices religion differently, and the focus of the beliefs, i.e., intrinsic vs extrinsic, public vs private greatly impacts how well religion can act as a buffer against NATs. Furthermore, in Pakistan, religion is often practiced as a social or family obligation, with lesser attention being paid to the internalization of the beliefs, owing to its reduced efficacy in buffering NATs. These findings are in line with previous research conducted by Fariddanesh and Rezeai (2019) showing a weak positive correlation between happiness and degree of religiosity, while another research by Mahmoud et al., (2015) found a weak positive correlation between religiosity and adaptive coping strategies. The impact of religiosity on negative thoughts may also be moderated by other factors, e.g., intrinsic religiosity has been shown to buffer the relationship between negative life events and depression in certain populations (Houlberg et al., 2010). This implies that the presence of religiosity or spirituality alone may not be sufficient to buffer against the development of negative automatic thoughts in adolescents.

The second hypothesis stated that there will be a significant relationship between automatic thoughts and depression, anxiety, and stress. The results in Tables 4 prove this hypothesis as a strong positive association can be observed between the four subscales of automatic thoughts (i.e., physical threat, social threat, personal failure, and hostile intent) and depression, anxiety, and stress. Similarly, the results in tables 5, 6, and 7 indicate that automatic thoughts significantly predict depression, anxiety and stress. This can be explained by the nature of negative automatic thoughts, as the cognitive distortions arising propagate emotional symptoms, e.g., an individual thinking he's a failure is likely to ruminate and subsequently exhibit depressive symptoms like low mood and low energy. This, in turn, would lead to lesser productivity and more feelings of worthlessness, i.e., cognitive distortion would lead to behavior which would amplify the distortion. Additionally, the levels of automatic thoughts were found to be in the slightly elevated range. A study by Değer (2022) indicated that there is a positive significant relationship between automatic thoughts and depression, which is reflected in the findings in Table 10. Similarly, Takeda et al., (2024) found that there was a strong positive association between negative automatic thoughts and depression.

Conclusion

The current research aimed to investigate the relationship between religiosity, spirituality and automatic thoughts, depression, anxiety, and stress among Muslim and Christian adolescents. The research found a strong positive association between automatic thoughts and depression, anxiety, and stress. There was also a significant difference among the two populations in degree of religiosity, spirituality, social threat, depression, and stress, indicating greater religiosity and lower levels of negative automatic thoughts, depression, and stress among Muslim adolescents. However, there was a weak moderation effect of religiosity or spirituality on the interaction between automatic thoughts and depression, anxiety, or stress.

Recommendations

For future research, it is recommended that individuals belonging to other religious orientations should be accommodated into the sample to provide a more wholistic picture of the current mental health among adolescents in Pakistan.

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