International Journal of Humanities and Social Science Research
ISSN: 2455-2070; Impact Factor: RJIF 5.22
www.socialresearchjournals.com
Volume 3; Issue 1; January 2017; Page No. 27-34

Spiritual behavior as strongest life style predictor of life satisfaction with special reference to type II diabetes

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Abstract
A correlational design was used to study the relationship between spiritual behaviour and life satisfaction of type II diabetic (N=200) and non-diabetic (N=200) individuals. Age range of subjects was between 40 to 75 years. The tools included "Life Style Scale" prepared by the investigator herself. It has five categories of life style; (i) Eating Behaviour Scale (ii) Alcohol Consumption Behavior Scale (iii) Sleeping Behavior Scale (iv) Spiritual Behavior Scale (v) Physical Activity Scale. PGI Well Being scale by Moudgal, Verma, Pal and Kaur was used to measure life satisfaction. The results showed high positive correlation between spiritual behavior and life satisfaction of type II diabetics ($r = 0.44$, $p < .01$). In case of non-diabetics also positive correlation was found between spiritual behaviour and life satisfaction ($r = .46$, $p < .01$). Multiple Regression analysis on a total sample of 400 cases also indicated highest contribution of Spiritual Behaviour in the determination of Life Satisfaction. The regression coefficients of all other life style variables were lower than this. This indicates a significant role of spiritual behaviour in the determination of life satisfaction.

Keywords: diabetes, life style, spiritual behavior and life satisfaction

Introduction

Life satisfaction is an overall assessment of feelings and attitudes about one's life at a particular point in time, ranging from negative to positive. It is one of three major indicators of well-being: life satisfaction, positive affect, and negative affect (Diener, 1984) [8]. Although satisfaction with current life circumstances is often assessed in research studies, Diener, Suh, Lucas, & Smith (1999) [9] also included under life satisfaction: the desire to change one's life; satisfaction with past; satisfaction with future; and satisfaction other's view of one's life. Related terms in the literature include happiness (sometimes used interchangeably with life satisfaction), quality of life, and (subjective or psychological) well-being (a broader term than life satisfaction). The research on life satisfaction is extensive and theoretical debates over the nature and stability of life satisfaction continue. Life satisfaction is frequently included as an outcome or consequence variable in work family research (Allen, Herst, Bruck, & Sutton, 2000) [2]. Life satisfaction is often considered a desirable goal, stemming from the Aristotelin ethical model, eudaimonism, (from eduaimonia, the Greek word for happiness) where correct actions lead individual well-being, with happiness representing the supreme good (Myers, 1992) [33]. Morever, life satisfaction is related to better physical and mental health (Beutell, 2006) [5], longevity, and other outcomes that are considered positive in nature. Men and Women are similar in their overall level of life satisfaction (Diener, Suh, Lucas, & Smith 1999) [9] although women do report more positive and negative affect. Life satisfaction tends to be stable over time (Cummins, 1998) [6] suggesting a dispositional (Judge & Hulin, 1993) [20], and perhaps, even a genetic component (Judge *et al*. 1994) [21]. Fujita and Diener (2005) [10] have examined the life satisfaction set-point (a relatively stable level that an individual will return to after facing varying life circumstances) reporting that there are longitudinal changes in satisfaction levels for about one quarter of their respondents.

Much of the work family literature, however, emphasized a conflict prespective (e.g., Greenhaus & Beutell, 1985) [15] although this is changing, e.g., Greenhaus & Powell (2006) [14] indicated potential for role incompatibility and strain relating to negative outcomes. Life satisfaction is used to assess the impact of conflict levels on overall feelings about one's life. Life satisfaction exhibits the strongest relationship with work family conflict of all non-work variables studied (Allen *et al*. 2000) [2]. Research has shown that, beyond direct relationships between work family conflict and life satisfaction how people deal with such conflicts is also important. Successful coping with work-family conflict is also associated with higher levels of life (e.g., Beutell, & Greenhaus 1982) [4].

Theories of relation between global life facet satisfactions have proposed either "top-down" or "Bottom-up" influences "Bottom-up" theories proposed that perceptions of structural aspects of the environment lead to satisfaction within various life domains. Social indicators research (Glatzer & Mohr 1987) [13] has proceeded along the life of bottom up theories, under the rational that changes in overall life satisfaction can be affected by addressing social concerns within specific life domains of life.

Top down theories on the other hand (Staw & Ross. 1985; Stones & Kozma, 1985) [42] propose that global satisfaction determines satisfaction with specific life facets. Social interventions may effect changes in satisfaction with specific aspects of life. A third "bi-directional" or "reciprocal" model

proposes that global life satisfaction both determines and results from satisfaction with specific domains of life. (Diener, 1984) [8]. Michalos (1980) [30] for example suggested that satisfaction in several life domains may contribute to overall life satisfaction and that satisfaction with life in general influence individual's satisfaction judgements in various life domains. Thus, the bi-directional model acknowledges the importance of both (a) stable dispositional influences on global and domain specific satisfaction judgment and (b) the impact that life facet satisfactions have on judgments of overall life satisfaction. Research in this area has demonstrated positive association between overall life satisfaction and satisfaction in several life domains (Headey *et al*., 1985) [16] and among satisfaction in various life domains (Kopelman *et al*., 1983) [25]. Sam (2001) [39] did an exploratory study by examining the self-reported satisfaction with life and the factors predicting it among 304 international students (159 males and 145 females, mean age 29.6 yrs). The student reported on the whole good satisfaction with life. However students from Europe and North America were on the whole more satisfied than their peers from Africa and Asia.

Life Style of Diabetics

According to world health organization 2016 as of 2016, 422 million people have diabetes worldwide up from an estimated 382 million people in 2013 (Shi, Yuan, & Hu, Frank B. 2014) [40] and from 108 million in 1980 (WHO 2016) [53]. Accounting for the shifting age structure of the global population, the prevalence of diabetes is 8.5% among adults, nearly double the rate of 4.7% in 1980 (WHO 2016) [53]. Type 2 makes up about 90% of the cases (Williams textbook of endocrinology (12th ed.). Some data indicate rates are roughly equal in women and men (Vos, Flaxman, Naghavi, Lozano, Michaud *et al*. 2012) [49].

Diabetes Mellitus is a chronic disease that requires several adjustments in patients life style and has been referrd to as the most demanding of all chronic disease in terms of management (Pretorious *et al*., 2009, Sridhar & Madhu, 2002) [41]. Because it is incurable disease, diabetes has to be managed through a strict daily regimen of medicine, use of insulin, exercise and diet. These patients are therefore, faced with behavioral and psychological challenges that put them on an increased risk of developing several co-morbidities (Pretorious, Walker & Eterhuyes, 2009). Moreover, both old age and diabetes are independently associated with increased risk of cognitive dysfunctions (Munshi *et al*., 2006) [31], as well as an increased risk of psychological distress, anxiety, depression, hypertension, mood disorders, and functional impairment, therefore, affecting negatively patients well being (Munshi *et al*., 2006; Pretorious, Walker & Eterhuyes, 2009; Sacco & Yanover, 2006; Strine *et al*., 2008) [31, 38 43]. Conversely, life dissatisfaction is related to obesity and poor health behaviors such as smoking, heavy drinking and physical inactivity, which are also associated with diabetes (Hu *et al*, 2001; Strine *et al*, 2008) [19, 43].

The key to successful control of diabetes is active self-management (Auerbach, *et al*, 2001) [3]. According to studies, Type II diabetes can be completely prevented by changes in life style of high risk individuals (Tuomilehto, *et al*, 2001) [46], if the trajectory of the diseases already diagnosed, patients can be greatly improved by changes in life style. On the basis of research findings the life style factors most strongly implicated are the need for exercise, weight among those that re overweight, stress and dietary control. Life style is the way a person lives. This includes patterns of social relations, consumption, entertainment, and dress. A lifestyle typically also reflects an individual's attitudes or values.

Having a specific "lifestyle" means engaging in a characteristic bundle of behaviors that makes sense to one self and to others at different times and place. Therefore, a life style can be used to forge a sense of self identity and to create cultural symbols for the way a person is. The behaviors and practices within lifestyles are a mixture of habits, conventional ways of doing things, and reasoned actions.

The term "lifestyle" first appeared in 1939. Alvin Toffler predicted an explosion of lifestyle as diversity increases in postindustrial societies. Pre modern societies did not require term like "life style", as different ways of living were expressed as entirely different cultures, religious or ethnic groups. As such the minority culture was always seen as alien or other. "Lifestyle" were the accepted way of life within the majority culture or group.

Unhealthy diet and activity patterns contribute the most to death in the U.S. Consumption of high levels of cholesterol and saturated fat in foods is associated with heart disease, several types of cancer, and stroke. High-calorie consumption coupled with low levels of physical activity predisposes people to overweight, diabetes, and high blood pressure. A sedentary life style is responsible for 23% of deaths from the leading chronic diseases (heart disease, high blood pressure, stroke and diabetes).

Type 2 diabetes is an increasingly prevalent lifestyle disease. It is associated with being overweight: for every 20% increase in overweight, the chance of diabetes doubles. Improving nutrition and maintaining normal body weight can help prevent diabetes.

In modern times, the life style adapted by urban people were mostly copied from western culture were capitalism provides this life style was labeled as modern life style which still provides in Metro cities of India and is being adapted by smaller cities. Late night parties, late dinner, T.V. watching during evening and leisure time; getting up late in too morning using modern equipment to save physical energy and eating readymade fast food and junk food, constant visits to restaurants to satisfy taste buds and continuously sitting in front of computer for long hours to complete office works are the characteristic feature of modern life style. All this is supplemented by craving for more and more money leaving no times slot in daily life for sick elderly, or children. This creates stressing their minds. Even holidays are spent on picnics and going for holiday resorts and not in visiting family members. This lack of emotional bond creates psychological dissatisfaction in life.

Lifestyle habits

Diabetics frequently adopt better lifestyle habits believing they will improve their longevity and survival. They exercise, eat a prudent-type diet, don't smoke, and limit their alcohol consumption.

Most people with diabetes are overweight. Decreased calorie intake and increased exercise are important for weight control and longevity. Control of blood sugar level can decrease the risk of the complication. By controlling their weight with a

diet low in saturated fats and high in fruits, vegetables, and whole grains, and implementing exercise activities, survivors can promote longevity. Exercise also promotes positive psychological and emotional wellbeing and quality of life.

Food Intake Behavior

Prevention of the diabetes through life long diet modification weith weight control with exercise remains the best option for a healthy life. It is suggestive that diabetics should decrease the consumption of red meat, saturated fat and trans-fat and sweet fruits.

Exercise

Exercise plays a key role in reducing risk of diabetes and can be very beneficial in promoting survival and longevity. It is now well established that for Type II diabetes, exercise helps promote longevity and potentially disease control. Thus exercise helps reduce obesity and not only improves long-term health, but reduces the risk of several co-morbid conditions including disease progression, obesity, cardiovascular disease, diabetes, and functional physical decline. It also promotes improved vigor with better quality of life.

Sleeping Behavior

Studies (Kristen *et al*., 1999 & 2007) [26] have shown that a reduction in sleep is associated with a significant increase in the incidence of type 2 diabetes. Sleep curtailmnt could account for the increased incidence of diabetes in developed countries in the last decades,

Alcohol Consumption and Cigarette smoking

Epidemiologic studies of alcohol intake and risk of type 2 diabetes mellitus have produced conflicting results though no clear results are available under Indian conditions. A recent review of 18 prospective cohort studies evaluated the association between alcohol consumption and the incidence of diabetes (Howard, & Arnsten, *et al*. 2004) [18]. Eight of these studies found a U-shaped relationship between alcohol consumption and diabetes incidence; moderate drinkers had the lowest risk for diabetes, and nondrinkers and heavy drinkers had a higher risk. However, heavy drinking was significantly associated with type 2 diabetes mellitus in only two of these studies (Wei, & Gibbons *et al*. 2000, Nakanishi, Suzuki, & Tatara, 2003) [51, 34]. Alcohol consumption and diabetes incidence were inversely related in three studies, but the prevalence of heavy drinking was low (1%–3%), hence these studies had limited power to detect a relationship between heavy alcohol use and diabetes (Hu, Manson & Stampfer, *et al.* 2001, Ajani, Hennekens, *et al*. 2000) [19, 1].

Spirituality is additional internal characteristic that have is often linked with life satisfaction. The significance of spirituality in everyday life has been supported by empirical studies in the past decades. Studies of spirituality and religiousness have generally reported its modest positive correlations with subjective well-being including life satisfaction (Kelley & Miller, 2007; Zulling, Ward, & Horn, 2006) [23, 54]. A growing body of research suggests that spirituality is related to various outcomes, including physical health, mental health, and psychological well-being (Kelley & Miller, 2007) [23]. In the last few decades psychologists have renewed interest in to develop spirituality and have ways in which to assess and describe spirituality. (Although psychology of religion is one of the oldest areas of study). The complexity of the constructs of spirituality and religion has many defferent definitions and theoretical approaches (Wong, 1998b). Vaughan *et al*. (1996) [48], defined spirituality as "a subjective experience that exists both within and outside of traditional religious systems" and Sussman *et al*. (1997) [44] defined spirituality as "subjectively experiencing a life force". A slightly different approach to spirituality was taken by Emblen (1992) [10] who exemplifies the various conceptualizations in relation to experiential, relational and existential phenomena and healing practices associated with spirituality (Thoresen, 1999) [45].

Despite the diversity in the conceptual definitions of spirituality, several common defining characteristics can be extracted. The conceptual definitions generally involve a relationship to something that lie beyond physiological, psychological or social human perception or experience. This relational object of spirituality may be described as "divinity", "a high power", a "divine being", "ultimate reality" or "God", (Dayson, Cobb, & Forman, 1997; Thoresen, 1999) [45]. The experience associated with this relational aspect of spirituality can be described as transcendent or transpersonal in nature (Vaughan *et al*., 1996) [48]. Most definitions of spirituality support the notion that spirituality is associated with an existential search for meaning and purpose regarding complex questions about life (Larson *et al*., 1998). Challenges in measuring spirituality follow the same concerns and trends as difficulties in conceptualizing this concept. In the beginning stages, research was almost exclusively focused on the measurement of religion (George *et al*., 2000) [12]. However, during the past few decades numerous measures of spirituality and religion have been added to the repertoire of available instruments. Reviews of spirituality instruments reveal a diversity of operational definitions (Hill & Hood, 1999) [17].

Walker (1992) [50] conducted a qualitative study on the benefits of spirituality for women. She defined spirituality as "a higher level of abstraction which transcends both the physical, emotional, and all other qualities in adult women. These qualities may include religiosity, intellectual interests, beliefs, and attitude". Benefits of spirituality were examined in three area: personally, in the family, and in friendships.

Lauver (2000) [28] discusses women's spirituality and its relationship with health. She writes about spirituality as community and advocates for connection with self, other women, and one's community in the cultivation of spirituality.

Method

Objective

To study the relationship between Life Style and life satisfaction of type II diabetics and non-diabetics.

Hypotheses

1. There is a significant positive correlation between spiritual behavior and life satisfaction.
2. There is a significant positive correlation between eating behavior and life satisfaction.
3. There is a significant positive correlation between physical activity behavior and life satisfaction.
4. There is a significant positive correlation between

sleeping behavior and life satisfaction.
5. There is a significant positive correlation between alcohol consumption behavior and life satisfaction.

Design
Correlational design was used.

Sample
The sample for the study consisted of 200 diabetics (100 male, 100 female) taken from the clinics of physicians and 200 non-diabetics (100 male, 100 female) in the age range 40 to 75 years.
The following inclusion and exclusion criteria were followed for selection of diabetics in group I:

Inclusion Criteria
- Patient diagnosed by doctor to have Type II diabetes and should have been under treatment for diabetes at least for last one year.
- All the patient were 1st generation diabetic.
- Educated at least up to class XII.
- Marital Status: All diabetics and non-diabetics in the sample were married.
- Age range of subjects between 40 to 75 years.

Exclusion Criteria
- Person suffering from any other chronic fatal disease (other than diabetes) like cancer, heart disease, asthma and AIDS (HIV) etc. was excluded from the sample.
- Person having family history of diabetes was excluded from the sample.

Description of the Tools
1) Diabetes was diagnosed on the basis of any doctors (Pathologist) report obtained during last six months. If the blood sugar level after fasting is beyond the normal value of 70 – 100 mg/dl the person would be a diabetic.
2) For measuring Life Style 'LIFE STYLE SCALE' prepared by the investigators (Das & Chaudhary, 2008) was used: The life Style Scale consists of 45 items in Hindi language with maximum score= 135 and minimum score= 45. It has 5 sections: 1. Food Intake Behavior 2. Control on Alcohol Consumption Behavior 3. Physical Activity Behavior 4. Sleeping behavior 5. Spiritual behavior.

Table 1

	Food Intake Behavior	Alcohol Consumption Behavior	Physical Activity Behavior	Sleeping Behavior	Spiritual Behavior
Test Retest Reliability	.99	.98	.99	.98	.69
Internal consistency	.83	.67	.71	.55	.72

3) For measuring Life Satisfaction, 'P.G.I well-being scale' was used. The original P.G.I Well Being Scale is a 20 items scale in simple English constructed on the lines of scale by Fazio, (1974) & Dubey, (1970). The present modified scale by Moudgal, Verma, Pal and Kaur is in Hindi and also consists of 20 items.

Scoring: In the Scoring of P.G.I Well Being Scale every item responded as tick (√) was given a score of 'I' and the item left out or not responded were given a score of '0' The total Score is number of ticks. The minimum score of the P.G.I. Well Being Scale is '0' and the maximum score is '20'.

Result and Discussion
a) Coefficient of Correlation
First of all Product Moment Coefficients of Correlation (r) were found between life style and life satisfaction for 200 non-diabetics which are shown in the following table of correlation matrix.
Correlation between Life style Variables and Life Satisfaction
Correlation matrix in table 2 indicates inter correlation among separate life style variables such as food intake behavior, alcohol consumption behavior, physical activity behavior, sleeping behavior and spiritual behavior, life style as a whole and life satisfaction. It indicates that all the life style variables are significantly and positively correlated with life satisfaction of non-diabetic individuals. Highest Correlation was found between Spiritual behavior and life satisfaction ($r = 0.46$, $p<0.01$) indicating that increase in spiritual behavior is related to increase in life satisfaction of elderly. Thus on the basis of the result the hypothesis that "there exists a significant positive relation between spiritual behavior and life satisfaction of non-diabetics", is proved.

Table 2: Correlation Matrix: Relationship between life style and life satisfaction of non-diabetics (N=200).

Groups	Food Intake Behavior	Alcohol Consumption Behavior	Physical Activity Behavior	Sleeping Behavior	Spiritual Behavior	Life Style	Life Satisfaction
Food Intake Behavior	1						
Alcohol Consumption Behavior	0.200	1					
Physical Activity Behavior	0.204	0.101	1				
Sleeping Behavior	0.124	0.013	0.197	1			
Spiritual Behavior	0.316	0.203	0.304	0.021	1		
Life Style	0.738	0.496	0.620	0.404	0.611	1	
Life Satisfaction	0.427	0.321	0.405	0.305	0.469	0.692	1

Correlation matrix in table 3 shows the inter correlation among separate life style variables such as food intake behavior, alcohol consumption behavior, physical activity behavior, sleeping behavior and spiritual behavior, life style as a whole and life satisfaction of type II diabetic individuals.

Table 3: Correlation Matrix: Relationship between life style and life satisfaction of type II diabetics.

Groups	Food Intake Behavior	Alcohol Consumption Behavior	Physical Activity Behavior	Sleeping Behavior	Spiritual Behavior	Life Style	Life Satisfaction
Food Intake Behavior	1						
Alcohol Consumption Behavior	0.125	1					
Physical Activity Behavior	0.182	0.044	1				
Sleeping Behavior	0.273	0.021	-0.019	1			
Spiritual Behavior	0.264	0.124	0.199	0.155	1		
Life Style	0.681	0.413	0.513	0.577	0.581	1	
Life Satisfaction	0.413	0.314	0.365	0.247	0.446	0.653	1

Correlation Matrix 2 indicates that spiritual behavior is also positively and highly correlated with life satisfaction of type II diabetics ($r = 0.44$, $p<0.01$). It shows that when spiritual behavior scores increase life satisfaction scores also increase. Thus on the basis of the result "there exists a significant positive relation between spiritual behavior and life satisfaction of type II diabetics" is proved.

Correlation matrix in table 4 indicates inter correlation among separate life style variables such as food intake behavior, alcohol consumption behavior, physical activity behavior, sleeping behavior, spiritual behavior, life style as a whole and life satisfaction of the total sample including type II diabetics and non-diabetic individual (N= 400).

Correlation Matrix 3 indicates that spiritual behavior is positively and highly correlated with life satisfaction of total sample ($r = 0.47$, $p<0.01$). It shows that when spiritual behavior scores increase, life satisfaction scores also increase.

Table 4: Correlation Matrix: Relationship between life style and life satisfaction of type II diabetics and non-diabetics (N = 400).

Groups	Food Intake Behavior	Alcohol Consumption Behavior	Physical Activity Behavior	Sleeping Behavior	Spiritual Behavior	Life Style	Life Satisfaction
Food Intake Behavior	1						
Alcohol Consumption Behavior	0.149	1					
Physical Activity Behavior	0.237	0.054	1				
Sleeping Behavior	0.234	0.004	0.115	1			
Spiritual Behavior	0.316	0.150	0.281	0.137	1		
Life Style	0.720	0.416	0.601	0.528	0.610	1	
Life Satisfaction	0.431	0.292	0.421	0.304	0.470	0.689	1

The coefficient of correlation between life style and life satisfaction of total sample is quite high indicating that life style is closely related to life satisfaction of people. If life style is improved life satisfaction also improves. Among the specific life style variables spiritual behavior and food intake behavior have highest correlation with life satisfaction although all the life style variables are positively highly correlated with life satisfaction of individuals whether diabetics or non-diabetics.

(II) Multiple Regression Analysis

In order to determine the specific contribution of each of the predictor variable in the determination of life satisfaction of total sample (type II diabetics and non-diabetics) Multiple Regression Analysis was done from the data obtained on 400 cases and to generalize the results multiple regression equation was formed.

Table 5 shows that the value of R square for life satisfaction (criterion) is .526 which shows that about 52.60% of contribution is accounted by the predictor variables food intake behavior (X_1), alcohol consumption behavior (X_2), physical activity (X_3), sleeping behavior (X_4), spiritual behavior (X_5).

Table 5: Multiple Regression Coefficient for Predictors of Life satisfaction (N = 400)

	Variables	Regression Coefficients (b)	Beta (β)	Correlation (r)	Coefficient of Determination
	Intercept	-8.582			
X_1	Food Intake Behavior	0.158	0.232	0.431	0.1164
X_2	Alcohol Consumption Behavior	0.171	0.173	0.292	0.0507
X_3	Physical Activity Behavior	0.156	0.200	0.421	0.0844
X_4	Sleeping Behavior	0.113	0.138	0.304	0.0419
X_5	Spiritual Behavior	0.216	0.215	0.476	0.1024

Table 5 reveals that food intake behavior (X_1) has positive contribution (b = .158) in the determination of life satisfaction. It is accounted for about. .11 % (coefficient of determination) of variation in the determination of life satisfaction. The regression coefficient of food intake behavior (X_1) of individuals is positive which shows better the food intake behavior higher the life satisfaction. The regression equation reveals that 1 unit increment in food intake behavior would lead to .158 increment in life satisfaction.

The predictor variable control on alcohol consumption behavior (X_2) has positive contribution (b = .17) in the

determination of life satisfaction. It is accounted for about .05% (coefficient of determination) of variation in the determination of life satisfaction. The regression equation reveals that 1 unit increment in control of alcohol consumption behavior (X_2) would lead to .17 increment in then life satisfaction.

As table 5 indicates regression coefficient of physical activity (X_3) has positive contribution (b = .156) in the determination of life satisfaction. It is accounted for about 0.084% (coefficient of determination) of variation in the determination of life satisfaction. The regression equation reveals that 1 unit increment in physical activity (X_3) of and non-diabetics would lead to .156 increment in their life satisfaction.

The regression coefficient of sleeping behavior (X_4) has positive contribution (b = 0.11) and is accounted for about 0.04 (coefficient of determination) of variation in the determination of life satisfaction. The regression equation shows that 1 unit increment in sleeping behavior (X_4) would lead to .011 increment in life satisfaction of type II diabetics and non-diabetics.

The table 5 regression coefficient of spiritual behavior (X_5) has positive and very high contribution (b = .21) in the determination of life satisfaction. It is accounted for about. 10% (coefficient of determination) of variation in the determination of life satisfaction. The regression equation reveals that 1 unit increment in spiritual behavior (X_5) of type II diabetics and non-diabetics would lead to .21 increment in life satisfaction of type II diabetics and non-diabetics.

Table 5 reveals that spiritual behavior has highest contribution in the determination of life satisfaction (Regression Coefficient b = .216), among all other life style variables.

Discussion

The present research findings indicate that spiritual behavior has positive and very high contribution in the determination of life satisfaction. Correlation Matrix also showed that spiritual behavior is positively and highly correlated with life satisfaction. Spirituality is an important determinant of wellbeing in people with diabetes. Parsian, & Dunning, (2009) [35] found the similar result Young adults with diabetes defined spirituality as a sense of being in touch with the inner self, meaning in life, and connecting with people, nature and a higher being. Spirituality is important to young adults with diabetes and helps them cope with stressful situations.

In a study Reiger & Patricia, (2006) [37] tried to educate type II diabetic African – American Seniors, age of sixty and older, about the disease and increase their spiritual awareness' of positive health practices in order to enhance their own quality of life. It has been found that by utilizing several techniques their quality of life was improved as a result of "spiritual" education and positive "spiritual" practices. Therefore, elderly diabetics can enhance the quality of their own lives and the lives of others. Meditational practices and reading religious scriptures are specially very effective.

Results of the present research have also shown that non-diabetics are more involved in spiritual behavior in comparison to the diabetics. The difference is significant at .01 level. Not many studies have been done to compare the spiritual activities of diabetics and non-diabetics, except a few like that of Mugrance, Allen, *et al*., (2002) [32] and Mansfield *et al*., (2002) [29] who have reported that spirituality has been considered an important factor in chronic disease treatment with positive health outcome and improvement in quality of life with strong religious belief. This study found a significant number of people having belief on spiritual treatment, and its positive role in permanent cure, of diabetes mellitus, but those who were educated were less convinced as compared to illiterates.

The results indicate highest contribution of spiritual behaviour in the determination of life satisfaction, regression coefficient of predictor variable spiritual behavior being highest in compression to other life style variable food intake behavior, physical activity behavior, sleeping behavior and alcohol consumption behavior etc. therefore it is concluded that spiritual activity should be given important in individuals life style in order to enhance their life satisfaction spirituality keeps the mind out of stress. When the brain is at an optimal level of arousal, individual finds happiness and satisfaction in life.

The present findings are in agreement with previous findings by Vallis *et al*. (2005) [47] on Lifestyle Changes and Self-management of diabetes. Performing spiritual activities have also been proved to be helpful in maintaining normal sugar level. In fact the contribution of life style in life satisfaction of diabetics is so much that diabetes can be called a Life Style disease. It is therefore concluded that people with balanced life style achieve happiness and satisfaction in life and remain healthy.

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