

**Consequences of COVID-19 Pandemic on Sleep, Psychological Immunity, and Wellbeing; Synchronized Lifestyle Modification Program: a Journey of Hope**Dr. Shagufta Feroz<sup>1</sup>, Samia Khalid<sup>2</sup>, Dr. Mujtaba Jaffery<sup>3</sup>**ABSTRACT**

Lifestyle is one of the most imperative factors concerned with the health and immune system. Due to the modern lifestyle and COVID-19, the lifestyle of the majority of Pakistani people has changed, therefore, they are facing the challenges of malnutrition, unhealthy food, and diet, physical illness, stress, anxiety, depression, and sleep disorder. Synchronized Life-style modification program (SLP) is an evidence-based exercise of serving individuals and their families to follow healthy behaviors that enhance health, optimize sleep, manage stress, and value of life. During COVID-19, present research explores the moderating role of SLP in the relationship among insomnia, psychological immunity, and psychological well-being. Survey research design and nonprobability purposive sampling technique were used. With APA ethical Consideration, online data was collected from 394 individuals from different cities of Pakistan. Results found that Synchronized Lifestyle Modification program has a significant negative relationship with insomnia but a significant positive relationship with psychological immunity and well-being. Results further found that insomnia has a negative relation with psychological immunity and well-being, this relationship will be weaker in case of a high Synchronized Lifestyle Modification program (SLP) practices.

**Keywords:** Synchronized Lifestyle Modification; Insomnia; Psychological Immunity; Wellbeing

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**Introduction**

Lifestyle is one of the most imperative factors concerned with health and the immune system. It comprises fluctuating behaviors and roles of persons at home, workplace, institutes, activities, and mainly their diet as

they follow an unhealthy lifestyle. Due to this, people with weak immune systems suffer from illness, uncertainty, over-weight, mental disorder, hypertension, disability, and sometimes death. So, the correlation between lifestyle and health should be considered. Due to the modern lifestyle and COVID-19, the lifestyle of the majority of people has changed, therefore, they are facing the challenges of malnutrition, unhealthy food, and diet, drugs use, stress, anxiety, depression, and sleep disorder (Dariush, 2015).

For managing and controlling health issues, four evidence-based successful intrusions of health are sleep, nutrition, physical activities, and stress management. Synchronized Lifestyle medicine is an embodiment of tailored treatment as its impact on endocrine, epigenetic, immunologic, and inflammatory changes mainly contribute to amelioration of chronic diseases. The changes in the sleep

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pattern and schedule result in both physical and mental symptoms, which can have adverse effects on health in the future. The continued lifestyle with irregular sleep cycles can result in severe diseases like insomnia, Alzheimer's disease, dementia, inflammation, anxiety, and mental illness (Abe & Abe, 2019). Lifestyle Modification is a healthy intervention aimed at enhancing multiple health problems. The development of Synchronized Lifestyle interventions targeting specific lifestyle behaviors associated with poor sleep, mental and physical health in different age groups. A synchronized lifestyle modification plan (SLP) is a comprehensive plan that first time introduced by Dr. Shagufta Feroz (2012). The aim of this dietary plan is to work on preventive holistic health. To create harmony, SLP uses nutrient-dense, high-calorie natural foods in satisfying portions. It is an individualized, body compatible dietary program which has no side effects if followed correctly.

In terms of SLP, sleep is one of the main pillars of Life-style medicine, it is a vigorous psychological practice, which affects multiple body functions like posttraumatic stress syndrome and anxiety-related disorders. The bidirectional connection between sleep anomalies and anxiety-related brain disorder specifies a model on psychological and neurobiological practices (Anne et al., 2020). So there are factors that are significant for immunity, mood, and cardiovascular health and can be adopted to protect mental health, sleep disturbance, insomnia, maladaptive communication, and stress. Life-style medicine plays a significant role to mitigate these abnormal sleep issues, tensions, and strains on the human mind.

Stress is mainly linked with mental sickness, morbidity, and mortality which results in many diseases such as cancer, lung infection, diabetes, influenza, insomnia, cardiovascular diseases, depression, and shortened lifecycle.

Epigenetics provides an evidence-based clarification to release stress for primary patient care and life-style oriented medicine tactics such as yoga, breathing practices, exercise, sleep hygiene, support and communal connectedness, mindfulness, drug and alcohol termination, smoking mitigation. By counseling patients to overcome stress issues and positive life-style adoption, a deeper empathetic of epigenetics should permit medical educators and primary health care workers to promote counseling of healthy life-style, strong immunity, and stress reduction (Jenny et al., 2019).

Physical activities contribute positively to health fitness and stress management. Regular walk and exercise provide quality sleep. In regulating the hormonal and metabolic processes, sleep time should be appropriate according to the age (Brett et al., 2017). Stress is one of the pillar of life-style medicine and has an influence that is well identified as damaging the overall health. It is considered as vague and obscure in terms of cure and treatment for a healthier body and mind. Stress management or mindfulness rumination epitomizes training for calming the state of mind as it improves human health, comfort, and well-being. Mindfulness meditation effects biological mechanisms and it is noticed that mindfulness is associated with reduction in inflammation, biological aging, and cell-mediated immunity (Black & Slavich, 2016).

Now a days, COVID-19 is one of the most unpredictable and hazardous viruses spreading all over the world. By following the Synchronized Lifestyle Modification Program (SLP), we can overcome almost all the above-mentioned psychological and health immunity issues.

COVID-19 has resulted in a lockdown situation around the globe. Pakistan is a third-world country that has suffered from the breeze of COVID-19 in 2020. The lockdown situation, particularly in Pakistan, is referred

to as a situation where all businesses are shut down, the educational institutions and recreational centers are closed. This situation resulted in holidays for people of different ages related to academia as well as other occupations. The holidays, with limited mobility, have resulted in a change in daily activities as well as routines. Major changes are the change in eating habits, sleep patterns and schedule, physical activities, healthy time spending with family and relatives. Pakistani population is having a continuous disruption in their schedules due to the holidays. These include staying up till past midnight (approximately till 3-4 am), sleeping till noon, and suffering from insomnia due to an inactive lifestyle. This abnormal lifestyle has resulted in stress, depression, and a decrease in the efficiency of the immune system.

The two main contributors to the potential worsening of sleep are changes in stress levels and changes in sleep behaviors. Sleep is emerging as the latest casualty of the COVID-19 crisis. Too many sleepless nights can aggravate both physical and mental health problems, so implications are severe. In addition to the cognitive consequences from the inability to focus on general irritability, chronic insomnia is correlated with a spectrum of serious health problems including diabetes, cardiovascular disease, and hypertension. Mental health problems are complicated by a lack of sleep. The influence of the outbreak of COVID-19 on mental health had been poorly understood.

### Research Objectives

Following are the present study objectives:

1. To find the possible relationship among Synchronized Lifestyle Modification program, Insomnia, psychological immunity, and well-being.
2. To explore the effect of Synchronized Lifestyle Modification program in the

relationship between insomnia and well-being.

3. To explore the effect of Synchronized Lifestyle Modification program in the relationship between insomnia and psychological immunity.

### Research Hypothesis

H1: There would be a significant relationship between Synchronized Lifestyle Modification program, insomnia, psychological immunity, and well-being.

H2: Synchronized Lifestyle Modification program will moderate the relationship between insomnia and well-being such that the negative relationship will be weaker in the case of high Synchronized Lifestyle Modification practice.

H3: Synchronized Lifestyle Modification program will moderate the negative relationship between insomnia and psychological immunity such that the negative relationship will be weaker in the case of high Synchronized Lifestyle Modification practice.

## METHOD

### Sample

University Students and Employees from different cities of Pakistan were selected as a study sample. Online data of 394 participants collected during COVID-19 quarantine period. English is the official language in Pakistani universities so the survey questionnaire was administered in the English language. Assured the participants that confidentiality would be maintained and only aggregated data would be available for others. Moreover, the cover letter also indicated that there were no correct or incorrect answers, so they gave their answers as honestly as possible. The survey questionnaire is based on two sections. In the first section, demographic information was added that related to healthy life habits according to the Synchronized lifestyle modification (SLP) model.

The concept of healthy life habits in the present study was general and applied to any culture. In Pakistan, people are not much aware of SLP practices and their relation with their psychological immunity and psychological well-being, so the focus of the study was on the impact of our daily routine activities on psychological immunity and psychological wellbeing.

From the 500 distributed survey questionnaires, we received 394 completed responses, resulting in a response rate of 79%. In respondents, 120 (47%) males and 274 (53%) females were included. Their average age was 20 years, and their average worked experience was 4 years. In participants, 211 (54%) got a bachelor's degree, and 52 (13%) Master's degree qualification. 80 (20%) participants were married and 314 (80%) were unmarried.

## Measures

### Psychological Immunity

A short version of self-immunity scale introduced by Choochom in 2013. It has 15

items with 5 response categories. It has five subscales including mindfulness, self-reliance, hope, resilience and coping. Higher score in each domain indicated high level of psychological immunity. Alpha reliability of this scale is .78.

### Psychological Wellbeing

Diener et al. scale of Psychological wellbeing (2009) was used in the present research which has 8 items and 5 response categories. Cronbach's alpha reliability coefficient was .87.

### Insomnia Scale

A 4 item scale to measure sleep disturbances selected from Cole et al. (2011) was used in the present research.

### Synchronized Lifestyle Modification Program (SLP)

A 15 item self-developed scale based on 6 pillars (eating habits, water intake, sleep, addiction, social connectedness, and physical activities) of the Synchronized Lifestyle Modification program developed by Dr. Shagufta Feroz (2012) was used.

## RESULTS

**Table 1**

*Correlations and descriptive statistics of study variables (n=394)*

Variables	1	2	3	4	5	6
1. Psychological Immunity	(.93)					
2. Psychological Well-being	.25**	(.89)				
3. Insomnia	-.38**	-.40**	(.87)			
4. SLP	.39**	.39**	-.12*	(.76)		
5. Gender (1 = female)	.02	.11	.01	-.21**	--	
6. Age	.07	-.04	-.06	.08	-.17**	--
Mean	4.16	2.10	1.82	4.54	1.25	1.17
Standard deviation	.67	.72	.77	.35	.43	.39

Note: Cronbach's alphas are reported in parentheses on the diagonal

\*  $p < .05$ , \*\*  $p < .01$

The table 1 shows a significant positive correlation between SLP, psychological immunity, and psychological wellbeing. The

table also shows a significant negative relationship between insomnia with SLP,

psychological immunity, and psychological wellbeing.

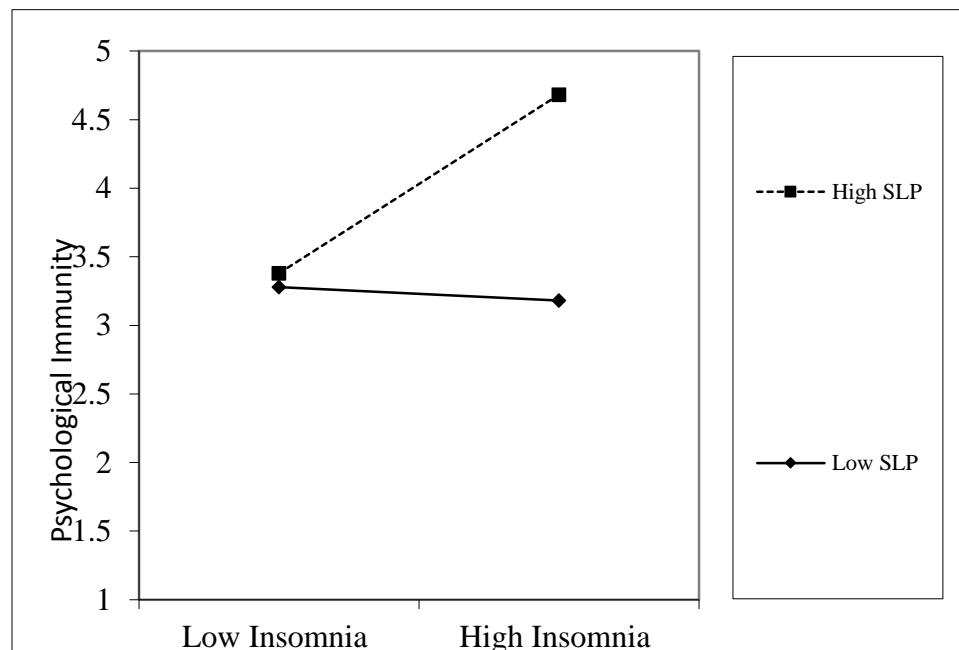
**Table 2**  
*Results of Regression Analysis (n=394)*

	Psychological Immunity			Psychological Well-being		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender (1 = female)	.07	-.01	.00	.02	0.1	.01
Age	.02	.05	.06	.09	.05	.05
Insomnia		-.27***	-.27***		-.37***	-.36***
SLP		.41***	.38***		.40***	.39***
Insomnia × SLP			.15**			.21***
R <sup>2</sup>	.04	.25	.29	.06	.34	
ΔR <sup>2</sup>		.22***	.02**		.27***	

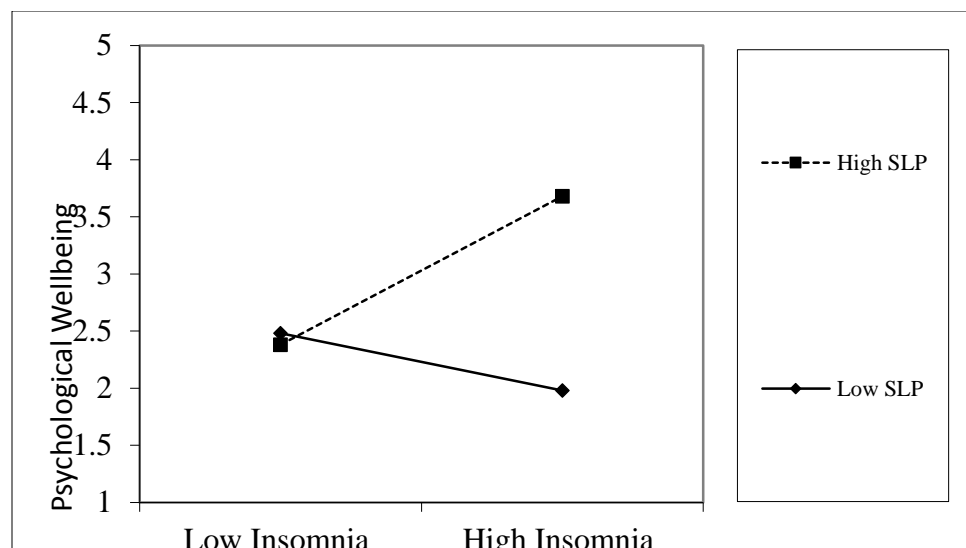
Notes: <sup>+</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

The table shows a significant negative effect of insomnia on psychological immunity and psychological well-being. In the case of high SLP practice, the negative relationship between insomnia and psychological well-being will be weaker. During COVID-19, in

case of high insomnia and high SLP practice, psychological immunity will increase. Similarly, during COVID-19, in the case of high insomnia and low SLP practice, psychological well-being will be decreased.



**Figure 1.** Graph between Insomnia and Psychological Immunity in case of high and low SLP Practice.



**Figure 2.** Graph between Insomnia and Psychological Wellbeing in case of high and low SLP Practice.

## DISCUSSION

The present research is an effort to analyze how our lifestyle during the COVID-19 quarantine affects our sleep and mental health. Similarly, what is the role of lifestyle sciences i.e. synchronized lifestyle medicine to improve psychological immunity, well-being, and good sleep. Insomnia is most prevalent in sleep disorders that affect many aspects of life quality and well-being. Approximately, 9% to 12 % population suffering from insomnia due to their disturbed lifestyle (Narsawa et al., 2017). Present research proves that during the COVID-19 quarantine, sudden change in daily routine activities badly affected our sleep that leads to low psychological immunity and well-being. People who used Synchronized Lifestyle practices are high in psychological immunity and well-being and not face sleep related problems.

SLP helps in good sleep and mental health. It is also very helpful in improving general health and all other medical and psychological problems. SLP helps us in attaining mental and spiritual peace. It Slows the aging process especially mental and besides improving general well-being. it helps improving relationships and behavioral

health at home and work environment, especially during the covid-19 pandemic.

Indeed, there is a strong relationship between lifestyle medicine practice (SLP), quality of sleep and mental health but a comprehensive understanding of their causal relationship might be difficult to achieve. Synchronized Lifestyles Medicine Practice, their relation with psychological immunity and insomnia all are strongly embedded in the social and cultural background. SLP aims to sink the internal and external environment of a person that leads to a good mental health.

## Recommendations

To improve psychological immunity, SLP work on six different life domains (natural food, water intake, sleep, physical activities, addiction and social connection) that is difficult to measure in one research, it should be measured individually with different cultural context. Demographic effect, psychosocial and biological differences, mediating moderating models may also be studied with synchronized lifestyle modification practices.

## Conclusion

The present study concludes that SLP is significantly positively correlated with psychological wellbeing but negatively



correlated with insomnia. Insomnia is significantly negatively correlated with psychological immunity, and psychological wellbeing.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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The authors did not receive funding.

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