

Comparative Study

Effect of Base run and Surya-namaskar on Psychological Well-Being: A Comparative Study

Mr. Digvijay Singh Bhandari^{1*}, Dr. Rita², Ms. Deepshikha Tyagi³

ABSTRACT

Context: Base run is related to Physical Exercise and Surya-namaskar is related to Yogic exercise. Both these Health promoting behaviors have different approach to maintain health. Present study is helpful in understanding and comparing their effect on overall psychological-well-being of individuals. **Aim:** To measure and compare the effect of Base run and Surya-namaskar on Psychological Well-being of university boys. **Settings and Design:** Pre-Post experimental controlled design. **Methods and Material:** Sixty university boys were randomly and equally divided into Base run and Surya-namaskar group. The subjects of both the groups were assessed for psychological well-being at the baseline and after the completion of experimental period of thirty days. **Statistical analysis used:** Paired sample t-test was used to compare the scores collected before and after the intervention of Base run. It was also used to compare the pre and post data of Surya-namaskar group. **Results:** After completing thirty days intervention, Base run group showed significant improvement after 1 month of Base run intervention in overall psychological well-being (<0.01). Surya-namaskar group also showed significant improvement after 1 month of Surya-namaskar intervention in overall PWB (<0.01). Comparison between Base run and Surya-namaskar also revealed that Surya-namaskar is significantly better than Base run in improving psychological well-being (<0.05). **Conclusions:** It was concluded that Base run and Surya-namaskar are both helpful in increasing psychological well-being of university boys.

Keywords: Base run, Surya-namaskar, psychological well-being, boys.

Health promoting behavior includes behavior that are important for living healthy life style. These behaviors make a person physically and mentally healthy and also increase well-being and self-actualization. (Wang, Ou, Chen, & Duan, 2009) Present study is an effort to measure and compare effects of two important Health Promoting Behaviors that are Surya-namaskar and Base runs on psychological well-being. Surya-namaskar or “Sun Salutations” was originally propagated by the King of Aundh, Late Shrimant Balasaheb Pant Pratinidhi in the 1920s (Venkatesh & Vandhana, 2022). It is a traditional Indian yogic practice that includes practice of 12 physical postures continuously

¹Research Scholar, Department of Psychology, HNBGU, Srinagar Garhwal Uttarakhand

²Guest Faculty, Department of Psychology, HNBGU, Srinagar Garhwal Uttarakhand

³Research Scholar, Department of Psychology, HNBGU, Srinagar Garhwal Uttarakhand

*Corresponding Author

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with proper breathing techniques. Surya-namaskar includes various asanas like—*Pranamasana, hasta-utthanasan, padahastasan, ashwa-sanchalanasan, ashtanaga namasakar, bhujangasan, and parvatasan* (Saraswati, 1996). Whereas A base run involves running at a runners' natural pace for a short or moderate period of time. Its goal is not meant to be pushing or challenging heavily but to establish a routine to improve endurance. A study shows that running is also effective in reducing depression (Kruisdijk, Hendriksen, Tak, Beekman, & Hopman-Rock, 2012). Base run is kind of Exercise and Surya-namaskar is kind of Yogic Practice. It is believed that main difference between exercise and yoga is that exercise expend energy whereas yoga generate energy. There are so many studies that have measured the effect of Surya-namaskar and running on mental health separately but no study has compared the effect of these two Health promoting behavior. Therefore, the present study was designed to measure and compare the effect of Surya-namaskar and Base runs on psychological well-being of university boys.

MATERIALS AND METHODS

Participants

Sixty boys of age range between 18-20 years were randomly divided into Surya-namaskar intervention group and Base run intervention group. These subjects were selected from H.N.B.G.U. Srinagar Garhwal, Uttarakhand.

Research Design

All subjects underwent up to psychological well-being test at baseline and after 1 month of intervention. After collection of data at baseline, subjects were randomly assigned to either the Surya-namaskar intervention group (n=30) or Base run intervention group (n=30). Both groups were asked to practice their respective interventions for 30 minutes per day, 6 days in a week.

Materials:

Psychological Well-Being Scale: developed by *D. S. Sisodia and Pooja Choudhary (2012)*. The scale consisted of 50 items and covered five dimensions, namely- satisfaction, efficiency, sociability, mental health and interpersonal relations. The test-retest reliability was found to be 0.87 and the overall consistency value of the scale was 0.90. PWBS has also a sufficient degree of content validity beside the external criteria & coefficient obtained was 0.94. (This scale was administered on **any age group**).

Data Analysis:

Statistical analysis was done using Statistical Package for the Social Sciences software version 20.0 (SPSS-20.0) (IBM Corporation., Armonk, N.Y., USA). Paired sample t-test was used to compare the means between pre and post measurements. Unpair or Independent sample t-test was used to compare the means between pre data of both groups and also to compare the means between post data of both groups.

Table 1: Comparison of baseline psychological well-being scale score with score at 1 month (Table includes Mean, S.D and T ratio).

	Base run Group		Surya-Namaskar Group	
	Pre	Post	Pre	Post
Satisfaction	28.50±5.57	28.87±6.06	28.63±5.87	32.57±5.76
	2.083*		9.953**	
Efficiency	28.73±5.92	29.40±5.85	29.20±5.05	32.47±5.22

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	2.525*		12.250**
Sociability	28.87±6.39 2.354*	29.50±6.44	28.53±5.44 25.831**
Mental Health	28.67±6.16 2.605*	29.43±5.98	29.27±5.02 11.276**
Interpersonal Relations	28.80±5.54 3.563**	29.67±5.76	28.90±5.93 21.954**
Overall Psychological Well-being	143.57±26.15 6.253**	146.87±26.65	144.57±24.81 31.541**

NS= p>0.05; *p<0.05; **p<0.01

Table 2: Comparison of Pre data between groups and comparison of Post data between groups (Table includes Mean, S.D and T ratio)

	Pre-Data		Post-Data	
	Surya-namaskar	Base Run	Surya-namaskar	Base Run
Satisfaction	28.63±5.87 0.090 ^{NS}	28.50±5.57	32.57±5.76 2.423*	28.87±6.06
Efficiency	29.20±5.05 0.328 ^{NS}	28.73±5.92	32.47±5.22 2.142*	29.40±5.85
Sociability	28.53±5.44 .218 ^{NS}	28.87±6.39	32.77±5.39 2.131*	29.50±6.44
Mental Health	29.27±5.02 0.414 ^{NS}	28.67±6.16	33.07±5.75 2.399*	29.43±5.98
Interpersonal Relations	28.90±5.93 0.067 ^{NS}	28.80±5.54	33.73±6.20 2.632*	29.67±5.76
Overall Psychological Well-being	144.57±24.81 0.1520 ^{NS}	143.57±26.15	164.60±25.78 2.619*	146.87±26.65

NS= p>0.05; *p<0.05; **p<0.01

RESULTS

Within group comparison is presented in Table 1. Psychological well-being of Base run group was measured before and after intervention. Results indicate that there is a significant difference between mean of Pre and Post data of Base run group at 0.01 level. There is also a significance difference between the mean of Pre and Post data of Base run group in the domain of Satisfaction, Efficiency, Sociability and Mental Health at 0.05 level and also significance difference between mean of Pre and Post of Base run group in the domain of Interpersonal Relations at 0.01 level in t-test. Psychological well-being of Surya-namaskar group was also measured before and after intervention. Result indicates that there is a significantly very high difference between mean of Pre and Post data at 0.01 level. There is also significant difference between mean of Pre and Post data of Surya-namaskar group in the domain of Satisfaction, Efficiency, Sociability, Mental health and Interpersonal relations at 0.01 level.

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Between group comparison is presented in Table 2. Pre data of psychological well-being of Base run and Surya-namaskar group was compared using t-test. Result indicates that there is no significant difference between mean of these two groups. There is also no significant difference between means of pre data of Base run and Surya-namaskar group in the domain of Satisfaction, Efficiency, Sociability, Mental Health and Interpersonal relations. Post data of psychological well-being of Base run and Surya-namaskar group was also compared using t-test. Result indicates that there is a significant difference between means of these two groups at 0.05 level. There is also significant difference between means of Post data of Base run and Surya-namaskar group in the domain of Satisfaction, Efficiency, Sociability, Mental Health and Interpersonal relations at 0.05 level.

DISCUSSION

This study examined the Psychological Well-Being of two different groups, one of which had practiced the Surya-namaskar and another had practiced Base run for 1 month. The results revealed that Surya-namaskar and Base run interventions had significant effect on overall psychological well-being. Previous study shows that mental health can be increased by both Surya-namaskar (Godse, Shejwal, & Godse, 2015) and running exercise (Keating, et al., 2018). A comparison was also done between Surya-namaskar group and Base run group on the parameter of Psychological Well-being. The results shows that Surya-namaskar intervention had significantly greater effect on overall psychological wellbeing than Base run intervention. Previous study shows that Surya-namaskar is effective in increasing Emotional Maturity and Psychological Well-being (Deorari, Agarwal, & Shukla, 2013).

Different domains of Psychological Well-being were measured before and after intervention in both groups. In the domain of satisfaction, efficiency, sociability, mental health and interpersonal relations there was a significant improvement in both Base run group and Surya namaskar group.

Comparison was also done between Base run and Surya-namaskar group on the domains of Psychological Well-being that were satisfaction, efficiency, sociability, mental health and interpersonal relations. After intervention data revealed that Surya-namaskar intervention had significantly more effect on all domains of psychological well-being than Base run group.

The limitation of present study is that it included small sample size and shorter duration. In fact, long term studies are needed to substantiate the findings of present study.

However, future study on the larger population is required to confirm the beneficial effects of Surya-namaskar and Base run. This study is measuring only one parameter that is psychological well-being, other parameter such as aggression and physical health can also be studied.

CONCLUSION

Base run intervention is helpful in increasing psychological well-being of university boys. Another intervention that is Surya-namaskar is also helpful in increasing psychological well-being. Comparison reveal that Surya-namaskar is much better than base run in increasing psychological well-being.

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Conflict of Interest

The author declared no conflict of interest.

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