Journal of Social Research

P-ISSN: 2827-9832
E-ISSN: 2828-335x
Vol. 5, No. 4, March 2026
http://ijsr.internationaljournallabs.com/index.php/ijsr

Implementation of Ergonomic Socio-Culture to Improve Health Quality and Caring Attitude Toward Local Wisdom in Tailoring

Ni Putu Sri Arnita[1], Anak Agung Ketut Sri Wiraswati[2], Ni Made Gandhi Sanjiwani[3], Ni Luh Putu Mia Lestari Devi[4]
Universitas Bali Dwipa, Indonesia
Email: sriarnita0803@gmail.com*

ABSTRACT

Majejasung is closely related to religious ceremonies in Bali. With the passage of time, the younger generation has become increasingly reluctant to learn tailoring. This is attributed to the prevalence of a consumerist and convenience-driven lifestyle, whereby many choose to purchase ready-made ceremonial attire. The specific objectives of this study were to examine the role of ergonomic socio-culture in improving health quality and fostering caring attitudes toward the local wisdom of *sekaa sesung* in *sekaa teruna*. The method employed was experimental, specifically a quasi-experimental research design, using a same-subject design with a randomized posttest-only control group pattern. The targeted findings were: the implementation of ergonomic socio-culture could improve health quality, as evidenced by reductions in boredom and fatigue measured using the Boredom and Fatigue Questionnaire (30-Item Rating Scale), and an increase in caring attitude toward the local wisdom of tailoring, measured using the Caring Attitude toward Local Wisdom Questionnaire. The results demonstrated that the implementation of ergonomic socio-culture improved health quality, as evidenced by: (a) a reduction in boredom by 39.17%; (b) a reduction in fatigue by 33.54%; (c) an increase in caring attitude toward the local wisdom of tailoring by 45.06%. Thus, it can be concluded that ergonomic socio-culture improves health quality (by reducing boredom and fatigue) and enhances caring attitudes toward local wisdom in *sekaa teruna*.

Keywords: boredom, fatigue, *socio-culture ergonomic*.

INTRODUCTION

Bali is a province with a majority Hindu population. Hindu rituals in Bali are inseparable from various ceremonial facilities in the form of *banten* or offerings. *Majejajase* is one of the processes of making ceremonial facilities that are inherited from generation to generation. *Sewing* is usually done by women starting from children, teenagers, and the elderly. However, along with the development of the times, the younger generation is even reluctant to learn *sewing*. This is due to the existence of a consumptive and instant lifestyle so that many choose to buy ceremonial facilities. Conditions like this will gradually result in the *tradition of sewing* disappearing as the local wisdom of the Balinese people.

The young generation in Bali is gathered in *a sekaa teruna* container. *Sekaa teruna* is a collection or forum for social organizations for the younger generation in the village or sub-district area (Dewi, 2020)(Ariyoga, 2020). *Sekaa teruna* is considered to be the spearhead of sustainability, especially in an effort to preserve the local wisdom *of majejajasu,* so that it remains sustainable and sustainable(Kariasa et al., 2022)(Lanus, 2022). Based on the findings of the preliminary study, boredom increased by 39.15%, fatigue increased by 44.02%, and caring attitude decreased by 48.9% in *sekaa teruna* during *sewing activities*.

Fatigue can be caused by two factors, namely external factors (*task, organization, environtment*) and internal factors (somatic and psychological factors) (Sutajaya, 2018)(Sutajaya et al., 2022). Fatigue felt during *stitching* is caused by: (a) non-physiological workstations because *stitching* is generally done on the edge of the floor of the house/seat with

the waist twisted and legs hanging with a duration of more than two hours (*task*); (b) *stitching* is generally done in monotony with a duration of more than two hours (*organization*); and (c) a feeling of insecurity because each stitch has a different level of complexity (psychological factors). Fatigue is characterized by reduced fitness, slow movement and tendency to be still, laziness to do activities, and increasing pain (Sutajaya, 2019) (Marfuah, 2018) (Devi et al., 2020).

Increased boredom during *sewing* is caused by: (a) lack of motivation for *sewing* activities; (b) activities are carried out in a repetitive and monotonous manner with a long duration of time; (c) lack of flexibility of the body to move. Activities carried out in a boring atmosphere can result in the emergence of a desire to avoid these activities. The symptoms are always feeling tormented, restless, the appearance of early fatigue, the presence of dissatisfaction, the appearance of the desire to turn to other activities, and reduced concentration (Sutajaya, 2019) (N.P.S Arnita et al., 2020). The problems that occur also have an impact on the decrease in the attitude of caring *for the* local *wisdom of the tailor.* The existence of traders of ceremonial facilities that should be used as a reference to improve *sewing skills* actually makes the younger generation prefer to buy sewing and are reluctant to learn.

Ergonomics interventions must be implemented immediately to ensure that a person is always in a healthy, safe, and comfortable condition and free from tiredness and boredom (N.P.S Arnita et al., 2020)(Sutajaya et al., 2021). The strategy for implementing ergonomic principles in *sewing activities* for *sekaa teruna* is carried out by: (1) providing *ergonomic socio-culture* training combined with *flourishing* training and (2) assistance during activities. The training and mentoring aims to: (a) make *people* aware of the importance of health; (b) remind *Sekaa Teruna* that there are several cultural factors that can overcome non-ergonomic activities; (c) *Sekaa Teruna* who already have habits that support intervention efforts are expected to continue to carry out these activities regularly and continuously; and (d) related parties are expected to popularize cultural activities that support intervention efforts. This is done so that *the sekaa teruna* or the younger generation avoid fatigue and boredom when carrying out *tailoring* activities and increase the attitude of caring for local *wisdom of tailoring*.

In this study, the research problems are formulated as follows: (1) Can the implementation of socio-cultural ergonomics improve health quality as seen from the reduction of boredom in sewing activities? (2) Can the implementation of socio-cultural ergonomics improve health quality as seen from the reduction of fatigue in sewing activities? (3) Can the implementation of socio-cultural ergonomics improve Sekaa Teruna's caring attitude towards the local wisdom of tailoring?

The specific objectives of this study are: (1) to prove and implement socio-cultural ergonomics can improve health quality as seen from the reduction of boredom in sewing activities; (2) to prove and implement socio-cultural ergonomics can improve health quality as seen from the reduction of fatigue in sewing activities; (3) to prove and implement socio-cultural ergonomics can improve the caring attitude towards local wisdom in tailoring, especially within the Sekaa Teruna community.

This study aims to contribute to the understanding and application of ergonomics principles combined with social and cultural aspects to improve the well-being of the community, particularly in the context of tailoring work, which often requires significant

physical effort. Additionally, this research seeks to explore the potential of applying local wisdom in enhancing the quality of life and social awareness within the community members involved.

METHODS

The type of research conducted was quasi-experimental with treatment by subject design with a randomized *posttest only group design* pattern. The subject of the study is a member *of the sekaa teruna* in Peliatan Village, Ubud, Gianyar. The target population in this study is all members of *the sekaa teruna* in Peliatan Village. The affordable population is all *sekaa teruna* that meet the inclusion criteria totaling 273 people. The number of samples in this study was as many as 30 people randomly selected in stages.

The free variable in this study is the implementation of ergonomic socio-culture in the form of: (a) ergonomic socio-culture training combin

ed with *flourishing* training and (b) assistance during activities. Variables depended: (1) health quality consisting of boredom (recorded with the Boredom Questionnaire) and fatigue (recorded with the 30 *Items of Rating Scales Questionnaire*); and (2) the attitude of caring for the local wisdom of *majejahitan (recorded with the* Questionnaire of Attitude to Care for Local Wisdom). Data collection was carried out after work in Period I (without intervention) and Period II (with intervention). Data collection in Period I was carried out for 3 (three) days then continued with a 2 (two) day *washing out period,* 2 (two) weeks of adaptation, and data collection in Period II was also carried out for three days.

The data in this study was analyzed by: (a) the data of the characteristics of the subjects was analyzed descriptively by looking for the mean and standard deviation or standard deviation; (b) environmental condition data is analyzed descriptively by looking for the average and standard deviation or standard deviation, followed by a differential test, namely *a paired t-test* to determine the comparability of environmental conditions in Period I with Period II; (d) Health quality data (boredom and fatigue) and caring attitude towards local wisdom were analyzed by *paired t-test* at a significance level of 5%.

RESULTS AND DISCUSSION

The results of the hypothesis test on boredom between Period I and Period II can be seen in Table 1.

Table 1. Results of Hypothesis Test on Boredom (n=30)

Variabel	Period I		Period II		Value t	Value p	Remarks
	Rerata	SB	Rerata	SB			
Boredom	100,99	1,863	61,43	1,373	95,391	0,0001	Signifikan

In this study, the implementation of *ergonomic socio-culture was carried out* so that a person is always in a healthy, safe, and comfortable condition and free from tiredness and boredom and is able to increase the attitude of caring for the local wisdom of tailoring. The implementation of *ergonomic socio-culture* in this study was able to reduce boredom by

39.17% between Period I and Period II. Judging from the average boredom in Period I with a score of 100.99, it is in the boring (uninteresting) category. The average boredom in Period II with a score of 61.43 was in the category of not boring (interesting). This shows that the implementation of *ergonomic socio-culture* can improve the quality of health seen from the reduction of boredom in sewing activities.

Increased boredom during *sewing* activities is caused by: (a) lack of motivation for *sewing activities*; (b) activities are carried out in a repetitive and monotonous manner with a long duration of time; (c) lack of flexibility in the body to move (Sutajaya, 2019)(N.P.S Arnita et al., 2020). Activities carried out in a boring atmosphere can result in the emergence of a desire to avoid these activities. The symptoms are feeling tormented, restless, the appearance of early fatigue, the presence of dissatisfaction, the appearance of the desire to turn to other activities, and reduced concentration. Boredom can reduce the stimulus response that occurs in the nervous and muscular systems. Subliminal stimuli in the central nervous system (brain) that are low due to physical and mental demands result in a person's response or reaction to decrease. The consequence is that a person's endurance will decrease (Sutajaya, 2018)(Sutajaya et al., 2022). Job boredom also affects *cyberloafing* behavior in millennial employees. *Cyberloafing* is a deviant behavior in teenagers who access the internet for purposes that have nothing to do with work during working hours (Ayuningtyas & Franksiska, 2022).

The implementation of *ergonomic socio-culture* through training and mentoring was able to reduce boredom in sekaa teruna when doing sewing activities. One of the trainings and mentoring provided to overcome boredom is training on active rest and training on work motivation. Training on the importance of active rest for body relaxation on the sidelines of activities needs to be understood by sekaa teruna so that they do not get bored quickly in doing activities. In addition, training on work motivation also needs to be understood so that the sekaa teruna does not quickly give up with the activities carried out. This finding is also supported by several other researchers, namely: (a) the provision of snacks and active activities increases the work motivation of jaja gipang makers by 28.20% (Devi et al., 2020); (b) *Workstation improvement* and *stretching* can reduce work boredom by 8.4% (Ferdyastari et al., 2018); and (c) the implementation *of ergo-entrepreneurship* in a participatory manner reduced worker boredom by 40.31% (Ni Putu Sri Arnita et al., 2023)

The results of the hypothesis test on fatigue between Period I and Period II can be seen in Table 2.

Table 2. Results of Hypothesis Test on Fatigue (n=30)

Variabel	Period I		Period II		Value t	Value p	Remarks
	Rerata	SB	Rerata	SB			
Fatigue	66,69	1,385	44,32	2,322	51,027	0,0001	Signifikan

In this study, it was found that fatigue due to sewing activities in sekaa teruna decreased significantly between Period I and Period II by 33.54% ($p < 0.05$). Judging from the average fatigue in Period I with a score of 66.69, it is in the medium category. The average fatigue in Period II with a score of 44.32 was in the light category. This shows that the implementation

of *ergonomic socio-culture* improves the quality of health. Improving the quality of health can be seen from the reduction of fatigue in sewing activities.

Fatigue is caused by two factors, namely external factors (*task, organization, environtment*) and internal factors (somatic and psychological) (Sutajaya, 2019)(Marfuah, 2018). Fatigue felt during *stitching* is caused by: (a) non-physiological workstations because *stitching* is generally done on the edge of the floor of the house/seat with the waist twisted and legs hanging with a duration of more than two hours (*task*); (b) *stitching* is generally done in monotony with a duration of more than two hours (*organization*); and (c) a feeling of insecurity because each stitch has a different level of complexity (psychological factors). Fatigue is characterized by reduced fitness, sluggish movement (tends to be still), laziness of activity, and increasing pain (Sutajaya, 2019)(Marfuah, 2018)(Lanus, 2022).

The implementation of *ergonomic socio-culture* through training and mentoring is able to reduce fatigue in sewing activities when doing sewing activities. One of the training and assistance provided to reduce early fatigue is: (a) improving position during activities; (b) management of rest time; and (c) *flourishing* training to increase *self-compassion*. Improving position when doing sewing activities in the form of providing tables and chairs for sekaa teruna is also carried out in anticipation to avoid muscle complaints that have an impact on comfort and early fatigue. Sewing activities that were initially carried out in a sitting position with a bent and a twisted waist as a result of the sitting position on the edge of the house floor were changed to be more ergonomic through the provision of tables and seats. Time management training aims to improve their understanding of how to carry out activities that are effective, comfortable, safe, healthy, and efficient and can increase productivity. Flourishing training is an effort to increase *self-compassion* so that they have more confidence and confidence in themselves.

These findings are supported by several researchers, namely: (a) giving snacks and active rest reduces fatigue by 27.27% (Devi et al., 2020); (b) improvement of the work system with a participatory ergonomics approach reduces fatigue by 21.42% (Marfuah, 2018); (c) *Flourishing* is important to achieve so that individuals can work optimally because flourishing can reduce anxiety that has an impact on premature fatigue (Fadhillah & Masturah, 2023).

The results of the hypothesis test on the attitude of concern for local wisdom of tailoring between Period I and Period II can be seen in Table 3.

Table 3. Results of the Hypothesis Test of Caring Attitude to Local Wisdom of *Majejajasung* (n=30)

Variabel	Period I		Period II		Value t	Value p	Remarks
	Rerata	SB	Rerata	SB			
Caring Attitude	39,99	0,941	58,01	1,615	47,736	0,0001	Signifikan

In this study, it was found that the attitude of caring for the local wisdom of *majejajasung* experienced a significant increase between Period I and Period II by 45.06% ($p < 0.05$). Judging from the average attitude of caring for the local wisdom of tailoring in Period I with a score of 39.99 is in the low category. The average attitude of caring for local wisdom

of tailoring in Period II with a score of 58.01 was in the medium category. This shows that the application of *ergonomic socio-culture* can increase the attitude of caring for the local wisdom of tailoring.

The decline in the attitude of caring for local tailoring is due to the existence of traders of ceremonial facilities which should be used as a reference to improve the ability of tailoring to make the younger generation prefer to buy tailoring and are reluctant to learn. The implementation of ergonomic socio-culture through training and mentoring is able to increase the attitude of caring for local wisdom of tailoring. The socio-cultural implementation strategy to improve the attitude of caring for local wisdom is by: (1) reminding the *sekaa teruna* that there are several cultural factors that can overcome activities that are not ergonomic; (c) *Sekaa Teruna* who already have habits that support intervention efforts are expected to continue to carry out these activities regularly and continuously; and (d) related parties are expected to popularize cultural activities that support intervention efforts.

Based on the findings of other researchers, there needs to be serious steps from relevant parties (Balinese Hindu community, academics, and the government) to maintain the existence of the tradition of local wisdom of *majejajasusu*, as a way to save the identity of Balinese Hindu women in the onslaught of globalization (Jayendra, 2015). Tailoring is an activity that is a top priority in the practice of local genius-based education at *Undiksha Singaraja* Laboratory Elementary School. Training on *tailoring* has an important urgency from an early age because *tailoring activities* are increasingly abandoned due to career demands and increasingly complex life patterns (Rahayu, 2023).

CONCLUSION

This study investigated the implementation of ergonomic socio-culture among *sekaa teruna* (youth organizations) in Peliatan Village, Ubud, Gianyar, Bali, with the aim of improving health quality and fostering caring attitudes toward the local wisdom of *majejahitan* (traditional Balinese tailoring of ceremonial attire). Motivated by a preliminary finding that boredom had increased by 39.15%, fatigue by 44.02%, and caring attitude had decreased by 48.9% during sewing activities, the study employed a quasi-experimental, same-subject design with a randomized posttest-only group pattern involving 30 participants. The intervention consisted of ergonomic socio-culture training combined with *flourishing* training and activity mentoring, targeting non-physiological workstations, monotonous task organization, and low motivation as key contributors to fatigue and boredom. Results demonstrated that the intervention significantly reduced boredom by 39.17% and fatigue by 33.54%, and increased caring attitude toward local tailoring wisdom by 45.06%, with all changes statistically significant at $p < 0.05$. These findings affirm that integrating ergonomic principles with socio-cultural values is an effective strategy for improving both the physical wellbeing and cultural engagement of younger generations. For future research, it is recommended that the study be extended to other *sekaa teruna* communities across different regencies in Bali to test the generalisability of the intervention, and that longitudinal follow-up assessments be conducted to evaluate whether the improvements in caring attitude and health quality are sustained over time; additionally, incorporating objective physiological measures of fatigue such as heart rate variability or muscle activity monitoring alongside questionnaire-based tools would strengthen the validity and depth of findings.

REFERENCES

Ariyoga, I. N. (2020). Peranan Organisasi Sekaa Teruna Teruni Sebagai Media Komunikasi Kepemudaan Hindu. *Ganaya: Jurnal Ilmu Sosial Dan Humaniora*, *2*(3). https://jayapanguspress.penerbit.org/index.php/ganaya/article/view/393

Arnita, N.P.S, Adiputra, N., Purnawati, S., Sucipta, I. ., Sutajaya, I. ., & Sundari, L. P. . (2020). Improvement Mechanism of Work Oriented by Ergonomic Increase Health Quality and Productivity. *Jurnal Ergonomi Indonesia (The Indonesian Journal of Ergonomic)*, *06*(02).

Arnita, Ni Putu Sri, Devi, N. L. P. M. L., & Sutajaya, I. M. (2023). Implementasi Ergo-Entrepreneurship Secara Partisipatori Mengurangi Kebosanan dan Stres Kerja serta Meningkatkan Sikap Kewirausahaan Pekerja. *Jurnal Ergonomi Indonesia (The Indonesian Journal of Ergonomic)*, *9*(1). https://doi.org/https://doi.org/10.24843/JEI.2023.v09.i01.p06

Ayuningtyas, R., & Franksiska, R. (2022). Pengaruh Kebosanan Kerja Terhadap Perilaku Cyberloafing Dengan Stres Kerja Sebagai Variabel Mediasi Pada Karyawan Generasi Milenial. *Journal of Economic, Business and Accounting*, *6*(1), 895–910.

Devi, N. L. P. M. ., Adiputra, L. M. I. S. ., & Sutajaya, I. . (2020). Giving Active Breaks and Snack Reduced Fatigue and Improved Motivation of Work and Productivity of Jaja Gipang Employee. *Jurnal Ergonomi Indonesia (The Indonesian Journal of Ergonomic)*, *06*(02).

Dewi, P. E. R. (2020). Hukum Adat (Awig) Terhadap Struktur Sekaa Teruna – Daha Tenganan Pegringsingan. *Pariksa: Jurnal Hukum Agama Hindu*, *4*(1). https://doi.org/https://doi.org/10.55115/pariksa.v4i1.844

Fadhillah, N. S., & Masturah, A. N. (2023). Kepuasan Hidup dan Flourishing pada Karyawan Tambang (Life Satisfaction and Flourishing in Mining Employees). *PSIKODIMENSIA Kajian Ilmiah Psikologi*, *22*(1), 96–102. https://doi.org/10.24167/psidim.v22i1.10049

Ferdyastari, N., Adiatmika, I. P. G., & Purnawati, S. (2018). Workstation Improvement dan Pemberian Stretching Karyawan Pembersihan Injeksi Menurunkan Kebosanan Kerja, Keluhan Muskuloskeletal, dan Meningkatkan Produktivitas pada Industri Perak di CV JPS. *Jurnal Ergonomi Indonesia (The Indonesian Journal of Ergonomic)*, *4*(1), 18–27.

Jayendra, P. S. (2015). Tradisi Majejahitan: Sebuah Tinjauan Identitas Wanita Hindu Bali dalam Analisis Teori Culture Lag. *Junral Pangkaja*, *17*(2), 77–82.

Kariasa, I. G., Djelantik, S. A. M. A. P., Jayanti, N. K. A. P., & Muliarta, I. N. (2022). Peran Sekaa Truna Truni Dalam Menjaga Tradisi Pengelolaan Air Guna Menghadapi Era Society 5.0. *Prosiding Webinar Nasional Pekan Ilmiah Pelajar (PILAR)*, 505–514.

Lanus, S. (2022). *Majejahitan: Pewarisan Kesadaran Estetika Manusia Bali*. Parisada Hindu Dharma Indonesia Pusat. https://phdi.or.id/artikel.php?id=majejahitan-pewarisan-kesadaran-estetika-manusia-bali

Manuaba, A. (2003). *Penerapan Ergonomi Meningkatkan Produktivitas*.

Marfuah, H. H. (2018). Perbaikan Sistem Kerja yang Ergonomis untuk Mengurangi Kelelahan dan Keluhan Muskuloskeletal dengan Pendekatan Ergonomi Partisipatori. *Dinamika Teknik Industri*, *11*(1), 1–8.

Rahayu, G. A. I. (2023). Implementasi Tradisi Majejahitan Sebagai Pembelajaran Berbasis Etnopedagogi Dalam Konstruksi Aspek Pengetahuan Bagi Siswa di SD Laboratorium Undiksha Singaraja. *Genta Hredaya*, *7*(1), 35–49.

Sutajaya, I. . (2018). *Ergonomi* (1st ed.). Rajawali Pers.

Sutajaya, I. . (2019). *Ergonomi Pendidikan* (1st ed.). Media Akademi.

Sutajaya, I. ., Arnita, N. P. ., & Devi, N. L. P. M. . (2022). *Ergonomi Sosial Budaya* (1st ed.). Suluh Media.

Sutajaya, I. ., & Citrawathi, D. . (2021). The Implementation of the Tri Datu Concept of Socio-

Cultural Ergonomic Oriented to Maintain Entrepreneurial Attitude of Workers on The Covid-19 Pandemic. *Proceedings of the Second Asia Pacific International Conference on Industrial Engineering and Operations Management*, 14–16.

Sutajaya, I. ., Citrawathi, D. ., Warpala, I. W. ., Arnita, N. P. ., Devi, N. L. P. M. ., & Aryani, N. M. . (2021). Nyangling Berorientasi Socio-Cultural Ergonomic Meningkatkan Pemahaman Masyarakat Terhadap Penyelamatan Sumber Daya Air dan Kesehatan. *Proceeding Senadimas Undiksha*, 215.