

## Problem-Solving Skills Predicts Mental Health Status among Industrial Workers through Life-Skills Education

S. R. Gopinath<sup>1\*</sup>, Dr. A. R. Krishnamurthy<sup>2</sup>

### ABSTRACT

**Introduction:** Workers with Mental Health problems often lack the ability to solve problems arising from day-to-day living and stressful life events. **Objectives:** The main objective of this study is to predict workers mental health status, teaching problem-solving skills through Life-Skills education. **Methods:** The study was an experimental with before and after test design with control group. The sample consisted of 100 workers of HMT Watches Ltd, Bangalore, India. Workers were selected by random sampling and assigned into experimental (N=50) and control (N=50) group inclusive of Male and Female workers in equal numbers. The experimental group was trained in problem-solving skills for 4 sessions, weekly once for one month. The assessment tool consisted of mental health scale and problem-solving skills questionnaire. Pre & Post-tested data were analyzed for 'T' test for variables. **Results:** The results showed significantly that Problem-solving skills are influential on the individual's well-being, also problem-solving skills predicts mental health status of workers. **Conclusion:** It is understood that problem-solving skills demonstrates that workers mental health status improved and also effective in improving incidents and severity of mental health problems. Life-Skills education programme is useful for increasing mental health status of workers.

**Keywords:** Mental Health, Problem-solving skills, Life-skills education.

“With increasing understanding of health concepts, the importance of mental health has become more apparent.” (Thurnock, 2012).

Even World Health Organisation stressed on the fact that “There is no health without mental health” (WHO 2003).

“Mental Health refers to our feelings and emotions, the ability to show these feelings being independent and ability to cope with the difficulties and stressful obstacles in daily life”. (Dadashihaji & Others, 2014).

<sup>1</sup> (Research Scholar, Psychology Department, Kuvempu University, Shivamogga, India.)

<sup>2</sup> (Professor of Clinical Psychology (Rtd), Psychology Department, Kuvempu University, Shivamogga, India.)

\*Responding Author

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“In the real world, an individual encounter problems than in the past that are complex, not well defined and lack a clear solution and approach” (Kate Mills & HelynKims, 2017).

“Obviously, there is no human with no problems, the world was a natural part of life and find ways to prevent and solve problems”. (Amir Hosseini, 2005).

“In everyday life, we are surrounded by plethora of problems that requires solutions and attention to resolve them to reach our goal” (Shraw and Norby, 2011).

“Problem-solving defined as the self-directed cognitive behavioral process by which a person attempts to identify for discovering for effective or adaptor solutions for specific problem encountered in everyday living” (D’zarulla & Nezu, 2007).

“Problem-solving skills is an important strategy, which enables an individual to thwart the problematic situation in everyday life to their emotional impact” (Khrreruddin & Others, 2003).

“Problem-solving process involves methods that are used by an individual to control his/her thoughts and actions as well as to regulate his/her emotions against stressful situations” (Nezu, 2005).

“One way to improving coping skills in Problem-solving skills training is important” (Koshan, 2009).

“The training of problem-solving can be defined as a process that helps a person to develop problem-solving skills and as a result increases the possibility of effective coping abilities” (Molouff & Others, 2007).

“Problem-solving skills do not necessarily develop naturally: they need to be explicitly taught in a way that can be transformed across multiple settings and contexts” (Kate Mills & Helyn Kim, 2017).

“Life-skills are a set of mental abilities that provide context for positive adaptive coping and enable individual to accept his/her social responsibilities and face everyday problems” (Lolaty et al, 2013).

“Life-skills are skills to strengthen and capabilities that help individuals face problems of their everyday life and solve effectively with a positive attitude and go about with everyday tasks effectively” (Joseph, 2008).

### ***Research Hypotheses***

H1 = There was a significant improvement in mental health status among industrial workers after life-skills training.

H2 = There was a significant improvement in problem-solving skills after life-skills training.

## METHOD

### *Objective:*

The study aimed to determine how problem-solving skills predicts mental health status among industrial workers through life-skills education.

### *Design:*

The study was an experimental with before and after test design with control group.

### *Procedure:*

The Population study comprised of male and female workers in equal number belonging to HMT Watches Ltd, Bangalore, India.

For selecting sample, random sampling was conducted at two stages. At the first stage, 200 workers were selected randomly, and then the mental health scale was administered for 200 workers. 130 workers with the lowest mental health status were considered eligible. At the next stage, the required sample of 100 workers were randomly selected and placed in experimental (N=50) and control (N=50) groups. Then two groups were pre-tested using mental health scale and problem-solving questionnaire for pre-data collection.

### *Tools:*

- Mental health scale:** The present research was an adapted version of mental health scale of Langner (1962). It consists of 22 items on 3 point Likert scale indicating psychiatric symptoms it measures feelings of depression, anxiety and psychomatic complaints. Ahmed (1986) reported its validity and reliability found to be 0.78 and 0.86 respectively.
- Problem-solving skills questionnaire:** The present research was an adapted version of Problem-solving skills self-assessment questionnaire developed by Murthy(2005). It consists of 35 items on 6 point Likert Scale indicating problem solving ability as to how respondents think and act in problem-solving choices. Ajitha (2007) in her study reported its validity and reliability of the scale using Cronbach's Alpha criterion found to be 0.510 and 0.620 respectively.
- Life-Skills Training Intervention Protocol:**  
The experimental group received Life-skills training in decision-making skills and problem-solving skills for 2 months in 5 sessions (2 hours per session per week).

### *The Overview of the Life-Skills Programme*

Session	Topic	Objectives	Methodology
• One	Introduction	Skills development and its relation to Mental Health promotion and problem prevention	Lecture Methodology
• Two	Life Skills and its core-skills	Brief Introduction to life skills and its core-skills, its role in enhancing mental health and problem prevention	Lecture Methodology Group Discussion

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Session	Topic	Objectives	Methodology
• Three	Problem-solving skills	Introduction to concept of Problem-solving, Definition and its process and purpose. Determination of problem-solving. Focused method and Mental health/emotion based focused method.	Lecture Methodology Group Discussion
• Four	Review	Review of previous topics and feedback.	Discussion.

After 30 days from the completion of Life-skills education programme / Intervention, experimental and control group were post-tested to measure effectiveness of Life-skills training.

### *Statistical Analysis*

Pre-test and Post-test collected data processed at inferential and descriptive level using SPSS and for analytic analysis. T-test was used to examine score changes before and after the intervention and their effectiveness in both groups. The significant level in all the tests was set as  $P < 0.05$ .

## RESULTS

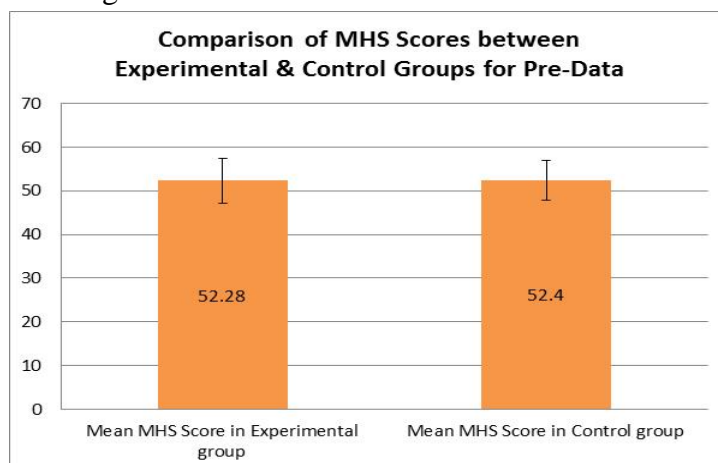
The data collected in this study was subjected to statistical analysis as per design and the details of the result are presented in this chapter. The statistical methods used for the analysis of data were descriptive and inferential statistics such as mean, standard deviation's' test to find out the difference between the means of two groups of the samples on the variables under study.

The results obtained in different sections are as follows:

- Mental health status among the respondents before and after intervention.
- Problem-solving skills status among the respondents before and after intervention.

### **Comparison of experimental and control groups in the case of pre-test and post test phase before and after intervention.**

Mental health status among workers at the time of Pre-test / before intervention.

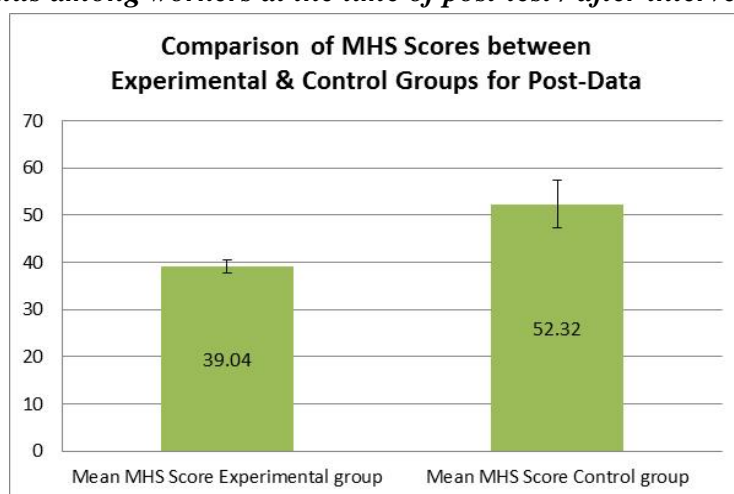


**Problem-Solving Skills Predicts Mental Health Status Among Industrial Workers Through Life-Skills Education**

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Exptl	50	52.28	5.147	0.124	P = 0.90
Control	50	52.40	4.531		

Mental health status scores of the experimental group had a mean score 52.28 (S.D = 5.147) and the control group has a mean score 52.40 (S.D = 4.531). The two independent sample students 't' test value was 0.124 with 98 degrees of freedom and the P-value of significance was 0.90. This shows there was no significance difference between the means of experimental group and control group.

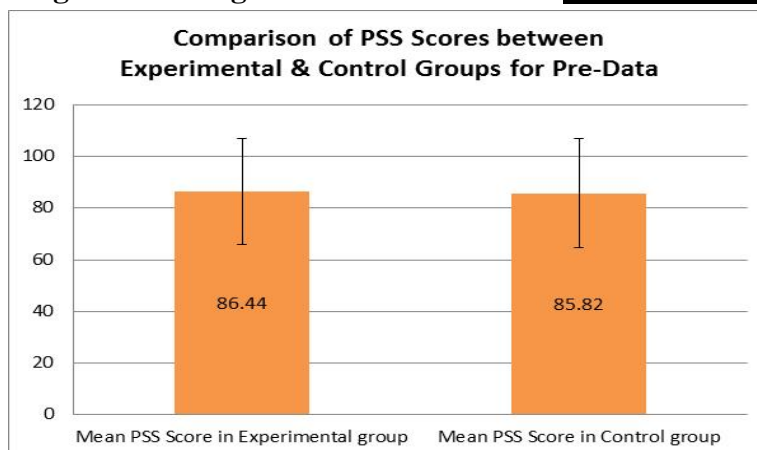
***Mental health status among workers at the time of post-test / after intervention.***



Group	N	Mean	S. D	't' value (df = 56)	P- Value
Expt	50	39.04	1.370	17.68 **	0.001
Control	50	52.32	5.133		

\*\* modified 't' test used.

**(A) Problem-solving skills among workers at the time of pre-test / before intervention**

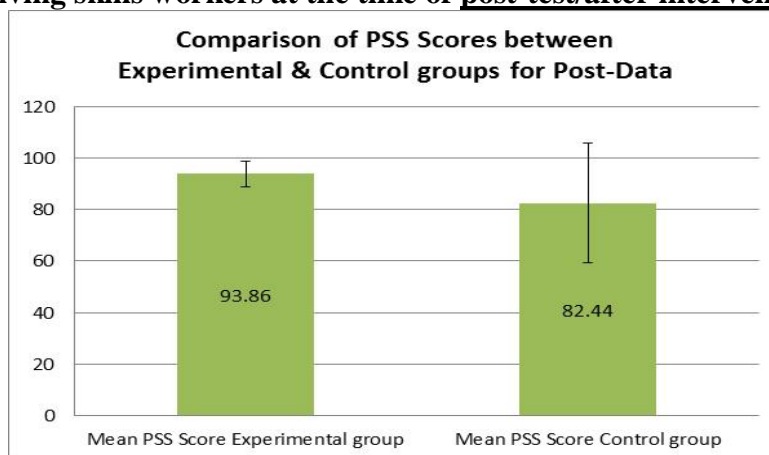


**Problem-Solving Skills Predicts Mental Health Status Among Industrial Workers Through Life-Skills Education**

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Expt	50	86.44	20.352	0.150	P = 0.088
Control	50	85.82	21.002		

Problem-solving skills score of the experimental group had a mean score of 86.44 (S.D = 20.353) and the control group had a mean score of 85.82 (S.D = 21.002). The two independent sample students 't' test value was 0.150 with 98 degrees of freedom and the P-value of the significance was 0.088. This shows there was no significant difference between the means of experimental group and control group.

**(B) Problem-solving skills workers at the time of post-test/after intervention.**



Group	N	Mean	S. D	't' value (df = 54)	P- Value
Expt	50	93.86	5.036	3.40**	P = 0.001
Control	50	82.44	23.245		

\*\* modified 't' test used.

Problem-solving skills score of the experimental group had a mean score of 93.86 (S.D = 5.036) and the control group had a mean score of 82.44 (S.D = 23.245). The two independent sample students 't' test value was 3.40 with 54 degrees of freedom and the P-value of the significance was = 0.001. **This shows there was significant difference between the means of experimental group and control group.**

**Collective summary of the tests of significance**

Sl. No.	Variable	't' test statistic	p-value	Results
1	Mental health status	18.410	0.001	Compared with the 0.05 level of significance there is a statistical difference in the experimental groups' mental health status compared to Control group that the results are due to life-skills programme / intervention
2	Problem solving skills	2.528	0.015	Compared with the 0.05 level of significance there is a statistical difference in the experimental groups' problem solving skills compared to Control group, the results are due to life-skills programme / intervention

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The analysis of data indicates that the experimental group is found to have a significant improvement in problem-solving skills and are found to have a positive impact on mental health status (i.e., the less their mental health scores on mental health scale associated with high mental-health status) which indicates that the life-skills intervention has a significant effect. Hence all the hypotheses have been proved.

### **DISCUSSION**

The main objective of the study was to examine the effects of teaching Problem-solving to impact problem-solving skills. Furthermore, it sought to improve mental health status and remission of mental health problem symptoms.

The effect of problem-solving skills on reducing mental health problems such as anxiety, depression etc., and enhancing mental health status has been reported in numerous studies, for e.g., Backer-Weidman et al., (2010), Hajjan and others (2011), Rahimian and Colleagues, 2012 and Bray et al, (2007).

Also, the result of the present study in concert with the previous study results conducted by:

- Mastuda & Uchiyama (2006) in their study concluded “The problem-solving skills intervention in stressed situation cause the prevention and reduction of psych-mental disease”.
- Funkhauser & Dennis (2007) demonstrated, “Lack of appropriate problem-solving skills correlated with emotional and behavioral problems such as depression and anxiety”.
- Morali & Kalantari (2007) stated that “Training life-skills like problem-solving skills have a final goal, the improvement of inter-personal skills in social life which enhances social skills”.
- Koshan (2009) opined “To improving coping skills training in problem-solving is a must”.
- D’zerulla & Nezu (2010) opined, “In a real life problem-solving skills that serves as both a moderator and mediator of inter-personal relationship between stressful life events and well-being”.
- Bayani (2011) demonstrated that, “The ability to solve problem is known as an important mediator in depression and anxiety”.
- Taheri (2012) and Dodfer, Sadif (2014) opined “problem-solving skills effective in reducing anxiety”.
- Hatamia & Kawsian (2014) opined that “Teaching life-skills such as problem-solving skills and promoting them in everyday, help people to control their behavior problems and adjust their social interaction in an adaptive way, significantly increase the individuals adjustments.”
- Pujar & Patil (2016) in their studies concluded “Life-skills training aims improving an individual’s coping ability and problem-solving ability”.

## CONCLUSION

The present study found evidence that teaching problem-solving skills through Life-skills education program improved mental health status of workers. Also, problem-solving skills is expected to have both a direct and an indirect link in positive psychological well-being and functioning. Positive well-being is an important correlate of problem-solving skills because it acts as a coping skills as well as a buffer against the negative effect of mental health and can attenuate symptoms of mental health problems.

Present study found evidence irrespective of age, learning/practicing of life-skills is LIFE'S necessity.

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### **Conflict of Interest**

The authors colorfully declare this paper to bear not conflict of interests

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