

## The Impact of Decision-Making and Problem-Solving Skills on Mental Health Status among Industrial Workers through Life-Skills Education

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### ABSTRACT

**Background:** Essential Skills such as Decision-making and Problem-solving skills training through inculcating Life-skills education have shown a decrease in negative effectively on mental health status in workers. **Objective:** The study was aimed to examine “the impact of decision-making and problem-solving skills on mental health status among industrial workers through Life-skills education.” **Methodology:** The research was an experiment with pretest-posttest control group design. A sample of 100 workers was randomly selected from HMT Watches Ltd, Bangalore, India. The sample included an equal number of male (N=50) and female (N=50) workers. The samples were allocated to experimental and control group. Both groups were pre-tested by using research tools, such as mental health scale, decision making, and problem-solving skills self-assessment questionnaires for data collection. Research objectives through hypothesis guided the study. The experimental group received training in decision-making and problem-solving skills through life-skills education for 5 sessions, 2 hours per session per week. Both groups were post-tested, collected data was processed at inferential and descriptive levels using SPSS and for analytic analysis “T” test was used for variables. **Findings:** Findings of the study indicated that training in decision-making and problem-solving skills significantly found a positive effect on mental health, i.e., increased mental health status relatively reduced mental health problems. **Conclusion:** Decision-making and Problem-solving skills training through Life-skills education were proved effective in reducing mental health problems by enhancing mental health status.

**Keywords:** *Mental health, Decision-making skills, Problem-solving skills, Life-skills education.*

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## **The Impact of Decision-Making and Problem-Solving Skills on Mental Health Status among Industrial Workers through Life-Skills Education**

**M**ental health is described as “Concept of mental health includes subjective well-being and recognition of abilities to realize one’s intellectual and emotional potential” (WHO-2003). The importance of mental health has become apparent, and individual’s mental health status significantly influences one’s ability to function effectually as an individual in the society. In fact, mental health is both a social and an individual issue.

Due to the complexity of an organization and multitudinal reasons of both psychological and occupational factors, workers face significant mental and social changes likely to cause mental health problems contributed to mental and behavioral problems; all these have an impact on the worker's performance which affects their ability to take a decision and solve problems.

“In everyday life, we are surrounded by a plethora of problems that requires solutions and attention to resolve them to reach our goal” (Shraw & Norby, 2011). Problems are inevitable in the way of human life. ‘Decisions have to be taken in a problematic situation. In fact, it would be unavoidable. Decision-making and Problem-solving can be regarded as mental process referred to as cognitive behavioral activities. Decision-making and Problem-solving skills are the basic skills of life that focus on the ability of an individual to be responsible for psychological and social well-being.

Problems and decisions are two-faced coins, the root of the solution is Problem and solution end is the decision. Decision-making is an extension of problem-solving process; they are inter-related and interaction skills, Problem-solving related to decision-making, and the terms may often overlap.

Studies indicate that individuals suffering from mental health problems and of those with other forms of psychopathology are associated with mal-adaptive decision-making and problem-solving abilities. Also, there is a valid representation of the relation between an individual’s mental health status, decision-making, and problem-solving process activities.

The process of decision-making and problem-solving are the most complex mechanism of human thinking. Various factors and causes of actions intervene in it, the presence of obstacles might include novelty, ambiguity, uncertainty, conflicts, stimulus-demands, performance, skills deficits in such conditions, abilities is essential to identify risk factors. Knowledge, skills, competencies and other attributes are essential among individuals that are relevant to personal social well-being (OECD/PISA, 1999).

Any problem irrespective of its nature is grave to the sufferers, remedy/solution is not master-minded and therefore of utmost importance. People should be taught suitable strategies, skills being imparted can be recast as cognitive structures / abilities will aid learner in taking a decision and solving problems that serve to increase behavioral competence, and it leads to decreased psychological distress.

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In recent years, there has been an augmented interest in various aspects of mental health, in particular, those of preventive intervention as 'health education' for mental health promotion. Skills for health promotion model using life-skills approach was initiated by WHO in the year 1997, the aim of life-skills approach has been designed for preventing mental and behavioral problems as well as to promote health and well-being.

Life-skills include a group of skills and abilities among which decision-making and problem-solving skills are specific skills mentioned among 10 components of Life-skills. Essential skills such as decision-making and problem-solving skills upgrading training through inculcating Life-skills education is a psychological, psychosocial intervention that teaches people to cope with stresses and adversity, mitigate the probability of negativity impact on mental health when confronted with difficulties and challenges of problems.

Research evidence suggests that life-skills education which aims to improve person's ability to maintain a state of mental well-being in order that it could face life necessities and problems through a sound decision and finding a solution.

### **LITERATURE REVIEW**

Occupation, work, and mental health are related in many ways. It is not uncommon that workers are experiencing difficulties one kind or another as 'Problems' disrupt physiological, psychological and social circadian rhythms significantly impact to take a decision and solving problems.

"A problem is defined as any life situation which requires an adaptive coping response for which no solution is readily identifiable due to the presence of barriers" (D'zerulla, 1984).

"All types of problems that might affect a person's psychological well-being / functioning including impersonal problems, personal or intrapersonal problems (emotional, behavioral, cognitive and health problems), interpersonal problems and societal problems" (D'zerulla & Nezu, 1982).

"Significant problems that are left unsolved can cause mental stress and give rise to accompanying physical strain (Deway, 1993 & Poby, 1991).

"Decision-making and Problem-solving situations was originally conceptualized as a means of improving social competence and psychological adjustment." (D'zerulla, 1984).

"Theory and research concerning decision-making and problem-solving abilities have advanced our knowledge of those cognitive behavioral characteristics in the prevention, development, and maintenance of psychological difficulties people experiencing in everyday life." (D'zerulla & Nezu, 1990).

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‘Lack of decision-making and problem-solving skills in any human is one of the most important factors that lead many people to failure and frustration’. (Carmo, 2006).

Decision-making and Problem-solving skills include a set of abilities that will increase compatibility, positive and efficient behavioral skills and confront efficiently with daily problems”. (Funker Freneset, 2007).

Those who do not possess skills to cope with those emotional and behavioral problems, directly affects the individual's performance, decision-making, and problem-solving process”. (D’zerulla, 1983).

The aim of the decision-making and problem-solving skills intervention that focusses on positive approaches to reduce and prevent mental health problems and enhance positive mental well-being by helping individuals cope more effectively with stressful problems and living”. (D’zerualla & Goldfield, 1971).

According to Hopson & Scally (1986), “decision-making and problem-solving skills are those abilities for developing self and to promote mental well-being.”

Teasdale (2000) demonstrated that “Life-skills training of coping skills such as decision-making and problem-solving skills caused improvement of interpersonal relationships, reduction of aggression and behavioral problems.”

Smith et al (2004) opined, “Life-skills helps individuals to solve problems of anxiety, depression, rejection, diffidence, anger, and confliction in inter-personal relationships.”

MohdKhani (2012) opines, “After attending Life-skills training program, people taught how to make decisions and solve problems and to be essential.”

It is found from a brief review of Literature done in the area of decision-making and problem-solving skills in relation to mental health status and those improved through Life-skills education.

### ***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 Decision-making skills after Life-skills training.

H3 = There was a significant improvement in Problem-solving skills after Life-skills training.

## METHODOLOGY

### *Objective*

The purpose of the study was to examine “the impact of decision-making and problem-solving skills on mental health status among Industrial Workers through Life-skills education.”

### *Design*

Study was experimental research pre-test and post-test with a control group design.

### *Procedure*

A sample of 100 workers was randomly selected from HMT Watches Ltd, Bangalore, India. The sample included an equal number of male (N=50) and female (N=50) workers. The participants were allocated into two groups as experimental and control group. Inclusion criteria included those who are willing to participate in a research study. Experimental and control group were pre-tested using mental health scale, decision-making and problem-solving skills self-assessment questionnaire for data collection.

### *Research tool*

- 1. 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 psychosomatic complaints. Ahmed (1986) reported its validity and reliability found to be 0.78 and 0.86 respectively.
- 2. Decision-making skills questionnaire:** The present research was an adapted version of Decision-making skills self-assessment questionnaire developed by Murthy (2005). It consists of 25 items on 3 point Likert Scale indicating decision-making ability as to how respondents think and act in decision choices. Ajitha (2007) reported its validity and reliability of the scale using Cronbach’s Alpha criterion found to be 0.68 and 0.510 respectively.
- 3. 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.
- 4. Life-Skills Training Intervention Protocol:** The experimental group received Life-skills training in problem-solving skills for 1 month in 4 sessions (2 hours per session per week).

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*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
Three	Decision-making skills	Introduction to the concept of decision, definition and its process and purpose. Determination of decision-making. Focused method and mental health/emotion based focused method.	Lecture Methodology Group Discussion
Four	Problem-solving skills	Introduction to the 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
Five	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 the 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. A 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 ‘t’ 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

1. Mental health status among the respondents before and after the intervention.
2. Decision-making skills status among the respondents before and after the intervention.
3. Problem-solving skills status among the respondents before and after the intervention.

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

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

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Experiment	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 found to be 0.124 with 98 degrees of freedom, and the P-value of significance was 0.90. This shows that there was **no significant difference** between the means of experimental group and control group.

*Mental health status among workers at the time of posttest / after the intervention.*

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Experiment	50	39.04	1.370	17.68	P < 0.001
Control	50	52.32	5.133		

Mental health status scores of the experimental group had a mean score of 39.04 (S.D.=1.370),and the control group had a mean score 52.32 (S.D. = 5.133). The two independent sample modified't' test was used and 't' test value found to be 17.68 with 56 degrees of freedom, and the P value of significance was 0.001 as compared to 0.05.

This shows there was a **significant difference** between the means of experimental and control group.

*Decision-making skills among workers at the time of pre-test / before the intervention.*

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Experiment	50	49.94	5.012	2.505	P = 0.054
Control	50	47.46	4.887		

Decision-making skills score of the experimental group had the control group had a mean score 49.94 (S.D = 5.012), and the Control group had a mean score of 47.46 (S D = 4.887). two independent sample students 't' test value found to be 2.505 with 98 degrees of freedom, and the P-value of the significance was 0.054.

This shows there was **no significant difference** between the means of experimental group and control group.

*Decision-making skills among workers at the time of post-test / after the intervention.*

Group	N	Mean	S. D	't' value(df = 98)	P- Value
Experiment	50	57.12	1.534	8.80	P < 0.001
Control	50	48.08	7.099		

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Decision-making skills score of the experimental group had a mean score 57.12 (S.D = 1.534), and the Control group had a mean score 48.08 (S.D = 7.099). The two independent sample students 't' test value found to be 8.80 with 54 degrees of freedom, and the P-value of the significance was 0.001. This shows there was a **significant difference** between the means of experimental group and control group.

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

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Experiment	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 86.44 (S.D = 20.353), and the control group had a mean score 85.82 (S.D = 21.002). The two independent sample students 't' test value found to be 0.150 with 98 degrees of freedom, and the P-value of the significance was 0.88. This shows there was **no significant difference** between the means of experimental group and control group.

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

Group	N	Mean	S. D	't' value (df = 98)	P- Value
Experiment	50	93.86	5.036	3.40	P < 0.001
Control	50	82.44	23.245		

Problem-solving skills score of the experimental group had a mean score 93.86 (S.D = 5.036), and the control group had a mean score 82.44 (S.D = 23.245). The two independent sample students 't' test value found to be 3.40 with 98 degrees of freedom, and the P-value of the significance was 0.001. This shows there was a **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	Decision-making skills	9.278	0.001	Compared with the 0.05 level of significance there are a statistical difference in the experimental group's decision-making skills compared to control group, the results are due to life-skills programme / intervention
3	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



## **The Impact of Decision-Making and Problem-Solving Skills on Mental Health Status among Industrial Workers through Life-Skills Education**

The analysis of data indicates that the experimental group is found to have a significant improvement in decision-making and problem-solving skills and those skills 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 AND CONCLUSION**

The purpose of this study was to examine the effect of Life-skills training on the enhancement of mental health status through imparting decision-making skills and problem-solving skills training through Life-skills education.

The findings of the study are in congruence with findings obtained from previous studies conducted by:

1. Ahmardans (2009) demonstrated “Factors such as self-esteem, interpersonal relationship skills and decision-making and problem-solving skills have a positive role in preventing or reducing all sorts of mental disorder and behavioral malpractices.”
2. Ashori and Others (2013) opined “skills enable individuals to convert their knowledge, value, and attitudes into practical abilities such as decision-making, problem-solving, self-efficiency, and mental health.”
3. Vasishth (2015) demonstrated “Life-skills intervention results have shown a significant enhancement in the skills of decision-making and problem-solving abilities.”
4. Celik (2016) demonstrated, “Acquiring decision-making and problem-solving skills would help to prevent future psychological difficulties.
5. Pujar and Patil (2016) opined, “Demonstration of Life-skills education is helpful in improving their coping abilities of stress, decision-making, and problem-solving abilities.”

From the results of this study, previous studies and scientific research efforts demonstrated that mastery over the Life-skills causes the individuals to know themselves better and understand to cope effectively with emotional and behavioral problems preventing psychological disease and social dysfunction, take control of psychological problems, make appropriate decisions and as a result effectively solve problems.

Results of this study clearly demonstrate a positive link between decision-making and problem-solving skills and mental health status.

Findings of the study support the entire three hypotheses. Life-skills armed individuals with the skills of decision-making and problem-solving to succeed in the problematic life situation.

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