

Problem Solving Skills Among Secondary School Students: Influence of Decision Making Styles

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Abstract: “Decision making is a process of making a choice from number of alternatives to achieve desired results” Eisentuhr(2011). “Problem solving isa cognitive-emotional-behavioral process which includes effective ways to cope with the problems experienced in daily life and to define and explore individual (or group) efforts” (D’Zurilla, 1988). The current study was conducted to explore the problem solving skills of secondary school students and to analyze its relation with decision making styles adopted by students. The study included 200 secondary school students (hundred students from each type of school i.e. government and private, out of hundred students (fifty male students and fifty female students). The study revealed that male secondary school students were better in dependent, intuitive, spontaneous decision making styles and decision making styles (total) as compared to female students. Male students possess better problem solving skill as compared to their female counterparts. Significant positive relationship was found in decision making style of secondary school students with problem solving skills.

Keywords: *problem solving skills, decision making styles secondary school students*

Introduction

Taking decision is a part and parcel of every individual life, indeed it is a routine activity. Every individual to succeed in life needs to take best decision so that the problems are solved successfully and in an optimum manner. According to Stanley(1904) “adolescence is a period of storm and stress”. Adolescence is a transitional period from childhood to adulthood wherein the individual undergoes rapid changes in various facets of personality be it physical, mental, social, emotional or moral. Along with this various skills such as problem solving, decision making, social skills, etc. are developed. In this stage an individual faces various problems and challenges and has to take decision in various fields of life especially, education, vocational, which streams to opt, career decisions, etc. Problem solving and decision making skills shall enable an individual to master the process of practical thinking that underlies effective making of decisions and thus solving of problems. Adolescence is a period where problem solving and decision making in area of profession and social relationships occur (Albert & Steinberg, 2011; Reyna et.al., 2011, as cited by Fulya and Oguzhan, 2013). Various research findings exhibited that decision making skills (CenksevenOnder, 2012 and Deniz, 2006) and problem solving skills (Myers, 1991; Witmer & Sweeney 1992) are effective for the individual’s well-being (cited in Fulya and Oguzhan, 2013). In fact the overall wellbeing and self-concept of an individual is being affected by problem solving and decision-making skills and individual possess.

Decision making styles

Eisentuhr (2011) defined “decision making as a process of making a choice from number of alternatives to achieve desired results.” According to Qlueck,1977,“Decision-making is the process of thought and deliberation that leads to a decision”(as cited in Al-Tarawneh, 2012).While for Harrison (1975), decision making is a dynamic process which indicates that a problem exists, thus the best courses of action must be selected and implemented”(as cited in Al-Tarawneh, 2012).In fact decision making involves three key components, firstly choice making from a number of options available, secondly process of choicemaking, finally “the desired result” that consist of objective or target as a result of mental activity in which the decision maker engages himself/ herself to arrive at the final decision. As a concept decision making style implies individual differences with respect to decision making focusing on distinctive features of the decision maker. Differences pertain to how much information is strived for by decision maker and approaches or procedures adopted by the decision maker. According to Charles and Morris (2002), “making decision is a special type of solving problems the possible solutions of which are already known”(as cited in Güçray, 2003). The basic intent behind decision making is to evaluate the decisions taken amongst the available numerous choices for best possible results. Decision making is usually a stressful process as one has to choose the optimum solution (Bruineetal. 2007; Janis & Mann 1977; Salo&Allwood2011, as cited in Davids, Roman & Leach,2015).Individuals tend to differ in the process of making decisions(Galotti. 2006; Riaz& others 2012; Williams &Esmail2014, as cited in Davids, Roman& Leach,2015). The processes that individual adopt for arriving at varied decisions is termed as “decision making styles” (Janis & Mann 1977; Leykin&DeRubeis, 2010 and Scott & Bruce, 1995). Individuals usually differ in the manner in which they approach the problem, gather information, search for alternatives and thus resolving problems. There are varied decision making styles that are adopted by individuals such as “vigilance”, “hypervigilance”, and “defensive avoidance”, as proposed by Janis and Mann (1977), while three styles, viz.,“rational”,“intuitive” and “dependent”decision making styles were proposed by Harren (1979). Further Scott and Bruce (1995) added to avoidant and spontaneous-decision making styles to it.

Problem Solving Skills

“Problem solving is a cognitive-emotional-behavioral process which includes effective ways to cope with the problems experienced in daily life and to define and explore individual (or group) efforts” (D’Zurilla, 1988). Problem solving comprises of certain steps, viz. “focusing on the problem, defining the problem, generating alternative solutions, selecting the best possible solution, implementing the selected solution and evaluating the result” (D’Zurilla&Nezu, 1982). Every individual faces some or the other kind of problems, difficulties and challenges in life, some people have the ability to cope up with it while others don’t believe in themselves. In fact the ability to deal problems has a direct bearing on an individual’s performance.

Adolescence is an significant stage in one’s life as one has to take certain important decisions in life that have a direct bearing on this future life, be it physical and mental wellbeing, social life or career

choices. Decisions taken during this period can make or mar the life of an individual. If the individual solves the problem and takes accurate decisions he /she may feel have a sense of satisfaction and adequacy and fulfillment in life or vice versa. Thus it is essential to know how decision making styles can influence the problem solving skills. Thus, the study was directed to fulfill the following objectives:

Objectives

1. To explore the decision making styles and problem solving skills of secondary school students.
2. To compare male and female secondary school with respect to
 - Decision making styles
 - Problem solving skills
3. To find out the relationship in decision making styles and problem solving skill of secondary school students.

Hypotheses

1. There exists no significant difference in decision making styles of male and female secondary school students.
2. There exists no significant difference in problem solving skills of male and female secondary school students.
3. There exists no significant relationship in decision making styles of secondary school students with problem solving skills.

Method of study and procedure

The method employed for the study was descriptive survey method. Collection of data was done from male and female secondary school students studying in four schools (two government schools and two private schools) of Jigawa state of Nigeria, by using simple random sampling technique. The sample comprised of 200 students (hundred students from each type of school i.e. Government and Private, out of hundred students, fifty male and fifty female) was selected by employing simple random sampling (data cleaning led to a sample of 198 (108 males and 89 female students). In order to collect the data two psychological tests were used one was “general decision making style scale” by Scott and Bruce (1995) and the second tool, “problem solving ability test” developed by L. N. Dubey (2004). To explore the existing status in terms of general decision making styles and problem solving skills of secondary school students, mean and standard deviation (SD) were calculated and in order to test the significance of difference between means of the variables in hand, t-test was applied. To analyze the relationship in general decision making styles of secondary school students with problem solving ability correlation was calculated.

Results and Discussion

Variable wise analysis and interpretation of data has been done as per the objectives in the following section.

Results pertaining difference in male and female secondary school students in decision making styles

Table 1 Mean scores of decision making styles of male and female secondary school students

Decision making styles	Gender	N	Mean	Std. Deviation	t- value	Level of significance
Avoidance	Male	108	19.11	3.34	1.582	Not Significant
	Female	89	18.34	3.50		
Dependent	Male	108	16.32	3.91	1.994*	Significant
	Female	89	15.21	3.85		
Intuitive	Male	108	19.12	3.70	2.163*	Significant
	Female	89	17.94	3.90		
Rational	Male	108	20.35	2.91	0.525	Not Significant
	Female	89	20.13	2.85		
Spontaneous	Male	108	18.85	2.64	3.166**	Significant
	Female	89	17.56	3.07		
Decision Making Total	Male	108	93.76	13.07	2.416*	Significant
	Female	89	89.19	13.366		

*significant at 0.05 level

**significant at 0.01 level

Table 1 depicts mean scores and SD of decision making styles of male and female secondary school students. Further, t-values calculated with regard to avoidance and rational decision making styles was found to be insignificant while, t-values calculated for dependent, intuitive, spontaneous decision making styles and decision making styles (total) of male and female students was found to be significant at 0.05 and 0.01 level. Further, it can be explained that male students were better in dependent, intuitive, spontaneous decision making styles and decision making (total) as compared to their female counterparts. However gender does not seem to affect the avoidance and rational decision making styles. Thus from findings, it can be indicated that the hypothesis no.1 i.e. "there exists no significant difference in the decision making style of male and female secondary school students" is thus not accepted.

Results pertaining difference in male and female secondary school students in problem solving skills

Table 2 Mean scores of problem solving skills of male and female secondary school students

Problem solving skills	Gender	N	Mean	Std. Deviation	t-value	Level of significance
Problem solving (total)	Male	108	7.04	2.97	2.288*	Significant
	Female	89	6.07	2.94		

*Significant at 0.05 level

Table2 shows mean scores(M) and standard deviation(SD) of problem solving skills of male and female secondary school students. Further, t-values calculated for problem solving skill of male and female students was found to be significant at 0.05 level. Further it can be explained that male students possess better problem solving skill as compared to female counterparts. On the basis of findings, it can be indicated that hypothesis no.2 i.e. “there exists no significant difference in the problem solving skills of male and female secondary school students” is thus not accepted.

Results pertaining to relationship of decision making style of secondary school students with problem solving skills

Table 3 Decision making styles of secondary school students with problem solving skills

Variables		Problem solving skills (total)
Decision Making Styles	Avoidance	.211**
	Dependent	.183*
	Intuitive	.458**
	Rational	.364**
	Spontaneous	.236**
	Decision Making Total	.236**

*significant at 0.05 level

* *significant at 0.01 level

Table3 shows relationship of decision making style of secondary school students with problem solving skills. The calculated value of correlation of avoidance, dependent, intuitive, rational, spontaneous decision making style and decision making styles (total) with problem solving skills is positive and moderate. This indicates that if students have adopted high level of avoidance, dependent, intuitive, rational, spontaneous decision making style and decision making styles (total) then students are likely to show better problem solving skills. Thus, there exists a positive relationship of decision making styles (its various styles and total) of students with of secondary school students with problem solving skills. On the basis of findings, it can be indicated that hypothesis3, namely, “there exists no

significant relationship in the decision making style of secondary school students with problem solving skills.” is not accepted.

Conclusions

- Male and female secondary school students differ significantly with regard to dependent, intuitive, spontaneous decision making styles and decision making styles (total). Male secondary school students were better in dependent, intuitive, spontaneous decision making styles and decision making (total) as compared to their female counterparts. However gender does not seem to affect the avoidance and rational decision making styles.
- Male and female secondary school students differ significantly in problem solving skills. Male students possess better problem solving skill as compared to their female counterparts.
- A significant positive relationship was found between decision making style of secondary school students with problem solving skills. If students have adopted high level of avoidance, dependent, intuitive, rational, spontaneous decision making styles and decision making styles (total) then students are likely to show better problem solving skills

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