



Measurement of rational thinking skills in people affected by annual floods

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Abstract

Written in English;concise and factual and is able to stand alone as a unit of information. Describes the major points of the research, includes the background, purpose and focus of research, methods used, finding or results and conclusions of the full-length paper.Keep provides logical connections (or transitions) between the information included. Finish up with a final sentence that includes what you most want the reader to be thinking about as they move on to reading the paper.Typed with one space and the length of article between 100 - 150 words. If possible, avoid to contains no information not included in the paper. trade names, acronyms, abbreviations, or symbols.

Keywords:Written in English. Choosing appropriate keywords is important, because these are used for indexing purposes. Please select a maximum of 5 words to enable your manuscript to be more easily identified and cited.



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Introduction

Disaster is an unplanned event with great physical and psychological effects. The ability of communities to cope with disasters varies greatly. Starting from the ability to think simple about disasters to critical strategic thinking skills. Research on the ability to think rationally at the time of disaster is still very little. This is due to the concentration of research on disasters aimed at mitigation and post-disaster that are physical, emotional and behavioral.

Research on rational decisions has been researched for purposes such as management, politics, sustainable energy, education. In the field of psychology, rational decisions are examined in industry and organizations. Examining this rational decision needed in the field of disaster is to reduce vulnerability to become victims in disaster areas.

Erratic situations make individuals use their rational thinking. Especially during disasters, individuals use subjective or situational judgments without regard to long-term impacts.

According to Jordan, Brooks, Delisi, Gray, Berkowitz (2015), rational thinking ability is not a general ability that can be obtained by individuals naturally but requires education and training. The ability to think rationally requires understanding concepts of things. In many cases, rational thinking requires serious training in order to solve complex life problems.

High-level thinking is often analogous to perception. The process of perception is a very complicated event. Refer to Giddings (1982); Aikenhead (1989); Cleminson (1990) says that the concept of knowledge that has been studied can produce a scheme that can later describe a particular decision. This decision is then used to make a perception.

Rational thinking can be derived and also studied (Glynn, Voinov, Shapiro, White, 2017). Rational thinking is strongly influenced by the types of thinking, inherited refraction, beliefs, analytic concepts that are repeated and norms. Besides that it is also influenced by the number of groups and the situation at hand. Glynn, et al (2017) found that there is a system of thinking that humans do when thinking rationally. The first thought is thinking that is based on a concept that has been derived and then develops into a second thought, namely thinking that is of the nature of consciousness or can also be called objectively. Likewise with Rappange, Brouwer and Exel (2014), that decision making is highly dependent on demographic characteristics, health and healthy behavior, experience and the amount of information individuals have.

There are several opinions about the definition of rational thinking. Rational thinking can be studied from various fields such as economics, philosophy, and psychology. Economist Robert Frank (2004) says that there are many concepts about rationality. Each opinion has its weaknesses and strengths. Various definition about this rational cause the absence of similarity in giving meaning to the word rational. While philosophers Susan Hurley and Matthew Nudds (2006) argue that almost similar, that each discipline uses rational terms with different intentions according to their scientific needs. Some focus on rational behavior, while others focus on rational processes. Therefore it is very risky to discuss the term rationally in an interdisciplinary manner. Therefore the use of the term rational should be adjusted to its aims and objectives.

This research will lead to *decision theory* and *cognitive science*. Both of these theories exist in the field of psychology. Both of these theories refer to individual differences; that rational thinking and rational response are on the continuum line. That means you will mean an individual will think and respond very rationally to not being rational at all (Stanovich, West, Toplak, 2016). There is another meaning about rationality which follow the model of the category (de Sousa, 2007). This model says that the concept of rationality refers to reasoning. Individuals who are unable to think rationally are referred to as having no reason. While individuals who are capable of rational thinking are said to be rational.

Referring to Etzioni (2014), that rationality is a degree of thought or behavior from simple to complex thinking or behavior as conceptualized in a normative model. In the *cognitive science* concept, if someone thinks or behaves less humanly then it is referred to as irrational thinking or behavior. In this concept the mention is less rational and optimal.

In a disaster situation, the trauma situation generally accompanies the psychological consequences of the disaster itself. But not all disaster situations will result in trauma conditions. Trauma can occur if personal memories of a past event which are then connected with the conditions experienced at this time, result in very deep grief (Goodall and Lee, 2015).

Annual flooding is a flood event that is not expected by the local community but the community does not have the option to avoid it. The community is resigned to every impact that the annual flood has. As told by the head-Iker Iker Village and the Village Head Ngablak (interviewed on 15 August 2018) that the people of these two villages, accept the conditions obtained even though the community suffered substantial losses. The village head said that the flood would come whenever the

conditions of the farm or farm would be ready for harvest. So that it is very rare for people to enjoy agricultural products or ponds properly. But the community can only surrender all existing conditions to the God. In addition, the community feels no need to move from the current location. This is because society considers these locations dwellings already gives a lot of luck and hope.

According to Rappange, Brouwer and Exel (2014) in their research on rational decisions for healthy living regarding the possibility of subjective life (subjective probiotics - SSP) said that the possibility of a subjective life is at the age of 9-15 years, at 57%. In subjects who have higher socio-economic conditions, they also have a better possibility of subjective life. The better the social economy, the happier so that they can think more rationally in making decisions.

West, Toplak and Stanovich (2008), found that the knowledge possessed by individuals would cause their cognitive structures to be well formed so that rationality in every thought would follow opinions and even behavior. The higher the knowledge possessed by the individual, the more rational decisions are made.

Research conducted by Stanovich (2010) states that younger individuals use their lives more freely. They prefer smoking, excessive weight, free sex. This means that younger individuals think that life is still so long that they can use their lives unwise.

Based on the explanation above, this study aims to identify rational decisions based on age, sex, education and income.

Method

1. Subject.

The subjects of this study were the people from Iker-Iker village, Gresik Regency, Ngablak village, Gresik regency, Kano r village, Kanor district, Bojonegoro district, Kalisarivillage, Baureno sub-district, Bojonegoro district, Batokan village, Kasiman sub-district, Bojonegoro district, Banjarjo village, Padangan district, Boangan district, Bojonegoro district. The FGD subjects were 60 people from 2 villages in Gresik district. Scale fillers were 200 people from 4 villages in Bojonegoro district.

2. Measuring instrument

The measurement tool in this study is the Rational Decision scale which is compiled based on theories from Glynn, Voinov, Shapiro, White (2017). There are four aspects of rational decision that is biased, value, belief and heuristic. The rational decision scaling process is:

- a. Formulate aspects of the scale by considering the various racial decision theories that exist
- b. Arrange material from a rational decision scale
- c. Conduct FGDs for flood-affected communities and BPBD. The FGD participants were officials from BPBD Gresik and the community as well as Iker-Iker village officials and Ngablak Cerme District Gresik Regency.
- d. Scale up based on the results of the FGD and theory
- e. The rational decision scale is arranged
- f. Spread the scale of rational decisions to flood affected communities in 4 Bojonegoro regency villages.

3. Data analysis

a) The scale of rational decisions is a scale arranged based on the Thurstone scale (Method of Equal Appearing Intervals). This method places the attitude of the subject in the continuum range from the very unfavorable to the very favorable for a particular object. Data analysis will use descriptive data. Rational Scale Scale reliability test results towards 200 respondents obtained Cronbach's Alpha coefficient of 0.943. Therefore, coefficient calculation results Cronbach's Alpha (0, 943) is greater than 0, 8 00, then a Rational Decision Scale reliability is very good.

b) Test results of validity test results show it all over the item (36 items) is valid with the *Corrected Aitem* coefficient - *Total Correlation* between 0, 332 - 0, 679 .

Results and Discussion

Based on calculation Anava 1 lane with using SPSS 24, obtained results as the following :

Rational decision	Mean Square	F	Sig
Age	1472,179	.404	.917
Sex	84,440	.24	.878
Education	11396,459	3,356	.11
Income	2152,471	.603	.48

This means that taking decision rational influenced by the level of education that is owned by the affected community flood yearly . Obtained the value of F = 3,356 with p = 0.011 (p <0.05).

Discussion

As in a comprehensive rational theory (Etzioni, 2014). This theory assumes that a rational decision maker has enough information about various alternative solutions so that he is able to predict the exact consequences of alternative choices and take into account the cost benefit principle and consider many interrelated problems. Individuals who are able to make rational decisions will be able to distinguish one problem from another. In addition, individuals also have goals for decisions that have been made rationally. This is because individuals can create and see various alternative solutions to problems. Besides that education is the right way to shape rational thinking skills.

As has been described in the previous chapter theories that rational decisions require adequate cognitive understanding. Adequate cognitive understanding can be obtained if someone has sufficient knowledge and education. In this study proves that the higher the education a person has, the better the rational decision is taken.

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