

The Predictor Parameters Of Farmers' "Attributional Style"

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Abstract

One of the applied subjects of motivation is explanations and excuses about success and failure. An explanation of motivation that focuses on how people explain the causes of their own successes and failure is called attribution theory. According to the theory, Individuals attribute the results of action, generally to four main causes: ability, effort, task difficulty, and luck. These causes can be grouped into three main dimensions: internality (or externality), stability, and controllability. The research has aimed to investigate the relationship between farmers' attributional style and their characteristics. Survey research methodology was used in this study. The population included irrigated wheat growers in Shiraz, Iran. With using two stage stratified random sampling method, 217 farmers (wheat growers) were sampled and interviewed. According to findings, there are relationships between attributions to effort with seven of eight farmers' characteristics: Educational level, age, exposing with information sources, cosmopolitanism, achievement motivation, interest in agriculture and attitude toward extension agent. Findings show that educational level, exposing with information sources, cosmopolitanism, achievement motivation, interest in agriculture and attitude toward extension agent have a significant relation with attribution to ability and task difficulty. Also, attribution to luck has negative and significant relationship with educational level, exposing with information sources, cosmopolitanism, achievement motivation and interest in agriculture. Considering the results of regression models, it will be obviously concluded that relationship between achievement motivation with attributional causes and attribution dimensions are stronger than the other relationships. Based on the results of research, relative recommendations are presented.

Introduction

As an agricultural expert, an extension agent and so on, to interact effectively with farmers, we need to know how farmers feel. But to understand people well enough to predict their future behaviour, we must also try to identify their disposition -stable characteristics such as personality traits, attitudes and abilities. Since we cannot actually see dispositions, we can only infer them from what a person says and does (Brehm, 1993, P.106). Motivation is foundation of mans' behaviour. Social changes adoption, active participation in learning, acceptance of social and individual responsibility, attending in national and rural development programs, and so on, to great extend, depends on man's motivation and tendency (Zamani, 1992, P.231). One of the applied subjects of motivation is explanations and excuses about success and failure. An

explanation of motivation that focuses on how people explain the causes of their own successes and failure is called attribution theory (Slavin, 1986, P.351). In other words, the term "attribution" refers to reasons, explanation or causes that individual declares for events or for his behaviour's result and of course, it is a personal inference. In this theory, individual's explanations and excuses about success and failure are discussed. People want to ascribe the cause of their successes and failures to some thing or someone. We can suggest and predict farmer's success and his behaviour in future if we know his perception and interpretation about the results of his task. Also, if we know that to whom or to what he attributes his performance; we can treat him better and help him more. It should be considered that no research was found about farmer's attributional style in the review of literature.

Purposes

The research has aimed to investigate the relationship between farmers' attributional style and their characteristics and to determine the best predictors for farmers' attributional style. The following research objectives were formulated to guide the study: 1- To compute the relationships between Farmers' characteristics (age, educational level, exposing with information sources, cosmopolitanism (number of travels to cities), achievement motivation, interest in agriculture, attitude toward extension agent, and tendency to migration) and attribution to effort, ability, task difficulty and luck. 2- To compute the relationships between Farmers' characteristics and attribution to internal, stable and controllable factors.

Theoretical Base

Attribution subject mainly is a part of educational psychology and the range of attribution's studies can be much spread. Attribution theory is a generic term that describes how people explain the causes of behaviour. The important point is that, to the attribution theorist, the task is not to determine the *true causes* of these events but to discern people's perceptions of the causes (Brehm, 1993, P.107). According to the theory, Individuals attribute the results of action, generally to four main causes: *ability, effort, task difficulty, and luck*. These causes can be grouped into three main dimensions: *internality (or externality), stability, and controllability*. The guiding principle of attribution theory is that individuals search for understanding, seeking to discover why an event, such as an achievement-related success or failure, has occurred. A causal attribution answers such "why" question. The search for causality is functional in that knowing why one has succeeded or failed might increase later chances of success by instigating appropriate instrumental action. Hence, attribution theory is part of the broader study of cognitive functionalism (Betancourt, 1982, P.363).

When students succeed, they would like to believe that it was because they are smart, (an internal, stable attribution), not because they were lucky or because the task was easy, or even because they tried hard, (because "trying hard" says little about their likelihood of success in future). In contrast, students who failed would like to believe that they had bad luck (an external, unstable attribution), which allows for the possibility of succeeding next time. Of course, over time these attributions may be difficult to maintain. For example, after several bad grades (or several failure), an unstable attribution becomes difficult to maintain; no one can be unlucky on tests [or on other tasks] weak after weak. Therefore, individual may switch to stable but still external attribution (task difficulty) (Slavin, 1986, P.352).

According to Daniel Gilbert (1989) the problem stems from how we make attributions (Brehm, 1993, P.116). Attribution theorists used to assume that people survey all the evidence and then decide on personal or situational attributions.

People naturally make favourable attributions for their own behaviour. Researches conducted with students, teachers, parents, workers, athletes, sports fans, and others show that we take more responsibility for success than for failure - a bias that is found in many cultures of the world (Brehm, 1993, P. 121, Zuckerman, 1979, P.254, Fry, 1980, P.324).

According to Zuckerman (1979) some researchers have found that:

a- people are more likely to expect success than failure and people tend to take responsibility for expected outcomes.

b- People are more likely to perceive covariation, and, therefore a causal relation, between their behaviour and increasing success than between their behaviour and constant failure (Zuckerman, 1979, P.246). Zuckerman states that unexpected outcomes - whether success or failure - are attributed more to luck and less to ability than are expected outcomes (Zuckerman, 1979, P.251). The research on student attributions reveals some categories - effort, ability, mood, task difficulty and luck, being among the most prevalent- are regularly used to account for they success or failure (Gage, 1992, PP. 338-339). As noticed before researchers have shown repeatedly that individuals tend to attribute their successes to their own efforts, abilities or other dispositions, whereas they attribute their failure to bad luck, task difficulty or a variety of other circumstances factors (Arkin, 1980, P.23).

In sum, Zuckerman (1979) declares that if success is attributed to personal causes, it has a self-enhancing effect, and if failure is attributed to situational causes, it has a self-protective effect (Zuckerman, 1979, P. 268).

To summarize, tendency to accept responsibility for success and failure, is related to personality and situational factors. It was suggested that this relationship is motivational in nature, that is:

a) - Externals deny responsibility for failure in order to defend themselves and project blame onto others.

b) - High self-esteem individuals have a greater need to make protective attributions following failure.

c) - High achievers take more responsibility for success so as to experience a greater reward for goal attainment.

d) - Those who expect to be evaluated show less defensive attribution in order to avoid a possible loss of self-esteem (Zuckerman, 1979, P. 267).

Methods

Survey research methodology was used in this study. The study was conducted in 57 villages in 8 districts of Shiraz, Iran. Shiraz has a total of nearly 6000 hectares of irrigated wheat farming.

The population included all irrigated wheat growers in Shiraz, except those who grew wheat with traditional methods. Two stage stratified random sampling was used as a sampling method. At the first stage, Shiraz was divided into eight districts, and then wheat growers were divided into two groups: High performance wheat growers (HPWG) (or successful wheat growers) and low performance wheat growers (LPWG) (or unsuccessful wheat growers). In each of eight districts, an equal number of two groups were randomly selected and interviewed. In total, 217 farmers (wheat growers) were interviewed. The response rate was one hundred

percent. The questionnaire was used for collecting data with closed ended questions, except one open-ended question. Face validity of the instrument was confirmed by three experts. To assess reliability, two pilot studies were conducted. In order to determine the reliability, Cronbach's Alpha was computed ($r = 0.76$ to 0.84). The final questionnaire was developed to collect data. Collected data were coded and all analysis was done using SPSS/pc. Inferential statistics included Pearson correlation coefficient and stepwise regression were used to analyse the data

Results and Discussion

a- Predictors of attribution to four main causes (effort, ability, task difficulty and luck):

The correlation coefficients of these eight variables with four causal attributions were computed (Table 1). As it is clear, the correlation coefficient of achievement motivation and attribution to effort is higher than the other independent variables. Also, age had a negative and significant correlation with attribution to effort. On the other hand, no significant relationship was found between tendency to migration and attribution to effort. It verifies Pihl's (1980) study that stated there is no relationship between geographic mobility and personality of his subject.

Which of the mentioned factors is better predictor for attribution to effort? Multiple regression helps to understand better. Analysis of stepwise multiple regression is located in Table 2. Only two variables entered the equation. The two variables explain 56.65% of variability in attribution to effort. 54.7% of the variance in attribution to effort can be explained by achievement motivation. Exposing with information sources is the other factor that included in the equation. Recent factor, can only explain 1.9 per cent of the variance in attribution to effort.

According to table 1, attribution to ability, has a high relationship with achievement motivation ($r = 0.70$). It is supported by Zuckerman's (1979) research that said: Males high in achievement motivation attribute their success more to ability than males low in achievement motivation. Also, as It was expected, another variables (educational level, exposing with information, cosmopolitaness, interest in agriculture and attitude toward extension agent) have significant positive relationship with attribution to effort ($r = 0.21, 0.35, 0.45, 0.30$ and 0.20 , respectively).

Table 1. Correlation coefficient between attribution to causes and farmers' characteristics factors.

	Attribution to effort		Attribution to ability		Attribution to task difficulty		Attribution to luck	
	r	P	r	P	r	P	r	P
Educational level	0.25	0.000	0.21	0.001	-0.17	0.006	-0.18	0.003
Age	-0.12	0.040	-0.07	0.147	0.09	0.080	0.06	0.191
Exposing with information sources	0.42	0.000	0.35	0.000	-0.25	0.000	-0.33	0.000
Cosmopolitaness	0.35	0.000	0.45	0.000	-0.24	0.000	-0.34	0.000
Achievement motivation	0.74	0.000	0.70	0.000	-0.47	0.000	-0.61	0.000
Interest in agriculture	0.27	0.000	0.30	0.000	-0.24	0.000	-0.20	0.001
Attitude toward extension agent	0.18	0.005	0.20	0.002	-0.24	0.000	-0.07	0.144

Tendency to migration	-0.000	0.48	0.01	0.447	0.08	0.126	-0.06	0.198
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Table 2. Stepwise multiple regression on attribution to effort.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	0.226	0.017	0.676	0.0000
Exposuring with information sources	0.273	0.093	0.149	0.0039
Constant = -4.01 ; F = 131.14 ; Significant = 0.0000				
<i>Summary statistics</i>				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.740	0.547	0.545	0.547
Exposuring with information sources	0.752	0.566	0.562	0.019

As it was anticipated, tendency to migration has no relationship with attribution to ability.

Unexpectedly, age and attribution to ability didn't show any relationship. At first, it seemed that younger farmers attribute to ability than older farmers do.

A multiple regression technique was used for further evaluation of the relationship between these eight personal factors as independent variables and attribution to ability as dependent variable. Table 3 shows that four variables that qualify for inclusion in the equation, explain 55.4 per cent of the variability in attribution to ability. Also, 49.9% of the variance in attribution to ability is associated with achievement motivation. Cosmopolitaness, attitude toward extension agent and age can explain only 3.2, 1.4 and 0.9 percent of variability in attribution to ability, respectively.

Table 3. Stepwise multiple regression on attribution to ability.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	0.172	0.015	0.628	0.0000
Cosmopolitaness	0.041	0.0009	0.216	0.0000
Attitude toward extension agent	0.059	0.025	0.115	0.0198
Age	0.011	0.005	0.098	0.0435
Constant = -3.87 ; F = 61.89 ; Significant = 0.0000				
<i>Summary statistics</i>				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.707	0.4999	0.497	0.499
Cosmopolitaness	0.729	0.531	0.526	0.032

Attitude toward extension agent	0.738	0.545	0.538	0.014
Age	0.745	0.554	0.545	0.009

The farmer whose achievement motivation is low, attribute the results of work more to task difficulty (Table 1).

Except age and tendency to migration, the other factors have significant relationship with attribution to task difficulty. As Zuckerman (1979) have stated motivational and informational factors influence attributional decisions. Those whose information, education and interest in agriculture are low and have a negative view toward extension agent, surely produce low performance, and have no way except attribute their performance to task difficulty or luck.

Stepwise multiple regression was used with attribution to task difficulty as dependent variable and eight characteristics of farmers as independent variables. According to the findings in table 4, 21.8 percent of variability in the attribution to task difficulty is attributable to achievement motivation. Also, 2.5% of variance in attribution to task difficulty can be interpreted by attitude toward extension agent. In total, only 24.3% variability in attribution to task difficulty can be justified by these two variables.

Is luck, really a cause that can influence individuals' future? In other words, don't we have control over our outcomes? Why farmers attribute the results of their behaviour to luck? Luck is the best cause that those who do not find any factor, attribute to.

Again, the less achievement motivation, the more attribution to luck (table 1). Expectedly, educational level, exposing with information sources, cosmopolitanism, achievement motivation and interest in agriculture, have negative significant relationships with attribution to luck. It reasonably can be justified: Individuals who are more literate, have more information and have more communication to another cities and also those who have more motivation and interested more in agriculture, believe less in luck.

Table 4. Stepwise multiple regression on attribution to task difficulty.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	-0.146	0.021	-0.44	0.0000
Attitude toward extension agent	-0.10	0.039	-0.16	0.0104
Constant = 7.23 ; F = 32.23 ; Significant = 0.0000				
<i>Summary statistics</i>				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.466	0.218	0.214	0.218
Attitude toward extension agent	0.493	0.243	0.235	0.025

Only achievement motivation and tendency to migration contributed significantly to prediction of attribution to luck (Table 5). The two independent variables included in the equation, explain 38.7 per cent of variability in the equation. Achievement motivation, itself, can

explain 37.3% of variability. Tendency to migration is a weak variable in explaining variability in attribution to luck.

Table 5. Stepwise multiple regression on attribution to luck.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	-0.29	0.025	-0.621	0.0000
Tendency to migration	-0.076	0.035	-0.119	0.033
Constant = 11.09 ; F = 63.4 ; Significant = 0.0000				
Summary statistics				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.611	0.373	0.370	0.373
Tendency to migration	0.622	0.387	0.381	0.014

b- Predictors of attribution to dimensions factors (internality, stability and controllability):

Table 6 clarifies relationship between attribution to dimensions factors (internality, stability and controllability) and farmers' characteristics. Here, the most important factor that is associated with attribution to internal is achievement motivation ($r = 0.75$). It means that farmers with high achievement motivation believe less in external factors and tend to attribute the cause of outcomes to themselves. Age and tendency to migration didn't show any significant relationship. The findings (table 6) can be explained: Those who are more literate and have more information, believe more that external cause have little influence on outcomes. Also cosmopolitanness increases their perception and leads farmer toward internal factors. On the other hand, interest in their task makes people determined to use their capacities and then attribute it to self.

Table 6. Correlation coefficient between attribution to different dimensions of attribution and farmers' characteristics factors.

	Attribution to internal causes		Attribution to stable causes		Attribution to controllable causes	
	r	P	r	P	r	P
Educational level	0.25	0.000	0.02	0.42	0.20	0.007
Age	-0.10	0.067	0.09	0.106	-0.07	0.172
Exposuring with information sources	0.40	0.000	0.20	0.004	0.33	0.00
Cosmopolitanness	0.41	0.000	0.01	0.463	0.38	0.000
Achievement motivation	0.75	0.000	0.07	0.159	0.68	0.000
Interest in agriculture	0.30	0.000	-	0.341	0.27	0.000
Attitude toward extension agent	0.19	0.002	0.03	0.028	0.09	0.111

Tendency to migration	0.00	0.486	- 0.08	0.155	0.02	0.388
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Table 7. Stepwise multiple regression on attribution to internal causes.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	0.382	0.030	0.659	0.0000
Cosmopolitaness	0.052	0.019	0.129	0.0079
Exposuring with information sources	0.384	0.156	0.123	0.0134
Constant = -6.72 ; F = 101.57 ; Significant = 0.0000				
Summary statistics				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.760	0.577	0.575	0.577
Cosmopolitaness	0.769	0.591	0.587	0.014
Exposuring with information sources	0.777	0.604	0.598	0.013

Results of multiple regression are presented in Table 7. Three independent variables (achievement motivation, cosmopolitaness, exposuring with information sources) entered in regression equation. In total, they can interpret 60.4 per cent of amount of variation in attribution to internal factors. It is clear that achievement motivation is the best predictor for this dependent variable ($R^2 = 57.7$).

Unexpectedly, only two factors (exposuring with information sources ($r = 0.20$) and attitude toward extension agent ($r = 0.14$) had a significant relationship with attribution to stable factors (table 6). It means that increasing or decreasing in educational level, age, cosmopolitaness, achievement motivation, interest in agriculture and tendency to migration have no relationship with attribution to stable or unstable causes.

As it was mentioned before, attribution to stable or unstable factors are important for expectancy changes and they use to explain the cause of successes or failures.

Considering table 6, it is clear that educational level and exposuring with information sources have significant relationships with ascription to controllable causes ($r = 0.20$ and 0.33 , respectively). It means that those who know more, believe more in controllable factors and tend to explain their outcomes on this base. Also, correlation between ascription to controllable factors and cosmopolitaness is significant. Perhaps, communication with other places has changed their attitudes. Achievement motivation and interest in agriculture are two other important variables that show a significant relationship with ascription to controllable causes. Its justification is easy: When individuals have a high interest in especial task and also have a high achievement motivation, try hard and have control on the environments. If they believe that they can control their outcomes, their satisfaction and self-confidence will increase. Individual with

high achievement motivation believe in himself and believe that he can control over his surrounding factors.

Table 8. Stepwise multiple regression on attribution to controllable causes.

Independent variables	b	Std error b	beta	Signif. T
Achievement motivation	0.276	0.027	0.630	0.0000
Cosmopolitaness	0.036	0.017	0.127	0.038
Constant = 1.89 ; F = 56.54 ; Significant = 0.0000				
Summary statistics				
Step	Multiple R	R ²	R ² Adjust	R ² Changed
Achievement motivation	0.681	0.464	0.461	0.464
Cosmopolitaness	0.691	0.478	0.471	0.014

As it was found for previous factors, again achievement motivation can be considered as a relatively good predictor for our dependent variable (R^2 changed = 46.4). Also cosmopolitaness can explain 1.4 per cent of variability in attribution to controllable factors (table 8). The two independent variables, can interpret about 47.8 % of amount of variation in attribution to controllable factors.

Conclusion and Recommendations

According to research findings, there are relationships between attribution to effort with seven of eight farmers' characteristics: *Educational level, age, exposuring with information sources, cosmopolitaness, achievement motivation, interest in agriculture and attitude toward extension agent*. Findings show that educational level, exposuring with information sources, cosmopolitaness, achievement motivation, interest in agriculture and attitude toward extension agent have a significant relation with attribution to ability and task difficulty, but age and tendency to migration don't have any relationship with attribution to ability and task difficulty. Also, attribution to luck has negative and significant relationship with educational level, exposuring with information sources, cosmopolitaness, achievement motivation and interest in agriculture. There are positive and significant relationships between attribution to internal factors and farmers' educational level, exposuring with information sources, cosmopolitaness, achievement motivation, interest in agriculture and attitude toward extension agent. Also attribution to controllable factors has positive and significant relationship with five farmers' factors (educational level, exposuring with information sources, cosmopolitaness, achievement motivation and interest in agriculture). Attribution to stable factors has a relatively weak relationship only with exposuring with information sources and attitude toward extension agent.

Considering the results of regression models, it will be obviously concluded that relationship between achievement motivation with attributional causes and attribution dimensions are stronger than the other relationships. It confirms that we can consider achievement motivation as a very important factor that plays an important role in farmers' behaviour. In the other word, achievement motivation is the best predictor for farmers' attribution style.

Based on the mentioned conclusion, the following recommendations are presented:

1- The motivation-related personality characteristics e.g. achievement motivation and attributional style can be altered. Considering the findings, achievement motivation is the most important factor (the best predictor) in explaining attributional style. So, it is suggested that the extension agents pay more attention to develop achievement motivation of farmers. The generated achievement motivation in farmers, can force farmers to try hard and help them to work purposefully.

2- Interest in agriculture and attitude toward extension agent are two factors that have relationship with attributional causes and dimension of attribution. So policy makers should pay more attention to these two factors. Some policy should be made to increase their interest in agriculture and some activities that decrease the interests of farmers and also increase their negative attitude toward extension agent (e.g. inopportune distribution of fertilizers and pesticides) must be avoided.

3- Since cosmopolitanism is related with attributional style, some enterprises that have cosmopolitanism effect are suggested. For example it is suggested that the farmers be taken to another cities to visit demonstration field. Also, It is suggested that the farmers who travel more than others to cities, be used as contact farmers.

4-According to the findings, the age of wheat growers is associated with their attribution to effort, and their internal factors. Since the younger farmer's view and attitude toward internal factors are positive, they can be used as contact farmers or can be participated in rural local counsel.

5-Considering the findings, exposing with information sources is an important variable in attribution. So, it seems that planning for increasing the farmer's knowledge and increasing their information is necessary. Therefore, it is suggested that more informational facilities and educational programs (say, educational leaflet, radio and TV programs, extension classes, face-to-face contact with extension agent, field demonstrations and etc) be provided.

6- Changes can be achieved, directly by special programs designed for this purpose, for example, during the extension classes, the farmers can be taught to take personal responsibility for their action, to choose realistic objectives and plan how to achieve those objectives. Again we note that the purpose of attributional training programs is change in attributions strategies if their explanations lead to undesirable behaviour or affects.

7- Literature review showed that there isn't any research and study related to attribution theory in field of agriculture and farming. It is emphatically recommended that other researchers with different nationalities study related subjects and examine application of attribution theory in field of agricultural extension and education.

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