

LITERATURE REVIEW ON
“ITEMS RELATED TO FARMER’S SELF-EFFICACY SCALE”

A dissertation submitted as a part of the internship program on

Agricultural Psychology

Submitted by:

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Under the supervision of

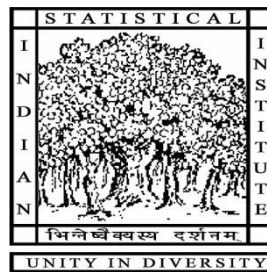
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ABSTRACT

Agriculture is the backbone of any economy in the world. In India agriculture plays vital role in building its economy. Over 70 percent of the rural households depend on agriculture. Self-efficacy is defined as a person's judgment of his or her ability to achieve or accomplish an action. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Farmer's self-efficacy is farmer's judgment of his capabilities to organize and execute a course of action required to attain designated type of agricultural performance. The objective of the present study was to review the literature related to items of farmer self-efficacy scale. Following the social cognitive theory of Bandura, Dutta Roy (2008) developed 50 items questionnaire measuring five dimensions of self-efficacy namely, environmental monitoring, enactive mastery experience, self-regulation, vicarious experience, physiological and emotional states. Studies related to farmer's self-efficacy were compiled and analyzed. In the present study, relevant studies in Science Direct (n=11), Google Scholar (n=17), PubMed (n=6) were searched and reviewed. The study shows that farmer's self-efficacy beliefs impact on their learning and decision making process. There is a positive association between subjective well-being and self-efficacy. Also self-efficacy has positive effects on entrepreneurial behavior of farmers. Study suggests that human capital, information and technology, material resources and infrastructure, wealth and financial capital all play an important role in shaping farmer's perceived self-efficacy. Growing evidence from psychology suggests that farmer's self-efficacy deserves more attention.

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CHAPTER 1

INTRODUCTION

Agriculture, as the backbone of Indian economy, plays the most crucial role in the socio-economic sphere of the country. Indian agriculture is a diverse and extensive sector involving a large number of actors. It has been one of the remarkable success stories of the post-independence era through the association of Green Revolution technologies. The Green Revolution contributed to the Indian economy by providing food self-sufficiency and improved rural welfare. The role of national agricultural research system (the NARS) was imperative in the context of Green Revolution (S.K.Mishra & V.K.Puri, 2002).

India has one of the largest and institutionally most complex agricultural research systems in the world. Historically, the Indian agricultural research system is the zenith of a process which started in the 19th century and which resulted in the establishment of the Imperial (now Indian) Council of Agricultural Research (ICAR) on the recommendation of a Royal Commission on Agriculture in 1929. Since then there was a stupendous evolution of agricultural research in India (S.Haseen & R.Khan, 2011).

About 65per cent of Indian population depends directly on agriculture, and it accounts for around 18 per cent of GDP (Economic Survey 2019-20). Agriculture derives its importance from the fact that it has vital supply and demand links with the manufacturing sector.

According to S.K.Mishra & V.K.Puri agriculture provides raw material for a number of industries such as Sugar, Tea, Cotton, Jute, Textile, Hydrogenated oils, Food Products, Soaps & many other agro based industries which put together account for 50% of the income generated in the manufacturing sector.

The main events in the history of agricultural research in India can be grouped into the following seven categories (Singh, 2001):

1. Establishment of agriculture departments and agriculture colleges,
2. Establishment of the imperial council of agricultural research,
3. Initiation of commodity committees,

4. Project for intensification of regional research on cotton, oilseeds and millets,
5. Initiation of all India coordinated crop improvement projects,
6. Reorganization of ICAR, and
7. The development of agricultural universities.

Self-efficacy: According to Bandura's description of the human cognitive self-regulation system, self-efficacy beliefs are the most central and pervasive influence on the choices people make, their goals, the amount of effort they apply to a particular task, how long they persevere at a task in the face of failure or difficulty, the amount of stress they experience and the degree to which they are susceptible to depression.

Self-efficacy is a central tenet of Albert Bandura's (1977) social cognitive theory. Self-efficacy is the belief, or confidence, that one can successfully execute a behavior required to produce an outcome such that the higher the level of self-efficacy, the more an individual believes he or she can execute the behavior necessary to obtain a particular outcome (Bandura, 1977). One tends to avoid situations believed to exceed his or her abilities and get involved, without hesitation, in activities for which he or she feels capable (Bandura, 1977). A central idea posed in social cognitive theory is that success experiences raise self-efficacy but repeated failures lower self-efficacy. Moreover, enhanced self-efficacy, secondary to repeated successes often generalizes to new situations (Bandura, 1977).

Individuals who are efficacious and capable of performing a given behavior are often found to be socially engaged in rendering supportive services to peers, family relatives and others in a target behavior more frequently than those who feel unskilled (Bandura, 1994; Schwarzer & Luszczuska, 2007).

People who receive and accept positive verbal encouragement from others demonstrate a reduction in self-doubt and therefore present a higher-self efficacy. Acquiring the ability to minimize negative thoughts and keep a positive outlook when facing difficult or challenging tasks help individuals achieve a level of self-efficacy and lower their negative emotional arousal as well as social relationships (Bandura, 1994; 1997; Luszczynska & Scwarzer, 2008; Schwarzar & Luszczynska, 2007).

Individuals with high self-efficacy are more resilient with a high sense of fulfilment as they view mistakes as the first attempt in learning. In the face of failure or setbacks, they recover and adjust quickly and forge ahead (Pajares, 2002). Furthermore, individuals with high self-efficacy are usually able to accurately assess their own ability. This class of individuals indulges in self-examination and are not over ambitious nor too optimistic, but are able to evaluate themselves with the aim of self-advancement.

In contrast, individuals with low self-efficacy display general dispiritedness to taking a risk or trying anything new since they are not assured that the outcome of the attempt will be successful. Secondly, individuals with low self-efficacy are engulfed in fear and usually depict doubts towards a given task (Frank, 2011).

Lunenburg (2011) posited that self-efficacy (beliefs about one's ability to accomplish specific tasks) influences the tasks employees choose to learn and the goals they set for themselves. Self-efficacy also affects employees' level of effort and persistence when learning difficult tasks. Four sources of self-efficacy are past performance, vicarious experience, verbal persuasion, and emotional cues.

Farmer's judgments of his capabilities to organize and execute courses of action required to attain designated types of agricultural performance is called farmer self-efficacy. Self-efficacy is multidimensional in nature. It has been defined in terms of five traits namely environmental monitoring, self-regulation, enactive mastery experience, vicarious experience, physiological and affective states. (Dutta Roy, D. 2008).

Farm entrepreneurial self-efficacy is an individual's level of confidence or belief about their ability to perform farm related behavior. Kanten and Yesiltas (2016) pointed that entrepreneurial self-efficacy plays a key role in determining the level of interest in pursuing an entrepreneurial career.

One of the aspects of self-efficacy theory that makes it appealing to researchers in agricultural education is the relationship between self-efficacy and persistence in a given task. For a number of years, agricultural education has suffered a shortage of agriculture teachers (Kantrovich, 2010), a shortage often attributed, in part to teachers' persistence. Researchers in agricultural

education have utilized self-efficacy theory as a theoretical foundation for the investigation into why agriculture teachers' are leaving the profession.

In agricultural education, self-efficacy theory (Bandura, 1977b, 1986, 1997) has played a foundational role in research conducted on agriculture teacher development as well as teacher attrition. The purpose of our study is to utilize self-efficacy research conducted in agriculture to explore the factors associated with self-efficacy of farmers related to agriculture.

CHAPTER 2

OBJECTIVE OF THE STUDY

The present dissertation work entitled ‘Literature Review on “Items related to Farmer’s Self-Efficacy Scale” has been carried out with the following objective:

- To review the literature related to items of farmer self-efficacy scale through literature survey.

CHAPTER 3

METHOD

Agricultural psychology largely uses the same quantitative and qualitative methods as other psychological disciplines. The main research methods used in agricultural research include questionnaire studies, field studies, case studies and interviews. In the present study the different literature was searched, followed by grouping of the articles of interest and a time scale respective web-analysis was done.

A. Literature Search

A literature search in different scientific databases was employed to identify studies that examine the link of self-efficacy, mainly from 2010 to 2021. Relevant studies in Science Direct, Google Scholar, PubMed, was systematically searched using keywords: self-efficacy, farmer's belief system, agricultural psychology.

Relevant papers in key journals were also searched such as **International Journal of Development and Sustainability, International Journal of Applied Research, Journal of Agricultural Extension and Rural Development, Rural Extension & Innovation Systems Journal** used for searching dissertations and theses. The search for papers was considered complete when various databases provided no more new papers on this topic.

In the present study 57 literatures was searched for understanding farmer's self-efficacy. Study obtained 23 research articles, published mainly in 2010-2021.

B. Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were included in this meta-analysis:

- 1) Except for dissertations and theses, these articles had to be published in peer-reviewed international journals.
- 2) The articles were written in English.
- 3) The studies had followed standard statistical analysis (where applicable).

CHAPTER 4

FARMER SELF-EFFICACY SCALE

Following the social cognitive theory of Bandura, Dutta Roy (2008) developed 50 items questionnaire measuring 5 domains of self-efficacy namely, environmental monitoring, enactive mastery experience, self-regulation, vicarious experience, physiological and emotional states.

Initially focused group discussion was conducted with the support of NGOs and Krishi Vigyan Kendra and the West Bengal government, at Dumajuli and Canning block of South 24 Parganas, Budbud in Burdwan, Baduria in North 24 Parganas. For each focused group experimentally 30 farmers selected (based on experience, landholding, age, etc.). Discussion focused on types of crops production, uncertainties, awareness of government scheme, training facilities, and psychosocial issues involved in agriculture like identity crisis, role stress etc. Besides discussion, farming processes, and farms of agricultural farmers were observed carefully. Photographs and verbatim were recorded to construct socio-economic schedule and self-efficacy questionnaire.

The initial questionnaire with 50 items (10 items per domain) was administered to 298 farmers of 8 blocks in 6 different districts. The blocks are Baduria, Hingalganj, Khamaria, Galsi, Nabaukhra, Deganga, Panskura, Balichak.

Data were collected through training program at Hingalganj in Sundarban. The training program included 10 principles of suicide prevention as (A. developing competency in reading, writing and arithmetic; B. do not blind followers; C. how to be good experimenter; D. routine accounting; E. use of medicinal plants; F. changing work value; G. developing social mentoring; H. motivating others to plantation; I. education through gardening; J. controlling bad cues).

Farmers reported their difficulty in 4 areas with respect to Environmental Monitoring items, the areas are ability to proof wrong information as in correct, finding out agricultural training center, examining raw material during purchase, experimenting new technologies in new plot (average less than 4).

Farmers reported their difficulty in 4 areas with respect to Enactive Mastery Experience items, which are ability to create new customer for farm products, ability to engage in agricultural activities most of time, ability to be successful in following high yielding technology, ability to do work despite of physical and mental weakness (average less than 4).

Farmers reported their difficulties in 6 areas with respect to Self-Regulation, which are regulating self despite of agricultural anxiety, ability to pay much attention to specific plans with poor growth, ability to regulate balance between profit and loss, ability to control not to make much loan though there is a scope, ability to control unreasonable amount of expenditures in agriculture, creating specific market for produced crops (average less than 4).

Farmers reported their difficulties in 3 areas with respect to Vicarious Experience, which are ability to apply mass-media based information in own farming practices, apply experience of senior farmers after judging, considering self as successful farmers (average less than 4).

Farmers reported their difficulties in 6 areas with respect to Physiological and emotional states, which are overcoming agriculture related anxiety, keeping self in resting phase during worry and agriculture related problems, not to be depressed for repeated loss, not to make responsible for non-production of crop as anticipated, ability to take the loss at ease (average less than 4).

For each domain principle component analysis was conducted and finally 30 item were extracted out of 50 items. Cronbach's alpha co-efficient for 50 items ranged from 0.65 to 0.76.

CHAPTER 5

REVIEW OF LITERATURE

4.1 AGRICULTURAL PSYCHOLOGY:

In contrast to other social sciences that have developed specialized sub disciplines and/or application interests in agriculture, psychology historically has not been known for its concern with rural issues. For instance, there has not been any psychological counterpart to such social science specialties as agricultural economics, rural sociology, agricultural marketing, or rural geography. Nonetheless, psychological perspectives have interacted with agricultural issues in several do-mains: (1) assessment of the therapeutic needs of rural populations, (2) investigation of farming tasks and skills, (3) analysis of expert agricultural judges, (4) evaluation of farm management decisions, and (5) statistics and experimental design (Henggeler, 1983).

4.2 RURAL LIFE:

Rural life is often portrayed in an idyllic “down to earth” fashion. Rural communities are assumed to be less stressful and more humane than urban life. However, epidemiological studies have shown serious mental health problems exist in rural communities (Henggeler, 1983). In fact, Husaini, Neff, and Stone (1979) found that many interpersonal problems have higher rates of incidence in rural areas. Despite the need, rural communities often lack many of the mental health services taken for granted in cities. Hoagland (1978) reported that only 17.5% of rural poverty areas had adequate mental health services (compared to 49% of 49% of urban poverty areas). One major reason for this lack of mental health services is that most clinicians and counselors are trained in large urban universities. Faculties (and students) are thus unfamiliar with the values, concerns, and even the language of rural living. Consequently, specialized programs have evolved to prepare mental health-care providers with the skills and abilities to cope with problems encountered in rural communities. For example, Heyman (1983) described a model for preparing community psychologists to work in rural regions of the country. Similarly, Edgerton (1983) considers some ingenious methods that mental health professionals have used to

cope with the limitations of providing services in rural contexts, e.g., traveling clinics and in-school centers. One issue that has received much attention in studies of rural communities has been child abuse. Such abuse involves a pathological interaction between the child, the caregiver, and the situation. Rural environments are different in many respects from the more widely understood urban environment. It should not be surprising, therefore, to find that rural child abuse is perceived in a different light and frequently goes unreported. Nonetheless, home-based early intervention programs are successful in helping “at risk” children in rural areas (Rosenberg & Reppucci, 1983).

4.3 FARMING TASKS AND SKILLS:

Traditionally, farmers and ranchers were expected to be proficient in many manual and physical tasks. Work psychologists have been involved in examining these skills, e.g., Tomlinson (1970) found that dairy workers must be proficient in nine separate tasks, ranging from operating milking machines to evaluating the health of cows. Thus, a traditional farmer or rancher needed to be a jack-of-all-trades, with general skills in many areas.

However, with the increased mechanization and computerization in agriculture, there has been a shift in the skills needed. Instead of many general abilities, more specialized skills are necessary now. Moreover, instead of emphasizing manual skills, modern agribusiness places greater demand on cognitive abilities. For example, Matthews (1978) reported that handling a modern combine harvester involves simultaneous monitoring and control of at least seven tasks. Given the complexity of the cognitive demands, there has been considerable concern over the human factors component in increasingly high rate of farm accidents (Mainzer, 1966). With the trend away from small family farms to large corporate farming, there is a greater need for farmers with problem solving and management skills (Stevens, 1970). This has produced changes in both the education and the practice of today’s farmers. As a result, behavioral investigators have turned their interests toward analysis of higher thought processes (Shanteau, 1992).

4.4 SELF-EFFICACY:

Self-Efficacy was developed by Albert Bandura's as part of a larger theory, the Social Learning Theory (Ashford & LeCroy, 2010), which has progressed into the Social Cognitive Theory (Levin, Culkin, & Perrotto, 2001). Social Cognitive Theory was presented by Bandura in response to his dissatisfaction with the principles of behaviourism and psychoanalysis. In these two theories, the role of cognition in motivation and the role of the situation are largely ignored (Bandura, 1977; as cited in Redmond, 2010). "Unidirectional environmental determinism is carried to its extreme in the more radical forms of behaviorism" but humanists and existentialists, who stress the human capacity for conscious judgment and intentional action, contend that individuals determine what they become by their own free choices.

Bandura (1994) described self-efficacy as a person's judgment of his or her ability to achieve or accomplish an action and supports the importance of a determinant for behavioral performance. The beliefs that people with high self-efficacy hold influence on what they feel and think about others, thus motivating them to action. In other words, individuals who are efficacious and capable of performing a given behavior are often found to be socially engaged in rendering supportive services to peers, family relatives and others in a target behavior more frequently than those who feel unskilled (Bandura, 1994; Schwarzer & Luszczuska, 2007).

Self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). Self-efficacy has been thought to be a task-specific version of self-esteem (Lunenborg, 2011). The basic principle behind Self-Efficacy Theory is that individuals are more likely to engage in activities for which they have high self-efficacy and less likely to engage in those they do not (Van der Bijl & Shortridge-Baggett, 2002). According to Gecas (2004), people behave in the way that executes their initial beliefs; thus, self-efficacy functions as a self-fulfilling prophecy. Self-efficacy has influence over people's ability to learn, their motivation and their performance, as people will often attempt to learn and perform only those task for which they believe they will be successful (Lunenborg, 2011).

Self-efficacy is also described as an important facet of human motivation which denotes a positive self-prophecy about one's capabilities premised on oriented outcomes, relayed

experiences, verbal inducement, and useful feedback (Gecas, 2004). Self-efficacy is exemplified and implicitly concerned with the perception of individual capabilities and ability, as opposed to self-esteem which is focused on value perception of an individual's worth (Woolfolk, 2007).

4.5 TYPES OF SELF-EFFICACY:

The concept of self-efficacy itself is not considered stable as it can fluctuate over time and be situation-specific (Maddux et al., 1982; Luszczynska et al., 2005a) which is explained by its multidimensionality (Zimmerman, 2000). Existing work has examined self-efficacy in terms of general self-efficacy (Sherer et al., 1982; Schwarzer et al., 1995; Luszczynska et al., 2005b; Azizli et al., 2015) as well as related to a wide set of specific domains including occupation, learning, stress, health, social roles and/or role-specific self-efficacy (Hobfoll, 2002; Meier et al., 2008; Osborn et al., 2010; Rubino et al., 2012).

Domain-specific efficacy has been suggested as being a strong behavioural predictor and most suitable when analyzing specific behavior (Bandura and Wessels, 1997; Bandura, 1986; Pajares, 1996), whereas others have suggested that, when measuring self-efficacy in a more general sense, it refers to a broad and stable concept (e.g. Sherer et al., 1982). Studies have reported high predictability when using domain-specific self-efficacy measures, whereas, for general self-efficacy, similar result could not be identified (Bandura and Wessels, 1997; Bandura, 1986; Ferrari and Parker, 1992; Lindley & Borgen, 2002; Pajares, 1996). Overall, general self-efficacy is considered to measure a motivational trait, which is a more stable and permanent perception of one's own future performance, whereas domain-specific self-efficacy measures a motivational state, a momentary perception which may be changed as a reaction to internal and/or external triggers (e.g., Gardner and Pierce, 1998).

4.6 SOCIAL COGNITIVE THEORY:

Albert Bandura's Social Cognitive Theory emphasizes how cognitive, behavioral, personal, and environmental factors interact to determine motivation and behavior (Crothers, Hughes, & Morine, 2008). According to Bandura, human functioning is the result of the interaction among all three of these factors (Crothers et al., 2008), as embodied in his Triadic Reciprocal Determinism model (Wood & Bandura, 1989). While it may seem that one factor is the majority,

or lead reason, there are numerous factors that play a role in human behavior. Furthermore, the influencing factors are not of equal strength, nor do they all occur concurrently (Wood & Bandura, 1989). For example, employee performances (behavioral factors) are influenced by how the workers themselves are affected (cognitive factors) by organizational strategies (environmental factors). The figure below illustrates Triadic Reciprocal Determinism as portrayed by Wood and Bandura (1989).

The Social Cognitive Theory is composed of four processes of goal realization: self-observation, self-evaluation, self-reaction and self-efficacy. These components are interrelated, each having an effect on motivation and goal attainment (Redmond, 2010).

4.7 ATTRIBUTES OF SELF-EFFICACY AND SOCIAL COGNITIVE THEORY:

A. Constructive Attributes:

When faced with a difficult task, people who have high self-efficacy will face the challenge as something to be learned and mastered. Their interest and motivation in mastering the task will drive them to succeed in their difficult, yet approachable goal (Pajares & Schunk, 2001).

While striving to complete a challenging task or difficult goal, individuals with high self-efficacy may face failures or setbacks, but they will not give up. Where people with low self-efficacy may decide the task is impossible, people with high self-efficacy strive to develop a higher amount of knowledge and increase their effort in order to overcome their failures and setbacks (Pajares & Schunk, 2001).

People with high self-efficacy are more likely to set more challenging goals for themselves and be more committed to the goal, which enhances self-efficacy (Bandura, 1995).

Researchers have demonstrated the positive effects of self-efficacy beliefs on effort, persistence, goal setting, and performance (Pajares, 2009).

"People who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as inefficacious. They produce their own future, rather than simply foretell it" - Albert Bandura.

B. Potential Detrimental Attributes:

Very high self-efficacy can sometimes lead to degradation in performance of a particular task. This is because high self-efficacy can lead to overconfidence in one's aptitude, which creates a false sense of ability. Overconfidence can lead to employing the wrong strategy, making mistakes, refusal to take responsibility for mistakes, and rejecting corrective feedback (Clark, 2001). Overconfidence can also result in lower effort and attention being devoted to the task (Stone, 1994).

Verbal and tangible rewards can have both positive and negative effects on self-efficacy depending on the context and environment in which the reward or praise is delivered (Manderlink & Harackiewicz, 1984).

4.8 THE FEATURES OF SELF-EFFICACY:

Professed self-efficacy has been discovered to be necessary for making an individual develop an intention to carry out a pre-determined task (Feltz & Reissinger, 1990; McAuley, 1992). Firstly, an individual with high self-efficacy sees challenging obstacles as tasks to be learnt and they develop self-confidence and approach a problem situation or challenges with a positive mind to succeed. Secondly, an individual with high self-efficacy is more disposed to risk-taking and are also able to generate unfathomable interest in the activities in which they are involved. Thirdly, individuals with high self-efficacy are more resilient with a high sense of fulfilment as they view mistakes as the first attempt in learning. In the face of failure or setbacks, they recover and adjust quickly and forge ahead (Pajares, 2002). Furthermore, individuals with high self-efficacy are usually able to accurately assess their own ability. This class of individuals indulges in self-examination and are not over ambitious nor too optimistic, but are able to evaluate themselves with the aim of self-advancement.

In contrast, individuals with low self-efficacy display general dispiritedness to taking a risk or trying anything new since they are not assured that the outcome of the attempt will be successful. Secondly, individuals with low self-efficacy are engulfed in fear and usually depict doubts towards a given task (Frank, 2011). Thirdly, they have a problem of negative impression management whereby putting forward a substantial level of behaviour in order to be seen as

accepted or seeking approval from others. An individual with low self-efficacy seeks to be validated or approved by others culminating into worry about how others may perceive or assess them. Such individuals lose confidence in their own ability.

4.9 GOAL REALISATION OF SELF-EFFICACY:

The social cognitive theory postulates that individuals are the major determinant of their personal motivation, behavioural pattern, and improvement within a linkage of mutually interacting stimuli (Bandura, 1997). For individuals as contributors to their personal life situations, Bandura (2005:4) noted that individuals are self-organised, proactive, regulated and self-reflective. Bandura developed the social cognitive theory in response to the inadequacies envisaged in the behaviourism and psychoanalysis theories (Redmond 2010). These dissatisfactions, as observed by Bandura, were in the areas of cognition and motivation. As noted by Crothers and Hughes (2008), the theory of Albert Bandura's cognitive theory stressed how cognition, behaviour, personal and ecological factors act together to influence individual motivation and behaviour (Crothers & Hughes, 2008). The social cognitive theory alluded to the fact that the causes of human behaviour are due to "reciprocal determinism". The notion to this conception of reciprocal determinism is that one's behaviour is influenced and moulded by the behaviour itself. In specific terms, the kind of reciprocal determinism preferred by social cognitive theorists is referred to as triadic reciprocity (Bandura & Walters, 1977). This conception illustrates that behaviour, environment, and personal factors (cognition, temper) interact and perform as influencing factors to each other. The triadic reciprocity concept can be illustrated in a real-world situation through an example of working together in an interactive process in the case of a parent and a newly born baby. The parents owe the baby a duty of care. Assume a situation where the baby has the irritating temper of crying constantly, and this was noticed from birth and is most likely to be genetic or biological. The baby's irritating temper is an example of a personal factor. The constant cry of the baby is demanding and requires attention as the baby sleeps only for a short time (behavioural factors), and this triggers an environment to be created which is exemplified in the form of noise, and inadequate opportunities for sleep, interacting with the personal factors of the parents to assist in shaping their own behaviour in the direction of being

tired, irritating, worried, and unhappy. The aftermath of the parents' behaviour will begin to shape the environment of the baby, and the baby's behaviour will also continue to shape the environment of the parents. This is as a result of the interaction between the triad (personal, behavioural and environmental factors) which contributes to different magnitudes (Crothers & Hughes, 2008).

For the self-efficacy aspect, goal realisation can also be attained through the belief of one's ability to carry out a determined task (self-efficacy). The positive belief towards the completion of a task can be encouraging in itself (Shortridge-Baggett, 2000). Therefore, high self-efficacy escalates the deliberate effort to be exerted towards a given task.

4.10 SELF-EFFICACY & PERFORMANCE:

Mitchell. et. al. (1992) in their study posited that the construct of self-efficacy has received increasing empirical attention in the organizational behaviour literature. People who think they can perform well on a task do better than those who think they will fail. Differences in self-efficacy were associated with bona fide differences in skill level: however, self-efficacy perception also may be influenced by differences in personality, motivation, performance and the task itself. The article reviewed the antecedent processes and information cues involved in the formation of self-efficacy and how it influenced performance. A model of the determinants of self-efficacy was proposed that enhances understanding of both the complexity and the malleability of the construct. Determinants that facilitate the most immediate change in self-efficacy were identified, and appropriate change strategies were highlighted.

Stajkovic and Fred (1998) researched on the self-efficacy and work-related performance: A meta-analysis. This meta-analysis (114 studies, $k = 157$, $N = 21,616$) examined the relationship between self-efficacy and work-related performance. Results of the primary meta-analysis indicated a significant weighted average correlation between self-efficacy and work-related performance, and significant within-group heterogeneity of individual correlations. To account for this variation, the authors conducted a 2-level theory-driven moderator analysis by partitioning the k sample of correlations first according to the level of task complexity (low, medium, and high), and then into 2 classes according to the type of study setting (simulated-lab

vs. actual-field). New directions for future theory development and research were suggested, and practical implications of the findings were discussed.

Cherian and Jacob (2013) aimed at performing a meta-analysis which analyzed the individual research findings which pertained to the relationship between self-efficacy, employee motivation and work related performance of the employees. From the results of the study, it was observed that self-efficacy theory can be applied to work related performance in terms of motivating different employee related facets as well as organization pursuits. In this study the researcher attempted to assess the influence of self-efficacy on the performance of individuals at workplace and the mechanism by which self-efficacy of an individual determined his/her work related performance and motivation. Thus, it became necessary to identify the practical implications of the outcomes related to improving employee self-efficacy in order to motivate them and improve their performance.

4.11. FARMER'S SELF-EFFICACY:

Farmer's judgments of his capabilities to organize and execute courses of action required to attain designated types of agricultural performance is called farmer self-efficacy. Self-efficacy is multidimensional in nature. It has been defined in terms of five traits namely environmental monitoring, self-regulation, enactive mastery experience, vicarious experience, physiological and affective states. (Dutta Roy, D. 2008).

Monitoring environmental uncertainty: Monitoring changes in the task agents reduces level of perceived environmental uncertainty. Self-efficacious farmers are supposed to be aware of basic information like location of fertilizer or insecticide shops, offices of the government, opening bank account etc.

Enactive mastery experience: it is the process by which farmers acquire information regarding farming behaviour by the reactions it produces in others. Range of enactive experience can vary from explicit reactions, such as verbal praise of family members, neighbors, local agricultural trainers, to implicit experience of success in playing role of farmers.

Self-regulation: self-efficacious farmers set goals and regulate themselves to achieve it. Achievable goal setting acts as driving force to monitor and regulate the self with the changes in task environment.

Vicarious experience: it occurs by observing others perform task successfully. Observing the success of certain models contributes to the observers' belief about their own capabilities. Conversely, watching models with perceived similar attributes that fail can undermine the observers' beliefs about their own capability to succeed. When farmers perceive that the model's attributes are highly divergent from their own, the influence of vicarious experience is greatly minimized.

Physiological and affective states: people can gauge their degree of confidence by the emotional state they experience as they contemplate an action. Strong emotional reactions to a task provide cues about the anticipated success or failure of the outcome. When they experience negative thoughts and fears about their capabilities, those affective reactions can themselves lower self-efficacy perceptions and trigger additional stress.

4.12 FARMER'S DECISION MAKING:

Alongside a great many behavioral change theories and models, Sutherland et al. (2012) developed a five-stage framework to predict the evolution of farmer decision-making:

1. Path dependency – the stage at which farmers follow the status quo. Farmers may be satisfied with performance and in their management practices. Sutherland et al. (2012.) note that this stage may exist for indefinite periods of time.
2. Trigger event – the occurrence of a particular event (e.g. new market opportunities, injury/death, new management practices or technology becoming available) makes a farmer consider whether to do something new.
3. Active assessment – once a farmer starts to think about doing something new, they begin to assess a range of options using a variety of information sources.
4. Implementation – the farmer then decides to implement a new practice.
5. Consolidation – the farmer monitors implementation and learns from the process.

A. Theory of Planned Behavior/Theory of Reasoned Action

We merge them here because Ajzen (1991) was responsible for construction of both models, and they are often used interchangeably in the literature. The theory of planned behaviour was the most common iteration and was clearly used as a theoretical frame in 83/171 (49%) papers.. In short, behavioural intention is closely associated with actually carrying out the behaviour, although some papers note that intention does not always lead to action (e.g. Viira et al., 2014). Behavioural intention is affected by three components – (1) attitudes, which relates to an individual’s beliefs, world views, and opinions towards a particular behaviour, (2) subjective norms, or in other words whether a particular behaviour is considered normal as compared to what peers are doing, and (3) perceived behavioural control, which can relate to either how easy it is for an individual to implement a particular behaviour, and/or the extent to which they feel in control of the decision-making process.

The personal beliefs of a farmer, influenced by individual circumstances and characteristics, were found to be a key determinant of behaviour. In a UK case study, Mills et al. (2017) reported on a study to investigate farmers’ willingness and ability to undertake environmental management. They argued that farmers’ personal beliefs were the key factor in explaining levels of environmental management, as those with stronger environmental values performed more measures (see also Schroeder et al., 2015, UK case study on environmental management). A further UK case study by May (2015) found that business competitiveness in agriculture was influenced by a farmer’s willingness to try new things, as well as business factors such as number of staff (see following section). Alongside a number of other factors including level of knowledge, and feeling in control of decision-making, Toma et al. (2013) illustrated that UK cattle and dairy farmers’ biosecurity behaviour was influenced by personal attitudes towards livestock biosecurity.

There was little discussion of the impact of farmer emotions on behaviour, although O’ Kane et al. (2017) suggested that sheep farmers in England who displayed negative emotions (e.g. anger or misery) were more likely to be slower to act upon, and have a higher prevalence of, lameness on their farms (see also Wells et al., 2011).

B. Feeling in control of decision-making

Perceived behavioural control, derived from the Theory of Planned Behaviour (TPB), was commonly noted in the reviewed papers. Indeed, almost all of the 80+ papers which used the TPB found perceived behavioural control to be highly influential, far too many to discuss below. This refers either to the perceived level of autonomy over decision-making that a farmer feels he/she has, but also the perceived ease of implementing a particular behaviour (self-efficacy). If a farmer feels that they are being told what to do, rather than being in control, or feels that they do not have the skills, knowledge, or practical conditions to implement a management practice, it is unlikely that the action will be carried out. Farmers must, therefore, be confident that they can perform a particular behaviour. The importance of self-efficacy was noted by a large number of papers, including in studies of disease prevention activities implemented by English and Welsh cattle farmers (Ellis-Iversen et al., 2010), of silvo pastoral adoption in Colombia (Hayes, 2012), of general farmer decision-making in India (Singh et al., 2016).

4.13 AGRICULTURAL ENTREPRENEURSHIP FOR DEVELOPMENT:

The most recent statistics for India suggest that 44% of the nation's workforce is employed in the agricultural sector (The World Bank, 2019a). The importance of agriculture in India goes even further than being the largest employer, as this sector is responsible for providing food to its growing population. However, the Indian farming community is confronted by several emerging challenges, like limited land and water availability, the degradation of natural resources, adverse climate changes, the vagaries in demand and consumption patterns, and liberalization of trade (Lele, Pretty, Terry, Trigo, & Klousia, 2010). The tribal subsistence farmers are particularly predisposed to poverty based on their geographic location, and access to information or resources. Farmers, researchers, and governments around the world have recognized the need for a more entrepreneurial culture in farming for farmers to survive and be successful in a challenging environment (McElwee, 2006). A method for subsistence farmers to be entrepreneurial is to intensify conventional production by volume increase, and by selective and well-managed specialization and diversification (McElwee & Robson, 2005).

According to Smit (2004), entrepreneurship has become an integral aspect of farming and will increasingly continue to be so. The World Bank (2012) also suggests that agricultural

entrepreneurship be used as a tool for marginalized farmers in India to overcome poverty by helping them diversify into higher-priced agricultural commodities, utilizing the benefits of livestock production and expanding farm sizes to increase the household income. International development agencies are garnering the benefits of agricultural entrepreneurship while planning projects for economic development (Food and Agriculture Organization, 2015). The Indian government has observed innumerable untapped business opportunities in agriculture and allied sectors and is offering numerous welfare programs to help the rural poor become agricultural entrepreneurs (Government of India, 2019).utilizing the benefits of livestock production and expanding farm sizes to increase the household income. International development agencies are garnering the benefits of agricultural entrepreneurship while planning projects for economic development (Food and Agriculture Organization, 2015). The Indian government has observed innumerable untapped business opportunities in agriculture and allied sectors and is offering numerous welfare programs to help the rural poor become agricultural entrepreneurs (Government of India, 2019).

4.14 ENTREPRENEURIAL SELF-EFFICACY (ESE):

Entrepreneurial self-efficacy (ESE), which is “a person’s belief in their ability to successfully launch an entrepreneurial venture” (McGee, Peterson, Mueller & Sequeira, 2009, p. 965) is considered to be a predictor to entrepreneurial intentions (Chen, Greene, & Crick, 1998; Zhao, Seibert, & Hills, 2005). A theoretical model by Boyd and Vozikis (1994) proposed ESE as “an important explanatory variable in determining both the strength of entrepreneurial intentions and the likelihood that those intentions will result in entrepreneurial actions” (p. 66). ESE is a role-specific self-efficacy (Bandura, 1997), and self-efficacy is a predictor of risk-taking behaviour (Bandura, 1997), a crucial characteristic of entrepreneurs (Ahmad & Seymour, 2008). Individuals who have higher levels of self-efficacy have been observed to perform more challenging tasks, sustain efforts toward those tasks and accomplishments, and persist when they encounter problems (Bandura, 1997; Stajkovic & Luthans, 1998). The importance of ESE in determining crucial characteristics of entrepreneurs, and it being a predictor to entrepreneurial intentions (Chen et al., 1998; Venugopal, Viswanathan, & Jung, 2015; Zhao et al., 2005) and subsequent behaviour (Bird, 1988; Krueger & Carsrud, 1993) makes ESE a vital construct in both entrepreneurial research and practice.

There are two types of self-efficacies in literature, one is the generalized self-efficacy, and the other is the domain-specific self-efficacy. The type of role-specific self-efficacy that targets entrepreneurship is ESE. However, since the broader construct of self-efficacy houses the role-specific ESE, a detailed literature review of self-efficacy is presented here before venturing into ESE.

4.15 SUMMARY:

Self-efficacy beliefs are an important aspect of human motivation and behaviour as well as influence the actions that can affect one's life. Self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). The concept of self-efficacy is part of the social cognitive theory which explains that a person is the determinant of his own development and can also proactively make things happen by his evolution (Ashford & LeCroy, 2010). The goal realisation of the social cognitive theory is made up of four main processes, namely self-observation, self-evaluation, self-reaction and self-efficacy. These components are interrelated, each having an effect on motivation and goal attainment (Redmond, 2010). Although Social Cognitive Theory covers many topics such as moral judgment and physiological arousal, research has been primarily focused on self-efficacy, or the beliefs regarding one's capabilities of successfully completing tasks or goals (Locke & Latham, 2002). Farmer's judgments of his capabilities to organize and execute courses of action required to attain designated types of agricultural performance is called farmer self-efficacy. Self-efficacy is multidimensional in nature. It has been defined in terms of five traits namely environmental monitoring, self-regulation, enactive mastery experience, vicarious experience, physiological and affective states. (Dutta Roy, D. 2008). Strong self-efficacy beliefs enhance human accomplishment and personal well-being in many ways. High self-efficacy helps create feelings of serenity in approaching difficult tasks and activities, heighten their efforts in the face of failure, more easily recover their confidence after failures or setbacks.. Conversely, people with low self-efficacy may believe that things are tougher than they really are, a belief that fosters stress, depression and a narrow vision of how best to solve a problem.

CHAPTER 6

REVIEW RELATED TO ITEMS OF FARMER SELF-EFFICACY

SCALE:

Following the social cognitive theory of Bandura, Dutta Roy (2008) developed 50 items questionnaire measuring five dimensions of self-efficacy namely, environmental monitoring, self-regulation, enactive mastery experience, vicarious experience, physiological and affective states. For each domain principle component analysis was conducted and finally 30 items were extracted out of 50 items. 18 items out of 30 items were reviewed and discussed here. Reviews related to other items were not found due to lack of resources related to farmer's self-efficacy.

SE2 - Engaging in cultivation when I do not desire to do so:

This above item indicates the relationship between work engagement and the self-efficacy of farmers. As there is no such research was found related to agriculture, other similar studies were discussed here.

Maslach et al. (2001) explained engagement as a concept which is characterized by energy, involvement and efficacy. The relationship between self-efficacy and engagement has been studied (Salanova, Llorens, & Schaufeli, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). These studies suggest a positive gain spiral where self-efficacy increases engagement, which increases self-efficacy over time. For example, in a study among Dutch employees using structured equation modelling, they reported that personal resources (self-efficacy, organization-based self-esteem and optimism) partially mediated the impact of job resources on work engagement. They concluded that job resources lead to the development of personal resources, which, in turn, enhance work engagement (Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008; Xanthopoulou et al., 2009a; 2009b).

In addition, in a study among Indian software programmers, occupational self-efficacy was reported to be a significant predictor of employee engagement, with the relationship being mediated by organizational and supervisory support (Pati & Kumar, 2010). Bandura (1997)

clearly demonstrated that greater efficacy is related to becoming absorbed in the task as well as to expending higher levels of energy and effort to complete a task (Sweetman & Luthans, 2010).

Furthermore, Pintrich and De Groot (1990) suggested that self-efficacy plays a facilitative role in the process of cognitive engagement (Breso et al., 2011). However, self-related doubts that are associated with low occupational self-efficacy interfere with the engagement process and make employees more susceptible to distractions from the environment; individuals with low self-efficacy find it difficult to become absorbed and work with full dedication (Sonnetag et al., 2010).

self-efficacious individuals believe that they are capable of mastering tasks and coping well with adversity, they become involved with personally fulfilling activities and are thus more likely to become engaged (Kittredge, 2010).

Salanova et al. (2003), demonstrated the importance of self- and collective efficacy in explaining work engagement when they reported that groups with higher levels of collective efficacy show higher engagement and group performance.

Breso et al. (2011), based on their quasi-experimental study among university students, reported that self-efficacy interventions focused on students' psychological states lead to a significant increase in work engagement. Additionally, based on their two- and three-wave longitudinal studies among secondary school and university students, Salanova, Llorens and Schaufeli (2008) reported that efficacy beliefs were related to positive emotions (i.e., enthusiasm, satisfaction, and comfort), which, in turn predicted work engagement.

SE-4: Imitating the successful farmers. SE-9: Utilizing experiences of successful farmers in agriculture. SE-39: Applying radio and TV based information in own farming practices.

According to Bandura when a person observes another similar individual successfully model a given event, individual efficacy beliefs are typically raised. Conversely, when a person observes another similar individual fail at a given event, individual efficacy beliefs typically decline (Bandura, 1997). Successful events are much more effective at increasing efficacy if the individual being observed is deemed competent by the observer (Bandura, 1997).

One study has addressed the relationship between specific vicarious experiences and agriculture teachers' self-efficacy (Wolf et al., 2010). This research found the vicarious experiences of observing a first year agriculture teacher, observing another student teacher, observing a non-agriculture teacher, observing their cooperating teacher, and observing an agriculture teacher other than their cooperating teacher were all positively correlated with student teachers' general teaching efficacy.

Wolf, Foster, & Birkenholz, 2010, found that vicarious experiences accounted for the strongest relationship with perceived efficacy. Specifically, observing a first year teacher accounted for 11% of perceived efficacy and 14% of the perceived instructional strategies efficacy. Cooperating teacher feedback was positively correlated with perceived efficacy. The number of courses taught was negatively correlated with classroom management efficacy.

Studies by Bandura (1982) and Schunk, Hanson and Cox (1987) found that symbolic modelling through social comparative inference is more effective when the other person is similar in capabilities, as this conveys to the observer that he/she too could efficiently perform similar activities. However, studies by Brown and Inouye (1978), and Schunk (1987), found contradictory findings in that, when individuals with similar capabilities as the model attempted the same activity and failed, despite high effort, their efficacies were undermined.

Levels of self-efficacy are not static and have the ability to be increased through exposure to influential information sources, one of which is vicarious experience information (VEI). VEI is argued by Gist and Mitchell (1992) to have the most instant and direct effect on an individual's SE. If we read information about someone which implies that they have succeeded at a certain task, it raises our own belief that we too can succeed at the same task. This belief is further increased if we observe an individual that we consider to be similar to ourselves (Schunk, 1987).

Lockwood and Kunda (1997) illuminated that role models may not always draw out positive, aspirational effects. Indeed, relevant superstars whose success seems attainable can be inspiring. These individuals engage in a deeper level with our personal identity through a belief that one is capable of a similar type of success. For these conditions to occur, the role model must share similarities with the individual. Studies have shown that individuals feel motivated to achieve

more when they share a common trait. (Asgari et al. 2011; Heilman et al. 2004; Ibarra 1999; Lockwood and Kunda 1997).

In another research conducted, women seeing other successful women leaders framed as dissimilar to themselves led to participants “explicitly” attributing fewer leadership qualities to themselves and subsequently deflating their career aspirations (Asgari et al. 2011). This research suggests that these highly similar individuals framed “as framed as different from oneself is a threatening experience that makes women avoid future leadership opportunities (Asgari et al. 2011; Rudman and Phelan 2010).”

Roberts et al. (2008) found that placing two student teachers within the same student teaching experience, at the same time, did not result in increased self-efficacy gains when compared to a student teacher completing their experience without a peer student teacher.

Bernard et al (2014) raised the perceived self-efficacy of poor smallholder farmers using a peer effect. As described by Bandura (1997), observing somebody similar to ourselves master a challenge increases our belief that we too, are able to do it. Bernard et al (2014) divided Ethiopian farmers into three groups: A treatment group, a placebo group, and a control group. The treatment group watched videos in which social peers talked about their business success through productive investments. The placebo group watched regular Ethiopian TV, and the control group was only surveyed. To study the effect of treatment intensity, the proportion of treated households was varied across villages and network data was obtained to investigate additional peer effects. In a first post-treatment survey, six months later, the farmers in the treatment group had significantly increased aspirations. Both direct treatment effects and network effects were significant. Furthermore, the treated farmers increased their savings, reduced leisure time, sought more credit, and invested more into education. However, it is remarkable that watching videos for an hour can change attitudes and behaviour as much.

SE-7: Achieving success in application of new technologies in agriculture. SE-17: Acquiring new agricultural skills and abilities when needed. SE-34: Applying training related knowledge in agricultural work.

In assessing this relationship, Mukembo (2017) found statistically significant relationship between the training and youth perceived agri-entrepreneurship competencies but questioned that the relationship depend mainly on teaching approaches.

While evaluating the long term impact of an urban farm youth internship programme, the participants reported an increased sense of responsibility, higher levels of self-confidence, and strong connections with their community (Sonti et al., 2016). Wang et al. (2015) tested the mediating effect of self-efficacy on personality trait and entrepreneurial intention and found that the mediation model of self-efficacy is partially supported by entrepreneurial intention through conviction and preparation among agricultural students. Frazee et al. (2011) noted that participants' pre- and post-workshop tested knowledge of agricultural facts revealed significant differences.

Yi-Lin Lu (2010), conducted a study to explores how farmer's self-efficacy influences their performance to use the farming management information system (FMIS). Six instruments were developed to evaluate computer ability, self-efficacy, performance, acceptance and attitude of 23 farmers who were enrolled in a two-day training workshop on FMIS. The results of this study have shown the training program improved farmer's self-efficacy in the FMIS, and perceived usefulness could increase participants' usage motivation of the FMIS in the future. The results suggested farmer's efficacy has significant impact on their choices over tasks with different levels of difficulties, and performance of using FMIS.

While the general dimension of self-efficacy has been widely adopted in many fields, some researchers extended this concept to specific self-efficacy, such as computer self-efficacy (CSE), to better describe self-efficacy application in certain situation. And many researchers contended training is a useful method to improve CSE since it was found to have effects on enhancing individual skills, influencing their attitude and behaviors to information system use and then increasing productivity (Gist et al., 1989; Compeau and Higgins,1995; Torkzadeh et al., 2003). However, training has different impacts on individuals with dissimilar degrees of CSE, which

means individuals with high CSE usually showed a decrease in their exhaustion when given intensive training, while individuals with low CSE have the opposite results (Salanov et al., 2000). Especially under training circumstance, CSE was found to have positive relationship with performance and could be used to predict individual final accomplishment (Gist et al., 1989; Webster and Martocchio, 1992; Wang and Newlin, 2002).

Since an individual who has the acquired skills and is confident to use these skills effectively will be more inclined to adopt technology (Kurbanoglu, 2003), self-efficacy can be viewed as a good predictor of user's technology adoption behavior (Hill et al., 1987; Torkzadeh and Dwyer, 1994; Brosnan, 1998). Davis et al. (1989) presented technology acceptance model (TAM) to evaluate user's acceptance to technology, and aimed through this model to understand user's internal belief, attitude, and intention which may influence their choice of whether to use technology or not. Perceived usefulness and perceived ease of use were TAM's two most important concepts. Perceived usefulness means individual's subjective expectation that use specific system would enhance their performance in organization; and perceived ease of use means user's expectation of whether the system is easy to use. Results of previous studies indicated both perceived usefulness and perceived ease of use were positively related to user's intention to use computer system (Chang and Tung, 2008; Tung, et al., 2009).

SE-10: Maintaining stable mental condition in spite of agricultural loss. SE-12: Giving effort in agriculture despite of physical and mental weakness. SE-15: Bringing back mental stability during time of distress. SE -20: Not to be depressed for repeated loss in agriculture. SE-25: Utilizing afterwards the agricultural experience even there is a loss in agriculture. SE-45: Maintaining self at ease during agriculture related problems.

All the above items are related to physiological and affective states dimension of self-efficacy. Literature reviews related to this dimension were discussed below:

Based on the results of the study of Septiani (2019) showed that farmers in Kalisat sub-district experience a key symptom including a sad feeling (68.1%) and loss of interest in any matter (59.3%). Tobacco farmers complained of stress due to irregular weather changes causing the

crop to fail. Based on a qualitative study conducted by Susanto and Widayati (2018), farmers revealed that when the crop fails, it can have an impact on sleep quality and irritability.

Farmers feel they have spent cost and expensed a lot of energy for tobacco planting. An irritable feeling is an indicator of the high negative emotions of subjective well-being. Besides, there is dissatisfaction due to an unpleasant crop failure experience also included in the subjective well-being. Farmers who have the satisfaction of their lives can control emotions and moods well.

N. Susilowati(2020), conducted a study to explore the relation to self-efficacy with Subjective Well Being farmer Tobacco. This research showed there is a significant relationship between self-efficacy and subjective well-being on tobacco farmers in Jember District. It stated that people who have low self-efficacy would be at risk 4 to 5 times have a low level of subjective well-being. The research is in line with research conducted by Maujean and Davis (2013), which suggests that high individual self-efficacy can increase the individual's positive feelings and provide a positive relationship with life satisfaction. The study supported previous research conducted by Pramudita and Wiwien (2015) explaining that there was a connection between self-efficacy and subjective well-being with a P-value of 0.000 and its correlate value of 0.341.

The other studies explained that there is a positive relationship between self-efficacy and subjective well-being (Agustina and Afriyeni, 2016; Dearly & Sri, 2016).

Diener et al. (2009) Explaining someone is said to have a high subjective well-being when the individual has a life satisfaction, always feels joyful, and rarely feels negative emotions such as sadness, anger, despair, etc. Individuals with high subjective well-being will feel more confident, friendly, and socially bonding, and can demonstrate better work performance.

Self-efficacy is the main source of the coping in the context of personal beliefs that can be used as an ability to organize and implement the set of actions needed to produce something that is wanted to be achieved, and it will ultimately provide life satisfaction an indicator of subjective well-being. A person with high self-efficacy can see things positively, dare to face challenges, perform tough tasks, and consider problems as something to be solved rather than a threat to avoid (Ariyanto, 2016).

Individuals who have high self-efficacy can cope with deep pressure in life. Individuals who have high self-efficacies can see things positively, dare to face challenges, perform tough tasks, and consider problems to be solved rather than a threat to avoid. It will help the individual to evaluate his life thoroughly so that he is subjective well-being. When individuals have low self-efficacy will be prone to depression, anxiety, and despair for fear of facing challenges and fear of failure in tobacco farming efforts (Rachmah, 2017).

In the very different context of climate change adaptation, adaptive capacity shapes the actions people take. While this capacity was initially thought to be mainly a function of financial means (Smit & Pilifosova 2003), PSE and related factors are increasingly appreciated as essential to adaptive capacity. Specifically, Protection Motivation Theory proposes four more factors to explain why some individuals take adaptive measures: the perceived severity of climate change effects, the perceived vulnerability to such effects, the efficacy of the recommended preventive behaviour, and especially, PSE (Floyd et al 2000, Rogers & Prentice-Dunn 1997).

Gebrehiwot and van der Veen (2015) survey drought prone farmers in Ethiopia and investigate their intention to undertake farm-level risk reduction measures. They find PSE to be a significant explanation for the intention to adopt adaptive practices. This is also found amongst smallholder farmers in China (Burnham & Ma , Zheng & Dallimer 2016) and Cambodia (Ung et al 2015). Zarafshani et al (2010) present evidence that Iranian farmers with higher PSE are more problem focused after a drought. This allows them to mitigate their loss of energy and money. Farmers with lower PSE are more emotion focused and lose more energy and money.

In the studies above, causal identification is often challenging. Wuepper et al (2016) use a generalized difference-in-difference framework and an instrumental variables approach to address this challenge. They operationalize PSE using a factor variable from four proxies and use a peer effects as instrument. They also use a factor variable to control for the objective farming skills of the individuals. They find that after farmers experienced lower than usual rainfall, individuals with higher PSE are more likely to respond with the adoption of a “climate smart” innovation, mulching, whereas individuals with lower PSE are not, which has a significant income effect. Interestingly, when they dichotomize PSE, individuals with low PSE become less likely to adopt the innovation, whereas those with high PSE become more likely. It is also found

that objective farming skills and PSE are strongly additive in determining the adaptive capacity of the farmers.

SE-27: Cultivating multiple crops successfully in spite of several difficulties.

SE-32: Solving the agricultural problem alone.

Individuals with high self-efficacy are more resilient with a high sense of fulfilment as they view mistakes as the first attempt in learning. In the face of failure or setbacks, they recover and adjust quickly and forge ahead (Pajares, 2002). Furthermore, individuals with high self-efficacy are usually able to accurately assess their own ability. This class of individuals indulges in self-examination and are not over ambitious nor too optimistic, but are able to evaluate themselves with the aim of self-advancement.

In contrast, individuals with low self-efficacy display general dispiritedness to taking a risk or trying anything new since they are not assured that the outcome of the attempt will be successful. Secondly, individuals with low self-efficacy are engulfed in fear and usually depict doubts towards a given task (Frank, 2011). They have a problem of negative impression management whereby putting forward a substantial level of behaviour in order to be seen as accepted or seeking approval from others. An individual with low self-efficacy seeks to be validated or approved by others culminating into worry about how others may perceive or assess them. Such individuals lose confidence in their own ability.

When faced with a difficult task, people who have high self-efficacy will face the challenge as something to be learned and mastered. Their interest and motivation in mastering the task will drive them to succeed in their difficult, yet approachable goal (Pajares & Schunk, 2001).

While striving to complete a challenging task or difficult goal, individuals with high self-efficacy may face failures or setbacks, but they will not give up. Where people with low self-efficacy may decide the task is impossible, people with high self-efficacy strive to develop a higher amount of knowledge and increase their effort in order to overcome their failures and setbacks (Pajares & Schunk, 2001).

People who receive and accept positive verbal encouragement from others demonstrate a reduction in self-doubt and therefore present a higher-self efficacy. Acquiring the ability to minimize negative thoughts and keep a positive outlook when facing difficult or challenging tasks help individuals achieve a level of self-efficacy and lower their negative emotional arousal as well as social relationships (Bandura, 1994; 1997; Luszczynska & Schwarzer, 2008; Schwarzar & Luszczynska, 2007).

SE-26: Getting success in agriculture related new experiments. SE-41: Experimenting new technology in small plot of land.

Entrepreneurial behavior includes the ability to find business opportunities, take advantage of business opportunities, develop new businesses, and take advantage of new media for business. It is possible to develop entrepreneurial behavior through social learning processes. In this social learning process, young farmers need to have role models. The model can be individuals who are influential in the entrepreneurial process, which in turn can bring out the confidence in entrepreneurship.

Self-efficacy is central in the formation of a person's intention which in turn determines whether or not he/she will choose a particular career (Hashemi et al., 2012). This clearly shows that self-efficacy influences an individual intention towards a specific career and its' development. Studies conducted on entrepreneurship have associated entrepreneurial self-efficacy with the success of enterprise start-ups and growth (Imran et al., 2019; Shaheen and Al-haddad,2018)

Kanten and Yesiltas (2016) pointed that entrepreneurial self-efficacy plays a key role in determining the level of interest in pursuing an entrepreneurial career. With the acknowledged relationship between entrepreneurial self-efficacy and career intention, the youth studying agricultural courses are expected to engage in farm entrepreneurship in this era of unemployment challenge since they are taught both agriculture and entrepreneurial skills.

Wang et al. (2015) tested the mediating effect of self-efficacy on personality trait and entrepreneurial intention and found that the mediation model of self-efficacy is partially

supported by entrepreneurial intention through conviction and preparation among agricultural students.

Kidane (2016) found a moderately strong correlation (0.555) between entrepreneurial intention and self-efficacy compared to other personality traits, while Yanan (2015) found that personal factors such as voluntary enrolment and farm related experiences were significantly correlated with intention.

Hashemi et al. (2012) analysis further showed positive and significant relationship between both entrepreneurial self-efficacy and college entrepreneurial orientation antecedents with entrepreneurial intention among agricultural students.

SE-40: Helping other farmers to overcome anxiety.

Self-efficacy can be responsible for unity and directness in terms of the individual's actions (Caprara and Steca, 2005). The relationship between behavior and perceived efficacy — at both individual and collective level — has been widely debated (for a review see Bandura, 2001). Without confidence in their ability or the ability of their group to do something, it is unlikely that individuals will engage in a related behavior (Bandura, 2001). There is also evidence that empathic self-efficacy directly predicts pro-social behavior across ages (Caprara and Steca, 2005). From this evidence it follows that higher pro-social self-efficacy — confidence in one's own ability to act pro-socially — and higher collective pro-social efficacy — confidence in the ability of one's group to act pro-socially — will predict higher levels of PSB (Cuadrado and Tabernero, 2015).

Prosocialness has been associated with self-efficacy. Highly prosocial individuals probably tend to have high levels of confidence in their ability to behave in a prosocial way. Bandura et al. (1999) confirmed the relationship between prosocialness and both self-efficacy and social efficacy. The relationship between empathic self-efficacy beliefs and prosocialness is dynamic (Alessandri et al., 2009). Hence, it seems that the greater the prosocialness levels individuals possess, the more their prosocial self-efficacy will be elevated.

Prosocial self-efficacy and collective prosocial efficacy are also related. Self-efficacy influences beliefs about the effectiveness of one's group (Fernández-Ballesteros et al., 2002). In other

words individuals who doubt their own efficacy probably have little confidence in the efficacy of their group, and vice versa (Bandura, 2000; Fernández-Ballesteros et al., 2002).

M.Caroli, 2013 conducted a study to explored the relationships between different types of self-efficacy and prosocial tendencies in a sample of 108 Italian adolescents, attending two Public Junior and High Schools at Catania (Sicily, Italy). Three scales of measure of empathic, problem solving, and interpersonal communication self-efficacy (Caprara, 2001), and the Prosocial Tendencies Measure (Carlo & Randall, 2002) were used, divided in three main factors (anonymous, public, and helping behavior in emotionally critical and dire situations). The results showed that most adolescents expressed low levels of self-efficacy in problem solving and empathy, but both low and high levels of self-efficacy in interpersonal communication. Self-efficacy in problem solving, empathy, and interpersonal communication was positively related to helping behavior in emotionally critical and dire situations; in addition, self-efficacy in problem solving and empathy was positively related to public prosocial behavior.

CHAPTER 7

LITERAURE SURVEY

Burnham, M., Ma, Z., (2016). Climate change adaptation: factors influencing Chinese smallholder farmer's perceived self-efficacy and adaptation intent. Reg. Environ Change, 1007, 10113.

AUTHOR: Morey Burnham, Zhao Ma

YEAR: 2016

OBJECTIVES:

The objective of the study was to examine the role of determinants of adaptive capacity in shaping smallholders' perceived self-efficacy and adaptation intent in order to provide insight into the cognitive processes that motivate or impede adaptive action and how those processes are shaped by the external world.

SAMPLE:

Data were collected from 483 smallholder farmers in three counties in the Loess Plateau region: Mizhi and Yangling, in Shaanxi, and Hongsipu in Ningxia.

METHOD:

The study used a mixed –methods approach to determine the suite of determinants of adaptive capacity that shape smallholders' perceived self-efficacy and their intent to adapt to climate change. Data for this study were collected in two steps. In 2011, 28 semi-structured and 38 unstructured interviews were collected. To identify interviewees snowball sampling method was used. The interviews were designed to elicit information about general village and farming life; changes smallholders had made to their farm management over last 30 years and why'; their

perceptions of past and future climate change and their social and professional networks and socio-economic status.

In 2012, a survey of 483 smallholder households was completed. The survey questionnaire was designed iteratively, drawing on theoretical insights established in a literature review and findings from the interviews conducted 2011. The survey questionnaire was designed to collect information about household socioeconomic characteristics, perceptions of past and future climate change, adaptations made in response to climate change and other livelihood stressors, livelihood challenges and risks from climatic and non-climatic sources, the perceived impacts of future climate change on farming and livelihoods, and factors affecting farm management decision-making.

The survey was conducted in three counties in the Loess Plateau region. Within each county, stratified random sampling was used to select eight villages in which household surveys were conducted.

INSTRUMENT:

- To measure EFFICACY, respondents were asked to indicate their ability to make changes to their farming practices or livelihoods to prevent damage caused by climate change without assistance from agricultural professionals or the government. The respondents were able to choose from five options: not possible, very difficult, somewhat difficult, somewhat easy, and very easy.
- To measure INTENT, the respondents were asked to indicate the likelihood that they would make changes to their farming practices or livelihoods to prevent damage caused by climate change without assistance from agricultural professionals or the government based on their current understanding of the situation. The respondents were able to choose from four options: very unlikely, somewhat unlikely, somewhat likely, and very likely.

Proportional odds ordered logistic regression model was used to identify the role that determinants of adaptive capacity play in shaping smallholders' perceived self-efficacy and adaptation intent.

RESULT:

The result suggests an association between higher incomes and higher levels of perceived self-efficacy. The study also suggests that smallholders with experience adapting to precipitation-related changes in the last 30 years were more likely to report a higher level of perceived self-efficacy and adaptation intent. In addition to past experiences, the use of technology may contribute to higher levels of perceived self-efficacy and adaptation intent by mediating the impacts of climate change on smallholder production.

Of the variables measuring the effect of human capital on perceived self-efficacy, having completed middle school or higher, the presence of more household members who provided agricultural labor, income from a local off-farm source, and previous adaptation to rainfall-related climatic changes all had positive significant relationships with perceived self-efficacy.

The study provides further evidence that self-efficacy beliefs are a strong, positive predictor of adaptation intent. The result suggests that human capital, information and technology, material resources and infrastructure, wealth and financial capital, and institutions and entitlements all play an important role in shaping smallholders perceived self-efficacy, while state-society dependencies may reduce smallholder perceived self-efficacy.

Nade, P. (2019). Influence of Agricultural Training on Youth Farm Entrepreneurial Self-efficacy: A Study of Folk Development Colleges in Tanzania. Huria Journal, Vol. 26(2).

AUTHOR: Paschal Nade.

YEAR: 2019

OBJECTIVE:

The study aimed to address two specific objectives: First, to assess the influence of agricultural training on youth farm entrepreneurial self-efficacy. Secondly, to assess the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention.

SAMPLE:

Data were collected from 300 final year certificate students pursuing agricultural courses.

METHOD:

A cross-sectional design was employed as the data were collected from three colleges which are located in three different regions at one point in time. A sample size of 300 students was developed from an estimated population of 1200, by using simple random sampling method.

Three data collection techniques were employed. These include a questionnaire, interviews and focus group discussions. Pilot study was conducted whereby questionnaire copies were administered to 12 respondents, equivalent to 4 percent of a sample size. After that 300 questionnaire copies were administered, properly filled questionnaires were 294(98%). Six focus groups each consisting of seven students were formed through nomination strategy.

INSTRUMENT:

Perceived level of farm entrepreneurial self-efficacy was assessed by using Entrepreneurial Self-efficacy Scale. The Likert scale consists of 28 items and five response options with their respective weights reading as very little confidence (1), little confidence (2), unsure (3), fairly confident (4), and very confident (5).

Multiple regression analysis was used as statistical measure.

RESULT:

Significant relationship was found between the expected courses outcome and farm entrepreneurial self-efficacy. The result suggests that skill-based educational outcomes seem to influence more than knowledge-based outcomes. Significant relationship was also found between farm entrepreneurial self-efficacy and intention. However, resource acquisition and operational competencies self-efficacy constructs seemed to have more influence on youth farm entrepreneurial intention compared to managerial and financial competencies self-efficacy constructs.

Yueh, H.P., Liu, Y. (2010). Effects of farmer's computer abilities and self-efficacy on their learning performance and adoption intention of the farming management information system. Journal of Agricultural Extension and Rural Development, Vol. 2 (9), pp. 191-197.

AUTHOR: Hsiu-Ping Yueh & Yi-Lin Liu.

YEAR: 2010

OBJECTIVE:

The objective of the study was to explore how farmer's self-efficacy influences their performance to use the farming management information system, FMIS.

SAMPLE:

Data were collected from 23 farmers who were enrolled in a two-day training workshop on FMIS.

METHOD:

The target population for this study was farmer trainees who came from 12 different counties in Taiwan that enrolled in the FMIS training program before. They were informed about this training course and those who were interested filled in a pre-training questionnaire and send it to the researcher. At this time, an initial check was conducted to ensure that subjects met the pre-requisite computer abilities in the study.

After the selection procedure, 23 trainees were invited to attend this two-day training workshop held by National Taiwan University. The trainees came from varied counties including, Taipei, Yilan, Taoyuan, Miaoli, which located at northern, middle, southern and eastern Taiwan. Prior to the start of the training, all trainees were asked to fill in FMIS SE questionnaire. Following the lectures and practices, trainees had to complete test 1 immediately. On the second day, trainees completed test 2 after the course, and post-training questionnaires were delivered at the end of the day as well.

INSTRUMENT:

The study developed six instruments to examine trainee's computer abilities, self-efficacy (SE), computer self-efficacy (CSE), performance, and perception of FMIS. Five of them were researcher- developed instruments, only the CSE scale was modified from Torkzadeh and Kouftero's scale (1994) which included beginning skills, mainframe skills, advanced skills, and file and software skills.

Pearson correlation, t-test and regression analyses were used to test hypotheses.

RESULT:

The result suggests there is a positive relationship between computer self-efficacy and FMIS self-efficacy. The study found that self-efficacy will not predict the choices of task difficulty. In this study researcher observed that some trainees with excessive level of confidence to their actual abilities to operate computers or FMIS, and resulted in choosing the task which was too hard for them. Besides, results of this study showed that there is significant difference in trainee's pre and post FMIS SE, which suggest computer training was a good way to improve self-efficacy.

The result of the study show that computer self-efficacy can significantly predict changes in FMIS self-efficacy, computer ability will predict changes in both computer self-efficacy and FMIS efficacy, training will improve self-efficacy and perceived usefulness can explain the FMIS usage intention in the future.

Samsi. S., Nurlaela. S., Raya. A.(2020). Self-Efficacy and Entrepreneurial Behavior of Horticultural Young Farmers in the Special Region of Yogyakarta Indonesia. International Journal of Psychosocial Rehabilitation, 24(6).

AUTHOR: Siti Nurlaela, Sunarru Samsi Hariadi, Alia Bihrajihant Raya.

YEAR: 2020

OBJECTIVE:

The objective of this study was to analyze the level of self-efficacy and entrepreneurial behavior and the effect of self-efficacy on entrepreneurial behavior.

SAMPLE:

The number of samples taken was 300 people. The criteria for respondents in this study were: young farmers who are horticultural entrepreneurs with a range after 18-40 years and joined in a farmer group.

METHOD:

This research was located in the area of horticultural commodities in the Special Region of Yogyakarta, which includes three districts: Bantul, Kulonprogo, and Sleman. Horticulture commodities produced in the research location were chili, salak or snake fruit, and onion. The criteria for respondents in this study were: young farmers who are horticultural entrepreneurs with a range after 18-40 years and joined in a farmer group. The population of farmers meeting the criteria was 604. Sampling was done by simple random sampling technique. The number of samples taken was 300 people. Data collection is done by a closed questionnaire. Research variables observed in this research included self-efficacy and entrepreneurial behavior.

INSTRUMENT:

- The self-efficacy variable was measured using a 5-score rating scale: (1) very not sure, (2) not sure, (3) doubtful, (4) sure, (5) very sure.

- Entrepreneurial behavior variables are measured using a 5-score rating scale: (1) never, (2) rarely, (3) sometimes, (4) often, (5) always.
- To determine the effect of independent variables on the dependent variable using linear regression tests.

RESULT:

Self-efficacy has a significant positive effect on entrepreneurial behavior. Self-efficacy is improvable by four things: self-experience, the experience of others, social persuasion, and emotional/physical state. Self-experience is affected by the length of entrepreneurship. The average young farmer has been in entrepreneurship for 8.25, a relatively long time being an agricultural entrepreneur, thus building their confidence over their abilities. The experiences of others can be learned through interactions in young farmers groups that enable social learning. Social persuasion is shown by the role of agricultural instructors in providing material and entrepreneurial assistance. The process of social learning in groups can increase self-efficacy that is influential in improving entrepreneurial behavior. Monthly meetings, activities to prepare the land, manage and maintain plants, to harvest, and sell are some activities that bring them together with each other in groups that can strengthen the self-efficacy of young farmers.

Wuryaningsih. E., Deviantony. F., (2020). The Relationship between Self-Efficacy and Subjective Well Being among Tobacco Farmers. Jurnal Keperawatan Padjadjaran, ISSN: 2338-5324.

AUTHOR: Emi Wuri Wuryaningsih, Fitrio Deviantony.

YEAR: 2020

OBJECTIVE:

This study aimed to analyze the relationship between self-efficacy and subjective well-being in tobacco farmers in Jember Regency.

SAMPLE:

The research samples are tobacco farmers who are incorporated in the farmer group in 12 villages in Kalisat subdistrict. The criteria of inclusion of research subjects include farmers as farm laborers, working only as tobacco farmers (during the tobacco planting season), aged 35–60 years. Data were collected from 422 respondents.

MRTHOD:

Design research used observational analytic using a cross-sectional approach. The sampling technique uses proportionate random sampling, a large sample of 422 respondents taken using the Slovin formula.

INSTRUMENT:

- General Scale Efficacy Questionnaire have ten statements with level indicators, strength, and generality (Born, Schwarzer & Jerusalem, 1995).
- The measurement subjective well-being with affective and cognitive indicators was done by using two questionnaires, namely Scale with Life Satisfaction (α -Cronbach 0.87) developed by Diener, Larsen, Emmons & Griffin (1985).

- A questionnaire for the Scale of Positive and Negative Experience (α -Cronbach 0.80-0.84) was scaled from Diener et al. (2009). This scale is a Likert scale that presents six lists of positive emotions, six lists of negative emotions.
- The statistical test used was Chi-Square (CI = 95%).

RESULT:

The results showed there was a relationship between self-efficacy and subjective well-being in tobacco farmers ($p = 0.000$; OR = 4.856). Tobacco farmers have a high self-efficacy then will have a chance of four to five times having a high subjective well-being. The results of this study are tobacco farmers who have self-efficacy can face crop failure, and this is because of the experience of working as a tobacco farmer, which shows that tobacco farmers worked on average for 23 years with experience of crop failure as much as three times. If farmers have more experience, they can know the weaknesses and strengths of tobacco farming to overcome the problems in the scope of tobacco cultivation. Increased work experience, the farmer is getting bolder in making decisions and dare to bear the risk.

Wang.Z., Yu.T., Shu. X., Chen. S. (2020). Entrepreneurial Self-efficacy, Entrepreneurial Climate and Entrepreneurial Performance of Family Farm. Advances in Economics, Business and Management Research, Vol. 159.

AUTHOR: Zhi Wang, Tan Yu, Yingli Wang, Xincan Shu, Shengshuang Chen.

YEAR: 2020

OBJECTIVE:

This study explores the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm, and introduces regional entrepreneurial climate as a moderating variable into theoretical model.

SAMPLE:

Final sample consist of 184 family farmers.

METHOD:

On the basis of social cognitive theory, this paper investigates whether and how entrepreneurial performance of family farm is affected by a farmer entrepreneur's entrepreneurial self-efficacy, as well as the moderation effect of entrepreneurial climate.

The study tests the above hypothesis using a survey data of family farmers in China. The researcher conducted this survey in 2015 and 2016, and used a questionnaire to conduct direct interviews with family farmers. A total of 300 questionnaires were used and 200 were completed. By dropping the questionnaires with information missing, we obtain a final sample consisting of 184 family farmers. The characteristics of the sample family farmers include gender, age, education level and farm age.

INSTRUMENT:

- Entrepreneurial performance of family farm, our dependent variable in this study, is comprehensively measured by the combined personal performance and organizational

performance. In the survey respondents were asked to answer six questions. All items are measured by the Likert five-point scale with 1 representing “complete disagreement,” 2 “some disagreement,” 3 “neutrality,” 4 “some agreement,” 5 “complete agreement.”

- Entrepreneurial self-efficacy: In the survey respondents were asked to answer fourteen questions concerning entrepreneurial self-efficacy, which is divided into four dimensions: organizational commitment self-efficacy, opportunity identification self-efficacy, management control self-efficacy and risk bearing self-efficacy.
- Entrepreneurial climate, our moderating variable in this study, is measured by five items.
- In this study, we adopt multiple regression analysis method to test the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm, as well as the moderating role of entrepreneurial climate.

RESULT:

The main effect regression results suggest that organizational commitment self-efficacy, opportunity identification self-efficacy and management control self-efficacy are positively correlated with entrepreneurial performance of family farms. The effect of risk bearing self-efficacy on entrepreneurial performance of family farm is not significant. The study demonstrated that entrepreneurial self-efficacy (including organizational commitment, opportunity identification and management control self-efficacy) enhances entrepreneurial performance of family farm because entrepreneurial self-efficacy could strengthen family farmers’ subjective capability brief and confidence. It was also found that the favorable entrepreneurial climate help family farmers acquire more support and encouragement from the external environment, strengthening the positive effect of organizational commitment and management control self-efficacy on entrepreneurial performance of family farm. In addition, entrepreneurial climate strengthens the positive effect of organizational commitment and management control self-efficacy on entrepreneurial performance of family farm.

J. T. Ekanem., U. E. Okon & I. Brown. (2019). Climate-friendly Farming Self-efficacy and Its Correlates among Secondary School Agricultural Science Students in Uyo, Akwa Ibom State, Nigeria. International Journal of Environment and Climate Change, 9(12), 729-738.

AUTHOR: J. T. Ekanem, U. E. Okon and I. Brown

YEAR: 2019

OBJECTIVE:

The objective of the study was to assess self-efficacy of secondary school agricultural science towards climate-friendly farming. It specifically examined the influence that attitude towards climate-friendly farming, knowledge of climate change and ownership of household farms could have on the climate-friendly farming self-efficacy of the respondents.

SAMPLE:

The study was targeted at all the Senior Secondary School, Agriculture science students in Uyo Local Government Area of Akwa Ibom State. A total of 4 schools and 200 students who offer agricultural science as a subject were selected.

METHOD:

The study was conducted in the educational zones of Uyo Local Government Area of Akwa Ibom State. This study adopted a multi-stage sampling technique in the selection of the respondents. Secondary schools in Uyo L.G.A were clustered into the four clans. One (1) secondary school was randomly selected from each of the four (4) clans, thereafter; simple random sampling was used to select 50 students from each of the schools. A total of 4 schools and 200 students who offer agricultural science as a subject were selected respectively. The unit of measurement for the study was the student.

INSTRUMENT:

A well-designed questionnaire, developed by the researchers, was used for data collection. Section B was a knowledge test designed to measure the knowledge (awareness) level of the

respondents on climate change. The section contained climate change items with response format given as “Yes, No, and Don’t know”. Section C measured the climate-friendly attitude and self-efficacy of the respondents. It had two (2) sub-sections. Sub-section 1 measured the attitude of the respondents towards climate-friendly farming practices and had items with response format ranging from strongly agree to strongly disagree while Sub-section 2 measured the self-efficacy of the respondents towards climate-friendly farming. It had items with response format ranging from absolutely confident to not at all confident.

Correlation analysis, simple percentages and frequency analysis, chi-square as well as composite index technique were deployed to analyze the data collected.

RESULT:

Findings revealed that 52% of the respondents have high climate-friendly farming self-efficacy. The respondents had a positive attitudinal disposition towards climate-friendly farming. Most (48.5%) of the respondents had low knowledge of climate change. There is a need for stakeholders to translate the high climate-friendly farming self-efficacy observed among the respondents into climate-smart farming through a conscious effort at increasing their participation in practical farming activities both in school and home farms. There is a need to include climate change issues. The result suggests in secondary school curriculum to raise the knowledge level of the agricultural students on climate.

Yeh. Y., Chen.S., Lin. C. (2019). Mindful Learning Experience Facilitates Mastery Experience Through Heightened Flow and Self-Efficacy in Game-Based Creativity Learning. *Frontiers in Psychology*, PMID: 31379657.

AUTHOR: Yu-chu Yeh, Szu-Yu Chen & Chin-Shan Lin.

YEAR: 2019

OBJECTIVE:

This study aimed to explore how mindful learning may influence elementary school children's mastery experience through the mediation of personal traits such as flow experience and self-efficacy.

SAMPLE:

The participants in this study included 39 fifth and 44 sixth graders (46 boys and 37 girls).

METHOD:

The one-group pretest-posttest design was employed with the pretest administered in the first week, and the posttest delivered in the sixth week. The experimental instruction and all inventories conducted through the DGLC-B were designed and implemented as a part of the participants' computer course. All experimental procedures were completed in the computer laboratory at the participants' school. With nine games in total, the duration of the learning program was carried out in 40 min sessions, over a total of 6 weeks.

The participants in this study included 39 fifth and 44 sixth graders (46 boys and 37 girls) selected through purposive sampling from four classes in an elementary school.

INSTRUMENT:

- DGLC-B: The Digital Game-based Learning of Creativity (DGLC-B) was developed for 5th and 6th graders to investigate the participants' learning effects and the relationship

among the concerned variables. The DGLC-B included nine games, ranging from 10 to 15 min of playing time for each game.

- The Mindful Learning Experience in Digital Games (IMLE-DG) measured the participants' experience of mindful cognition and mindful emotion during game playing. With a total of 14 items, the IMLE-DG included three factors: curiosity and open-mindedness (3 items), attention and grit (4 items), and emotion regulation (7 items).
- The Inventory of Flow Experience in Digital Games (IFE-DG) measured the participants' flow experience during game play. The IFE-DG includes two factors: confidence and concentration (5 items) as well as fun and challenge (4 items).
- The Inventory of Self-Efficacy in Creativity Digital Games (IS-CDG) measured the participants' level of self-efficacy after playing creative games. The IS-CDG includes two factors: ability to generate creative ideas (6 items) and achievement of creative performance (3 items).
- The Inventory of Mastery Experience in Creativity Digital Games (IME-CDG) measured the participants' level of mastery experience after playing creative games. The IME-CDG includes two factors: ability to solve problems (5 items) and confidence in solving problems (3 items).

Structural Equation Modeling conducted through AMOS 21 was employed to test the proposed model.

RESULT:

Analysis of the result presented relationship trends between mindful learning experience, flow experience, self-efficacy, and mastery experience. Eighty-three 5th and 6th grade participants undertook the six-week game-based creativity learning program. Upon completion of the experimental instruction, self-evaluation revealed that participants with higher scores on the concerned variables improved more in both creative ability and confidence than their counterparts. Additionally, path model analysis revealed that mindful learning experience was a powerful predictor of both mastery experience and flow experience; it also influenced mastery experience through flow experience and self-efficacy. Moreover, this study contributes to the theoretical construction of how game-based learning can be designed to facilitate mindful learning experience, flow experience, self-efficacy, and mastery experience during creativity.

Some additional enhancement mechanisms utilized in the program were: rewards for high-quality performance, challenging tasks, a variety of design components, immediate feedback, and idea sharing.

Brooke. J., Rasdi. R.M & Samah. B.A. (2017). Mediation Test for Self-Efficacy on the Relationship between Individual-Related Factors and Knowledge Sharing Behavior among Malaysian Farmers. International Journal of Academic Research in Business and Social Sciences, Vol. 7, ISSN: 2222-6990.

AUTHOR: Jenefer Brooke, Roziah Mohd Rasdi and Bahaman Abu Samah.

YEAR: 2017

OBJECTIVE:

Objective of this study is to investigate the predictors of knowledge sharing behavior and mediating variable of self-efficacy among successful farmers in selected Malaysian states.

SAMPLE:

The targeted population of this study is successful farmers under the supervision of the Department of Agriculture, Malaysia. Data were collected from 241 successful farmers.

METHOD:

This quantitative study adopted a descriptive cross-sectional design. A self-administered structured questionnaire was used for data collection. The questionnaires were distributed accordingly to the respective respondents during a biweekly visit conducted by the District Agriculture Officers.

INSTRUMENT:

- Knowledge sharing behaviour uses eight items from the scale developed by Jeon et al. (2011) and Hsu et al. (2007). This unidimensional scale measured the frequency of successful farmers engaging in knowledge sharing activities. Successful farmers are requested to indicate the extent to which they agree with the statements using response options ranging from 1 (strongly disagree) to 5 (strongly agree).
- Self-efficacy was measured using five items developed by Hsu et al. (2007). This unidimensional scale measured successful farmers' judgement of their capabilities to

engage in knowledge sharing behaviour. This measure required successful farmers to indicate their level of self-efficacy using a five-point response option ranging from 1 (not at all confident) to 5 (totally confident).

- The measurement of training was adapted from Kang et al. (2008) and Tai (2006) which consists five items. This unidimensional scale measured successful farmers' perceptions on the benefits of training to them. This measure required successful farmers to indicate the extent to which they agree with the statements using the five-point response options ranging from 1 (strongly disagree) to 5 (strongly agree).
- Prior experience was measured using four items developed by Tai (2006) and Lu and Hsiao (2007). The unidimensional scale measured successful farmers' experience in knowledge sharing activity. Successful farmers were requested to indicate the extent to which they agree with the statements using response options ranging from 1 (strongly disagree) to 5 (strongly agree).

This study utilized the SPSS (version 22) and Partial Least Square (PLS) approach of structural equation modelling via SmartPLS 2.0.

RESULT:

The results showed that the effect of training on knowledge sharing behavior was not mediated by self-efficacy. This implies that the inclusion of self-efficacy did not contribute to the significance of knowledge sharing behavior. Results further showed that training did not have a direct relationship with self-efficacy. However, findings revealed that self-efficacy mediates the relationship between prior experience and successful farmers' knowledge sharing behavior. This implies that the inclusion of self-efficacy had contributed to the significance of knowledge sharing behavior. Results further showed that self-efficacy not only had a direct relationship with knowledge sharing behavior among successful farmers, but it also mediated the relationship between prior experience and knowledge sharing behavior. Thus, successful farmers who had prior experience in knowledge sharing were more likely to perceive higher self-efficacy which links to higher knowledge sharing behavior.

Goldberg. K.,(2016). An Analysis of Levels of Optimism, Self-Efficacy, and Types of Motivations of Farmers in Alternative Agriculture: Understanding Small and Medium-Scale Organic and Local Farmers at the Rural-Urban Interface. Journal of Agricultural and Environmental Ethics, 9(2).

AUTHOR: Kayla Goldberg.

YEAR: 2016

OBJECTIVE:

The purpose of this research is to develop a more comprehensive understanding of the attitudes and internal factors affecting operators of small and medium-scale farms at the rural-urban interface. The internal factors that were analyzed are farmer levels of optimism in regard to their farms, self-efficacy related to making positive changes in their communities, feelings of belongingness in their communities, and motivations or goals.

SAMPLE:

Data was collected in five case study locations in the United States. Data were collected from 658 farmers.

METHOD: Types of farmers were created and analyzed using survey responses to yes/no, multiple-choice, and numerically based questions. Purposive sampling technique was used for the selection of sample. Data was collected from 658 farmers by using a survey titled Farm Growth & Change: Balancing Family, Goals, and Opportunities. The survey questionnaires were mailed to the respective farmers.

INSTRUMENT:

Researchers developed a survey titled Farm Growth & Change: Balancing Family, Goals, and Opportunities. The survey included 51 multi-part questions in a 10-page packet. The questions were primarily close-ended with categorical or number scale responses. The questions covered: farm size and ownership details, farming and marketing practices, farm growth and future,

farmer optimism levels, personal motivations for farming, decision-making, healthcare, childcare, community and civic engagement, attitudes towards farm services, and general demographics.

Analysis of Variance was used as statistical measure.

RESULT:

Result showed the differences across farmer's type were statistically significant. There are significant differences for ages, level of education across farmer's types. As the farmers were typed by alternative type and local sales Chanel type, their responses to optimism, self-efficacy and motivation related questions were compared, and the result show that local and dual-motivated producers believe that people like them can impact their communities in positive ways. Dual motivated producers have higher self-efficacy than any of other types of farmers, especially when compared to conventional farmers. Dual motivated farmers were almost five times more likely to feel optimistic than conventional farmers. Local direct farmers were significantly less likely to be motivated by financial factors than farmers not involved in local sales. For motivation related to farm factors, non-local farmers were more likely to be motivated by factors such as a desire to farm or desire to keep their farms in their families as compared to local farmers.

Abraham. E. (2020). Entrepreneurial Self-Efficacy of Tribal Farmers: A Mixed Methods Study in Nagaland, India.

AUTHOR: Elizabeth Abraham.

YEAR: 2020

OBJECTIVE:

The objective of this study was to understand the factors contributing to the development of ESE among tribal farmers who have entrepreneurial intentions.

SAMPLE:

106 tribal farmers, who have entrepreneurial intentions from the Dimapur district of Nagaland, were selected as sample.

METHOD:

A mixed methods study incorporating both quantitative and qualitative methods was found befitting to answer the research questions of this study. This mixed methods study followed a sequential design with a qualitative phase sequentially succeeding a quantitative phase.

INSTRUMENT:

The five-dimensional Entrepreneurial Self-Efficacy instrument (McGee et al., 2009), which is based on the venture creation process model of entrepreneurship, was selected for this study. McGee et al.'s (2009) instrument had 26 items on a 5-point scale: 1 (very little confidence) to 5 (complete confidence). There were no anchors for points 2, 3 and 4. The five dimensions of ESE in McGee et al.'s (2009) instrument were, searching, planning, marshaling, implementing: people, and implementing: financial.

Structural Equation Modeling (SEM) was used for statistical measure.

RESULT:

The Entrepreneurial Self-Efficacy of the tribal farmers suggested high confidence and a statistically significant association of entrepreneurial self-efficacy with prior experience, monthly income, and the tribe was noted. The findings of this study resulted in the development of an ESE model for entrepreneurial farmers that describes nine factors that helped the tribal farmers of Nagaland develop high Entrepreneurial Self-Efficacy. These factors are prior experiences, training, education, modeling experiences, verbal persuasion, awards and recognitions, constructive feedback and criticisms, personality characteristics, and social interactions and support systems. Prior experience was the most predominant factor, followed by social interactions and support systems.

Erdilb. O., Yakin. M.(2012). Relationships between Self-Efficacy and Work Engagement and the Effects on Job Satisfaction: A Survey on Certified Public. Social and Behavioural Sciences, 58, 370-378.

AUTHOR: Oya Erdilb & Mustafa Yakin

YEAR: 2012

OBJECTIVE:

The basic aim of this research is to examine the relationships between self-efficacy, work engagement and job satisfaction.

SAMPLE:

The research was conducted on 161 certified public at Turkey.

METHOD:

The research was conducted on certified public at Turkey. The data were gathered through the use of questionnaires distributed either via e-mail or face-to-face contacts. Randomly selected 200 respondents were contacted and a total of 161 completed the survey.

INSTRUMENT:

Self-efficacy is measured by the 12-item scale developed by Scherer (1982) including three dimensions, namely confidence, focused effort and activeness. Confidence was measured with four items, focused effort with five items and activeness with 3 items.

Work engagement was measured with an 18-item scale developed by Rich, Lepine and Crawford (2010) consisting of three dimensions; emotional, physical and cognitive engagement.

Statistical analyses were performed by use of SPSS (Statistical Package for Social Sciences for Windows 17.0). Correlation and regression analyses were used as statistical measure.

RESULT:

According to the results of this research, the strongest association existed between organizational commitment and job satisfaction. Another finding in this study is that self-efficacy and job satisfaction has been significantly related. Regression analysis results imply that emotional, physical and cognitive work engagement have been found to be related to self-confidence and focused effort. Entrepreneurial behavior has been only related to emotional work engagement. Regression analyses results investigating job satisfaction confirm that intrinsic and extrinsic job satisfaction have been only related to focus effort. Findings also suggest that intrinsic job satisfaction is explained by focused effort; emotional work engagement is explained by focused effort and entrepreneurial behavior. Lastly, physical work engagement is explained by focused effort, entrepreneurial behavior and self-confidence; cognitive work engagement is explained by focused effort.

CHAPTER 8

DISCUSSION

The present dissertation work entitled, 'Literature Review on "Items Related to Farmer Self-efficacy Scale"' has been carried out with the following objective: to review the literature related to items of farmer self-efficacy scale through literature survey. In the present study the literature search in different scientific databases was employed to identify studies that examine the link for farmer's self-efficacy. From the literature search it was found that, self-efficacy beliefs are an important aspect of human motivation and behavior as well as influence the actions that can affect one's life. Regarding self-efficacy, Bandura (1995) explains that it "refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations". More simply, self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). Self-efficacy has been thought to be a task-specific version of self-esteem (Lunenburg, 2011). Perceived self-efficacy is a well suited question for an experiment (Lybbert & Wydick 2016b). However, the question of how much current investment decisions and business performance can be explained by historical events that shifted PSE is a question that is far less feasible for an experiment (Wuepper & Sauer 2016). Furthermore, attention must be paid towards the exact mechanism that is identified with a given experimental treatment.

As Lybbert and Wydick (2016b) find, it can be easier to raise aspirations than it is to raise perceived self-efficacy. Moreover, self-efficacy itself consists of degree, strength, and generality, so that even if perceived self-efficacy is increased, attention must be paid regarding what aspect of efficacy has been changed. Most importantly are degree and strength. Naturally, individuals inherit an initial degree of self-efficacy from their parents, which is then reinforced throughout their childhood. An adult with a naturally high degree of self-efficacy commonly also has strong PSE, because lifetime experience provided ample information about what the person can achieve and what not. If an adult with naturally low self-efficacy has increased self-efficacy, say from an experimental treatment or other persuasion or observing successful social peers, the person might have a high degree of self-efficacy but it can still be weak, implying a low resilience to eventual difficulties or throwbacks. Bernard et al (2014), for example, demonstrate how individuals raise

their aspirations and investments after having seen videos about successful social peers. However, these individuals might need further support in order to avoid disappointment. Since the researchers have selected the most successful individuals as examples, it is not clear whether the outcomes in the treatment group will match the raised expectations. Naturally developed self-efficacy is comparably resilient against setbacks but raised self-efficacy from observation and persuasion can be weak. In the worst case, disappointment can lower self-efficacy in the long-term. It is thus advisable to complement the observation of successful peers with further treatments, such as workshops and personal interactions (Ghosal et al 2015, Krishnan & Krutikova 2013, Lybbert & Wydick 2016b). In the successful program described by Banerjee et al (2015) e.g., individuals were supported in multiple ways, psychologically, medically, financially, and otherwise, so that individuals were basically set on an alternative development path of reinforcing, positive experiences. Levels of self-efficacy are not static and have the ability to be increased through exposure to influential information sources, one of which is vicarious experience information (VEI).

From the literature search it can be concluded that there is a positive relation between self-efficacy and performance. Judge et al (2007) in their research estimated the unique contribution of self-efficacy to work-related performance controlling for personality (the Big 5 traits), intelligence or general mental ability, and job or task experience. Results, based on a meta-analysis of the relevant literature, revealed that overall, across all studies and moderator conditions, the contribution of self-efficacy relative to purportedly more distal variables was relatively small. Within moderator categories, there were several cases in which self-efficacy made unique contributions to work-related performance. For example, self-efficacy predicted performance in jobs or tasks of low complexity but not those of medium or high complexity, and self-efficacy predicted performance for tasks but not for job performance. Overall, results suggested that the predictive validity of self-efficacy was attenuated in the presence of individual differences, though this attenuation does depend on the context. Self-efficacious individuals believe that they are capable of mastering tasks and coping well with adversity, they become involved with personally fulfilling activities and are thus more likely to become engaged (Kittredge, 2010). Salanova et al. (2003), demonstrated the importance of self-efficacy and collective efficacy in explaining work engagement when they reported that groups with higher levels of collective efficacy show higher engagement and group performance. Furthermore,

Pintrich and De Groot (1990) suggested that self-efficacy plays a facilitative role in the process of cognitive engagement (Breso et al., 2011).

The research suggests that farmers who are self-efficacious are able to achieve success in application of new technologies in agriculture, acquire new agricultural skills and abilities when needed, apply training related knowledge in agricultural work. Since an individual who has the acquired skills and is confident to use these skills effectively will be more inclined to adopt technology (Kurbanoglu, 2003), self-efficacy can be viewed as a good predictor of user's technology adoption behavior (Hill et al., 1987; Torkzadeh and Dwyer, 1994; Brosnan, 1998).

Farmers who believe in themselves and who have high level of self-efficacy are able to maintain stable mental condition in spite of agricultural loss, gives an effort in agriculture despite physical and mental weakness, bring back mental stability during time of distress, utilize afterwards the agricultural experience even there is a loss in agriculture. Self-efficacy is the main source of the coping in the context of personal beliefs that can be used as an ability to organize and implement the set of actions needed to produce something that is wanted to be achieved, and it will ultimately provide life satisfaction an indicator of subjective well-being. A person with high self-efficacy can see things positively, dare to face challenges, perform tough tasks, and consider problems as something to be solved rather than a threat to avoid (Ariyanto, 2016). Individuals who have high self-efficacy can cope with deep pressure in life. Individuals who have high self-efficacy can see things positively, dare to face challenges, perform tough tasks, and consider problems to be solved rather than a threat to avoid. It will help the individual to evaluate his life thoroughly so that he can get subjective well-being.

Strong self-efficacy beliefs enhance human accomplishment and personal well-being in many ways. People with a strong sense of personal competence in a domain approach difficult task in that domain as challenges to be mastered rather than as dangers to be avoided; have great intrinsic interest in activities, set challenging goals and maintain a strong commitment to them, heighten their efforts in the face of failure, more easily recover their confidence after failures or setbacks and attribute failure to insufficient effort or deficient knowledge and skills which they believe they are capable of acquiring. Individuals with high self-efficacy are more resilient with a high sense of fulfillment as they view mistakes as the first attempt in learning. In the face of failure or setbacks, they recover and adjust quickly and forge ahead (Pajares, 2002). Conversely,

people with low self-efficacy may believe that things are tougher than they really are, a belief that fosters stress, depression and a narrow vision of how best to solve a problem. As a result of these influences, self-efficacy beliefs are strong determinants and predictors of the level of accomplishment that individual finally attain.

CHAPTER 9

CONCLUSION

In contrast to other social sciences that have developed specialized sub disciplines and/or application interests in agriculture, psychology historically has not been known for its concern with rural issues. For instance, there has not been any psychological counterpart to such social science specialties as agricultural economics, rural sociology, agricultural marketing, or rural geography. Self-efficacy can be defined as a person's judgment of his or her ability to achieve or accomplish an action and supports the importance of a determinant for behavioral performance. Farmer's judgments of his capabilities to organize and execute courses of action required to attain designated types of agricultural performance is called farmer self-efficacy. Following the social cognitive theory of Bandura, Dutta Roy (2008) developed 50 items questionnaire measuring five dimensions of self-efficacy namely, environmental monitoring, self-regulation, enactive mastery experience, vicarious experience, physiological and affective states. For each domain principle component analysis was conducted and finally 30 items were extracted out of 50 items. 18 items out of 30 items were reviewed and discussed in this study. Reviews related to other items were not found due to lack of resources related to farmer's self-efficacy. Self-efficacious farmers imitate the successful farmers, utilize experiences of successful farmers in agriculture, achieve success in application of new technologies in agriculture, and acquire new agricultural skills and abilities when needed, able to apply training related knowledge in agricultural work. Research shows farmers with high self-efficacy are able to maintain stable mental condition in spite of agricultural loss; they give an effort in agriculture despite physical and mental weakness. The present dissertation work entitled, 'Literature Review on "Items Related to Farmer Self-efficacy Scale"' has been carried out with the following objective: to review the literature related to items of farmer self-efficacy scale through literature survey. In the present study the literature search in different scientific databases were employed to identify studies that examine the link for farmer's self-efficacy.

CHAPTER 10

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CHAPTER 11

APPENDICES

APPENDIX – A

FARMER SELF-EFFICAY SCALE

SL.No.	Item	Code
1	Able to prove wrong information as incorrect.	MEU
2	Able to engage in agricultural activities most of the time.	EME
3	Regulating self despite of agricultural anxiety.	SR
4	Able to imitate successful farmers.	VE
5	Can overcome agriculture related anxiety.	CPES
6	Can find out agricultural training center.	MEU
7	Able to successful in new agricultural techniques.	EME
8	Able to maintain production goal in spite of difficulties.	SR
9	Able to apply experience of successful farmers.	VE
10	Able to keep mentality strong in loss.	CPES
11	Able to reach at training centers how far it is.	MEU
12	Despite of physical and mental weakness, can do agricultural work.	EME
13	Able to pay much attention to specific plans with poor growth.	SR
14	Able to ask other's advice during problem.	VE
15	Can keep self in resting phase during worry.	CPES
16	Can inspect plant condition every day in spite of other commitments.	MEU
17	When require, able to acquire agricultural skills and abilities.	EME
18	Able to determine correct amount of fertilizers and pesticides.	SR
19	Able to participate into any agriculture related discussion.	VE
20	Not to be depressed for repeated loss.	CPES
21	Able to collect new agricultural information.	MEU
22	Able to ignore words against agriculture.	EME

23	Able to regulate balance between profit and loss.	SR
24	Can listen to experienced farmers' words.	VE
25	Able to apply experience of loss in future.	CPES
26	Able to successful in agricultural experiment.	MEU
27	Able to be successful in following high yielding technology.	EME
28	Can control excess application of fertilizers and insecticides.	SR
29	Can adopt skills of experienced farmers.	VE
30	Can take the loss at ease.	CPES
31	Able to monitor regularly the effect on plant after application of fertilizer.	MEU
32	Able to solve agricultural problems alone.	EME
33	Able to control not to take much loan though there is a scope.	SR
34	Can apply knowledge through training.	VE
35	Not to make responsible for non-production of crop as anticipated.	CPES
36	Can examine raw materials during purchase.	MEU
37	If needed, can collect raw materials from other sources.	EME
38	Able to determine specific agricultural training.	SR
39	Can apply mass-media based information in own farming practices.	VE
40	Helping other farmer to overcome anxiety.	CPES
41	Can do experiment on new technology in small plot of land.	MEU
42	Able to create new customer for farm products.	EME
43	Able to control unreasonable amount of expenditures in agriculture.	SR
44	Can apply experience of senior farmers after judging.	VE
45	Can keep self at ease during agriculture related problems.	CPES
46	Judging the procedures for repayment of loan.	MEU
47	Able to repay loan in spite of any difficulties.	EME
48	Creating specific market for produced crops.	SR
49	Considering self as successful farmers.	VE
50	Maintaining crop quality according to the demand of customers.	SR

APPENDIX – B

FARMER SELF-EFFICACY SCALE (REVISED)

Sl. No.	Items	Code
1	Engaging in cultivation when I do not desire to do so.	EME
2	Imitating the successful farmers.	VE
3	Achieving success in application of new technologies in agriculture.	EME
4	Utilizing experience of successful farmers in agriculture.	VE
5	Maintaining stable mental condition in spite of agricultural loss.	CPES
6	Giving effort in agriculture despite of physical and mental weakness.	EME
7	Asking for others advice in case of agricultural related problems.	VE
8	Bringing back mental stability during time of distress.	CPES
9	Acquiring new agricultural skills and abilities when needed.	EME
10	Participation into agriculture related discussion.	VE
11	Not to be depressed for repeated loss in agriculture.	CPES
12	Collecting new agriculture information successfully.	MEU
13	Utilizing afterwards the agricultural experience even there is a loss in agriculture.	CPES
14	Getting success in agriculture related new experiments.	MEU
15	Cultivating multiple crops successfully in spite of several difficulties.	EME
16	Accepting the skills of experienced farmers.	VE
17	Monitoring regularly the effect on plant after application of fertilizers or pesticides.	MEU
18	Solving the agricultural problem alone.	EME
19	Able to control excess loans though there is a scope.	SR
20	Applying training related knowledge in agricultural work.	VE
21	Examining the raw materials properly during purchase.	MEU
22	Collecting raw materials from other sources when there is a shortage.	EME
23	Applying radio and TV based information in own farming practices.	VE
24	Helping other farmers to overcome anxiety.	CPES

25	Experimenting new technology in small plot of land.	MEU
26	Controlling the unreasonable expenditures in agriculture.	SR
27	Applying the advice of experienced farmers in agriculture after judgment.	VE
28	Maintaining self at ease during agriculture related problems.	CPES
29	Creating specific market for produced crops.	SR
30	Maintaining crop quality according to the demand of customers.	SR

12. ANNEXURE

Reference	Objective	Studied populations	Methodologies	Results
Morey Burnham, Zhao Ma (2016)	The objective of the study was to examine the role of determinants of adaptive capacity in shaping smallholders' perceived self-efficacy and adaptation intent	Data were collected from 483 smallholder farmers in three counties in the Loess Plateau region: Mizhi and Yangling, in Shaanxi, and Hongsipu in Ningxia.	The study used a mixed – methods approach, a survey of 483 smallholder households was completed. Proportional odds ordered logistic regression model was used.	The result suggests an association between higher incomes and higher levels of perceived self-efficacy. The study also suggests that smallholders with experience adapting to precipitation-related changes in the last 30 years were more likely to report a higher level of perceived self-efficacy and adaptation intent. The study provides further evidence that self-efficacy beliefs are a strong, positive predictor of adaptation intent.
Nade, P. (2019).	The study aimed to assess the influence of agricultural training on youth farm entrepreneurial self-efficacy. Secondly, to	Data were collected from 300 final year certificate students pursuing agricultural courses.	A cross-sectional design was employed as the data were collected from three colleges which are located in three different regions at one point in time. Three data collection	Significant relationship was found between the expected courses outcome and farm entrepreneurial self-efficacy. The result suggests that skill-based educational outcomes seem to influence more than knowledge-based outcomes. Significant

	<p>assess the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention</p>		<p>techniques were employed. These include a questionnaire, interviews and focus group discussions. Multiple regression analysis was used as statistical measure.</p>	<p>relationship was also found between farm entrepreneurial self-efficacy and intention.</p>
<p>Yueh, H.P., Liu, Y. (2010).</p>	<p>The objective of the study was to explore how farmer's self-efficacy influences their performance to use the farming management information system, FMIS.</p>	<p>Data were collected from 23 farmers who were enrolled in a two-day training workshop on FMIS.</p>	<p>Trainees were invited to attend this two-day training workshop, prior to the start of the training, all trainees were asked to fill in FMIS SE questionnaire. Following the lectures and practices, trainees had to complete test 1 immediately. On the second day, trainees completed test 2 after the course, and post-training questionnaires were delivered at the end of the day as well.</p>	<p>The result suggests there is a positive relationship between computer self-efficacy and FMIS self-efficacy. Results of this study showed that there is significant difference in trainee's pre and post FMIS SE, which suggest computer training was a good way to improve self-efficacy. The result of the study also show that computer self-efficacy can significantly predict changes in FMIS self-efficacy,</p>

Samsi. S. et. al. (2020)	The objective of this study was to analyze the level of self-efficacy and entrepreneurial behavior and the effect of self-efficacy on entrepreneurial behavior.	The number of samples taken was 300 young farmers who are horticultural entrepreneurs with a range after 18-40 years and joined in a farmer group.	The population of farmers meeting the criteria was 604. Sampling was done by simple random sampling technique. Data collection is done by a closed questionnaire. Research variables observed in this research included self-efficacy and entrepreneurial behavior. To determine the effect of independent variables on the dependent variable using linear regression tests.	Self-efficacy has a significant positive effect on entrepreneurial behavior. The average young farmer has been in entrepreneurship for 8.25, a relatively long time being an agricultural entrepreneur, thus building their confidence over their abilities.
Wuryaningsih et.al. (2020)	This study aimed to analyze the relationship between self-efficacy and subjective well-being in tobacco farmers in Jember Regency.	The research samples were 422 tobacco farmers, aged 35–60 years.	Design research used observational analytic using a cross-sectional approach. The sampling technique uses proportionate random sampling, a large sample of 422 respondents taken using	The results showed there was a relationship between self-efficacy and subjective well-being in tobacco farmers. Tobacco farmers have a high self-efficacy then will have a chance of four to five times having a high subjective well-being. Increased work experience, the farmer is getting bolder in

			the Slovin formula.	making decisions and dare to bear the risk.
Chen. S. et. al. (2020).	This study explores the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm,	Final sample consist of 184 family farmers.	Data were collected by using 3 questionnaires. Multiple regression analysis method to test the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm, as well as the moderating role of entrepreneurial climate.	The main effect regression results suggest that organizational commitment self-efficacy, opportunity identification self-efficacy and management control self-efficacy are positively correlated with entrepreneurial performance of family farms. The study demonstrated that entrepreneurial self-efficacy enhances entrepreneurial performance of family farm because entrepreneurial self-efficacy could strengthen family farmers' subjective capability brief and confidence
J. T. Ekanem et. al. (2019)	The objective of the study was to assess self-efficacy of secondary school agricultural science towards climate-friendly farming.	A total of 4 schools and 200 students who offer agricultural science as a subject were selected	This study adopted a multi-stage sampling technique in the selection of the respondents. A well-designed questionnaire, developed by the researchers, was used for data collection. Correlation	Findings revealed that 52% of the respondents have high climate-friendly farming self-efficacy. The respondents had a positive attitudinal disposition towards climate-friendly farming.

			analysis, simple percentages and frequency analysis, chi-square as well as composite index technique were deployed to analyze the data collected.	
Lin. C. et. al. (2019).	This study aimed to explore how mindful learning may influence elementary school children's mastery experience through the mediation of personal traits such as flow experience and self-efficacy.	The participants in this study included 39 fifth and 44 sixth graders (46 boys and 37 girls).	The one-group pretest-posttest design was employed with the pretest administered in the first week, and the posttest delivered in the sixth week. The experimental instruction and all inventories conducted through the DGLC-B were designed and implemented as a part of the participants' computer course. Structural Equation Modeling conducted through AMOS 21 was employed to test the proposed model.	Upon completion of the experimental instruction, self-evaluation revealed that participants with higher scores on the concerned variables improved more in both creative ability and confidence than their counterparts. Additionally, path model analysis revealed that mindful learning experience was a powerful predictor of both mastery experience and flow experience; it also influenced mastery experience through flow experience and self-efficacy.

<p>Brooke. J. et. al. (2017)</p>	<p>Objective of this study is to investigate the predictors of knowledge sharing behavior and mediating variable of self-efficacy among successful farmers in selected Malaysian states.</p>	<p>The targeted population of this study was 241 successful farmers under the supervision of the Department of Agriculture, Malaysia.</p>	<p>This quantitative study adopted a descriptive cross-sectional design. A self-administered structured questionnaire was used for data collection. The questionnaires were distributed accordingly to the respective respondents during a biweekly visit conducted by the District Agriculture Officers.</p> <p>This study utilized the SPSS (version 22) and Partial Least Square (PLS) approach of structural equation modelling via SmartPLS 2.0.</p>	<p>The results showed that the effect of training on knowledge sharing behavior was not mediated by self-efficacy. However, findings revealed that self-efficacy mediates the relationship between prior experience and successful farmers' knowledge sharing behavior. Results further showed that self-efficacy not only had a direct relationship with knowledge sharing behavior among successful farmers, but it also mediated the relationship between prior experience and knowledge sharing behavior.</p>
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Goldberg. K.,(2016).	The purpose of this research is to develop a more comprehensive understanding of the attitudes and internal factors affecting operators of small and medium-scale farms at the rural-urban interface.	Data was collected in five case study locations in the United States. Data were collected from 658 farmers.	Types of farmers were created and analyzed using survey responses to yes/no, multiple-choice, and numerically based questions. Purposive sampling technique was used for the selection of sample. The survey questionnaires were mailed to the respective farmers. Analysis of Variance was used as statistical measure.	Dual motivated producers have higher self-efficacy than any of other types of farmers, especially when compared to conventional farmers. Dual motivated farmers were almost five times more likely to feel optimistic than conventional farmers. Local direct farmers were significantly less likely to be motivated by financial factors than farmers not involved in local sales.
Abraham. E. (2020)	The objective of this study was to understand the factors contributing to the development of ESE among tribal farmers who have entrepreneurial intentions.	106 tribal farmers, who have entrepreneurial intentions from the Dimapur district of Nagaland, were selected as sample.	A mixed methods study incorporating both quantitative and qualitative methods was found befitting to answer the research questions of this study. This mixed methods study followed a sequential design with a qualitative phase	The Entrepreneurial Self-Efficacy of the tribal farmers suggested high confidence and a statistically significant association of entrepreneurial self-efficacy with prior experience, monthly income, and the tribe was noted. The findings of this study resulted in the development of an ESE model for entrepreneurial farmers that describes nine factors that helped the tribal farmers of

			<p>sequentially succeeding a quantitative phase.</p> <p>Structural Equation Modeling (SEM) was used for statistical measure.</p>	<p>Nagaland develop high Entrepreneurial Self-Efficacy. These factors are prior experiences, training, education, modeling experiences, verbal persuasion, awards and recognitions, constructive feedback and criticisms, personality characteristics, and social interactions and support systems.</p>
<p>Yakin. M. et. al. (2012).</p>	<p>The basic aim of this research is to examine the relationships between self-efficacy, work engagement and job satisfaction.</p>	<p>The research was conducted on 161 certified public at Turkey.</p>	<p>The research was conducted on certified public at Turkey. The data were gathered through the use of questionnaires distributed either via e-mail or face-to-face contacts. Correlation and regression analyses were used as statistical measure.</p>	<p>According to the results of this research, the strongest association existed between organizational commitment and job satisfaction. Another finding in this study is that self-efficacy and job satisfaction has been significantly related. Regression analysis results imply that emotional, physical and cognitive work engagement have been found to be related to self-confidence and focused effort. Entrepreneurial behavior has been only related to emotional work engagement.</p>