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Coping Mechanisms Utah Agriculture Teachers Use to Manage Teaching Related Stress

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Abstract

The purpose of this study was to examine the level of occupational stress among Utah agriculture teachers, and to determine the coping mechanisms utilized to manage teaching related stressful events. Teachers were asked to rank their level of occupational stress according to the scale used by the American Psychological Association Stress in America report. Additionally, respondents completed the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) to identify a significant stressful teaching related event and further evaluate the coping mechanisms used to manage that event. Upon identifying coping mechanisms teachers utilized, results were analyzed and compared to demographic characteristics using Pearson bivariate correlation. Results concluded that agriculture teachers reported statistically higher levels of stress than the average American. A statistically significant correlation was found between age and level of stress, indicating that levels of stress increase as agriculture teachers age. Additionally, significant correlations existed between age, length of teaching, time spent on teaching and teaching related tasks, and type of certification related to preference for specific coping mechanisms.

Keywords: teacher stress; coping; agricultural education; stress; time management

Stress is a common problem that affects many individuals at some point in their lives. In fact, according to the American Psychological Association's (2011) *Stress in America* report, more than half of Americans identify their level of stress as greater than 5 on a scale from 1 to 10. Occupational stress is one of the largest and perhaps most researched categories of stress in the United States (APA, 2011; Selye, 1956). Through extensive research on the subject, Selye (1956) defined occupational stress as the summation of an individual's total stress that arises from the responsibilities of their occupation. In addition, numerous research studies have identified teaching as being a "high stress" occupation (Bellingrath, Weigl, & Kudielka, 2009; Kyriacou & Sutcliffe, 1977; Pearson & Moomaw, 2005; Russell, Altmaier, &Van Velzen, 1987). In fact, between 20% and 31% of teachers reported feeling their job was either very stressful or extremely stressful (Kyriacou & Sutcliffe, 1977, 1978, 1979).

Framework

Occupational stress in agriculture teachers has been a topic of interest in various research studies for almost thirty years (Bruening & Hoover, 1991; Chenevey, Ewing & Whittington, 2008; Croom, 2003; Newcomb, Betts, & Cano, 1987, Theiman, Henry, & Kitchel, 2012; Roberts & Dyer, 2004; Torres, Lawver, & Lambert, 2009). Roberts and Dyer (2004) found stress to be one of the top concerns among secondary agricultural educators. Studies related to agriculture

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teacher stress have yielded information which suggest that while agricultural teachers may not experience high levels of occupational stress (Chenevey et al., 2008), they may have notable differences in the types of potential stressors that come from the uniqueness of the job (Torres et al., 2009).

Much of the research related to teacher and agriculture teacher occupational stress has been focused on identifying the sources of teacher stress and the impact this stress has on personal lives, job satisfaction, and ability to perform effectively in the classroom (Adams, 1999; Blasé, 1986; Borg & Riding, 1991; Bruening & Hoover, 1991; Chenevey et al., 2008; Croom, 2003; Jennings & Greenburg, 2009: Newcomb et al., 1987; Theiman, Henry, & Kitchel, 2012). Such research has yielded information which cannot be ignored. Notably, the research has highlighted the consequences of teacher stress which include an increase in teacher burnout (Croom, 2003), negative impacts on teacher student relationships (Yoon, 2002), and substantial decrease in teacher retention (Dinham, 1992; Sinclair & Ryan, 1987).

While the topic of teacher stress has been widely studied (Jenkins & Calhoun, 1991; Kyriacou & Sutcliffe, 1977, 1978, 1979; Parkay, Greenwood, Olejnik, & Proller, 1988), far less research has been conducted on the methods teachers use to cope with stress. Coping is considered a specific strategy which is employed by an individual to manage a potentially stressful event (Lazarus, 1966), and inevitably has a direct correlation with the amount of actual stress that is experienced when a potentially stressful event is encountered. After an individual has utilized a particular coping mechanism to process a potential stressor, the remaining impact of that event is considered stress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

Identifying and understanding the coping strategies used by agriculture teachers allows for an in-depth examination of how agriculture teaching related stressors are managed. By and large, individuals use coping mechanisms as a skill or a behavioral tool to offset or overcome adversity, disadvantage, or disability (Folkman & Lazarus, 1988) which creates stress. The examination of coping mechanisms agriculture teachers use will provide the opportunity to identify specific coping mechanisms that lessen the impact of agriculture teaching related stressors and have the potential to improve teacher longevity. It may also answer questions related to which events cause the most stress and why different agriculture teachers may experience similar teaching related stressors yet experience differing levels of stress from the same event. A comprehensive search into the methods of coping employed by agricultural teachers yielded few results, indicating that there has been minimal research on the subject. Agriculture teacher resiliency with regard to stress and coping was examined by Thieman, Henry, and Kitchel (2012), in a study which focused on developing a conceptual framework for the relationship between teacher coping and resilience. While not directly related to coping as discussed in this study, their work highlighted the need for future research in agriculture teacher coping, and laid a foundation for future research topics.

Theoretical Framework

Two prevalent theories of stress and coping exist. The first theory of coping is a trait based theory, which focuses on coping as a product of personality among all diverse life situations (Byrne, 1964; Gleser & Ihilevich, 1969; Goldstein, 1959) and is based on Selyes' (1956) work in systemic stress. Although trait based coping has some relevance to determining an individual's preference for the use of specific coping mechanisms, research indicates that it has a low predictive value in regard to the coping process, and may underestimate the complexity of the coping process (Cohen & Lazarus, 1973; Kaloupek, White, & Wong, 1984). The second prevalent theory of coping is rooted in coping as a process, which is developed through a continual appraisal process (Arnold, 1960; Lazarus, 1966). Because of its more inclusive nature and propensity to evaluate a broader picture of stress, Lazarus' (1966) theory of coping serves as the foremost theory for this study. Coping is conceptualized as efforts to restructure the

perceived threat or to manage stress emotions (Lazarus, 1966). Folkman et al. (1986) defined coping as a process characterized by the continuous appraisal and reappraisal of a person's interaction with his/her environment. This theory is especially relevant to the study of coping mechanisms used by agriculture teachers as they manage and process occupational stress through the eight coping mechanisms defined by the *Ways of Coping Questionnaire.*

Similarly, Lazarus (1966) defines coping as a process which is based on shifts in the manner in which an individual views a potential stressor. Lazarus' theory states that the way a person views any given stressor is based on the outcome expected from the situation. This view of a stressor was originally called an "appraisal" by Arnold (1960) and expanded upon by Lazarus in regard to stress (1966). Shifts in the way an individual views stress may come from the environment or situations outside of the individual's control, or they may come from efforts to manage the stress by the individual. This theory suggests research examining coping mechanisms related to a specific event, rather than as generalized statements, will yield a more accurate appraisal of individual coping strategies, and guided the development of the instrument used in this study.

Stress is defined as a reaction to a potential stressor (Roth & Cohen, 1986). When a potential stressor is encountered, each individual processes the event with a preferred coping mechanism. Lazarus and Folkman (1984) analyzed the impact of using specific coping mechanisms on actual stress experienced and found that the management of stress was far more significant than the actual potential stressor. This explains why individuals who are faced with the same potential stressor can have vastly different amounts of stress arising from the event. Lazarus and Folkman further explained that the use of appropriate coping mechanisms is paramount to the inevitable stress that the individual experiences emotionally or physically as a result of the stressor. As people encounter potential stressors, they interact with the stressful environment and employ a variety of coping strategies to manage that stress in an effort to lessen the impacts of the stress on physical, emotional, or psychological well-being of the individual (Lazarus & Folkman, 1984). This study sought to identify the most commonly used occupational coping mechanisms by agriculture teachers.

Purpose and Objectives

The purpose of this study was to determine the coping mechanisms utilized to manage occupational stress by agricultural educators in Utah. In order to fulfill the purpose of this study, research was conducted with the following objectives:

1. Describe selected characteristics of secondary agriculture teachers in Utah
2. Determine Utah agricultural educators' self-perceived level of occupational stress.
3. Describe coping strategies agricultural educators utilize to manage occupational stress.
4. Determine relationships between agricultural teachers' coping strategies and selected characteristics.

Instrumentation

The objectives of this study were examined using descriptive research methods. Data were collected using the *Ways of Coping Questionnaire* developed by Folkman and Lazarus (1988). The questionnaire was adjusted to obtain demographic information and included an additional question for teachers to describe a current stressful situation and to determine the degree of self-perceived level of occupational stress as suggested by Folkman and Lazarus (1988). This was done in order to set the context for the study. The *Ways of Coping Questionnaire* is a standardized and commercially available instrument designed to measure

coping mechanisms. The questionnaire contained four sections. Utah agricultural educators (N = 115) served as the population for this study. Data were analyzed using IBM SPSS 18®.

Section one of the instrument asked respondents to rank their overall level of occupational stress on a Likert-type scale from 1 to 10, in alignment with the stress level scale suggested by the American Psychological Association (2011) for ranking of self-perceived level of stress (see Table 1).

Table 1

American Psychological Association Scale for Self-Perceived Level of Stress

Score	Level of Stress
1 – 3	Low
4 – 7	Average
8 – 10	Extreme

Note. Level 1 – 3 = Low, Level 4 – 7 = Average, Level 8 – 10 = Extreme (American Psychological Association, 2011).

Section two of the questionnaire asked respondents an open ended question designed to focus their attention by thinking about a stressful teaching event which had occurred in the past week. Folkman and Lazarus (1988) suggested that utilizing an event within the last week allows for a clear recollection of the coping mechanisms used to manage the stressful event. Teachers were asked following question "take a few moments and think about the most stressful situation that you have experienced the past week as an agriculture teacher. By stressful, we mean a situation that was difficult or troubling for you, either because you felt distressed about what happened, or because you had to use considerable effort to deal with the situation. For the purpose of this questionnaire, please describe the situation which involves your job as an agriculture teacher."

Section three sought to determine the coping mechanisms agriculture teachers used to manage the stressful teaching event explained in section two. The *Ways of Coping Questionnaire* (Folkman & Lazarus, 1988) included 66 questions to describe to what extent teachers used a particular coping mechanism to deal with their stressful event. The response format for this section of the questionnaire collected ordinal data based on a 4-point Likert-type scale (0 = not used, 1 = used somewhat, 2 = used quite a bit, 3 = used a great deal). The coping mechanisms identified by Folkman and Lazarus (1988) are described in table 2.

Table 2

Coping Mechanisms

Scales of Coping	Description
Confrontive Coping	Aggressive efforts to alter the situation and suggests some degree of hostility and risk-taking
Distancing	Cognitive efforts to detach oneself and to minimize the significance of the situation
Self-Controlling	Efforts that regulate one's own feelings
Seeking Social Support	Efforts to seek informational support, tangible support, and emotional support from others
Accepting Responsibility	Acknowledgment of one's own role in the problem with a concomitant theme of trying to put things right
Escape-Avoidance	Wishful thinking and behavioral efforts to escape or avoid the problem. Items on this scale contrast with those on the Distancing scale, which suggests detachment
Planful Problem Solving	Deliberate problem-focused efforts to alter the situation, coupled with an analytic approach to solving the problem
Positive Reappraisal	Efforts to create positive meaning by focusing on personal growth coupled with a religious dimension

Finally, the fourth section of the instrument included demographic information including age, sex, marital status, number of children, hours per week at work, type of certification, number of years teaching, number of years at current school, and school size.

The instrument in its entirety was reviewed by a panel of experts in agricultural education, including university faculty and agricultural educators, to establish content and face validity. Reliability of the eight scales of the *Ways of Coping* instrument reported by Folkman and Lazarus (1988) resulted in a Cronbachs' alpha ranging from .61 to .79, with 5 of the 8 scales showing an alpha of .70 or higher. According to Nunnally (1978), an alpha of .70 or higher is an acceptable reliability measurement; however, a lower alpha is not necessarily a detriment when the small number of items per scale was taken into consideration.

Methods

Agriculture teachers in Utah (N = 115) were selected as a target population for this census research. A database of teachers was provided through the state supervisor of agricultural education in the state department of education. This descriptive study was conducted through electronic notification and the use of an online research instrument.

Dillman's Tailored Design Method (2000) was followed in regard to data collection. A list of email addresses was obtained from state staff, which included valid email addresses for all agriculture teachers in Utah. Respondents received an electronic pre-notice email, followed by an electronic invitation requesting participation, which included a link to the electronic questionnaire. Follow up reminders/thank you notifications were sent on two dates after the opening of the questionnaire to aide in increasing response rate. A final request for participation was sent to respondents prior to the end of the survey window. Data were collected solely through the online survey hosting site Survey Monkey ®, and exported to IBM SPSS ® v. 18 for analysis.

The study resulted in a 37% response rate (n = 47). A demographic comparison between respondents and the entire population of Utah agriculture teachers yielded similar demographic relationships between those who responded and the entire population. Early and late responder scores were compared to control for non-response error (Ary, Jacobs, & Razavieh, 2002; Linder,

Murphy, & Briers, 2001). Those respondents who completed the questionnaire before the first reminder were considered early responders, and those who completed the survey after the three week period following the reminder were considered late respondents. No significant differences were found between early and late responders. As an additional indicator of non-responder error, following the end of the survey window several self-identified non-responders came forward and subsequently completed the questionnaire. Tuckman (1999) suggested that if less than 80% of the people who receive the questionnaire complete the survey, 5 - 10% of non-responders should be contacted to obtain some critical data. Non-respondent results were not found to be significantly different than the respondent group. Based on these two tests, it can be concluded that non-response error was minimal for this study, and the data collected is indicative of the target population.

Results

Research objective one identified demographic information of agriculture teachers in Utah (see Table 3). Means, frequencies, and standard deviations for the demographic factors were identified. The typical Utah agriculture teacher was 36.0 years old (*SD* = 10.31). Fifty-six percent (*n* = 24) of the agriculture teachers were male, 44% were female (*n* = 19). Fourteen percent of agriculture teachers were single (*n* = 6), 86% were married (*n* = 37), and none of the respondents were divorced, separated or widowed. Agriculture teachers reported an average of 3.4 children (*SD* = 1.8). Teachers reported teaching an average of ten years (*M* = 10.8 *SD* = 9.31) and spent 51.9 (*SD* = 10.86) hours per week on teaching and teaching related tasks. When looking at types of teacher certification, 88% completed their teacher certification at a university degree program and received a professional certificate (*n* = 38), and 12% were alternatively certified (*n* = 5). Related to school size, 14% of agriculture teachers taught at very small (1A) schools, 12% at small (2A) schools, 26% at medium sized (3A) schools, 28% at large (4A) schools, and 21% at very large (5A) sized schools.

Research objective two was to determine the level of occupational stress Utah secondary agriculture teachers experienced. Respondents were asked to rank their self-perceived level of occupational stress on a scale from 1 – 10. As shown in Table 4, Utah agriculture teachers mean level of stress was 8.12 (*SD* = 1.41), which places Utah agriculture teachers the extreme stress category as outlined by the American Psychological Association. This is significantly higher than the 5.2 average stress rating among American adults in 2011 (APA, 2011).

Table 3

Demographic Characteristics of Utah Agriculture Teachers (n = 47)

Characteristics	*f*	%	*M*	*SD*
Age	47		36.0	10.3
Gender				
Female	19	40.4		
Male	24	51.1		
Not Reported	4	8.5		
Marital Status				
Single	6	12.8		
Married	37	78.7		
Divorced	0	0		
Widowed	0	0		
Not Reported	4	8.5		
Number of children			3.4	1.8
Years of teaching completed			10.8	9.3
Hours per week spent on teaching and teaching related tasks			51.9	10.9
Certification Type				
Professional Certification	38	80.9		
Alternative Certification	5	10.6		
Not Reported	4	8.5		
Size of School Currently Teaching At				
1A (enrollment < 170)	6	12.8		
2A (enrollment 171 - 399)	5	10.6		
3A (enrollment 400 - 999)	11	23.4		
4A (enrollment 1000 - 1499)	12	25.5		
5A (enrollment > 1500)	9	19.1		
Not Reported	4	8.5		

Table 4

Perceived Level of Stress of Agriculture Teachers (n = 47)

Perceived Stress	*f*	*%*	*M*	*SD*
Level 1	0	.00		
Level 2	0	.00		
Level 3	0	.00		
Level 4	0	.00		
Level 5	2	4.25		
Level 6	4	8.51		
Level 7	9	19.15		
Level 8	13	27.66		
Level 9	8	17.02		
Level 10	10	21.28		
Not Reported	1	2.13		
Mean Level of Stress			8.12	1.41

Note. Level 1 – 3 = Low, Level 4 – 7 = Average, Level 8 – 10 = Extreme (American Psychological Association, 2011).

As an additional measure of occupational stress level, respondents were asked to identify the most stressful teaching event they experienced within the last week through an open ended question. Of the 47 agriculture teacher respondents, 38 listed the specific event in an open-ended response blank on the questionnaire. The responses were compiled and analyzed by independent researchers into themes used to describe stressful teaching events as indicated by the *Teacher Stress Inventory* (Fimian, 1984). Table 5 provides a sample of the descriptors used to categorize the open ended responses.

Table 5

Statements Describing Stressful Teaching Events (Fimian, 1984)

Theme	Sample Descriptors
Time Management	I easily over-commit myself
	I become impatient if others do things slowly
	I have to try to do more than one thing at a time
Work-Related	There is little time to prepare for my lessons
	The pace of the school day is too fast
	There is too much paperwork in my job
Professional	I lack promotion or advancement opportunities
	I need more status or respect for my job
	I receive an inadequate salary for the work I do
Discipline and Motivation	I feel frustrated because of discipline problems in my classroom
	I feel frustrated because some students would be better if they tried
	I feel frustrated attempting to teach poorly motivated students
Professional Investment	I lack opportunities for professional improvement
	I lack control over classroom/school decisions
	I am not emotionally stimulated on the job

The most common words used to describe stressful agriculture teaching events included: students, teacher, CTE director, greenhouse, and Career Development Events. Further, results of this analysis found that agriculture teachers were more likely to perceive stress from events that involved time management, discipline, and student motivation (see Table 6). Interesting to note, none of the respondents reported stress from professional investment activities as stressful.

Table 6

Agriculture Teacher Stressful Events (n = 38)

Category of Stressor	*f*	%
Time Management	13	34.20
Discipline and Motivation	13	34.20
Work / Job	7	18.40
Professional	5	13.20
Professional Investment	0	0.00

Note: Of the total respondents, (*n* = 47) 9 yielded no response for this item.

Research objective three identified coping strategies agricultural educators utilize to manage occupational stress as measured by the *Ways of Coping questionnaire* (Folkman & Lazarus, 1988). Respondents used an ordinal Likert scale to select how often they had used the coping mechanisms listed to deal with the stressful teaching event they had previously identified. The coping mechanisms identified are reported by eight predefined scales or methods of coping (Folkman & Lazarus, 1988). Overall raw scores indicating the sum of answers for all items in a specific coping mechanism were calculated. To create accurate comparisons, raw score results in each of the eight scales of coping mechanisms were converted to relative scores by calculating individual means for each specific mechanism. Relative scores are reported on a scale from 0 – 3, with higher scores indicating more frequent use of the particular coping mechanism.

Agriculture teachers were most likely to choose coping mechanisms for stress through distancing mechanisms (M = 1.93, SD = .41). Teachers were also likely to employ confrontive coping strategies (M = 1.84, SD = .52) which include aggressive management or risk-taking decisions to manage occupational stress. Teachers were least likely to utilize escape or avoidance as a means to cope with stress (M = .61, SD = .59). Results of the mean relative scores for coping mechanisms among the agriculture teacher sample are summarized in Table 7.

Table 7

Coping Mechanisms Used by Agriculture Teachers (n = 47)

Coping Mechanism	*M*	*SD*
Distancing	1.93	.41
Confrontive	1.84	.52
Planful Problem Solving	1.43	.58
Self Controlling	1.37	.52
Seeking Social Support	1.07	.70
Accepting Responsibility	.89	.59
Positive Reappraisal	.80	.64
Escape/Avoidance	.61	.59

Scale. 0 = not used at all or does not apply 1 = used somewhat, 2 = used quite a bit, 3 = used a great deal.

The purpose of the final research objective was to determine relationships between agriculture teachers' coping strategies and their specified characteristics. In order to determine coping mechanisms relationship to demographic characteristics, Pearson's product moment and biserial correlation were calculated. The correlation coefficient, represented by r, shows the magnitude and direction of the correlation. Correlations for demographic characteristics were performed with two sets of data. First, correlations were performed comparing overall self perceived level of stress to demographic characteristics. Second, correlations were conducted to compare each of the eight coping mechanisms to the demographic factors of gender, age, marital status, number of children, time spent on teaching and teaching related tasks, years of teaching, type of certification, and size of school. Significant results were reported at the a = .05 level. Davis' (1971) conventions for interpreting the correlation coefficients with relation to significance of the impact of those correlations were used.

Using respondents reporting both the level of occupational stress and all demographic characteristics a correlation was analyzed between overall self-perceived level of stress and demographic factors. A single significant correlation emerged. This correlation was a moderate positive correlation (Davis 1971) of r = 0.31 observed between age and level of stress. This result indicates that stress may increase as agriculture teachers age. Results of all correlations between reported level of stress and demographic factors are reported in Table 8.

Table 8

Bivariate Correlations Between Agriculture Teacher Characteristics and Level of Occupational Stress (n = 42)

Characteristics	Level of occupational stress
Gender[a]	-.25
Age	.31*
Marital status[b]	.23
Children	.17
Hours a week teaching	.29
Years teaching	.16
Teaching at current school	.17
Certification[c]	.20
School size	.04

Note. [a]Gender: 1 = female, 2 = male, [b]Marital Status: 1 = single, 2=married, 3 = divorced/separated, 4 = other, [c]Certification: 1 = alternatively certified, 2=attended traditional university teacher education program

Scale. 1.00 = perfect, .70 – .99 = very high, .50 – .69 = substantial, .30 – .49 = moderate, .10 – .29 = low, .01 – .09 = negligible

*$p < .05$

Significant correlations between the coping mechanisms used by agriculture teachers and demographic factors were also found. A moderate positive correlation (r = .41) was found between hours spent on teaching and teaching related tasks and the use of confrontive coping mechanisms, suggesting that agriculture teachers who spent more time completing teaching related items were more likely to confront potential stressors with aggressive risk-taking behaviors. The coping mechanism of seeking social support reported a moderate level of negative correlation (r = -.33) with regard to the type of teacher certification received, with those teachers who attended a traditional university education program less likely to manage a potential stressor with this coping mechanism. Additionally, data showed that a moderate level of positive correlation existed between the coping mechanism of positive reappraisal and both length of teaching (r = .38) and number of years teaching at current school (r = .42), suggesting that as agriculture teachers age, or complete more years in the classroom, they are more likely to see stressful events as a way to refocus their energy on bettering themselves. Correlations for all demographic characteristics are shown in Table 9.

Table 9

Bivariate Correlations Between Agriculture Teacher Characteristics and Coping Mechanisms (n = 42)

Characteristics	1	2	3	4	5	6	7	8
Gender[a]	.16	-.02	.06	.29	.21	.13	.05	-.05
Age	-.07	.01	-.08	-.16	-.20	-.26	.20	.28
Marital status[b]	.07	.18	.02	-.05	-.03	.30	.07	.09
Children	.05	.14	-.05	-.16	-.22	-.11	.02	.17
Hours a week teaching	.40*	-.02	-.02	.22	-.25	-.08	-.22	.00
Years teaching	.08	.10	.06	-.13	-.07	-.12	.25	.38*
Teaching at current school	.15	.12	.24	-.23	.16	.02	.26	.42*
Certification[c]	-.22	-.03	.06	-.33*	.23	-.02	-.17	-.12
School size	.07	.01	-.10	.14	-.14	-.14	-.11	-.05

Note. 1 = Confrontive, 2 = Distancing, 3 = Self-Controlling, 4 = Seeking Social Support, 5 = Accepting Responsibility, 6 = Escape/Avoidance, 7 = Planful Problem Solving, 8 = Positive Reappraisal, [a]Gender: 1 = female, 2 = male, [b]Marital Status: 1 = single, 2 = married, 3 = divorced/separated, 4 = other, [c]Certification: 1 = alternatively certified, 2 = attended traditional university teacher education program

Scale. 1.00 = perfect, .70 – .99 = very high, .50 – .69 = substantial, .30 – .49 = moderate, .10 – .29 = low, .01 – .09 = negligible

*$p < .05$

Conclusions, Implications and Recommendations

Based on the findings of this study, several conclusions can be made. First, data illustrates that agriculture teachers are under more perceived occupational stress than the average American. Roberts and Dyer (2004) cited stress as a top concern for agriculture teachers. This study substantiates that stress is a valid concern among this group. With stress levels in the extreme category, and nearly three full points higher than the average American, steps must be taken to address occupational stress specifically among the agriculture teaching population to mimimize the effect of teacher stress on the profession as a whole. While stress has been measured utilizing a variety of methods, the findings of this study found agriculture teacher stress to be high, in contrast to the Chenevey et al. (2008) study. Selye (1956) studied widely the impact that stress has on the physical well-being of an individual, noting that if occupational stress continues to increase, there is a greater chance of negative health effects. Lazarus (1966) noted the emotional and mental health deterioration with regard to increases in stress. Without proper training in managing stress using beneficial coping mechanisms, research has shown that teachers are much more likely to experience burnout and eventually leave the profession (Borg & Riding, 1991; Newcomb et al., 1987; Parkay et al., 1988). Because agriculture teachers report such an extreme level of occupational stress, this group should receive proper training in stress management and proactive coping strategies in order to reduce their level of occupational stress to within an acceptable level.

Agriculture teacher stress reported in this study comes mainly from time management, discipline, and motivation of students. These findings are similar to other studies on agriculture teacher stress (Torres et al, 2009). Important to note is the lack of professional investment related stressors. This supports the mentoring and professional development efforts of Utah State University and the Utah Department of Education who provide Utah agriculture teachers many opportunities for mentoring and professional development throughout the year, which may be a possible reason agriculture teachers do not feel that their professional involvement is adding to their stress. Based on these findings, further professional development should include methods of

time management, in order to reduce their potential stress in this area and perhaps decrease overall stress levels. Focused training in advanced classroom management techniques and increasing student motivation should be examined to determine if training in this area would reduce teacher stress levels. Further, this study illustrates a continued need for revised classroom management and motivation techniques even among mid and late career educators.

Additionally, when faced with a stressor, it can be noted that agriculture teachers are most likely to use distancing coping mechanisms to minimize their emotional tie to the situation. This suggests that agriculture teachers are most likely to engage in activities which minimize the significance of a situation. The second most common coping strategy was use of confrontive actions in which individuals directly face the stressor, in risk-taking or aggressive manners. The combination of the two coping mechanisms suggest that agriculture teachers are most likely to use methods which remove emotion to detach themselves from the stress and decrease the level of urgency surrounding the stressor, but are also willing to confront the stressor with an aggressive or hostile approach to resolve the situation. Further research is needed to determine the impact of using these coping mechanisms on teaching performance and overall stress.

Demographic factors were shown to detect a preference for specific coping mechanisms. As the age of teachers and the years of teaching experience increased, respondents were significantly more statistically likely to use positive reappraisal to cope with a stressor. This method of coping involves seeing a stressful event as a growing experience, or looking to faith and religion for the answers to difficult problems. It appears that as age increases, teachers who have stayed in the profession are more likely to see the stressors they encounter as learning opportunities, rather than obstacles. This finding should be further examined to determine if the use of this coping mechanism has implications for agriculture teacher resiliency. Also, as age increased, agriculture teachers reported higher levels of occupational stress. Research designed to identify the reason for the increased stress in older teachers may yield results that are insightful in developing resources to support and strengthen veteran teachers.

In regards to the work week, agriculture teachers are more likely to use confrontive coping mechanisms for their stress when they report spending more time at work. This raises concern that stressful events of agriculture teachers are taking time away from quality teaching and teaching related tasks, requiring agriculture teachers to spend more time at work to manage their workload at an adequate level to reduce stress. A correlation between certification type and seeking social support exists. Perhaps those agriculture teachers who are alternatively certified are more likely to seek social support to manage their stress. Several possible explanations for this finding exist. Alternatively certified teachers often have industry experience (Wash, Lovedahl, & Paige, 2000), therefore it is possible that industry training has led to alternatively certified teachers toward being more comfortable reaching out to others for advice. Conversely, it is possible that traditionally certified teachers are more efficacious due to their traditional preparation, and therefore do not feel a need to reach out to others for solutions, or do not view collaboration with a cohort group as seeking social support. Further research in this area could help determine what support, if any, is needed for both traditional and alternatively licensed teachers related to the reasons for seeking social support.

Lazarus (1966) explained that coping is a process through which individuals can experience drastically different outcomes from the same stressful event. According to this study, agriculture teachers are experiencing extreme levels of occupational stress. Overall, this data leads to the conclusion that multiple factors contribute to teacher coping, and that agriculture teachers find themselves more stressed than the average American. The issue of agriculture teacher stress and coping has serious implications on personal health and well-being, ability to perform in the classroom, and teacher retention.

Recruiting, preparing and retaining quality agricultural educators that meet the academic, career and developmental needs of diverse learners is vital (Doerfert, 2011). Agricultural education teachers must be able to create meaningful learning environments for our students that

produce positive learner outcomes (Doerfert, 2011) while effectively coping with the day to day stressors.

Teacher educators, state staff and other agricultural education stakeholders should offer professional development workshops aimed at effectively managing and coping with teacher stress. Teachers should be encouraged to move away from the detachment or confrontation of issues and toward positive problem solving and seek mentoring and guidance from experienced teachers. Continuation of teacher mentoring programs are needed to help new and alternatively certified teachers transition into the career while providing experienced teachers with a sense of value. Further, advanced training in time management and classroom management are needed in order to assist teachers when coping with the variety of stressors they encounter on a daily basis. Finally, coping is an issue that must be addressed in order to ensure that quality agriculture teachers continue manage their levels of stress, are satisifed, productive, and remain in the profession.

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