THE RELATIONSHIP BETWEEN THE EMOTIONAL INTELLIGENCE OF FLORIDA COUNTY EXTENSION DIRECTORS AND THEIR DIETARY QUALITY, PHYSICAL ACTIVITY, AND SELECTED DEMOGRAPHICS

By

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To Mama, Daddy, and Nana
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# TABLE OF CONTENTS

ACKNOWLEDGMENTS ........................................................................................................... 4

LIST OF TABLES .................................................................................................................. 11

LIST OF FIGURES ................................................................................................................. 13

LIST OF ABBREVIATIONS .................................................................................................... 15

ABSTRACT ............................................................................................................................. 16

CHAPTER

1 INTRODUCTION .................................................................................................................. 18

Organizational Background .................................................................................................. 18
Leadership Competency ...................................................................................................... 20
Emotional Intelligence .......................................................................................................... 21
CEDs and Emotional Intelligence ......................................................................................... 22
Dietary Quality and Emotions .............................................................................................. 24
Physical Activity and Emotions ............................................................................................. 25
Organizational Wellness ........................................................................................................ 27
Statement of the Problem ..................................................................................................... 29
Purpose and Objectives of the Study .................................................................................... 30
Significance of the Study ...................................................................................................... 31
Definition of Terms .............................................................................................................. 33
Limitations of the Study ........................................................................................................ 35
Assumptions of the Study .................................................................................................... 36
Summary ............................................................................................................................... 36

2 REVIEW OF LITERATURE ................................................................................................ 38

Literature Review .................................................................................................................. 38
Dietary Quality and Emotions .............................................................................................. 38
Physical Activity and Emotions ............................................................................................ 49
Connective Link Between Dietary Quality and Physical Activity ........................................ 55
Theoretical Framework .......................................................................................................... 56
Emotional Intelligence .......................................................................................................... 56
EI's Measurability .................................................................................................................. 64
EI and Demographics ............................................................................................................ 66
Emotional Intelligence and Organizations ............................................................................ 68
Conceptual Model .................................................................................................................. 71
Summary ............................................................................................................................... 74
3 METHODS

Research Design ............................................................................................................. 76
Internal Validity .............................................................................................................. 77
External Validity ............................................................................................................. 77
Population ...................................................................................................................... 78
Instrumentation ............................................................................................................ 79
The Emotional and Social Competency Inventory (ESCI) 360° ........................................ 79
International Physical Activity Questionnaire (IPAQ) .................................................. 79
Dietary Screener Questionnaire (DSQ) ........................................................................... 80
Demographic Survey .................................................................................................... 80
Data Collection ............................................................................................................. 81
Data Analysis ............................................................................................................... 83
Research Objective One ............................................................................................... 83
Research Objective Two ............................................................................................... 83
Research Objective Three ............................................................................................. 84
Research Objective Four ............................................................................................... 84
Research Objective Five ............................................................................................... 84
Research Objective Six .................................................................................................. 84
Research Objective Seven ............................................................................................. 85
Chapter Summary ......................................................................................................... 85

4 RESULTS

Response Rates ............................................................................................................. 88
Post-Hoc Reliability of Instrument .................................................................................. 90
Self-Awareness ............................................................................................................. 90
Self-Management ......................................................................................................... 90
Social Awareness .......................................................................................................... 91
Relationship Management ............................................................................................ 91
Objective One ............................................................................................................... 91
Objective Two .............................................................................................................. 92
Objective Three ............................................................................................................ 99
Objective Four ............................................................................................................ 101
Objective Five .............................................................................................................. 103
Objective Six ................................................................................................................ 104
Objective Seven ........................................................................................................... 106
Summary ....................................................................................................................... 108

5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS............................................. 155

Objectives .................................................................................................................... 156
Methods ....................................................................................................................... 156
Summary of Findings .................................................................................................... 159
Description of Population and Response ..................................................................... 159
Objective One .............................................................................................................. 159
Objective Two .............................................................................................................. 159
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>CED INFORMED CONSENT .................................................................................. 202</td>
</tr>
<tr>
<td>J</td>
<td>EPAF CED NON-ATTENDEE EMAIL ........................................................................ 203</td>
</tr>
<tr>
<td>K</td>
<td>MULTI-RATER INFORMED CONSENT ..................................................................... 204</td>
</tr>
<tr>
<td>L</td>
<td>PHASE TWO EMAILS .......................................................................................... 205</td>
</tr>
<tr>
<td>M</td>
<td>PHASE THREE EMAIL AND MOTIVATIONAL VIDEO .............................................. 207</td>
</tr>
<tr>
<td>N</td>
<td>THIRD PHASE EMAIL WITH CED LOGIN ........................................................... 209</td>
</tr>
<tr>
<td>O</td>
<td>CED EMAIL FOR APPRECIATION AND FITBIT® DRAWING VIDEO ....................... 210</td>
</tr>
<tr>
<td>P</td>
<td>STUDY PARTICIPANTS BY FLORIDA EXTENSION DISTRICT AND COUNTY ........... 213</td>
</tr>
<tr>
<td>Q</td>
<td>HEALTHY YOU = HEALTHY EXTENSION ............................................................ 214</td>
</tr>
<tr>
<td></td>
<td>LIST OF REFERENCES ......................................................................................... 215</td>
</tr>
<tr>
<td></td>
<td>BIOGRAPHICAL SKETCH .................................................................................... 238</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3-1</td>
<td>Data collection timeline</td>
</tr>
<tr>
<td>4-1</td>
<td>Participant group totals</td>
</tr>
<tr>
<td>4-2</td>
<td>Respondent rates for phases</td>
</tr>
<tr>
<td>4-3</td>
<td>PostHoc reliability of ESCI instrument constructs</td>
</tr>
<tr>
<td>4-4</td>
<td>Descriptive statistics of CED respondents</td>
</tr>
<tr>
<td>4-5</td>
<td>BMI category frequencies and percentages</td>
</tr>
<tr>
<td>4-6</td>
<td>Means for Emotional and Social Competency Inventory</td>
</tr>
<tr>
<td>4-7</td>
<td>Means for ESCI clusters</td>
</tr>
<tr>
<td>4-8</td>
<td>Gender means for Emotional and Social Competency Inventory</td>
</tr>
<tr>
<td>4-9</td>
<td>ESCI and Extension administrative district means</td>
</tr>
<tr>
<td>4-10</td>
<td>ESCI competency mean values by age range</td>
</tr>
<tr>
<td>4-11</td>
<td>CED predicted dietary intake means</td>
</tr>
<tr>
<td>4-12</td>
<td>CED predicted dietary intake means by gender</td>
</tr>
<tr>
<td>4-13</td>
<td>Percentage of daily recommended amounts met by CED gender</td>
</tr>
<tr>
<td>4-14</td>
<td>MET values and formula for computation of IPAQ MET-minutes</td>
</tr>
<tr>
<td>4-15</td>
<td>IPAQ criterion for PA category</td>
</tr>
<tr>
<td>4-16</td>
<td>Weight and diet perception frequencies and percentages</td>
</tr>
<tr>
<td>4-17</td>
<td>Diet perception frequencies and percentages</td>
</tr>
<tr>
<td>4-18</td>
<td>PA perceptions frequencies and percentages</td>
</tr>
<tr>
<td>4-19</td>
<td>Correlations between emotional intelligence competencies and dietary quality</td>
</tr>
<tr>
<td>4-20</td>
<td>Correlations between emotional intelligence competencies and physical activity</td>
</tr>
<tr>
<td>4-21</td>
<td>Summary of multiple regression analyses: Dependent variable clusters</td>
</tr>
</tbody>
</table>
Summary of regression analyses: Dependent variable competencies ........... 153
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1</td>
<td>Distribution of years as CED</td>
<td>111</td>
</tr>
<tr>
<td>4-2</td>
<td>Distribution of years in Extension</td>
<td>112</td>
</tr>
<tr>
<td>4-3</td>
<td>Distribution of CED respondent age</td>
<td>113</td>
</tr>
<tr>
<td>4-4</td>
<td>Distribution of BMI Scores</td>
<td>114</td>
</tr>
<tr>
<td>4-5</td>
<td>Percentages of BMI categories</td>
<td>115</td>
</tr>
<tr>
<td>4-6</td>
<td>ESCI self-awareness means</td>
<td>120</td>
</tr>
<tr>
<td>4-7</td>
<td>ESCI emotional self-control means</td>
<td>121</td>
</tr>
<tr>
<td>4-8</td>
<td>ESCI achievement orientation means</td>
<td>122</td>
</tr>
<tr>
<td>4-9</td>
<td>ESCI positive outlook means</td>
<td>123</td>
</tr>
<tr>
<td>4-10</td>
<td>ESCI adaptability means</td>
<td>124</td>
</tr>
<tr>
<td>4-11</td>
<td>ESCI empathy means</td>
<td>125</td>
</tr>
<tr>
<td>4-12</td>
<td>ESCI organizational awareness means</td>
<td>126</td>
</tr>
<tr>
<td>4-13</td>
<td>ESCI influence means</td>
<td>127</td>
</tr>
<tr>
<td>4-14</td>
<td>ESCI coach and mentor means</td>
<td>128</td>
</tr>
<tr>
<td>4-15</td>
<td>ESCI conflict management means</td>
<td>129</td>
</tr>
<tr>
<td>4-16</td>
<td>ESCI inspirational leadership means</td>
<td>130</td>
</tr>
<tr>
<td>4-17</td>
<td>ESCI teamwork means</td>
<td>131</td>
</tr>
<tr>
<td>4-18</td>
<td>Distribution of CED predicted fiber (g) intake</td>
<td>133</td>
</tr>
<tr>
<td>4-19</td>
<td>Distribution of CED predicted calcium (mg) intake</td>
<td>134</td>
</tr>
<tr>
<td>4-20</td>
<td>Distribution of CED of predicted whole grain (oz) intake</td>
<td>135</td>
</tr>
<tr>
<td>4-21</td>
<td>Distribution of CED of predicted dairy (c) intake</td>
<td>136</td>
</tr>
<tr>
<td>4-22</td>
<td>Distribution of CED of predicted fruit and vegetable (c) intake</td>
<td>137</td>
</tr>
<tr>
<td>4-23</td>
<td>Distribution of CED of predicted added sugar (tsp) intake</td>
<td>138</td>
</tr>
</tbody>
</table>
4-24  Distribution of CED IPAQ MET values................................................................. 141
4-25  Distribution of female CED IPAQ MET values..................................................... 142
4-26  Distribution of male CED IPAQ MET values........................................................ 143
4-27  Bar chart of overall CED PA category percentages.......................................... 144
4-28  Bar chart of male CED PA category percentages................................................. 145
4-29  Bar chart of female CED PA category percentages............................................. 146
4-30  Bar chart of percentages of CEDs happy with current weight. ......................... 147
4-31  Bar chart of percentages of CEDs happy with current PA level......................... 148
4-32  Bar chart of percentages of CEDs with a physical impairment affecting PA......149
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED</td>
<td>COUNTY EXTENSION DIRECTOR</td>
</tr>
<tr>
<td>DED</td>
<td>DISTRICT EXTENSION DIRECTOR</td>
</tr>
<tr>
<td>DQ</td>
<td>DIETARY QUALITY</td>
</tr>
<tr>
<td>EI</td>
<td>EMOTIONAL INTELLIGENCE</td>
</tr>
<tr>
<td>FCES</td>
<td>FLORIDA COOPERATIVE EXTENSION SYSTEM</td>
</tr>
<tr>
<td>IFAS</td>
<td>INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES</td>
</tr>
<tr>
<td>PA</td>
<td>PHYSICAL ACTIVITY</td>
</tr>
</tbody>
</table>
THE RELATIONSHIP BETWEEN THE EMOTIONAL INTELLIGENCE OF FLORIDA COUNTY EXTENSION DIRECTORS AND THEIR DIETARY QUALITY, PHYSICAL ACTIVITY, AND SELECTED DEMOGRAPHICS

By

Christopher E. Mott

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The study’s purpose was to examine the relationship between the emotional intelligence of Florida County Extension Directors (CEDs) and their dietary quality (DQ), physical activity (PA), and selected demographics (SD). The independent variables were DQ, PA, and other SD. The dependent variable was emotional intelligence (EI), comprised of four clusters: self-awareness, self-management, social awareness, and relationship management.

The study utilized a non-experimental, correlational design and a census of all current CEDs ($N = 64$) in the state of Florida. A secondary convenience sample ($N = 315$) of five multi-raters per CED was used to formulate a 360° EI assessment model. Participants completed four survey instruments; the first measured levels of PA; the second determined demographic elements, and DQ and PA perceptions of CEDs; the third measured self and multi-rater perceptions of CED EI; and the fourth calculated predicted daily DQ. Descriptive methods were used to analyze participants’ EI, PA, DQ, and SD. Correlations and follow-up regression analyses were conducted to determine relationships among DQ and PA on EI.
Results of the study revealed on average CEDs do not consistently exhibit EI competencies, and further development is needed. Additionally, 78% of respondents report a ‘moderate’ level of physical activity, and are not happy with their current level. Most (68.5%) CEDs were overweight or obese and not happy with their current weight. Among DQ, respondents reported higher intakes of fruits and vegetables (F&V) and total added sugar. Very high positive correlations were found between F&V intake and each of the four EI clusters. Very high negative correlations were found with total added sugar and all four EI clusters. PA and EI had very high correlations with self-awareness and substantial correlations between PA and the other three EI clusters. PA, F&V intake, and added sugar consumption were all significant predictors for three EI clusters. PA and added sugar were significant predictors of the relationship management EI cluster; however, F&V intake was not. In result, those who consumed more F&V and had higher EI multi-rater scores; the same was true for higher PA levels. CEDs who consumed more added sugar had lower EI scores.
CHAPTER 1
INTRODUCTION

Organizational Background

The Cooperative Extension System (CES) is the world’s largest non-formal adult education provider (Peters & Jarvis, 1991). As a nationwide educational network of federal, state and local governments linked to land-grant universities, its mission has been to disseminate research-based information to address a wide range of human, plant, and animal needs in both urban and rural areas (USDA, 2014). Extension has worked in six different areas: 4-H Youth Development, Agriculture, Leadership Development, Natural Resources, Family and Consumer Sciences, and Community and Economic Development (2014). Extension has delivered public education to adults and youth audiences and supported life skills and problem solving behaviors, while assisting communities in developing better ways of life (Seevers, Graham, Gamon, & Conklin, 1997).

The Florida Cooperative Extension System (FCES) is a state outreach division including national, state and county educators, administrators, and professionals connected to one of the land-grant universities in Florida (UF/IFAS, 2014). Working in Florida communities to solve local personal and professional problems and improve lives by way of research and education, the University of Florida/Institute of Food and Agricultural Sciences (IFAS) Extension has provided a vast array of solutions to a state with as much diversity in its residents as the land in which it occupies (2014). Extension has played a vital role in identifying public needs and responding with educational programs (2014).
One way UF/IFAS Florida Extension has set out to meet the needs of Floridians by seeking innovative solutions to meet changing needs has been the formulation of the Florida Extension Roadmap 2013-2023 *Shaping Solutions for Florida’s Future* (UF/IFAS Extension, 2013). With input from citizens, stakeholders, UF faculty, and leaders the Roadmap has provided a ten-year mission, vision, and direction for combating societal changes (UF/IFAS Extension, 2013). One of the five *Super Issues* included in the Roadmap addressed, “The opportunity for Floridians to embrace healthy lifestyles,” and one of seven *High-Priority Initiatives* under the Super Issues included “Empowering individuals and families to build healthy lives and achieve social and economic success” (UF/IFAS, 2013).

Florida’s 67 counties have been divided into five regional districts (Northwest, Northeast, Central, South-Central, and South) with five District Extension Directors (DEDs) who oversee an Extension District (UF/IFAS, 2014). At the county level, a County Extension Director’s (CED) duties fall into three categories of responsibility: educational programming, overall leadership of the total county educational program, and county office administration. Program Leaders’ responsibilities include managing a specific portion of the program area and providing leadership to other county faculty who have responsibilities in that same program area (UF/IFAS Extension, 2014). Under the direction of the CED is the County Extension Agent (CEA). Normally, CEAs have a background and are credentialed in a particular science or technical skill and work with the appropriate Program Leader to develop an integrated county program in the area of responsibility (2014). Reliance on qualified personnel to perform these functions has been fundamental to organizational success and community development (Seevers, et.
Leadership Competency

Within an organization, identifying critical leadership competencies required for effectiveness has helped define what skills leaders need (Pernick, 2001). Katz (1955) stated that a skill can be defined as “an ability which can be developed, not necessarily inborn, and which is manifested in performance, not merely potential” (p. 33-34). Katz identified three categories of skills needed by leaders: technical skills, human skills, and conceptual skills. While each skill has been important for successful leaders to possess, the amount of each skill may vary, depending on where the leader falls in the organizational hierarchy. Technical skills have been more emphasized at the lower end of administration, and as leaders have moved up in the organizational hierarchy, they have relied on the technical skills of followers more than on their own (Goleman, 1998; Hicks & Gullett, 1975; Katz, 1955). Human skills have also been important across all levels of leadership (Hicks & Gullett, 1975; Katz, 1955). Conceptual skills have been perhaps more important at top management levels where policy, long-term planning and broad scale actions are required (Hicks & Gullett, 1975; Katz, 1955).

Many Extension leaders, including those in the state director and administrator positions, have been promoted from within, based upon their performance in previously-held positions (Patterson, 1997; Pittman & Bruny, 1986). Unfortunately, promotion based upon job performance in a previous position has not necessarily led to success in a new position (Moore & Rudd, 2004). Ladewig & Rohs (2000) suggested that few Extension leaders have the leadership competence appropriate for today’s Extension organization. In-depth leadership skill development training has been recommended for
leaders in Extension for years (Holder, 1990). Because of current Extension leaders’ reliance on technical skills in previous positions, human skills development has been considered important and needed (Sanders, 2014). Of some of those needs, Sanders (2014) found the highest included conflict resolution, listening, team-building, having a positive attitude, creating a supportive work environment, empowerment, and trustworthiness.

**Emotional Intelligence**

I would say that IQ is the strongest predictor of which field you can get into and hold a job in. IQ can show whether you have the cognitive capacity to handle the information and complexities you face in a particular field. But once you are in that field, emotional intelligence emerges as a much stronger predictor of who will be most successful, because it is how we handle ourselves in our relationships that determines how well we do once we are in a given job (Goleman, 2004, para 6).

Emotional intelligence (EI) is a term many in business and leadership have come to know in the 21st century, but what exactly does it mean? Emotional intelligence has been defined as “the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (Salovey & Mayer, 1990, p. 185).

Goleman (1998) introduced a newer approach by adding EI as a set of leadership skills, because he saw it as the distinguishing competence of leaders. EI includes five components: self-awareness, self-regulation, motivation, empathy and social skill. Employing emotional intelligence on the job is the ability to understand one’s self and others well enough to express emotions in a healthy way, which is critical to job success and career satisfaction (Sims, 1998). For example, the ability to technically perform a task is important, but having the ability to communicate in an effective, yet sensitive manner is critical, especially when projects are late, do not work
correctly, when followers are argumentative or uncooperative, or when dealing with personal problems. Goleman asserted that professionally successful people have high emotional intelligence, in addition to the traditional cognitive intelligence or specialized content knowledge (Goleman, 1998, Linkage Conference). In fact, Goleman (1998) suggested that emotional intelligence is twice as important as other skills when applied to all levels of jobs within the organizational hierarchy and found emotional intelligence, rather than conceptual skills, to explain 90% of the difference in the effectiveness of stellar performers and average senior level leaders.

CEDs and Emotional Intelligence

The nature of CEDs’ daily duties and relationships has involved a great deal of interpersonal communication and collaboration, which are critical (Chen, King, Graham & Argabright, 2014). Responsibilities include maintaining effective working relationships with faculty and staff, UF/IFAS Extension administration, county government, community leaders, private sector clientele, media, related agencies, residents and the general public (UF/IFAS, 2014). Building cross-organizational capacity and the engagement of external stakeholders is vital for the CED (2014). In addition, among other tasks, the CED has to manage an overall Extension advisory committee and build and maintain strong relationships with county administration, guide and mentor county faculty and staff, address personnel issues professionally, maintain good communications, market local Extension programs, and provide affirmative action leadership for the office (2014). These relationships with clientele, co-workers, followers, and other stakeholders have been foundational to identifying local needs, working collaboratively across disciplinary lines to address needs, and securing needed resources and support (Chen et al., 2014). When relationships are effective, leaders
have achieved more positive influence with those with whom they work (2014). Therefore, EI has appeared as an important capacity relevant to the success of Extension leaders (2014). In addition, CEDs are mid-level managers, which have emphasized the need for human skills (Sanders, 2014).

While these studies have not necessarily stated that CEDs have low EI, Ayers & Stone (1999) supported the link between emotional intelligence and the core competencies of Extension personnel. After interviewing administrative heads of agriculture in order to build a leadership competency model for Extension, Moore and Rudd (2004) identified Emotional Intelligence Skills as one of the top competencies needed by CEDs. In a 2012 roundtable discussion in which Florida DEDs proposed topics to include in an upcoming CED leadership competency training, EI was reported as being a felt need for current and aspiring CEDs (FCES, CED In-service Training, November, 2012). In addition, Sanders’ (2014) found the need for EI in future Florida CED leadership training.

Emotional and social intelligence have been recognized as key factors in leadership performance. Because of its EI behavioral nature, EI has enabled organizations to assess, develop and coach leaders and embed this critical capability within an organization (HayGroup, 2014).

While an individual’s emotional intelligence has the potential for development (2014), there are other factors that have been considered to contribute to and influence one’s moods and emotions. Neuroscientists have discovered a riveting biological relationship between the body, the brain and the mind (Ratey, 2008). The connection linking food, physical activity, and learning is hardwired into the brain’s circuitry (2008).
Dietary Quality and Emotions

Undoubtedly, many factors have contributed to an individual’s mood and emotions. Life circumstances, belief systems, patterns of upbringing, relationships with friends and family members—these have all been found to significantly shape one’s emotional state (Schmidt, 2007). Yet, the potentially powerful effect of dietary quality has opened an entirely new window of opportunity for researchers (2007). Dietary quality refers to the varieties of foods people eat, how often they consume, and the levels of consumption (2007). In America, daily essential nutrients are advised by the Dietary Guidelines for food consumption (USDA, 2014). Two types of essential fatty acids critical to the brain have included omega-6 and omega-3. Researchers have reported the importance of maintaining a balance of these two essential nutrients. Balance shifts of these fatty acids in one direction or another has been found to increase the possibility of disease development (Schmidt, 2007). In most modern cultures, too much omega-6 and too little omega-3 has occurred, which has often been associated with higher levels of depression (2007).

Factors that cause blood to thicken can slow oxygen to the brain and also affect mood (2007). Elevated blood cholesterol and triglycerides have been strongly correlated with the occurrence of what are referred to as affective disorders (Glueck, 1993), including depression, manic depression, schizoaffective disorder, and others (1993). Elevated triglycerides have also been associated with hostility and aggression in both adults and children (1993). Glueck asserted that lowering elevated fats reduces the levels of these negative emotions (1993), which could positively benefit an individual’s ability to employ the dimensions of EI.
Fatty acid imbalance (low-fat, low cholesterol diets) has also been associated with more violence, aggressive behavior, and less social interaction, including reduced serotonin action in the brain (Schmidt, 2007).

According to Bushman (2014), another reason to link diet to emotion is that the brain, which is only two-percent of the body weight, consumes 20 percent of an individual’s caloric intake. Glucose is produced from nutritious intake that converts into neurotransmitters that supply energy for brain processes. Low blood sugar can affect an individual’s moods (2014). Bushman (2014) stated that bodies need glucose for self-control, as anger is the emotion that most people have difficulty controlling.

Research exploring the connection between diet and mental health has been limited, but the Deakin University School of Medicine in Australia reported that research has shown a consistent link between dietary quality and mental health (Telis, 2014). Several studies have found lower rates of depression, anxiety and bipolar disorder among those who consumed a traditional diet of meat and vegetables versus a modern Western diet heavy with processed and fast foods, or even a health-food diet of tofu and salads (2014). The association between diet and well-being may start even before birth. Berk, Berk & Denton (2014) asserted a positive correlation between a mother’s consumption of sweets and processed foods during pregnancy and behavioral and mental health issues in her child at age five.

In addition to dietary quality’s effect on emotions, researchers have also found relation to physical activity and one’s emotions.

Physical Activity and Emotions

The sedentary character of modern life has been a disruption of our nature (Ratey, 2008). Evidence of this was everywhere: sixty-nine percent of American adults
are overweight or obese (CDC, 2013), in Florida alone, the adult obesity rate was 26.4 percent, up from 20.7 percent in 2004, and from 11.4 percent in 1990 (Ferguson, 2013). Nearly ten-percent of the population has type 2 diabetes (2013), a preventable and ruinous disease that stems from inactivity and poor nutrition (Ratey, 2008).

The relationship between food, physical activity, and learning is intertwined with the brain’s circuit board (Ratey, 2008).

But the real reason we feel so good when we get our blood pumping is that it makes the brain function at its best, and in my view, this benefit of physical activity is far more important—and fascinating—than what it does for the body. Building muscles and conditioning the heart and lungs are essentially side effects. (p.3)

Engaging regularly in physical activity (PA) is one of the best ways to improve general health, including physical, psychological, and emotional health (Li, Lu & Wang, 2009). PA has become the leading health indicator; it plays a vital role in enhancing physical fitness and health-related behavior, prolonging life, improving health-related quality of life, enhancing weight management, and lowering morbidity risks and mortality from diseases. PA has also been found to have positive influence on various medical maladies (2009).

The latest neuroscience studies have reported that PA can stimulate morphological and functional alterations in the central nervous system involved in emotional regulation (Kita, 2012). Emotional response has normally implied emotional experience (e.g., pleasure, anger, anxiety, and depression) and emotional expression or behavior (e.g., palpitation, arousal, facial pallor, and expressive behaviors) (2012). The brainstem, hypothalamus, and limbic system are believed to be involved in mediating emotional responses (Derryberry & Tucker, 1992; Monk, 2008). For instance, the amygdala in the limbic system is largely involved in the detection of stimuli that may
impact, positively or negatively, the well-being of an organism (Phan, Taylor, Welsch, Ho, Britton & Liberzon, 2004). The hypothalamus and brainstem are critical for emotional expression and control the integrated stress responses via autonomic and hormonal functions (Kita, 2012). Moreover, the hippocampus, which is a limbic structure, has a vital primary part in learning and memory, while it is also known to play a role in mood regulation and stress response (Nathan & Amelia, 2010; Snyder, Soumier, Brewer, Pickel, & Cameron, 2011). Due to the fact these emotion-related neural mechanisms usually function on the subconscious level, it has been hard to control the activities of each region consciously (Kita, 2012). Interestingly, and in contrast, PA seems to be a simple way of altering these neural mechanisms to mediate emotion regulation (2012). The role of the monoaminergic neuronal systems in the brainstem on emotion regulation has been extensively studied in pleasure, anger, arousal, and stress-related disorders like depression and anxiety.

Many researchers accredited the following emotional benefits to regular PA: enhanced positive and pleasant emotions, positive mood and more moderate anxiety-reduction effects, elevated sense of happiness, and higher levels of optimism (Li et al., 2009).

While emotional health has been important for leaders as it relates to having the competencies to most effectively lead oneself and others, another area to consider has been the physical health of leaders in relation to an organization’s overall wellness.

**Organizational Wellness**

Over the past few decades, an epidemic of “lifestyle diseases” has been emerging in America (Pollard, 2008). The Centers for Disease Control and Prevention (CDC) identified four behaviors—inactivity, poor nutrition, tobacco use, and frequent
alcohol consumption—as primary causes of chronic disease in the United States, directly relating to the increase and prevalence of diabetes, heart disease, and chronic pulmonary conditions (Centers for Disease Control and Prevention, 2010). These chronic conditions have become a major burden, as they have contributed greatly to decreased quality of life, (Healthy People 2020, 2011) premature death, and disability (Centers for Disease Control and Prevention, 2010). At the time of this study, America’s obesity-related medical costs estimates ranged from $147 billion to nearly $210 billion per year (Ferguson, 2013). Additionally, while chronic disease were once thought of as more of a problem for the older population, Hoffman and Schwartz (2008) indicated that the number of working adults with a chronic condition has grown by 25 percent in the past ten years. With this earlier onset, demographic developments, and changing lifestyle patterns, public health issues have affected the wellness of organizations due to illness-related loss of productivity resulting from absence from work (absenteeism) and reduced performance while on the job (presenteeism) (2008). Increased work intensity (rapid growth of technology, working at very high rates of speed, and working under tight deadlines), along with increasing incidence of psychosocial health problems have both contributed to work-related health problems (Niedhammer et al., 2012).

Front-running companies in health management focus on ways to manage the impact of health on production and consider health as a strategic asset, the motor of development and innovation, and as a resource contributing to the achievement of business targets (Zwetsloot et al., 2010). They manage by promoting and supporting healthy lifestyles of employees, rehabilitation, workplace adaptation, disability management, promoting best work ability of less healthy employees. They also conduct
health screenings at recruitment, medical treatment, vaccinations, and disease and drug abuse control (Frick & Zwetsloot, 2007). Further, they offer interventions aimed at reducing specific health problems, both actual and potential, like obesity. Despite ultimate cost-saving benefits for organizations, these measures contribute to greater added value, like creativity, innovation, and becoming a choice employer (Zwetsloot et al., 2010).

**Statement of the Problem**

Like many leaders, CEDs have had the important role of cultivating, growing and maintaining effective relationships. Effective relationships have required interpersonal communication and collaboration skills, especially when leading others (Chen et al., 2004). Emotional intelligence has been defined to include five important skills that one can learn to create a positive and productive work environment. They include: self-awareness, self-regulation, empathy, motivation and social skills (Goleman, 1998).

Research has stated that as leaders move up the organizational hierarchy, the need has existed for them to rely more on their followers for technical skills, so they may focus more on human skills (Goleman, 1998; Hicks & Gullett, 1975; Katz, 1955). Because most CEDs’ backgrounds are in a particular science, coupled with the fact they have been promoted from within (Patterson, 1997) and not received formal leadership training, CEDs could be lacking needed EI skills.

Empirical evidence has documented the need for and lack of EI training and evaluation within Extension. Ladewig & Rohs (2000) suggested that few Extension leaders have the leadership competence appropriate for today’s Extension organization. In-depth leadership skill development training has been recommended for leaders in Extension for years (Holder, 1990). After interviewing administrative heads of
agriculture in order to build a leadership competency model for Extension, Moore and Rudd (2004) identified Emotional Intelligence Skills as one of the top competencies needed for CEDs. Also, in a 2012 roundtable discussion with Florida DEDs, EI was reported as being a felt need when proposing topics for inclusion in a formal leadership training certificate for current and aspiring CEDs. At the time of this study, no specialized formal CED leadership training had been implemented in FCES. Some CEDs who have been selected to participate in LEAD IFAS or the former SEALS training may have been exposed to leadership training (E. Osborne, personal communication, June 12, 2014). However, neither of the two trainings had time allocated exclusively for EI development.

Traditional methods of EI development have highlighted executive coaching focused on the development of the five components of EI. In addition, dietary quality and physical activity have been suggested as precursors to emotional state (Schmidt, 2007; Monk, 2008). The literature has implied that emotional intelligence may, in fact, be impacted by dietary quality and physical activity. Individuals constantly interact with others’ emotional states, as well as their own. The CED role requires a strong focus on interactions and relationships with people. Literature states EI is an essential skill of CEDs. However, EI levels and factors that influence the EI of Florida CEDs are unknown. Therefore, a need existed to look explicitly at the link between dietary quality, physical activity, and emotional intelligence in Extension.

**Purpose and Objectives of the Study**

The purpose of the study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, and selected demographics.
The specific objectives were to:

1. Describe the demographics of Florida County Extension Directors (CEDs);
2. Describe the emotional intelligence of Florida CEDs;
3. Determine the dietary quality of Florida CEDs;
4. Determine the physical activity of Florida CEDs;
5. Describe the dietary, physical activity and weight perceptions of Florida CEDs;
6. Examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables; and
7. Determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

**Significance of the Study**

CEDs, their superiors, CEAs, Extension administration, FCES, and stakeholders may benefit from this study. One of the main benefits of the study is awareness of the level of CED emotional intelligence competency and potential need for EI training, a concept vital for effective relationships, communication, and leadership. CEDs must build and maintain strong relationships with employees, administration, stakeholders, and the general public. EI is a method that can be utilized to effectively approach and garner those relationships.

Because of the high-stakes *Roadmap* goals relating to the promotion of healthy living for Florida residents, and Extension’s presence and nutrition outreach in local communities, Extension professionals need to model healthy lifestyles. A statewide assessment of CEDs’ dietary quality and level of physical activity would determine the overall health status of FCES leadership and create awareness that could result in positive organizational change. Benefits from the study may include individual and organizational health and emotional intelligence awareness, which could inform
personal and organizational change, and then lead to better work productivity and job performance, and ultimately, a healthier organization.

This study was the first of its kind in FCES. Furthermore, no other documented studies had assessed the relationship between EI and both dietary quality and physical activity. Because of this unique combination, an interesting gap in the literature existed. If empirical evidence can document that dietary quality and physical activity are associated with EI, then CEDs may be able to create a better, stronger, and healthier FCES by way of higher levels of EI. Employing proper dietary quality and physical activity could greatly impact and change the way CEDs interact and communicate among peers, administration, subordinates, clientele and other stakeholders by way of higher EI. Therefore, this study contributed to the body of knowledge concerning ties to dietary quality and physical activity and how they affect the emotional intelligence of leaders of organizations.

Finally, this study answered the call by the National Research Agenda set forth by the American Association for Agricultural Education and the National Leadership Education Agenda by adding literature to the following priority areas:

*American Association for Agricultural Education*

- Priority 4: Examine the role of motivation, self-regulation, metacognition, and/or reflection in developing meaningful, engaged learning experiences across all agricultural education contexts.

- Priority 6: Examine the aspects of vibrant, resilient communities that encourage youth and adults to become future members and leaders of the community. Develop mechanisms to evaluate the capacity of a local community to lead positive change, and identify the factors that exert significant influence on change processes and outcomes (Doerfert, 2011, p. 9-10).
National Leadership Education Agenda

- Priority 3: The psychological development of leaders, followers, & learners—The intricacies of personality and self-awareness, along with other variables, require continued development and additional research to prepare the next generation of leaders (Andenoro et al., 2013, p. 13-15).

Definition of Terms

The following terms were operationally defined for use in this study:

- ACHIEVEMENT ORIENTATION. Striving to meet or exceed a standard of excellence; looking for ways to do things better, set challenging goals and take calculated risks (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- ADAPTABILITY. Flexibility in handling change, juggling multiple demands and adapting ideas or approaches (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- CED (County Extension Director). A CED is responsible for (a) educational programming, (B) overall leadership of the total county Extension educational program, and (C) county office administration (UF/IFAS, 2014). This term was used throughout the study and referred to the main participant focus.

- COACH AND MENTOR. The ability to foster the long-term learning or development of others by giving feedback and support (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- CONFLICT MANAGEMENT. The ability to help others through emotional or tense situations, tactfully bringing disagreements into the open and finding solutions all can endorse (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- (FLORIDA) COOPERATIVE EXTENSION SYSTEM. An educational system established as a partnership between the United States Department of Agriculture and the land-grant universities to disseminate practice information in areas such as 4-H Youth Development, Agriculture, Leadership Development, Natural Resources, Family and Consumer Sciences, and Community and Economic Development (in Florida) (USDA, 2014). This referred to UF/IFAS Extension and Florida Cooperative Extension System (FCES) in this study.

- DED. District Extension Directors lead and work with a regional district of CEDs to ensure CED and faculty responsibilities are being met and mentors are assigned for new hires (UF/IFAS, 2014).
DIETARY QUALITY INDEX. A measure of the quality of the diet using a composite of eight recommendations regarding the consumption of foods and nutrients from the National Academy of Sciences (NAS) (Medilexicon, 2006). In this study dietary quality was determined by a daily predicted average of dietary components.

EI. Emotional Intelligence is the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (Salovey & Mayer, 1990). EI includes five components: self-awareness, self-regulation, motivation, empathy and social skill (Goleman, 1998). In this study EI was defined as four cluster scores on the Emotional and Social Competency Inventory (ESCI) (HayGroup, 2011).

EMOTIONAL REGULATION. The regulation of emotion-related neural mechanisms altered by the effects of physical activity and exercise (Kita, 2012). In this study emotional regulation refers to how PA and exercise naturally help regulate an individual’s emotions.

EMOTIONAL SELF-AWARENESS. The ability to understand our own emotions and their effects on our performance (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

EMOTIONAL SELF-CONTROL. The ability to keep disruptive emotions and impulses in check and maintain our effectiveness under stressful or hostile conditions (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

EMPATHY. The ability to understand the emotional makeup of other people and the skill in treating people according to their emotional reactions (Goleman, 1998). Empathy is one of the five components of EI and was reflected in CED EQ scores.

EMOTIONAL QUOTIENT (EQ). A measure of emotional intelligence as determined by the Emotional and Social Competency Inventory (ESCI).

INFLUENCE. The ability to have a positive impact on others persuading or convincing others in order to gain their support (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

INSPIRATIONAL LEADERSHIP. The ability to inspire and guide individuals and groups to get the job done, and to bring out the best in others (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

MOTIVATION. A passion to work for reasons that go beyond money or status, a propensity to pursue goals with energy and persistence (Goleman, 1998). Motivation was one of the components of EI and will be reflected in CED EQ scores.
- ORGANIZATIONAL AWARENESS. The ability to read a group’s emotional currents and power relationships, identifying influencers, networks and dynamics (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- POSITIVE OUTLOOK. The ability to see the positive in people, situations and events and our persistence in pursuing goals despite obstacles and setbacks (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

- PHYSICAL ACTIVITY. Physical activity is any form of exercise or movement of the body that uses energy. Physical activity represented one of the independent variables in this study and was defined by score on the International Physical Activity Questionnaire (IPAQ).

- PROGRAM LEADER. The Program Leader in FCES did not have supervisory responsibility for other county faculty members but rather provided leadership and coordination for the development and implementation of the state educational effort in a specific program area (UF/IFAS, 2014).

- SELF-AWARENESS. The ability to recognize and understand moods, emotions, and drives, as well as their effect on others (Goleman, 1998). Self-awareness was a component of EI, and was reflected in CED EQ scores.

- SELF-REGULATION. The ability to control or redirect disruptive impulses and moods, the propensity to suspend judgment—to think before acting (Goleman, 1998). Self-regulation was a component of EI, and was reflected in the CED EQ scores.

- SOCIAL SKILL. Proficiency in managing relationships and building networks, and ability to find common ground and build rapport (Goleman, 1998). Social skill was a component of EI and was reflected in the CED EQ scores.

- TEAMWORK. The ability to work with others towards a shared goal; participating actively, sharing responsibility and rewards and contributing to the capability of the team (HayGroup, 2011). This term is one of the emotional intelligence instrument constructs.

**Limitations of the Study**

The conclusions and implications drawn from this study were subject to the following limitations:

- Generalizability was limited to the population being studied.
Non-response from CED and subordinate participants also limited generalizability.

Assumptions of the Study

The following assumptions were made for the purposes of this study:

- The CEDs involved in the study were honest in their self-reporting of EI, dietary quality, physical activity and demographic characteristics.

- County Agents and other subordinates were honest when reporting their perceptions of their CED’s EI, as well as in their own demographic characteristics.

Summary

Because of the nature of County Extension Director (CED) daily duties and relationships involving interpersonal communication and collaboration, EI has appeared as an important capacity relevant to the success of Extension leaders (Chen et al., 2014).

The literature has implied that emotional intelligence may, in fact, be impacted by dietary quality and physical activity. Individuals constantly interact with others’ emotional states, as well as their own. Research states EI is an essential skill of CEDs as they interact with people daily, yet the level of EI and factors that influence the EI of Florida CEDs are unknown. The purpose of this study was to examine the relationship between the emotional intelligence of CEDs based upon dietary quality, physical activity, and selected demographics. The significance of the study stemmed from the notion that if empirical evidence can document that dietary quality and physical activity are associated with EI, then a better, stronger, and healthier FCES may be created by way of higher levels of EI. Employing proper dietary quality and physical activity could positively impact and change the way CEDs interact and communicate among peers,
administration, subordinates, clientele, and other stakeholders by way of higher levels of EI. Therefore, this study contributed to the body of knowledge concerning ties to dietary quality and physical activity and how they affect the emotional intelligence of organizational leaders.
CHAPTER 2
REVIEW OF LITERATURE

Chapter 1 provided a background on the Florida Cooperative Extension System, the role of County Extension Leaders and related leadership competencies. Emotional intelligence, dietary quality and physical activity’s connection to individuals’ emotions and the need for organizational wellness were also explained. The principal focus of this study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, and selected demographics.

This chapter describes the review of literature and the theoretical framework that guided the study. The review of the literature focused on empirical research in the following areas: dietary quality and physical activity, emotional intelligence of Extension leaders, dietary quality and emotions, physical activity and emotions, the evolution of emotional intelligence, individual demographics, and organizational wellness. Finally, in Chapter 2 is the culminating conceptual model derived from the theory base and review of literature.

Literature Review

Dietary Quality and Emotions

In recent times diet has made its way to the forefront of research for its importance in mental and emotional health, cardiovascular health, cancer risks, and longevity (Zainuddin & Thuret, 2012). Emerging studies focusing on the link between nutrition and mental health have purposefully established that learning, memory and mood can be influenced by diet, not only during development, but also during adulthood (Gomez-Pinilla, 2008). Epidemiological studies have supported the association between proper diet and mental illnesses, where inverse links concerning dietary quality
and the common mental disorders of major to severe depression and anxiety have been recognized and documented in adults (Jacka, Kremer, Berk et al., 2010; Jacka, Pasco, Mykletun et al., 2010; Nanri, Kimura, Matsushita et al., 2010; Sanchez-Villegas, Delgado-Rodriquez, Alonso et al., 2009; Akbaraly, Brunner, Ferrie et al., 2009). Likewise, a vast array of epidemiological evidence has been accumulating relating diet to cognitive abilities, particularly to the aging population (Solfrizzi, Frisardi, Seripa et al., 2011; Kanoski & Davidson, 2011; Gu & Scarmeas, 2011). Even though these studies emphasize an important role of diet on mental health, further work is needed to establish the mechanisms underlying these behavioral effects (Zainuddin & Thuret, 2012).

One of the brain structures related to learning, memory, and mood is the hippocampus (Zainuddin & Thuret, 2012). Essentially, the hippocampus is one of the two configurations in the adult brain where the establishment of newborn neurons, or neurogenesis, continues (2012). While the precise functions of newborn neurons in learning, memory formation and mood regulation remain vague, accumulating confirmation has connected cognition and mood to neurogenesis occurring in the adult hippocampus (reviewed in Zhoa, Deng & Gage, 2008). Therefore, alteration of adult hippocampal neurogenesis (AHN) by diet as related to caloric intake, meal frequency and texture has appeared to be a possible method by which nutrition impacts moods and mental health (Zainuddin & Thuret, 2012).

**Mood regulation.** Recent research have suggested that AHN might participate in mood regulation and in the set of causes of major depression (Becker & Wojtowicz, 2007; Vollymayr, Mahlstedt & Henn, 2007). This notion has been derived from two lines
of evidence (Zainuddin & Thuret, 2012). The first is that stress reduces AHN, which has been an underlying issue in the pathogenesis of major depression (2012). Dranovsku & Hen (2006) found decreased AHN in animal models of depression. The second aspect to consider is the fact that evidence has suggested that many treatments for depression have resulted in neurogenesis in laboratory animals, like electroconvulsive therapy (Scott, Wojtowicz & Burnham, 2000) and common anti-depressant drugs, or selective serotonin reuptake inhibitors (SSRIs) (Malberg, Eisch, Nestler et al., 2000). In addition, Boldrini et al. (2009) found that antidepressants increase AHN in the human dentate gyrus (part of the hippocampal formation, thought to be factor of the formation of new episodic memories (Saab et al., 2009). Other environmental interventions (that will be discussed later), like running and exercise, have been found to mimic anti-depressant-like behaviors and thus increase AHN (Zainuddin & Thuret, 2012). Further, the effects of SSRIs on neurogenesis are selective for the hippocampus, leaving the ongoing stem-cell proliferation in the SVZ the same (Encinas, Vaahtokari, & Enikolopov, 2006), suggesting a specificity of the antidepressants to regulate adult neurogenesis in the hippocampus (Zainuddin & Thuret, 2012).

One of the methods believed to mediate the reduction in AHN by stress is the advancement of corticosterone by an activated hypothalamic-pituitary-adrenal (HPA) axis (2012). Certainly, corticosterone reduces cell proliferation, whereas adrenalectomy increases AHN. Further, glucocorticoid levels are increased in several stress paradigms, adrenalectomy stops the stress-induced suppression of AHN (reviewed in Mirescu and Gould, 2006) and mice with ablation of AHN showed and increased HPA axis response to an acute stress (Schloesser, Manji, & Martinowich, 2009).
Conclusively, Anacker, Zunszain, Cattaneo et al. (2011) have shown that antidepressants escalate human hippocampal neurogenesis by triggering the glucocorticoid receptor. Because stimulation of the dentate gyrus can produce an inhibitory effect on the HPA axis, it is probable that adult newborn neurons add to hippocampal-dependent negative feedback of the HPA axis (Zainuddin & Thuret, 2012).

**Dietary modulation of adult hippocampal neurogenesis.** Diet has been shown to significantly control AHN (Zainuddin & Thuret, 2012). Calorie intake, meal frequency, meal texture, and dietary content can affect AHN (2012). Lee, Seroogy & Mattson (2002) found that a 30-40% calorie reduction in rodents resulted in increased AHN. Further, calorie reduction has been linked to more neuronal plasticity, improved cognitive function, increased AHN, and normalized inflammatory response (Park & Lee, 2011). Witte et al., (2009) discovered the beneficial effects of a 30% calorie restriction of regular consumption in a three-month trial study on memory performance of healthy elderly human participants.

Research has found that meal frequency is a key player in controlling AHN (Zainuddin & Thuret, 2012). Without drastically changing caloric intake, the more time extended between meals of mice caused an increase in AHN (2012). Extensive changes occurred in the expression of certain genes in the hippocampus and showed a relationship with performance of hippocampus-dependent tasks and mood (Stangl & Thuret, 2009).

Food texture has also been found to affect AHN. Rats given a soft diet instead of a soft/hard diet showed reduced spread of hippocampal progenitor cells (Aoki et al., 2005). The researchers posited that chewing leads to cell proliferation in the
hippocampus and is related to corticosterone levels in the adrenal glands (2005). Yamamoto et al., (2009) reported that aging restrains AHN in adulthood. If chewing plays a part in controlling AHN, these data will be pertinent to the aging population, where dental decline may limit chewing ability (Zainuddin & Thuret, 2012).

Dietary content has presented the most flexibility in the control of AHN, as a variety of nutrients have been known as potential change-agents (Zainuddin & Thuret, 2012). For example, the omega-3 polyunsaturated fatty acids (PUFA), docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), mostly obtained from oily fish, have been linked with substantial neuroprotective effects in aging for quite some time (Dyall, Michael, & Michael-Titus, 2010; Morris et al., 2003; Kalmijn et al., 1997). A diet abundant in o-mega-3 fatty acids has been linked with a deterrence of cognitive decline (Van Gelder et al., 2007). Omega-3 fatty acids EPA and DHA are known endogenous ligands of retinoid X receptors (RXRs) (Zainuddin & Thuret, 2012). RXRs are transcription factors involved in various cellular activities, such as proliferation and neuronal variations (2012). Consequently, retinoid signaling could mediate the effects of DHA on AHN (Dyall, Michael, & Michael-Titus, 2010).

Further, Logan (2004) reported that omega-3 fatty acid concentrations are lower in patients with depression, and omega-3 fatty acid supplementation has come about as a possible treatment for depression (Frangou, Lewis, & McCrone, 2006; Jazayeri, Tehrani-Doost, Keshavarz et al., 2008).

Polyphenols have been another well-studied form of nutrients (Zainuddin & Thuret, 2012). Making up this group are flavonoids, which are enriched in foods, like cocoa and blueberries (2012). Flavonoids have been known to raise AHN (An et al.,
2008), improve symptoms of depression (Dimpfel, 2009), and improve spatial working memory in aging rats by way of the brain-derived neurotrophic factor (BDNF) in the hippocampus (Williams et al., 2008).

Other dietary polyphenols such as curcumin and resveratrol have also been found to normalize AHN (Zainuddin & Thuret, 2012). Curcumin, a natural flavonoid phenolic element of the turmeric plant has been commonly used as a spice and cooking ingredient, like in yellow curry and as a food preservative (2012). Further, curcumin has been linked with higher AHN levels in rodents (Kim, Son, Park et al., 2008), and epidemiological studies have stated better cognitive performance from curry consumption in older populations (Ng, Chiam, Lee et al., 2006).

Minerals and vitamins have also played a vital role in controlling AHN (Zainuddin & Thuret, 2012). Corniola (2008) reported that dietary zinc insufficiency has been proven to hinder AHN and to produce depression in rodents, while independent intervention studies have shown that zinc supplementation decreases symptoms of depression. Zainuddin & Thuret (2012) reported that an unbalanced vitamin intake could result in a harmful effect on AHN and an individual’s mental health. For example, retinoic acid (RA), a form of vitamin A, triggers negative effects in excess, but also in its deficiency (Crandall et al., 2004; O’Reilly et al., 2009). An overabundance of RA will lessen AHN, lead to depressive moods and impaired spatial learning in rodents (2004; 2009). Correspondingly, Bonnet et al. (2008) asserted that a lack of RA will lead to comparable negative outcomes on AHN and mental health; however, data have shown that with RA replacement to a normal level, effects can be overturned.
Caffeine, fat, and sugar intake can all negatively affect AHN (Zainuddin & Thuret, 2012). Han et al. (2007) found that caffeine, even when consumed in low doses, can result in persistently decreased AHN and performance in hippocampus-dependent learning and emotion in rodents. Studies have found that high-fat diets, independent of calorie intake, weaken AHN in male rats, increase serum corticosterone levels in males, and make males more susceptible than females to the impairment of AHN (Lindqvist et al., 2006). Furthermore, another study reported that high-fat diets negatively altered neural progenitor cells proliferation, in turn affecting proper hippocampus function (Park et al., 2010). A diet high in sugar also has been reported to reduce AHN. The rats studied functioned significantly worse on spatial learning and had high oxidative stress (Van Der Borght et al., 2011).

**Related dietary and emotion research.** From an empirical standpoint, studies that have examined the effects of diet on mood have been increasing (Malt, Malt, Muller & Pedersen, 2008). Hendy (2012) posed, “Which comes first in food-mood relationships, foods or moods (p. 771)?” Previous studies looking at moods-to-foods normally evoked negative moods in participants and then observed what types of food choices study participants made, with various studies finding (particularly in dieting women) that negative moods resulted in more high-calorie, high-carbohydrate, and high-fat foods (Christensen & Brooks, 2006; van Strien, Frijters, Bergers, & Defares, 1986; Zellner et al., 2006). Studies looking at foods-to-moods have found varying results, suggesting that consuming high-carbohydrate and high-fat foods produces improved moods, but only for a few minutes (Macht & Mueller, 2007).
Hendy (2012) examined 44 college students’ seven-day records of foods and moods. Nutrition scores consisting of calories, carbohydrates, saturated fat, and sodium were analyzed and found in a correlational study to be more consistently associated with negative moods than positive moods, with moods spanning two-days rather than one-day like past studies (2012). Hendy reported the more calories, saturated fat, and sodium ingested by students, the more negative mood they described two-days later (2012). The study outcomes implied foods that come first in the sequence of food-mood interactions (2012).

Malt, Malt, Muller, & Pedersen (2008) looked at the results of short-term dietary modifications on mood and well-being and the relationship involving psychological and metabolic constraints. Twenty-four Norwegian women participated in the study in which each subject consumed three different diets for three weeks each: one high in mono- and polysaturated fatty acids, one rich in saturated fatty acids, and one low in saturated fatty-acid (2008). In addition, they were administered psychological, personality, and irritability/distress assessments. The study found significant increases in aggression scores and trends for higher depression with those consuming the high mono- and polysaturated fatty acid diets. Therefore, results indicated that even short-term changes in diet have a bearing on mood and well-being and that some of these conclusions were related to metabolic parameters (2008).

The majority of neuroimaging research on the connection between eating and emotions has been accomplished using taste or olfactory stimuli (Rolls, 2006), concentrating on the combination of interoceptive hunger/satiety signals and exteroceptive sensory signals triggering food-related pleasure experiences (Oudenhove
et al., 2011). Studies on the association between “purely interoceptive” homeostatic stomach-brain signaling and emotion have been in the early development stages (2011, p. 3094).

In a previous study by Oudenhove et al. (2011) researchers identified a lipid-induced brain stimulation solution. This was found by using functional magnetic resonance imaging (fMRI) throughout blinded intragastric infusion of fatty acid measured against just saline, thus removing exteroceptive food-related stimuli and related cognitive-affective activities (2011).

The aim of a subsequent study by the researchers was to investigate a presumed interaction between fatty acid-induced gut-brain signaling and experimentally induced sad emotion at behavioral and brain levels in healthy, non-obese volunteers (2011). Participants received an infusion of fatty acid solution or saline during neutral or sad emotion induction and then rated their hunger, fullness, and mood sensations. The results showed an interaction with fatty acid infusion and emotion induction both in behavioral (hunger, mood) and at the level of neural activity in hypothesized regions of the brain (2011). Sad emotion was weakened by the fatty acid infusion in both the behavioral and neural responses tested (2011). Researchers (2011) suggested that these neurological findings have implications for better understanding food and emotions, along with other health related issues.

Furthering the discussion of how food can affect mood, one prominent belief has been food that contains tryptophan (which is found in many foods), is converted to serotonin in the brain, and modifies neural processing in mood-regulating neurocircuits (Kroes et al., 2014). However, because tryptophan competes with other long-neural
amino acids (LNAA) for transport across the blood-brain barrier, its benefits can be limited. However, increasing the tryptophan/LNAA ratio may diminish that limitation (2014). Kroes et al. (2014) set out to test this concept and selected 32 healthy young women who were tested the second week of their menstrual cycle to preclude likely interactions. Researchers chose to study women to reduce group variance and because women were known to have higher rates of mood disturbances relative to men (Waraich, Goldner, Somers, & Hsu, 2004). The double-blind placebo-controlled crossover study examined whether a drink with a favorable tryptophan/LNAA ratio improved mood, measured by a mood state questionnaire, and modulated specific mood-related brain processes as assessed by functional magnetic resonance imaging (fMRI). The results showed that “one serving of the drink increased the tryptophan/LNAA ratio in blood plasma, lifted mood in the women tested, and altered task-specific and resting-state processing in brain regions implicated in mood regulation” (Kroes et al., 2014, p. 825). Therefore, the findings suggested that increasing tryptophan/LNAA ratios lifted mood by affecting mood-regulating neurocircuits.

The food and drink that people consume has been known to affect mental and physical performance (Gomez-Pinilla, 2008). Food and its components that display physiological and mental effects have been labeled ‘functional foods’ or ‘nutraceuticals’ and were aimed at maintaining good health and guarding against illness, disease, and medical aging (Dye & Blundell, 2007). Despite water comprising 60-80% of the human body, it is often neglected as a major nutrient that shapes not only physical performance, but also the mind and mood (Masento, Golightly, Field, Butler, & Reekum,
Self-reported studies determining changes in mental state have reliably found relations between dehydration and mood, as well as changes in performance (D’Anci et al., 2009; Lindseth et al., 2013; Armstrong et al., 2012; Szinnai, 2005; Ely et al., 2012; Ganio et al., 2011; Shirreffs et al., 2004).

Another derivative obtained from nutrients is glucose (Bushman, DeWall, Pond, & Hanus, 2014). Glucose provides energy for the brain (2014). Low glucose levels can weaken self-control, because individuals have insufficient energy to conquer challenges and unwanted impulses (2014). A number of studies have discovered a connection between low glucose levels and weak self-control (Gailliot & Baumeister, 2007). For instance, people often have more difficulty controlling their attention (Smid, 1997), managing their emotions (Gold & MacLeod, 1995; McCrimmon, Frier & Deary, 1999), and disregarding their aggressive urges (DeWall, Deckman, Gailliot, & Bushman, 2011) when glucose levels are low (Bushman, 2014). Smith and Kouchaki (2014) stated that self-control reduces throughout the day. Therefore, self-control is more easily achieved earlier than later in the day. Also, glucose more slowly breaks down into energy later in the day (Van Cauter, Polonsky, Scheen, 1997), providing further evidence that self-control energy may be compromised as the day progresses (Bushman, DeWall, Pond, & Hanus, 2014).

Bushman, DeWall, Pond, & Hanus (2014) studied the hypothesis that evening glucose levels predict aggressive impulses and aggressive behavior in married couples. Researchers found that low glucose levels predicted higher aggressive impulses in the form of stabbing pins in a voodoo doll that represented a spouse (2014). In addition, the findings led to low glucose levels predicting future aggressive behavior as
demonstrated by giving louder unpleasant noise blasts for longer durations to a spouse (2014). A link has also existed between aggressive impulses and behavior (2014). “Lower levels of glucose predicted aggressive impulses, which, in turn, predicted aggressive behavior” (2014, p. 3). Further stated, glucose levels have been found to play an essential role in self-control and aggression, and glucose levels have remained a physiological aspect that can be actively targeted and changed by giving individuals a variety of food source selections, as well as more access to food throughout the day (2014).

While DQ and its emotional ties have been recognized and discussed, researchers have also investigated physical activity’s cognitive relation to emotions. The neurocognitive links of DQ and the impact of PA on cognition and the brain, and how those elements work together to affect mood (Joseph, Alonso-Alonso, Bond, Pascual-Leone & Blackburn, 2011) have also been investigated (discussed later). The link refers to executive functions, which depend on brain circuits situated in the prefrontal cortex (2011). Understanding how PA, DQ, the brain and emotions collaborate on a neurocognitive level could contribute to more healthful living (2011).

Physical Activity and Emotions

PA and exercise have been shown to be related to improved physical health, life fulfillment, cognitive and memory performance, and psychological well-being (Carek, Laibstain, & Carek, 2011; Dishman, 1997). Recent neuroscience research has indicated that PA can provoke morphological and functional changes in the central nervous system engaged in emotional regulation (Kita, 2012). In addition, increasing clinical evidence has suggested that PA may decrease and prevent the frequency of stress-related psychiatric disorders, particularly depression and anxiety (Greenwood &
Fleshner, 2011; Paluska & Schwenk, 2000), and thus become a behavioral strategy to regulate emotion function (Kita, 2012).

**Emotion-related neural processes.** “Emotional response usually implies emotional experience (e.g., pleasure, anger, anxiety, and depression) and emotional expression or behavior (e.g., palpitation, arousal, facial pallor, and expressive behaviors), and enhances the survival probability of individuals and species” (Kita, 2012, p. 363). The brainstem, hypothalamus, and limbic system are all involved in facilitating emotional responses (Derryberry & Tucker, 1992; Monk, 2008). For instance, the amygdala in the limbic system is largely responsible for the detection of stimuli that may influence, positively or negatively, the welfare of an organism (Phan, Taylor, Welsch, Ho, Britton & Liberzon, 2004). The hypothalamus and brainstem are vital for emotional expression and control the integrated stress responses by means of autonomic and hormonal functions (Kita, 2012). Moreover, the hippocampus, which is a limbic structure, has a significant key role in learning and memory, and is known to play a part in mood regulation and stress reaction (Nathan & Amelia, 2010; Snyder, Soumier, Brewer, Pickel, & Cameron, 2011). Emotion-related neural mechanisms typically work on the subconscious level, which makes it arduous to consciously manage the activities of each region (Kita, 2012). In contrast, PA and exercise have appeared to be simple ways of changing these neural mechanisms to facilitate emotion regulation (2012).

**PA and brainstem.** The monoaminergic neuronal system’s part in the brainstem on emotional regulation has been widely studied in arousal, pleasure, anger, and stress-related psychiatric conditions like depression and anxiety (Kita, 2012). For instance, “the mesolimbic dopaminergic system from the mesencephalic ventral tegmental area
(VTA) to the nucleus accumbens (ACC) could be critical for the expression of pleasurable sensation, motivation, reward, arousal, and addiction” (2012, p. 363). The locus coeruleus (LC), a major nucleus of the noradrenergic neurons launches into the amygdala, hippocampus, hypothalamus, and prefrontal cortex, and spinal cord (Foote, Bloom, & Aston-Jones, 1983). The LC then determines stress-related replies like arousal, attention, and anxiety or depression, as well as autonomic purpose (Kita, 2012). Additionally, the major supply of serotonergic neurons in the central nervous system is the dorsal raphe nucleus (DRN) in the midbrain, which has extensive projections into numerous areas of the brain, including the amygdala, hippocampus, hypothalamus, basal ganglia, and cortical area (Jacobs & Azmitia, 1992; Vertes, 1991). Serotonergic neurons were found to be important in antidepressant/anxiolytic properties and for the decline of aggressive behaviors (Kita, 2012).

Past research has proposed that PA arbitrates activity in the brainstem monoaminergic neuronal systems linked to emotional response or mood (Dishman, 1997). A microdialysis technique in a sequence of animal testing has shown that central dopamine discharge and metabolism are increased by intense exercise (Meeusen, Pacentini, & de Meirleir, 2001; Vargas-Perez, Mena-Segovia, Gioedano, & Diaz, 2003). These studies have suggested that PA augments the activity of dopaminergic neurons, and thus, facilitates motivation, positive mood and the reward system (Kita, 2012).

The effect of PA on the central serotonergic system has also been extensively reported (Dishman, 1997; Greenwood & Fleshner, 2011; Gomez-Merino, Bequet, Berthelot, Chennoueri & Guezennec, 2001; Greenwood, Foley, Day, Campisi,
Hammack, Campeau, Maier, & Fleshner, 2003; Ivy, Rodriquez, Garcia, Chen, & Russo-Neustadt, 2003; Martin, Duclos, Aguerre, Mormede, Manier, & Chaouloff, 2000). Several studies have revealed that intense PA escalates the levels of serotonin (5-HT, 5-hydroxytryptamine) and its metabolite in the hippocampus, hypothalamus, and prefrontal cortex (Meeusen, Piacentini, & de Meirleir, 2001; Gomez-Merino, Bequet, Bethelot, Chennaouri, & Guezenneec, 2001). Moreover, changes in the serotonergic system as neural effects of PA may contribute to stress-protective consequences (Greenwood, Foley, Day, Campisi, Hammack, Campeau, Maier, & Fleshner, 2003; Greenwood, Foley, Day, Burhans, Brooks, Campeau & Fleshner, 2005). Brain-related tests on rats in their stress (Greenwood, et al. 2005; Martin, et al. 2000), found that PA increases stress resistance by creating neuroplasticity in the inner serotonergic system.

Further, previous research has indicated that depression and anxiety disorders respond to PA, as well as, chronic administration of antidepressants (SSRIs) (Carek, Laibstain & Carek, 2011; Babyak, Blumenthan, Herman, Khatri, Doraiswamy, Moore, Craighead, Baldewicz & Krishnan, 2000).

Babyak et al. (2000) stated that a four-month course of aerobic activity, SSRI therapy, or a mixture of PA and SSRI, bettered the symptoms of the major depression disorder sufferers. Further, the study also demonstrated that after 10 months (i.e., six months after the conclusion of the three treatments), subjects in the exercise group had considerably lower relapse rates than those treated with medication. The researcher suggested that together, PA might decrease the occurrence and symptoms of depression or anxiety through stimulation of the central serotonergic system.
**Hypothalamus and PA.**

PA has been known to cause the activation of the hypothalamic-pituitary-adrenal (HPA) axis that is instigated by the triggering of corticotropin-releasing factor (CRF) neurons in the hypothalamic paraventricular nucleus (PVN) in a way that is reliant on PA intensity and duration (Chennaouri, Gomez-Merino, Lesage, Drogou, & Guezeennec, 2002; Kawashima, Saito, Yoshizato, Fujikawa, Sato, McEwen, & Soya, 2004; Vale, Spiess, Rivier, & Rivier, 1981). CRF neurons inside the PVN similarly protrude into extrahypothalamic brain areas, like the LC, DRN, amygdala, and bed nucleus of the stria terminalis areas involved in mood, emotion, and stress responses (Gray, 1993; Lee & Davis, 1997). Kita (2012) reported that PA is one stressor that likely initiates CRF neurons and the HPA axis, which quite possibly, in turn, normalize autonomic and hormonal responses, in addition to psychological changes.

**Plasticity in the hippocampus and PA.** Researchers have long identified that the hippocampus has important primary roles in learning and memory (Rita, 2012). Studies have signaled the effects of PA on hippocampal-dependent learning and processes (Farmer, Zhoa, van Praag, Wodtke, Gage, & Christie, 2004; Hopkins, Nitecki, & Bucci, 2011; van Praag, Christie, Sejnowski, & Gage, 1999). At the same time, according to the studies of Snyder, Soumier, Brewer, Pickle & Cameron (2011) and Nathan & Amelia (2010) the hippocampus is also involved in overall cognition, mood regulation, and reaction to stress.

Studies conducted by Van Praag et al. (1999) and Yuede et al. (2009) have shown that PA can change hippocampal structure and purpose and enhance learning and memory shortages and mood irregularities.
**Related PA and emotion research.** Physiological and psychological benefits of PA on health have been well documented (Konstantaki & Thomas, 2014). Prior research has noted boosted feelings of control, competency, self-esteem, and positive moods and social interactions, in addition to other health benefits (2014). However, a lot of the research has involved young adults or medical populations, while gender variances were seldom reported. A UK study was designed to explore the effect of PA on mood states of older adults (50-65 year olds) relative to gender (males vs. females). One hundred and sixty participants (males, \(i=80\); females, \(i=80\)) were enlisted from leisure centers in the Buckinghamshire area. Each participant engaged in PA, on average, at least twice a week. Participants completed a pre-test/post-test of the same 5-point Likert scale assessing feelings and emotions before and after one designated PA session. The results uncovered lower mean scores following PA in males and females. Male scores were notably lower than females after the PA. The results stated that PA produces positive moods in both genders of 50-65 years of age, with males experiencing greater increases in mood states. Findings also suggested that positive mood changes associated with PA are not only held in young adults but exist also in the older population. Additionally, the authors recommended a more concentrated effort to involve older adults in regular PA.

Costarelli & Stamou (2009) investigated and compared combat sport athletes and non-athletes in Greece and their attitudes toward emotional intelligence (EI), body image, and disordered eating. A total of 60 participants were sampled, with 20 comprised of national and international Taekondo (TKD) and Judo athletes, along with 40 non-athletes. Researchers found that athletes had advanced levels of EI when
compared with the control group (2009). The females surveyed had more differences compared to non-athletes, with statistically significant contrasts in most of the intrapersonal components, including self-regard and self-actualization and in the majority of the mood variables. Overall, athletes had higher levels of EI and a healthier body image than non-athletes (2009).

With no previous studies noted by the researchers, Li, Lu & Wang (2009) set out to conduct the first-known study correlating PA and EI. The study explored the relationships of PA, EI and health in Taiwan university students. The five hundred ninety-nine undergraduates were recruited from two randomly selected universities from four regions of Taiwan (2009). The students were given a physical fitness test, along with an EI and a medical outcomes questionnaire. The results found that the students who reported ‘recommended’ levels of PA had significantly higher EI scores than their ‘insufficient’ or ‘inactive’ college mates (2009). Li, Lu & Wang concluded that PA participation might contribute to the improvement of physical, psychological and the emotional health of college students (2009). Further, the study provided a foundation for research targeted at establishing the causal relationships between EI and PA (2009).

Connective Link Between Dietary Quality and Physical Activity

The influences of physical activity and dietary quality on disease have been established for some time (The Diabetes Prevention Program Research Group, 2002; Look AHEAD Research Group & Wing, 2010; Pownall, H. et al., 2015). A small number of studies have investigated the interaction linking consistent PA and healthy diet and have indicated an interactive and reinforcing relationship (Johnson, Boyle & Heller, 1995; Matthews, Herbert, Ockene, Saperia & Merriam, 1997). Brodney, Mcpherson, Carpenter, Welten, & Blair (2001) found that higher cardiorespiratory fitness levels were
related to lower proportions of energy from fat, higher dietary fiber consumption, reduced cholesterol intake and tighter adherence to a healthy diet. A 2004 study of New England households discovered that moderately to very active individuals tend to take in more fiber, less total fat and less saturated fat than sedentary subjects (Joseph, Alonso-Alonso, Bond, Pascual-Leone & Blackburn, 2011). Parsons, Power & Manor (2006) found that men and women who described elevations in their activity levels from age 33 to 42 also reported an improvement in their dietary quality.

Both cognitive and neuroimaging studies have revealed that consistent PA enhances executive functions, which are the same cognitive processes associated with the regulation of eating behaviors (Joseph et al., 2011). Further documented by research on depression and mood, this cognitive convergence is integrally connected to cognition for both PA and DQ. A PA regimen may lead to positively influence diet through its impact on motivation, commitment and self-efficacy (Miller, Deci & Ryan, 1988). Mata, Silva, Viera, Carraca, Andrade & Coutinho’s (2009) research found that a rise in exercise motivation and self-efficacy predicted positive changes in the self-regulation of dietary behaviors, and possible spillage into other behaviors. Understanding how PA and DQ behaviors interact on a neurocognitive level and then to effect emotions may help individuals maintain a healthy lifestyle (Joseph et al., 2011).

**Theoretical Framework**

**Emotional Intelligence**

**Background and definition.** Credited with the foundational start of emotional intelligence (EI) is E.L. Thorndike’s social intelligence. Thorndike defined social intelligence as “the ability to understand men and women, boys and girls—to act wisely in human relations” (Thorndike, 1920, p. 227). In essence, Thorndike described social
intelligence in the 1920s as the capacity to understand one’s own and others’ internal states of mind, motives, and behaviors, and to act toward them in the best possible way based upon that information (Salovey & Mayer, 1990).

Wechsler then suggested that affective components of intelligence may be essential to the success of life, defining intelligence as “the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment” (Wechsler, 1944, p. 3). This definition was believed to be a broader description of what people thought intelligence was, beyond the abstract to include verbal, visual/spatial and social intelligences (Salovey & Mayer, 1990).

In the 1960s the term emotional intelligence was used in an incidental manner in literary criticism (Van Ghent, 1961) and psychiatry (Leuner, 1966) (Mayer, Salovey & Caruso, 2004). Then by the mid-1980s the term was used more widely in a doctoral dissertation (Payne, 1986).

Since the 1990s university professors Peter Salovey and John D. Mayer have been the forerunning researchers on emotional intelligence, prompted by their 1990 journal publication entitled, *Emotional Intelligence*.

We view emotions as organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems. Emotions typically arise in response to an event, either internal or external, that has a positively or negatively valenced meaning for the individual. Emotions can be distinguished from the closely related concept of mood in that emotions are shorter and generally more intense. In the present article we view the organized response of emotions as adaptive and as something that can potentially lead to a transformation of personal and social interaction into enriching experience (1990, p. 186).
Ascribed to Wechsler’s previous definition of intelligence, Mayer & Salovey (1990) combined both terms to form their definition of emotional intelligence.

We define emotional intelligence as the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer, Salovey & Caruso, 2004 p. 197).

From their reviews of existing psychological literature at the time, Mayer & Salovey (1997) proposed that EI is made up for four branches: 1) perceive or sense emotions; 2) use emotions to assist thought; 3) understand emotions; and 4) manage emotions. Along with the four areas of EI, the authors also included descriptions of important emotional abilities associated with each.

Mayer (1998, 2001) reported that the order of the branches is important, ranging from perception to management and signifying the extent to which the ability is incorporated within the individual’s overall personality. Therefore, the perception and expression of emotion (Branch 1), and the capacity of emotion to enhance thought (Branch 2) are fairly discreet areas of information handling (Branch 3) that is anticipated to be joined within the emotion system. Differing, emotion management (Branch 4) must be combined with an individual’s general plans and goals.

In Branch 1, the ability to perceive or sense emotions, one must have “the perception and appraisal of emotion,” which is “assessed by how well emotions and emotional content can be identified” (Mayer & Salovey, 1997, p. 17). As seen in this branch, one must recognize emotion in others’ facial expressions and postural expressions. Non-verbal cues and perceptions of emotion can be found in the face,
voice, and associated communication channels (Buck, 1984; Ekman & Friesen, 1975; Nowicki & Mitchel, 1998; Scherer, Banse & Wallbott, 2001).

For using emotions to assist thought in Branch 2, one must have the emotional facilitation of thinking, as this “describes the emotional events that assist intellectual processing” (Mayer & Salovey, 1997, p. 17). Mayer and Salovey (2004) noted that a majority of emotion theories have included a feeling component (Davitz, 1969; Schwarz, 1990), and many have debated the existence of distinguishing physiological signs of some emotions. Part of intelligence contains developing a knowledge base about such occurrences that the intelligence can draw (Cytowic, 1993; Mayer & Mitchell, 1998). Knowledge of the connection between emotions and thinking can be used to guide one’s planning (Izard, 2001). For instance, some forms of problem solving are plainly assisted by some emotions and not others (Erez & Isen, 2002; Isen, 2001; Palfai & Salovey, 1993).

The understanding emotions of Branch 3 require “the ability to recognize and interpret emotions” and was “assessed by how well emotions are understood and analyzed” (Mayer & Salovey, 1997, p. 18). This step reflects the capacity to not only analyze emotions, but to also take into consideration their consequences and outcome over time (Frijda, 1988; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990; Ortony, Clore, & Collins, 1990; Roseman, 1984).

Lastly, the understanding emotions in Branch 4 require “conscious regulation of emotions to promote emotional and intellectual wellbeing” (p. 18). The rest of personality is included in this section (Mayer & Salovey, 2004). Here, emotions are
managed in the context of the individual’s goals, self-knowledge, and social awareness (Averill & Nunley, 1992; Gross, 1998; Parrott, 2002).


Goleman’s EI model was popularly considered the standard reference on the subject, with a description of each component, dialogue of how it can be identified in potential leaders, how and why it relates to performance, and how the components can be learned (1998). The five components of EI, according to Goleman (1998), include self-awareness, self-regulation, motivation, empathy, and social skill.

Goleman researched 188 large and global companies and analyzed their competency models (1998). His research objectives were to ascertain which personal capabilities directed outstanding performance within the organizations and to what extent they did so (1998). Goleman grouped capabilities into three categories: “purely technical skills like accounting and business planning; cognitive abilities like analytical reasoning; and competencies demonstrating emotional intelligence, such as the ability to work with others and effectiveness in leading change” (Goleman, 1998, p. 84).

In order to construct some of the competency models, psychologists questioned senior managers at the companies to determine the capabilities that characterized the organization’s most outstanding leaders (1998). To devise other models, psychologists
used objective measures, like a division’s profitability, to separate the star performers at higher-ranking levels within their organizations from the mediocre ones (1998). Using qualitative methods, those individuals were comprehensively interviewed and tested, and their capabilities were evaluated. The process led to lists of factors for highly effective leaders, ranging in length from seven to 15 items, such as initiative to strategic vision (1998).

Goleman analyzed the data and found that intellect was a driving force of outstanding performance. Cognitive skills, like big picture thinking and long-term vision were especially important. However, when examining job performance at all levels, EI was found to be twice as important, when compared to technical skills and IQ (1998). Furthermore, Goleman’s study indicated that EI had an increasingly important function at the highest levels of the company, where differences in technical skills were of minor importance (1998). The higher the rank of an individual considered a star performer, the more EI capabilities stood out as the cause for the leader’s effectiveness (1998).

According to Goleman, when star performers were compared with average performers in senior leadership positions, approximately 90% of the variance in the reports was accredited to EI factors, rather than cognitive abilities (1998).

The study of human and organizational behavior researcher David McClelland (1998) found in his 1996 study that EI is not only a distinguishing factor of exceptional leaders, but it is also connected to strong performance. McClelland studied a global food and beverage company and found that when senior managers had a critical amount of EI competences, their divisions beat yearly earnings goals by 20% (1998). At the same time, division leaders without EI training underperformed by almost 20%
McClelland’s findings explained the United States divisions, but they were found to mimic the Asia and Europe divisions, as well (1998).

As previously mentioned, Goleman’s five elements of EI include self-awareness, self-regulation, empathy, motivation, empathy and social skills (Goleman, 1998). Self-awareness is “the ability to recognize and understand your moods, emotions, and drives, as well as their effect on others” (Goleman, 1998, p. 88). Goleman went on to describe this characteristic as being neither overly critical nor unrealistically hopeful. Instead, individuals “are honest—with themselves and others and recognize how their feelings affect them, other people and their job performance” (1998, p. 84). The decisions of self-aware individuals interlace with their values, which helps them find their work energizing. Goleman remarked that one of the hallmarks of self-awareness is self-deprecating humor. Self-aware people can also be identified by their self-confidence, knowing their capabilities, being less likely to set themselves up for failure, and knowing when to ask for help (1998).

Self-regulation is “the ability to control or redirect disruptive impulses and moods—also the propensity to suspend judgment—to think before acting” (p. 88). Goleman suggested that all individuals feel bad moods and emotional impulses, but those with self-regulation find ways to control moods and impulses and even channel them in valuable ways. Those who control feelings and impulses, are able to generate an environment of trust and fairness and are more versatile to change (Goleman, 1998). “The signs of emotional self-regulation, therefore, are easy to see: a propensity for reflection and thoughtfulness; comfort with ambiguity and change; and integrity—an
ability to say no to impulsive urges” (p. 87). Goleman added that extreme displays of negative emotion are never a part of good leadership (1998).

The third component of Goleman’s EI model is motivation. Motivation is “a passion to work for reasons that go beyond money or status; a propensity to pursue goals with energy and persistence” (1998, p. 88). According to Goleman, leaders with motivation are driven to achieve beyond their own and everyone else’s expectations. The focus is on intrinsic and less on extrinsic desires to achieve (1998). These types of leaders can be recognized by their optimism and passion for the work itself. They seek out creative tasks, love to learn and take pride in doing a job well. Lastly, they are uncomfortable with normal operation and display tenacious energy to perform better (1998).

Empathy is the fourth component and is defined as, “the ability to understand the emotional makeup of other people; skill in treating people according to their emotional reactions” (1998, p. 88). Goleman indicated that empathy is not adopting other people’s emotions as one’s own and trying to please everybody, but rather “empathy means thoughtfully considering employees’ feelings—along with other factors—in the process of making intelligent decisions” (p.89). Empathy involves sensing and understanding the perspectives of others and taking the time to listen to everyone in the group (1998).

The fifth and final component of Goleman’s EI model is social skill. Social skill is “proficiency in managing relationships and building networks; an ability to find common ground and build rapport” (1998, p. 88). Goleman warned that social skill can be more difficult than it sounds. He suggested “it is friendliness with a purpose: moving people in a direction you desire, whether that’s agreement on a new strategy or enthusiasm about
a new product” (p. 90). Socially skilled people tend to have a vast array of relationships and a talent for finding a common ground with people of all kinds—a true skill for developing rapport (1998).

**EI’s Measurability**

The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) was first developed as a series of scales to measure EI (Mayer, Caruso & Salovey, 1999; Mayer et al., 1990; Mayer & Geher, 1996). More recently, the MSCEIT has included eight tasks that measure each of the four branches of EI (Mayer, Salovey & Caruso, 2002). Branch 1, Perceiving Emotions, is measured through faces and pictures (Mayer, Salovey & Caruso, 2004). Using Emotions to Facilitate Thought (Branch 2) is measured by sensations where participants compare emotions to tactile and sensory stimuli and facilitation, which is the ability to identify which emotion would match a particular type of thinking (2004). Understanding Emotions (Branch 3), is measured through changes, which test individuals’ ability to know when emotional intensity rises and fades and when one state moves to another. Also, blends in movement, involves identifying the emotions associated with more complicated affective states. Managing Emotions (Branch 4) is measured through Emotional Management, which presents subjects with hypothetical situations and asks how they would maintain or alter their feelings. Lastly, the Emotional Relationships area involves asking subjects how they would go about managing others’ feelings for the purpose of a desired outcome (Mayer, Salovey & Caruso, 2004).

Mayer, Salovey & Caruso (2004) have contended that EI meets the standards for an established intelligence, as it meets three broad criteria (Gardner, 1993; Mayer, 1999; Mayer, Perkins, Caruso, & Salovey, 2001), and therefore, is measureable. First,
EI test items are constructed in a way in which there are correct answers. For EI theory this is possible through general consensus of test-takers who should be able to identify the ideal answer (2004). The second method for judging whether a test response is correct is through the evaluation of multiple experts (2004). Secondly, EI shows specific patterns of correlations similar to those of known intelligences. For instance, the mental tasks should explain a factor-unified domain. Further, EI should correlate with other intelligences, but only reasonably so. Lastly, EI should progress as one ages.

The Consortium for Research on Emotional Intelligence (Eiconsortium.org., 2014), comprised of leading researchers in the field, including Mayer, Salovey, Caruso, and Goleman, made the following claim:

Many tests that promise to measure emotional intelligence have appeared in recent years. Some of these tests seem promising, but many have not been empirically evaluated. As a service...we have reviewed many of these tests and selected those for which there is a substantial body of research (at least five published journal articles or book chapters that provide empirical data based on the test). However, inclusion of a test on this web site does not constitute an endorsement of that test by the Consortium for Research on Emotional Intelligence in Organizations. The tests include: BarOn Emotional Quotient Inventory, Emotional & Social Competence Inventory, Emotional & Social Competence Inventory-U, Genos Emotional Intelligence Inventory, Group Emotional Competency Inventory, Mayer-Salovey-Caruso EI Test (MSCEIT), Schutte Self Report EI Test, Trait Emotional Intelligence Questionnaire (TEIQue), Work Group Emotional Intelligence Profile, Wong’s Emotional Intelligence Scale (Eiconsortium.org., 2014).

claims questioning reliability, admitting that the earlier tests of EI were developed for the objective of demonstrative studies, were brief, and had reliabilities that were quite unexceptional. For criticisms about the measures being far from optimal, the researchers stated that such criticism appeared to refer to individual tasks of the MEIS or MSCEIT—a level that the scales were never designed to employ.

Some researchers have noted that for EI tests, “Content Validity is a difficult area, given disputes over the definition and conceptualization of EI and attendant sampling difficulties” (Matthews et al., 2002, p. 46). Mayer, Salovey & Caruso proposed that if anyone ever tried to design a test that was planned to operationalize all the possible meanings of EI (or any other construct), those problems would certainly occur (2004). Further the researchers maintained that the content validity of an instrument is more typically evaluated according to the authors’ own stated position on the concept, and with research, its conceptual connection to each task the theory involves.

One criticism reported was, “A major weakness with the extant EI literature is the lack of scientifically sound, objective measures of the EI construct” (Pfeiffer, 2001, p. 140). Mayer, Salovey, Caruso (2004) warned that a majority of the criticism has been aimed at the naïve popularizations of the concept, and particularly the irresponsible claims in popular press. They argued that those criticisms were unwarranted, because the EI theory is “deeply rooted in the psychological literature” (2004, p. 2010). They also have rebutted unsupported claims (Mayer, 1999; Mayer & Cobb, 2000, Mayer, Salovey & Caruso, 2000b).

**EI and Demographics**

Emotional intelligence has shown to be an important construct in different domains of daily life, including mental and physical health, social performance, and
academic and workplace implementation (Brackett, Rivers, & Salovey, 2011; Hervas, 2011; Mayer, Roberts, & Barsade, 2008; Oboyle, Humphrey Pollack, Hawver, & Story, 2010). Several studies have investigated the mechanisms by which EI works in individuals. At the same time, numerous authors have examined differences in emotional abilities as a function of demographic variables such as gender, ethnicity, age and socioeconomic or educational status (Ciarrochi, Chan, & Caputi, 2000; Day & Carroll, 2004; Kafetsios, 2004; Mayer, Caruso, & Salovey, 1999; Palmer, Gignac, Monocha, & Strough, 2005).

Review of the empirical evidence signified females possess more and often advanced emotional capabilities (Fernandez-Berrocal, Cabello, Castillo, & Extremera, 2011). Kaifi & Noori (2010) studied 200 middle managers and found that female middle managers had higher EI skills when compared to male middle managers, and those exhibiting more managerial experience had more time to hone their EI skills. However studies considering the relationship between gender and EI deal with it more in an indirect way than as a dependent variable in and of itself (Fernandez-Berrocal et al., 2011). Results from such studies suggested that the link between gender and EI merits examination in its own right (2011). Gender, as an explanatory cause of behavior always functions in intricate interactions with other variables, demographic as well as socio-cultural (McIntyre & Edwards, 2009).

When it comes to how age influences the relationship between gender and EI, prior research has identified age as one of the demographic variables most related to the development of EI, like in other types of intelligence (Mayer et al., 1999). Mayer &
Salovey (1997) claimed that EI is an authentic intelligence that increases with age and experience (Extremera et al., 2006; Kafetsios, 2004).

Fernandez-Berrocal, Cabello, Castillo, & Extremera (2011) investigated how gender affected EI when controlling for age. Results found that the gender differences initially reported for EI are arbitrated completely by age for the areas of facilitation and understanding, for strategic areas and for total score, and to some extent by age for the element of emotional managing (2011). The findings suggested the need for caution when inferring that gender affects EI when other possible interactions between gender and variables that may influence EI have not been tested (2011).

**Emotional Intelligence and Organizations**

The study of emotions in organizational behavior has really increased substantially in the post-WWII era (Weiss & Brief, 2002). Researchers have long maintained that leaders have a prominent influence over the moods and feelings of their followers (Ashkanasy & Humphrey, 2011). George (2000) posited that leaders high on emotional intelligence are better at crafting a sense of enthusiasm among their group members. Humphrey (2002) argued in particular that controlling the moods of group members is a major, not minor, leadership role. Managers and leaders may affect the moods of their followers in many ways (Ashkanasy & Humphrey, 2011). In fact, Momeni (2009) found that managers’ emotional intelligence had a direct effect on workplace climate.

One of the major ways leaders influence the moods of their followers and teammates is by emotional contagion. Emotional contagion takes place when emotions spread from one individual to another, often when people imitate each other’s emotional expressions, body language, and tone of voice (Hatfield, Cacioppa, & Rapson, 1992).
Ozcelik, Langton, & Aldrich (2008) examined the relationship between leadership practices that facilitated a positive emotional climate and organizational performance. Their purpose was to determine if the variables had any connection with organizational outcomes like increase in revenue, strategic growth, and outcome growth (2008). Data were collected from a panel study of 229 entrepreneurs and small business owners operating in British Columbia. Researchers found that the positive emotional climate practices were positively related to company performance, revenue growth, and outcome growth (2008). Further, this study has shown that leadership practices that bring about a positive emotional climate in an organization make a difference in organization-level outcomes (2008).

Shih and Susanto (2010) investigated the relationships among emotional intelligence, conflict management styles, and job performance at selected local governments in Indonesia. A total of 300 government employees were surveyed and findings indicated that EI was an antecedent of conflict management styles for integrating and compromising styles (2010). Further, they showed the direct effects of integrating style on job performance. The results also demonstrated that EI within public organizations has an impact on job performance similar to that of EI within private organizations (2010).

Meisler and Vigoda-Gadot (2013) studied the relationship between perceived organizational politics and emotional intelligence, and their interaction in the context of work attitudes/behavior. Three-hundred sixty-eight employees were tested on a mediation effect of perceived organizational politics on the relationship between EI on one front, and job satisfaction, turnover intentions and negligent behavior on the other
Perceived organizational politics was found to facilitate the relationship between EI and all three outcomes. The study further suggested EI training as a powerful tool that organizations and human resource managers can utilize to reduce perceived organizational politics and improve work attitudes and performance (2013). Therefore, “EI directly affects perceptions of politics, and indirectly affects employees' work attitudes and behaviors” (2013, p. 116).

Among the variables that have an impact on individuals and organizations alike is that of creativity (Castro, Gomes, & de Sousa, 2012). McAdam and McClelland (2002) emphasized that by developing and sustaining a creative workforce an organization can succeed in preserving the necessary capacity to overcome difficult problems and situations. The creative organization is reliant on its ability to retain creative managers and employees, and on an environment in which each employee will feel free and willing to play a part in organizational success (Castro, Gomes, & de Sousa, 2012). Such creative potential is found everywhere in the organization, and in its employees’ everyday actions and interactions (2012).

George and Zhou (2001) and Zhou and George (2003), claimed that leadership and creativity are related because the leader’s EI is a key component in the leadership process that affects creativity. Castro, Gomes, & de Sousa (2012) examined the connection between EI and creativity. They studied the association between leaders’ EI and their followers’ creative output and the mediating role of climate in the link between EI and creativity (2012). Two questionnaires, one for leaders, and one for employees were collected in a hospital work environment. Sixty-six leader-employee dyads were collected. The researchers confirmed a positive relationship between leaders’ EI and
employees’ creativity (2012). In addition, no mediating effect of climate was observed. Without a mediating effect, the researchers claimed it suggests a direct link between leaders’ EI and employees’ creativity, despite climate (2012). Further, this calls attention to the vital role of leaders in sculpting individual and organizational behaviors as far as creativity is concerned (2012).

**Conceptual Model**

Guided by emotional intelligence as the theoretical frame, this study proposed to describe the EI, dietary quality and physical activity of Florida County Extension Directors (CEDs). The model includes Goleman’s (1998) five Emotional Intelligence components of self-awareness, self-regulation, empathy, motivation and social skill.

The conceptual model is shown in Figure 2-1, and begins as a process from left to right starting with the leader, which in this case is the CED. The CED, is moved by intrinsic and extrinsic motivation to employ emotional intelligence, but first, recognizes the likely added benefits of eating a well-balanced diet and including physical activity into his or her daily routine. “DQ” symbolizes the dietary quality from the food and beverages the leader consumes, which can be assessed and computed into a daily dietary intake average. This score is an interval value, but despite the index, dietary consumption contributes to an individual’s positive or negative emotions (Schmidt, 2007). “PA” represents physical activity, and regular PA is known to positively affect the moods of people (Li, Lu & Wang, 2009). Optimum dietary quality, along with regular physical activity has been reported to affect the brain and result in positive emotions (Schmidt, 2007; Li, Lu & Wang, 2009). In addition, a leader’s demographic characteristics may also contribute to his or her EI (Ciarrochi, Chan, & Caputi, 2000; Day & Carroll, 2004; Kafetsios, 2004; Mayer, Caruso, & Salovey, 1999; Palmer, Gignac,
Monocha, & Strough, 2005). “EI” represents the emotional intelligence competencies which can be assessed by self and multi-raters in each of four categories: self-awareness, self-management, social awareness and relationship management (HayGroup, 2014). Having personal knowledge of high or low EI in each of these four categories helps a leader know where they can better develop and practice emotionally intelligent leadership (2014) and consistently live out self-awareness, self-regulation, empathy, motivation, and social skill. The model concludes with the expectation that an emotionally intelligent leader leads to and helps build a healthy organization.
Figure 2-1. A Conceptual Model of the Relationship between Emotional Intelligence of Florida CEDs and their Dietary Quality, Physical Activity, and Selected Demographics (Included the works of HayGroup (2011) and Goleman (1998).
Summary

In this chapter a literature review and theoretical framework explanation was presented, based on emotional intelligence. The related research focused on dietary quality and physical activity and emotion studies. A review of the relevant literature related to the research problem of this study. The conceptual model contained independent variables of dietary quality and physical activity, selected demographics, and the dependent variable of emotional intelligence, which includes self-awareness, self-regulation, empathy, motivation and social skill.

This research provided support for the major tenets of the assessment of Florida CED’s emotional intelligence, dietary quality and physical activity. These studies provided evidence that dietary quality affects the brain and emotions. Likewise, research was provided to support regular physical activity, its immediate positive effects on the brain and emotions, and its other health benefits. Although the literature cited in this study provided a basis for some of the preliminary, individual principles, no other research has been published comprising all of the variables that this particular study seeks to investigate.
Chapter 1 described the justification for examining the Florida Cooperative Extension System’s County Extension Directors and related leadership competencies. Emotional intelligence, dietary quality and physical activity’s relationship to individuals’ emotions and the need for organizational wellness were also described. The principal focus of this study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, attitudes and intentions for positive dietary quality and physical activity behaviors, as well as selected demographics.

Chapter 2 explained the theoretical framework and review of literature that directed the study. The review of the literature focused on empirical research in the following areas: dietary quality and its effect on emotion, physical activity and its effect on emotion, the connection between DQ and PA, the theoretical framework of emotional intelligence, and demographic and organizational connections to EI.

Chapter 3 describes the methods utilized to address the study’s research objectives. The Chapter provides information on the research design, procedures, population and sample, instrumentation, data collection procedures and methods of data analysis.

The purpose of the study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, and selected demographics.

The specific objectives were to:
1. Describe the demographics of Florida County Extension Directors (CEDs);
2. Describe the emotional intelligence of Florida CEDs;
3. Determine the dietary quality of Florida CEDs;
4. Determine the physical activity of Florida CEDs;
5. Describe the dietary, physical activity and weight perceptions of Florida CEDs;
6. Examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables; and
7. Determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

**Research Design**

This study utilized a non-experimental descriptive/correlational design. The research design allowed the researcher to obtain evidence regarding the current status of the phenomena and to explain "what exists" with respect to variables or conditions in a situation (Anastas, 1999). In addition, this design is “used to assess relationships and patterns of relationship among variables in a single group of subjects” (Ary, Jacobs & Sorenson, 2010, p. 351). This design enabled the researcher to investigate the relationships between independent and dependent variables (Ary, Jacobs & Sorenson, 2010). The dependent variables of the study included the four measured components of emotional intelligence: Self-Awareness, Self-Management, Social Awareness, and Relationship Management. The independent variables in the study were predicted daily averages for dietary consumption, International Physical Activity Questionnaire (IPAQ) score, along with selected demographics. Additionally, correlational designs have the potential to allow the researcher to draw causal inferences from existing differences between people, subjects, or phenomena (Hall, 2008). Further, when two variables are correlated, one variable can be used to predict the other (Ary, Jacobs & Sorenson, 2010).
**Internal Validity**

Ary et al. (2010) indicated that internal validity refers to “the extent to which observed differences on the dependent variable in an experiment are the result of the independent variable, not of some uncontrolled extraneous variable(s)” (p. 644). In essence, internal validity is concerned with the notion of the causality of the intervention on the dependent variable. Campbell and Stanley (1963) identified a number of factors that threaten internal validity. However, “most of these threats (history, maturation, instrument decay, statistical regression, mortality and testing effects) arise because of over-time element of these designs” (De, 2006, p. 177). According to De (2006), these are not threats of cross-sectional designs (also known as “correlational”). The central threats to the internal validity of cross-sectional designs originate from problems in establishing cause without a time dimension and problems at the level of meaning (Marsh, 1982). Therefore, the two threats of concern for this study were selection and interaction effects. Controlling for confounding variables was confronted at the data analysis stage rather than at the data collection stage as is customary in experimental designs (De, 2006). The solution was to make the groups as similar as possible by statistically removing differences between groups after the data had been collected. For interaction effects, De (2006) suggested asking respondents reasons for their behavior when looking at causal behavior. While still a limitation, this was partially controlled in this study by asking respondents if their current dietary quality was due to any current or prior diseases.

**External Validity**

According to Ary et al. (2010), external validity is “The extent to which the findings of a particular study can be generalized to other subjects, other settings, and/or
other operational definitions of the variables” (p. 642). Two types of external validity exist: population and ecological (2010).

**Population external validity.** All members of the population were examined in this census study. Therefore, the generalizability of the results was of no concern, except for as it related to the selected multi-raters.

**Ecological external validity.** Ecological external validity only allows the results to be generalized to the population in the same context. The context of this study was current CEDs in Florida’s Cooperative Extension during August – October 2014. However, as a census study, generalizability was not a concern, except for as it related to the selected multi-raters.

**Population**

The population of interest for this study was current Florida County Extension Directors (CEDs) employed with the University of Florida/Institute of Food and Agricultural Sciences (IFAS) Extension. A secondary population of interest was that of Extension Agents and other Extension support staff (subordinates). This was a census study of all CEDs in the state of Florida (N= 64), spread over five Extension Administrative Districts encompassing all of Florida’s 67 counties (Appendix A). A census was chosen, due to the potential to gain breadth of detail and currency of information from this unique and small population of the state, along with the ability to contact the complete population (Jupp, 2006). In addition, the secondary population was a multi-rater (360-degree) sample (N ≈ 320) of CED subordinates, where a convenience sample of about five multi-raters per CED, were randomly selected by the researcher from a UF/IFAS supplied online employee contact list.
Instrumentation

Four instruments were used for the purposes of this study. A description of each instrument, along with discussion of construct, reliability, and validity, follow for each.

The Emotional and Social Competency Inventory (ESCI) 360°

The ESCI was developed by Boyatzis, Goleman & HayGroup and measures 12 emotional and social competencies organized into four clusters: self-awareness, self-management, social awareness, and relationship management (HayGroup, 2014). Each competency scale had five items, and most had an additional reverse-scored item, equating to 72 Likert-type questions included in the instrument. A multi-rater (360°) version was also a part of the instrumentation. A pilot study of the ESCI reported a good internal consistency using Cronbach’s Alpha for each of the competencies: Emotional Self-Awareness \( \alpha = .83 \); Achievement Orientation \( \alpha = .74 \); Adaptability \( \alpha = .76 \); Emotional Self-Control \( \alpha = .80 \); Positive Outlook \( \alpha = .76 \); Empathy \( \alpha = .79 \); Organizational Awareness \( \alpha = .76 \); Conflict Management \( \alpha = .84 \); Coach and Mentor \( \alpha = .83 \); Influence \( \alpha = .74 \); Inspirational Leadership \( \alpha = .79 \); and Team Work \( \alpha = .87 \) (2014). In addition, a principal axis Exploratory Factor Analysis with promax rotation showed the factor analysis properties of the instrument to be outstanding (2014). The researcher was granted permission by the instrument’s owner, HayGroup\textsuperscript{®}, to use the ESCI for research purposes. Due to this agreement, the researcher was unable to include an appendix of the ESCI.

International Physical Activity Questionnaire (IPAQ)

The IPAQ Long-Form (Appendix B) was used to examine CEDs’ self-reported physical activity. The instrument was comprised of five physical activity domains: job-related; transportation; housework, house maintenance, and caring for family;
recreation, sport, and leisure time; and time spent sitting. The international instrument incurred extensive reliability and validity testing in 12 countries during 2000 and was found to have acceptable measurement properties (Booth, 2000). Marshall & Bauman (2001) reported the reliability in the United States as good, with a calculated Spearman's coefficient, where, \( r_s = .88 \).

**Dietary Screener Questionnaire (DSQ)**

The Dietary Screener Questionnaire*Web (DSQ*Web) (Appendix C) is an online self-administered dietary questionnaire, assessment tool that asks a respondent about the frequency of consumption in the past month of selected food and beverage intake. The respondent follows automated skip patterns, are queried to complete all questions before proceeding to the next, navigate within the instrument to correct or modify responses, and can log in at any time to complete the questionnaire. The 26-item DSQ:Web captures intakes of fruits and vegetables, daily/calcium, added sugars, whole/grains/fiber, red meat, and processed meat (Appliedresearch.cancer.gov., 2014). The DSQ:Web was created by the National Cancer Institute and is based upon the USDA's dietary guidance (2014). DSQ:Web provides for efficiency with respect to data quality due to the possibility of missing or inconsistent responses being eliminated (2014). Researchers at the National Health & Nutrition Examination Survey (NHANES) developed a SAS scoring algorithm program to convert screener responses to estimates of daily individual dietary intake using the What We Eat in America 24-hour dietary recall data from the 2010 NHANES (2014).

**Demographic Survey**

A separate instrument (Appendix D) measuring Demographic items consisted of gender, age, years of experience as a CED, years of service in Cooperative Extension,
and self-reported Body Mass Index (BMI) (height and weight). The same instrument also included participant perception of personal dietary, physical activity, and weight items, indication of whether current weight was desired weight (Slaski & Cartwright, 2002), and if prior disease (cancer, heart disease, diabetes, religion) affects diet. All items were constructed according to recommendations by Dillman, Smyth and Christian (2009).

**Data Collection**

This research project was approved by the Institutional Review Board (IRB) at the University of Florida (Appendix E). Upon IRB approval, data were collected during August – November 2014. Data were collected using a mixed-mode survey technique (Dillman, Smythe and Christian, 2009).

Participants were sent an email from the Dean and Director of Extension introducing the study and the first phase the week before the data collection (Appendix F). The IPAQ and Demographic Survey were administered on paper as Phase One to CEDs who attended the annual Extension Professionals Association of Florida (EPAF) Conference (Appendix G). Florida CEDs received a flyer in their conference packets advertising the data collection (Appendix H). At the time of the initial survey, participants were given time to read and sign copies of the IRB protocol (Appendix I) and informed of the confidentiality of responses, in which the researcher would be the only one who had access to individual responses, and results would be communicated as a district or state average only. Participants were also informed of the voluntary nature of the research and that neither risks nor compensation would come as a result of participating in this study. In addition, participants were made aware of the two subsequent online components that were a part of this same study. Directions were
printed at the top of the paper instrument. Participants placed their completed assessment in a box situated on a platform away from the researcher to further aid confidentiality. CEDs not attending the EPAF Conference, were mailed a letter (Appendix J) explaining the process along with the Informed Consent, IPAQ, and a self-addressed stamped envelope in order to return the signed Informed Consent and completed IPAQ.

Phase Two consisted of two separate online assessments administered beginning in September 2014 for a four–week window following the EPAF Conference. The first online assessment was the self-administered ESCI 360°, which was administered to CEDs only and was sent via email from the host site with the assessment link and coded login credentials. Up to five or six separate subordinates per CED were randomly-selected by the researcher using a UF/IFAS supplied online list of current employees. Multi-raters were also sent information for completing the multi-rater online questionnaire, including an Informed Consent (Appendix K), where perceptions were rated of how well their leader demonstrated ESCI competencies. Multi-raters received an email a week prior from the Director of Extension (Appendix L) requesting their participation and honesty with surety their individual responses would be kept confidential.

The third and final Phase consisted of the online administration of the DSQ-Web. Participants were sent an emailed link of a video message (Appendix M) from the Director of Extension encouraging participation in the final Phase and to announce the researcher’s decision to conduct a drawing for the chance for two CEDs to win a Fitbit® for their participation. Coded login credentials issued by the National Cancer Institute
were sent by individual email (Appendix N) to participants from the researcher. Data were collected and stored on the host site for export. Following the third phase, an emailed video link was mailed to CEDs thanking them for their time and participation in the study; it also announced the two recipients of the Fitbit® drawing (Appendix O). Table 3.1 shows the timeline of the administration of the data collection points.

**Data Analysis**

Data were only used from those who completed all four instruments, or at least the first three phases. Each questionnaire was coded so that data could be tracked to the participant. Data were analyzed through SPSS Statistics version 22.

**Research Objective One**

Research objective one was to describe the demographics of Florida County Extension Directors (CEDs). Raw data were spot-verified by the researcher; SPSS analysis was used to provide descriptive statistics (using measures of central tendency, frequency, standard deviation, and percentage where appropriate).

**Research Objective Two**

Research objective two was to describe the emotional intelligence of Florida County Extension Directors (CEDs). Data for each of the 12 EI competencies were analyzed by the ESCI’s HayGroup and competency mean scores were provided in a digital spreadsheet for each individual for both self and multi-rater groups. The researcher analyzed mean scores for the four ESCI clusters. The researcher then utilized SPSS analysis to provide descriptive statistics (using measures of central tendency and standard deviation). Independent *t* tests and analysis of variances (ANOVAs) were also performed to analyze differences and possible significance among gender group and Extension Administrative District mean differences.
Research Objective Three

Research objective three was to determine the dietary quality of Florida CEDs. Dietary quality was derived from the self-administered online food frequency of consumption in the past month of selected food and beverage intake, which provided a predicted daily intake. The daily intake is calculated using an algorithm using a SAS program. The daily values are then measured against the daily recommendations by the USDA ChoseMyPlate.gov, The American Heart Association, The Institute of Medicine, and The National Institute of Health. Descriptive statistics are calculated using SPSS to report central tendency, frequencies and standard deviations.

Research Objective Four

Research objective four was to determine the self-reported physical activity of Florida CEDs. Using a scoring algorithm created as a part of the IPAQ, data for each element were computed and analyzed using descriptive statistics (measures of central tendencies and frequencies). Both continuous and categorical scores were reported.

Research Objective Five

Research objective five was to describe the dietary, physical activity and weight perceptions of Florida CEDs. Raw data were spot-verified by the researcher; SPSS analysis was used to provide descriptive statistics (using measures of central tendency, frequency, standard deviation, and percentage where appropriate).

Research Objective Six

Research objective six was to examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables. To accomplish this, the direction and strength of relationships between variables were calculated using the Pearson’s Product Moment Correlation
coefficient. Data were examined to determine if the assumptions of Pearson’s coefficient linearity and equal variance were met. The relationships examined were between the emotional intelligence components and clusters (Self-Awareness, Self-Management, Social Awareness, and Relationship Management), dietary quality, physical activity and selected demographic variables.

**Research Objective Seven**

Research objective seven was to determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence. A multiple regression analysis was used to explain any predictive values that existed among relationships.

**Chapter Summary**

Chapter 3 detailed the methods used in this study through reporting of the research design and procedures, population, data collection instruments and data analysis. This study utilized a descriptive-correlational design to examine the relationships between emotional intelligence, dietary quality, physical activity and selected demographic characteristics. The population for the study was current Florida County Extension Directors (CEDs) employed with the University of Florida/Institute of Food and Agricultural Sciences (IFAS) Extension. The census population consisted of 64 CEDs and a convenience sample of over 300 subordinate multi-raters.

Four instruments were used to collect data for this study. A researcher-developed demographic instrument was used to collect demographic and perception information from CEDs. The ESCI was used to determine the different component scores of emotional intelligence (HayGroup, 2014). The IPAQ was used to collect data to determine physical activity levels. The DSQ-Web was used to collect data about
participants’ food and beverage consumption over the past month (Appliedresearch.cancer.gov., 2014), and USDA ChoseMyPlate.gov, The American Heart Association, The Institute of Medicine, and The National Institute of Health were used to compare predicted daily intake. The demographic and perception questionnaire was used to describe specific participant characteristics and perceptions. Chapter 4 will present the data analysis.
Table 3-1. Data collection timeline

<table>
<thead>
<tr>
<th>Phases/Instruments</th>
<th>EPAF Conference</th>
<th>Online Survey 1</th>
<th>Online Survey 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phases/Instruments</td>
<td>IPAQ, Demographic/Perception Questionnaire</td>
<td>ESCI CED and Multi-rater version</td>
<td>DSQ-Web</td>
</tr>
</tbody>
</table>
CHAPTER 4
RESULTS

Chapter 1 established the need for examining the Florida Cooperative Extension System’s County Extension Directors, their related leadership competencies and health status. Emotional intelligence, dietary quality and physical activity’s relationship to individuals’ emotions and the need for organizational wellness were also described. The purpose of this study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, as well as selected demographics. The specific objectives of this research study were to:

- Describe the demographics of Florida County Extension Directors (CEDs);
- Describe the emotional intelligence of Florida CEDs;
- Determine the dietary quality of Florida CEDs;
- Determine the physical activity of Florida CEDs;
- Describe the dietary, physical activity and weight perceptions of Florida CEDs;
- Examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables; and
- Determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

Chapter 2 introduced the review of literature that directed the study as well as the theoretical framework that guided the study. The literature review focused on empirical research in the following areas: dietary quality (DQ) and emotions, physical activity (PA) and emotions, the connection between DQ and PA, the theoretical framework of emotional intelligence, and individual demographics and organizational wellness. Finally, in Chapter 2 the culminating conceptual model derived from the theory base and review of literature is presented.
Chapter 3 described the methods utilized to address the study’s research objectives. The Chapter provided information on the research design, procedures, population and sample, instrumentation, data collection procedures and methods of data analysis.

Chapter 4 provides the results of the data analysis, which are listed by objective.

Response Rates

The population of this study consisted of current Florida County Extension Directors. The entire population was accessible, therefore making this a census of the population. There are 67 counties in the state of Florida with each county being directed by a CED. There are 64 CEDs; and two CEDs direct an additional smaller county. At the time of the study, there were 63 active CEDs due to the recent retirement of one. Therefore, a total of 63 CEDs comprised the population census (see Table 4-1). The secondary population was a multi-rater (360-degree) sample (N≈ 315) of CED subordinates, where a convenience sample of five multi-raters per CED, were randomly selected by the researcher from an online UF/IFAS supplied employee contact list.

Chapter 3 outlined the research design and three phases, or data collection points of the study. Each phase of the study was administered at separate times and response rates were reported for each phase/instrument. Following the initial participation email sent to CEDs by the Dean and Director of Extension, three CEDs chose not to participate in the study. The response rate varied from 80.95% to 96.23% for each Phase (see Table 4-2). The final data group (n = 55) was comprised of CEDs who had completed all three phases, or at least self-reported scores for Phase 1 and multi-rater scores for Phase Two. Since this was a census study, non-response was
not a concern. The results are generalizable only for the population studied (Fowler, 2014).

**Post-Hoc Reliability of Instrument**

Cronbach’s alpha was utilized to determine the post-hoc reliability of the central instrument used in this study (Table 4-3). Ary, Jacobs, and Sorensen (2010) reported the modest reliability coefficients, .50-.60, are acceptable for making decisions about groups and for research purposes. All of the reliability coefficients in this study fell above this acceptable range and are listed below.

The Emotional and Social Competencies Inventory (ESCI), developed by Boyatzis, Goleman & HayGroup measures 12 emotional and social competencies organized into four clusters: self-awareness, self-management, social awareness and social awareness (HayGroup, 2014). The reliability coefficients for the ESCI ranged from .984 to .986, post-hoc, over the twelve components. The following represented the individual constructs and their reliability coefficients, respectively.

**Self-Awareness**

- Emotional self-awareness: the ability to understand our own emotions and their effects on our performance (.986).

**Self-Management**

- Emotional self-control: the ability to keep disruptive emotions and impulses in check and maintain our effectiveness under stressful or hostile conditions (.986).

- Achievement orientation: striving to meet or exceed a standard of excellence; looking for ways to do things better, set challenging goals and take calculated risks (.985).

- Positive outlook: the ability to see the positive in people, situations and events and our persistence in pursuing goals despite obstacles and setbacks (.985).
Adaptability: flexibility in handling change, juggling multiple demands and adapting ideas or approaches (.984).

Social Awareness

- Empathy: the ability to sense others’ feelings and perspectives, taking an active interest in their concerns and picking up cues to what is being felt and thought (.984).
- Organizational awareness: the ability to read a group’s emotional currents and power relationships, identifying influencers, networks and dynamics (.984).

Relationship Management

- Influence: the ability to have a positive impact on others persuading or convincing others in order to gain their support (.985).
- Coach and mentor: the ability to foster the long term learning or development of others by giving feedback and support (.985).
- Conflict management: the ability to help others through emotional or tense situations, tactfully bringing disagreements into the open and finding solutions all can endorse (.985).
- Inspirational leadership: the ability to inspire and guide individuals and groups to get the job done, and to bring out the best in others (.984).
- Teamwork: the ability to work with others towards a shared goal; participating actively, sharing responsibility and rewards and contributing to the capability of the team (.984).

Objective One

Objective 1 was to describe the demographics of Florida County Extension Directors (CEDs). To describe FL CEDs, gender, highest degree earned, years employed as a CED, years employed in Extension, age, and a current self-reported body weight and height (calculated and reported as a Body Mass Index (BMI) score) were taken into account. The Extension Administrative District (Northwest, Northeast, Central, South Central, and South) was identified by the location of each County.
Just over half of the participants in this study were male (54.5%, $n = 30$), and the majority of participants reported a Master’s degree (87.3%, $n = 48$) as their highest-attained degree. Each of the five Extension Administrative Districts had representation (Appendix P) with the Northwest District containing the most participants (Northwest = 25.5%, $n = 14$; Northeast = 21.8%, $n = 12$; Central 14.5%, $n = 8$; South Central 18.2%, $n = 10$; and South 20%, $n = 11$). The mean years of service as a CED (Figure 4-1) was 9.60 (SD = 8.91), while total mean years working in Extension (Figure 4-2) was 19.64 (SD = 10.70). The mean age (Figure 4-3) of CEDs was 52.64 (SD = 8.70). The 35-44 age range ($n = 11$) represented 20%, 45-54 ($n = 16$) 29%, 55-64 ($n = 23$) 42%, and 65-74 ($n = 5$) 9%. Self-reported Body Mass Index (BMI) was calculated using the formula:

\[
\text{weight (lb)} / [\text{height (in)}]^2 \times 703 \text{ (CDC, 2014)}.
\]

BMI scores fall within one of five categories: underweight (below 18.5); normal (18.5 – 24.9); overweight (25.0 – 29.9); obese (30.0 and above); and morbidly obese (40 or more, or 35 or more and experiencing obesity-related health concerns) (CDC, 2014). With 54 participants (one chose not to report) self-reporting their current height and weight, the researcher used the CDC online calculator to calculate BMI scores of participants (CDC, 2014). The mean BMI of participants (Figure 4-4) was 28.42 (overweight; $SD = 5.55$). The majority (68.5%, $n = 37$) of participants were either overweight, obese, or morbidly obese (Table 4-5).

**Objective Two**

Objective 2 of the study was to describe the emotional intelligence of Florida County Extension Directors (CEDs). For the purpose of this study, CEDs were asked to
self-rate themselves on 12 constructs comprising four quadrants (self-awareness, self-management, social awareness, and relationship management) of emotional intelligence using the ESCI. The ESCI is a 360° survey questionnaire measuring the demonstration of individuals' behaviors, through their perceptions and those of their raters, making it distinct from other assessments of EI assessing ability or personality preferences (HayGroup, 2011). ESCI data was scored using a frequency range. Respondents are asked to assess the behaviors denoted in each item on a 5-point scale ranging as follows: never; rarely; sometimes; often; and consistently (2011). Strength is signified when participants’ (multi-rater) scores are ≥ 85% of the scale (a score of 4.3) which means others perceive them to be demonstrating that competency often or consistently (2011). Each rater perspective is scored equally and averaged across the relevant rater group resulting in a ‘total others’ score (except self) for each competency. The ESCI is intended to be used to gather 360-degree feedback data (2011). According to the ESCI creators, self-assessment data alone may be useful as the basis for developmental discussion, but do not provide valid and reliable measures of emotionally and socially intelligent behavior (2011). In addition, there is often a significant difference between self and other ratings. People high in self-awareness tend to have smaller gaps (Carulli & Com, 2003). The higher a participant’s level in the organization and the lower his or her performance, the more the self-rating tends to be inflated (HayGroup, 2011). Consequently, while data were reported with a summary of both self and total others’ (multi-raters) mean scores for each competency (Table 4-6), only multi-rater scores were used in subsequent analyses.
The ESCI was administered during Phase Two of the study. CED participants who completed Phase 1, but did not complete the ESCI self-assessment of Phase Two \((n = 7)\), were still included in the study if their multi-rater \((n = 55)\) scores were useable, since those are considered the valid and reliable scores being used by the researcher, thus signifying valid scores for at least two of the three Phases, as stated previously.

Table 4-6 illustrates ESCI competency means for both self \((n = 48)\) and multi-rater \((n = 55)\) scores. The highest self-rated ESCI competency mean was Teamwork \((M = 4.44; SD = .40)\), and the lowest was Emotional Self-Awareness \((M = 3.70; SD = .56)\). The multi-rater perspective \((n = 55)\) for competency demonstration also reported Teamwork as the highest mean \((M = 4.25; SD = .64)\) and Emotional Self-Awareness \((M = 3.61; SD = .72)\) as the lowest. Reported CED self-rated means were higher than multi-rater means in all but two (Organizational Awareness and Emotional Self-Control) of the 12 ESCI competencies.

The self-rated scores were as follows (in declining order): 1) Teamwork \((M = 4.44; SD = .40)\); 2) Achievement Orientation \((M = 4.30; SD = .60)\); 3) Coach and Mentor \((M = 4.25; SD = .42)\); 4) Organizational Awareness \((M = 4.20; SD = .53)\); 5) Positive Outlook \((M = 4.17; SD = .51)\); 6) Emotional self-control \((M = 4.07; SD = .60)\); 7) Adaptability \((M = 4.03; SD = .52)\); 8) Conflict Management \((M = 4.00; SD = .50)\); 9) Empathy \((M = 3.96; SD = .41)\); 10) Inspirational Leadership \((M = 3.94; SD = .55)\); 11) Influence \((M = 3.93; SD = .40)\); and 12) Emotional Self-Awareness \((M = 3.70; SD = .56)\).

The grand means for the four clusters (Table 4-7) encompassing the 12 ESCI competencies were as follows (in declining order): 1) Self-Management \((M = 4.14; SD = .40)\); 2) Coaching \((M = 3.98; SD = .42)\); 3) Emotional Self-Control \((M = 3.95; SD = .41)\); 4) Influence \((M = 3.94; SD = .40)\); 5) Conflict Management \((M = 3.93; SD = .40)\); 6) Organizational Awareness \((M = 3.92; SD = .41)\); 7) Positive Outlook \((M = 3.89; SD = .41)\); 8) Teamwork \((M = 3.87; SD = .40)\); 9) Achievement Orientation \((M = 3.85; SD = .40)\); 10) Inspirational Leadership \((M = 3.84; SD = .40)\); 11) Coach and Mentor \((M = 3.83; SD = .40)\); 12) Emotional Self-Awareness \((M = 3.70; SD = .56)\).
.56); 2) Relationship Management ($M = 4.11; SD = .46$); 3) Social Awareness ($M = 4.08; SD = .47$); and 4) Self-Awareness ($M = 3.70; SD = .56$).

As noted earlier, the multi-rater mean scores will be used as the valid scores in this study and those were reported as (in declining order): 1) Teamwork ($M = 4.25; SD = .64$); 2) Achievement Orientation ($M = 4.24; SD = .65$); 3) Organizational Awareness ($M = 4.22; SD = .74$); 4) Emotional Self-Control ($M = 4.18; SD = .61$); 5) Positive Outlook ($M = 4.15; SD = .68$); 6) Adaptability ($M = 4.00; SD = .70$); 7) Coach and Mentor ($M = 3.98; SD = .85$); 8) Influence ($M = 3.83; SD = .63$); 9) Empathy ($M = 3.82; SD = .75$); 10) Inspirational Leadership ($M = 3.79; SD = .87$); 11) Conflict Management ($M = 3.77; SD = .81$); and 12) Emotional Self-Awareness ($M = 3.60; SD = .72$). However, none of the reported multi-rater mean scores were $\geq 85\%$ of the scale (a score of 4.3) which signifies the competency is demonstrated often or consistently (2011).

The grand means for the four clusters (Table 4-7) encompassing the 12 ESCI competencies were as follows (in declining order): 1) Self-Management ($M = 4.14; SD = .66$); 2) Social Awareness ($M = 4.02; SD = .74$); 3) Relationship Management ($M = 3.92; SD = .76$); and 4) Self-Awareness ($M = 3.60; SD = .72$).

Using an alpha level of .05, an independent-samples $t$ test was conducted to evaluate whether there were differences in the 12 EI competencies between males ($n = 30$) and females ($n = 25$). Inspection of a boxplot revealed one outlier in the data; however, it was determined by the researcher to include the outlier given the number of participants. It was decided to include the outlier also, because this was a valid mean of several multi-rater scores for this particular participant, and due to the fact that when an independent-samples $t$ test was conducted with and without the outlier, there was no
significant difference. Mean competency scores for each level of gender were approximately normally distributed, as assessed by visual inspection of Normal QQ-Plots. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, respectively for Self-awareness ($p = .591$); Emotional Self-control ($p = .662$); Achievement Orientation ($p = .327$); Positive Outlook ($p = .680$); Adaptability ($p = .426$); Empathy ($p = .991$); Organizational Awareness ($p = .402$); Influence ($p = .931$); Coach and Mentor ($p = .953$); Conflict Management ($p = .695$); Inspirational Leadership ($p = .747$); and Teamwork ($p = .669$).

Table 4-8 illustrates gender means for the ESCI competences. In the self-awareness cluster, mean male self-awareness score ($M = 3.50; SD = 0.69$) was lower than mean female self-awareness score ($M = 3.73; SD = 0.73$); however, the mean differences were not statistically significantly different, $t(53) = -1.20, p = .234$.

For the self-management cluster, mean male emotional self-control score ($M = 4.14; SD = 0.62$) was lower than mean female emotional self-control score ($M = 4.22; SD = 0.62$); yet, the mean differences were not significantly different, $t(53) = -.503, p = .617$. Mean male achievement orientation score ($M = 4.16; SD = 0.69$) was lower than mean female achievement orientation score ($M = 4.32; SD = 0.60$); nonetheless, the mean differences were not significantly different, $t(53) = -.934, p = .355$. Mean male positive outlook score ($M = 4.08; SD = 0.67$) was lower than mean female positive outlook score ($M = 4.24; SD = 0.69$); yet, there were no significant mean differences, $t(53) = -.873, p = .387$. Mean male adaptability score ($M = 3.95; SD = 0.62$) was lower than mean female adaptability score ($M = 4.05; SD = 0.79$); however, the mean differences were not significantly different, $t(53) = -.497, p = .621$. 


The social awareness cluster reported mean male empathy score \((M = 3.80; SD = 0.74)\) was lower than mean female empathy score \((M = 3.83; SD = 0.78)\); but, the mean differences were not significantly different, \(t(53) = -0.156, p = .876\). Mean male organizational awareness score \((M = 4.21; SD = 0.64)\) was lower than mean female organizational awareness score \((M = 4.22; SD = 0.86)\); conversely, there were no significant differences among the means, \(t(53) = -0.033, p = .974\).

For the relationship management cluster, mean male influence score \((M = 3.78; SD = 0.59)\) was lower than mean female influence score \((M = 3.88; SD = 0.68)\); however, the mean differences were not significantly different, \(t(53) = -0.610, p = .545\). Mean male coach and mentor score \((M = 3.92; SD = 0.84)\) was lower than mean female coach and mentor score \((M = 4.06; SD = 0.87)\); yet, mean differences were not significantly different, \(t(53) = -0.620, p = .538\). Mean male conflict management score \((M = 3.70; SD = 0.80)\) was lower than mean female conflict management score \((M = 3.86; SD = 0.82)\); however, the mean differences were not significantly different, \(t(53) = -0.761, p = .450\). Mean male inspirational leadership score \((M = 3.74; SD = 0.87)\) was lower than mean female influential leadership score \((M = 3.90; SD = 0.88)\), but encountered no significant difference, \(t(53) = -0.460, p = .647\). Mean male teamwork score \((M = 4.20; SD = 0.60)\) was lower than mean female teamwork score \((M = 4.30; SD = 0.69)\); however, the mean differences were not significantly different, \(t(53) = -0.533, p = .597\).

In summary, females had higher real means for all 12 competencies than males, however, none of them were statistically significantly different when compared to males.

Mean values were analyzed for each ESCI Competency (Table 4-9) according to age range. The age ranges consisted of: 35-44 \((n= 11)\); 45-54 \((n= 16)\); 55-64 \((n= 23)\);
65-74 \((n=5)\). The 65-74 age range had the highest mean values in all but three ESCI competencies where they scored third in each: Achievement Orientation \((M=4.28; SD=0.33)\), Positive Outlook \((M=4.08; SD=0.41)\), and Adaptability \((M=3.96; SD=0.54)\). The 55-64 age range ranked second in eight ESCI competencies, first in Adaptability \((M=4.07; SD=0.69)\) and third in Empathy \((M=3.84; SD=0.78)\), Organizational Awareness \((M=4.24; SD=0.78)\), and Teamwork \((M=4.27; SD=0.67)\). The 35-44 age range ranked third in six competencies, second in Adaptability \((M=4.06; SD=0.45)\), Empathy \((M=3.85; SD=0.58)\), Organizational Awareness \((M=4.30; SD=0.52)\), and Teamwork \((M=4.29; SD=0.53)\), and first in Achievement Orientation \((M=4.35; SD=0.32)\) and Positive Outlook \((M=4.23; SD=0.39)\). CEDs in the 45-54 age range had the lowest mean values for all 12 ESCI competencies.

To further describe the EI of CEDs, mean values were analyzed for each ESCI competency (Table 4-10) and rank plotted (Figures 4-6 – Figure 4-17) for each Extension Administrative District: Northwest \((n=14)\); Northeast \((n=12)\); Central \((n=8)\); South Central, \((n=10)\); and South \((n=11)\). The South District had the highest means for 11 of the 12 ESCI competencies, ranking second only in the Coach and Mentor competency \((M=4.15; SD=0.98)\) to first-ranked Northwest District \((M=4.19; SD=0.88)\). Northwest had the most second highest means, with the Northeast District ranking third for seven competencies and second for five of the competencies. South Central District ranked fourth in 11 of 12 competencies, but second in Positive Outlook \((M=4.15; SD=0.98)\). Central District ranked fifth in all 12 ESCI competency means.

Using an alpha level of .05, one-way analyses of variance (ANOVA) were conducted to evaluate whether there were differences in the 12 EI competencies and
the five Extension Administrative Districts. While mean differences were present among all five Districts, the ANOVA analyses revealed that none of those differences were statistically significant (Table 4-10).

**Objective Three**

Objective three was to determine the dietary quality of Florida CEDs. When asked whether they felt the food they eat affects their emotions/moods, 74.5% of CEDs \((n=55)\) felt that food did in fact affect emotions/moods. However, more females (84%) felt food had an impact on moods and emotions than males (66.7%).

In order to determine the dietary quality of Florida CEDs, participants were asked to complete the 26-item *DSQ:Web* that captures intakes of fruits and vegetables, daily/calcium, added sugars, whole/grains/fiber, red meat, and processed meat (NCI, 2014). A SAS scoring algorithm program was used to convert screener responses to estimates of daily individual dietary intake using the What We Eat in America 24-hour dietary recall data from the 2010 NHANES (2014).

For this study, daily dietary intake data was measured against several daily recommended dietary guidelines. The Food and Nutrition Board of the Institute of Medicine, National Academies (2010) recommends 38 grams of fiber a day for adult males 18-50, and 30 grams for males 51 and older. For females, 25 grams are recommended for those 19-50, and 21 grams for females 51 and older. The National Institute of Health (2014) recommends males 19-70 should consume 1,000 mg of calcium a day, and those 71 and older, 1,200 mg a day. For females 19-50, the recommendation is 1,000 mg, and 1,200 mg a day for those 51 and older. The USDA ChooseMyPlate.gov (2014) was used for whole grains, dairy, and fruit and vegetable guidelines. Whole grain intake should amount to at least four ounces for males 19-30,
three and a half ounces for males 31-50, and three ounces for those 51 and older. Females should consume three ounces of whole grains each day. Adult males and females should take in three cups of dairy a day. Males 19-50 should eat three cups of vegetables a day, and those 51 and older, two and a half cups. Females 19-50 should consume two and a half cups of vegetables, and those 51 and older, two cups. Two cups of fruit are recommended for males each day. Two cups are also recommended for females 19-30, and one and a half cups for those 31 and older. For the purpose of this study, fruit and vegetable intake data and guideline recommendations have been added together to form a combined fruit and vegetable intake. Lastly, the American Heart Association (2014) advises males should limit their daily added sugar consumption to no more than nine teaspoons a day, and six teaspoons for females.

The DSQ was administered online during Phase Three of the study and had an 84% response rate with 53 CEDs completing the DSQ. Descriptive statistics were conducted to determine mean values (Table 4-11) and distribution (Figures 4-18 – Figure 23) for predicted dietary intake for fiber (g) ($M= 17.63; SD= 6.46$), calcium (mg) ($M= 825.37; SD= 303.35$), whole grain (oz.) ($M= 1.04; SD= 1.34$), dairy (c) ($M= 1.44; SD= 0.79$), fruits and vegetables (c) ($M= 3.87; SD= 1.03$), and added sugar (tsp) ($M= 15.93; SD= 11.98$).

CEDs were deficient in daily reference intakes (DRIs) for the majority of the items studied. Only 15% ($n = 8$) percent of CEDs consumed enough fiber each day, 21% ($n = 11$) took in enough calcium, 6% ($n = 3$) consumed the daily recommended amount of whole grains, and 4% ($n = 2$) met the dairy recommendations each day. Just over half (55%) of CEDs ate the daily recommended amount of fruits and vegetables. Added
sugars (including food and beverage intake) garnered the highest percentage with 85% 
(n = 45) of CEDs consuming more than the recommended daily allowance for added 
sugars.

Table 4-12 split dietary intake means by gender. Male participants (n= 29) had 
higher mean values for fiber, calcium, whole grains and dairy than females (n= 24). 
Females had higher reported fruit and vegetable intake, as well as added sugar intake. 
However, when it came to meeting daily recommended amounts (Table 4-13), 0% of the 
women met whole grains or dairy recommendations. The majority of male participants 
did not meet any of the daily recommended values for intake items. Seventy-one 
percent (n = 17) of females met the fruit and vegetable guidelines compared to 41% (n 
= 12) of males. As for added sugar, 92% (n = 22) of female participants consumed 
more than the daily recommended allowance, while 79% (n = 23) of males exceeded 
the daily allowance.

**Objective Four**

Objective 4 of the study was to determine the physical activity of Florida CEDs. 
When asked if they thought physical activity affected their emotions/moods, 92.7% (n = 
51) of CEDs felt that physical activity in fact affected their emotions/moods. When 
broken down by gender, 100% of females felt PA had an effect on their 
emotions/moods, compared to 86.7% (n = 26) of males.

In order to determine the physical activity of Florida CEDs, the IPAQ Long-Form 
was used to examine CEDs’ physical activity (PA) during Phase 1 of the study. The 
instrument was comprised of five physical activity domains: job-related; transportation; 
housework, house maintenance, and caring for family; recreation, sport, and leisure-
time; and time spent sitting. Both categorical and continuous indicators of PA can be
computed by weighing each type of activity by its energy requirements defined in multiples of the resting metabolic rate (METs) to yield a score in MET—minutes. A MET minute is computed by multiplying the MET score of an activity by the minutes performed (Table 4-14). For the purpose of this study, each IPAQ domain (work, transport, domestic and garden, and leisure) score (except sitting time) was added together to form an overall grand total. That grand total was reported as a continuous score and categorical score. Total METs fall into one of three determined PA level categories: high, moderate, and low. A ‘high’ category describes a higher level of participation. The IPAQ Research Committee proposed a measure which equates to approximately at least one hour per day or more, of at least moderate-intensity activity above the basal level of physical activity, or half an hour of vigorous-intensity activity over and above basal levels daily (IPAQ, 2005). A ‘moderate’ score is defined as having some activity, more than the low active category. It is proposed that it is a level of activity equivalent to a half-hour of at least moderate-intensity PA on most days. A ‘low’ score is defined as not meeting any of the criteria for either the high or moderate categories. Table 4-15 illustrates further criterion for categorizing individual PA levels based upon activities and MET data. IPAQ creators also suggest reporting METs as median scores.

Average MET-minutes of Florida CEDs ($n=55$) fell in the PA level ‘moderate’ category ($M=1823.62; Mdn=1586.00; SD=902.72$). Figure 4-24 charts the distribution of overall IPAQ MET Values. Female CEDs ($n=25$) maintained higher PA means and medians ($M=1917.74; Mdn=1674.00; SD=968.01$) (Figure 4-25) than males ($n=30; M=1745.19; Mdn=1488.50; SD=853.18$) (Figure 4-26). Categorically (Figure 4-27),
78.2% (n = 43) of CEDs have ‘moderate’ PA levels, 14.5% (n = 8) are considered to have ‘high’ levels and 7.3% (n = 4) are in the ‘low’ PA level. Categorically split by gender (Figure 4-28), two more males (n = 5) fell into the ‘high’ PA category compared to females (n = 3). The majority (80%) of males fell into the moderate range, while 16.7% (n = 5) were in the high range and 3.3% (n = 1) in the low. For females (Figure 4-29), 76% (n = 19) had moderate PA levels, 12% (n = 3) high, and 12% (n = 3) low.

**Objective Five**

Objective 5 was to describe the dietary, physical activity and weight perceptions of Florida CEDs. Perception items were included on a portion of the demographic questionnaire administered during Phase 1 of the study. Participants (n= 55) were asked to answer yes/no questions, as well as to circle all factors that affected the topic listed in the item as it related to diet, PA, and body weight. As a result, 27% (n = 15) of CEDs were happy with their current weight, compared to 73% (n = 40) of them who were not happy with their current body weight (Table 4-16; Figure 4-29). When asked what work-related factors (hours, availability of food, travel, or other) affected their diet, 60% (n = 33) of CEDs said work hours, 27% (n = 15) said availability of food, 25% (n = 14) said work-related travel and 15% said ‘other’ (n = 8) (Table 4-16). Respondents were then asked to circle any past/current items (heart disease, cancer, diabetes, weight-loss diet, religion, or other) that affected their current diet (Table 4-17). The majority (76%; n = 42) of respondents (n= 55) said their diet was not affected by any of the factors listed, 7% (n = 4) of CEDs said past or current heart disease had an effect, 5% (n = 3) cancer, 4% (n = 2) diabetes, 7% (n = 4) a weight-loss diet, 0% religion, and 4% (n = 2) ‘other’.

The majority (73%; n = 40) of CEDs said they were not happy with their current
level of physical activity (Table 4-18; Figure 4-31); however, most (80%; \( n = 44 \)) reported physical impairment was not something that impeded their PA (Figure 4-32).

Work-related factors affecting CED’s PA included: hours (71%; \( n = 39 \)), stress (31%; \( n = 17 \)), location (18%; \( n = 10 \)), and ‘other’ (7%; \( n = 4 \)).

**Objective Six**

Objective 6 was to examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables. To accomplish this objective, Pearson’s Product Moment Correlations were calculated between the selected variables with continuous data and Spearman’s Rho Correlations were calculated for nonparametric data. To describe the magnitude of the associations among variables, the terminology put forward by Davis (1971) was used. According to Davis, a correlation of zero denotes no association between variables, while a correlation of 1.00 signifies a perfect relationship. Additionally, Davis submitted that correlations in the range of .01 to .09 are considered negligible, .10 to .29 are low, .30 to .49 are moderate, .50 to .69 are substantial, and any value above .70 is considered very high. An alpha level of .05 was used for all correlational tests. Table 4-19 shows the matrix of the correlations.

The dependent variable, emotional intelligence, was found to have very high and substantial negative and positive correlations with a number of its components and those of the independent variable, dietary quality. Very high correlations were found for fruit and vegetable intake and the four clusters: Self-Awareness (\( r = .72 \)), Self-Management (\( r = .76 \)), Social Awareness (\( r = .73 \)), and Relationship Management (\( r = .70 \)). For the 12 constructs, very high positive correlations were reported for fruit and vegetable consumption and self-awareness (\( r = .72 \)), positive outlook (\( r = .71 \))
adaptability \((r = .77)\), empathy \((r = .73)\), organizational awareness \((r = .71)\), and conflict management \((r = .70)\). Substantial positive correlations were found among fruit and vegetable intake and emotional self-control \((r = .67)\), achievement orientation \((r = .69)\), influence \((r = .66)\), coach and mentor \((r = .65)\), inspirational leadership \((r = .68)\), and teamwork \((r = .68)\).

Very high negative correlations were found with total added sugar intake and each of the four ESCI clusters as well as each of the 12 ESCI constructs. The clusters reported: self-awareness \((r = -.70)\), self-management \((r = -.85)\), social awareness \((r = -.83)\), and relationship management \((r = -.83)\). The calculations for the 12 constructs were: self-awareness \((r = -.70)\), emotional self-control \((r = -.77)\), achievement orientation \((r = -.86)\), positive outlook \((r = -.79)\), adaptability \((r = -.81)\), empathy \((r = -.80)\), organizational awareness \((r = -.83)\), influence \((r = -.79)\), coach and mentor \((r = -.80)\), conflict management \((r = -.76)\), inspirational leadership \((r = -.81)\), and teamwork \((r = -.81)\).

Negative weak to moderate correlations were revealed for fiber intake and EI components ranging from -.33 (self-awareness) to -.50 (organizational awareness). Very weak to weak negative correlations were found between EI competencies and whole grain intake, with correlation coefficients ranging from -.11 to -.24.

The dependent variable, emotional intelligence, and the independent variable of physical activity had very high and substantial correlations (Table 4-20). The four ESCI clusters reported very high and substantial correlations: self-awareness \((r = .72)\), self-management \((r = .65)\), social awareness \((r = .66)\), and relationship management \((r = .68)\). For the individual constructs, self-awareness and physical activity had a very high
positive correlation \((r = .72)\), while the remaining ESCI components fell within the substantial range: emotional self-control \((r = .57)\), achievement orientation \((r = .59)\), positive outlook \((r = .64)\), adaptability \((r = .66)\), empathy \((r = .68)\), organizational awareness \((r = .62)\), influence \((r = .63)\), coach and mentor \((r = .61)\), conflict management \((r = .65)\), inspirational leadership \((r = .69)\), and teamwork \((r = .68)\).

Parametric Correlations were conducted between selected demographic items and the 12 emotional intelligence components. Negligible to very weak associations were calculated for BMI scores, with coefficient correlations ranging from .03 to .17, and age, ranging from -.00 to .08. Very weak positive to weak negative correlations were found with years of Extension service, with coefficient correlations ranging from -.23 to .04. For years of CED service, very weak relationships were discovered, with coefficient correlations ranging from .01 to .18.

Nonparametric Correlations were calculated between other selected demographic items and the 12 emotional intelligence components. For physical activity categories (low, moderate, high), self-awareness \((r = .44)\), adaptability \((r = .41)\), empathy \((r = .42)\), and inspirational leadership \((r = .44)\) all had moderate correlations, while the remaining eight were found to be weak, ranging from .28 to .39. Gender and EI components were found to have very weak associations, ranging from .03 to .18.

**Objective Seven**

Objective 7 was to determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence. Multiple regression analyses were performed for each of the four main cluster dependent variables of emotional intelligence in order to explain the contributions of the independent variables. All regression models used the same independent variables—
physical activity, added sugar intake, and fruit and vegetable intake. The assumptions of linearity, independence of errors, homoscedasticity, unusual points, and normality of residuals were met for each analysis.

For regression model 1, PA, added sugar intake, and fruit and vegetable intake variables statistically significantly predicted the self-awareness EI cluster $F(3,49) = 35.186, p < .005, \text{adj. } R^2 = .66$. All three variables added statistically significantly to the prediction, $p < .05$. Regression coefficients and standard errors for all of the cluster analyses can be found in Table 4-21.

For model 2, the independent variables of PA, added sugar intake, and fruit and vegetable intake were found to be statistically significant predictors of the self-management EI cluster $F(3,49) = 63.157, p < .005, \text{adj. } R^2 = .78$. All three variables added statistically significantly to the prediction, $p < .05$.

Model 3’s prediction on EI cluster social awareness and PA, added sugar intake, and fruit and vegetable intake variables were found to be statistically significant predictors $F(3,49) = 51.830, p < .005, \text{adj. } R^2 = .75$. All three variables added to the statistical significance of the prediction, $p < .05$.

For model 4, PA and added sugar intake were discovered as statistically significant predictors of the relationship management EI cluster $F(3,49) = 50.419, p < .005, \text{adj. } R^2 = .74$, but fruit and vegetable intake was not. Therefore, two of the three variables added statistically significantly to the prediction, $p < .05$.

EI competencies contributing to the respective EI clusters were reported as well and regression coefficients and standard errors for all of the competency analyses can be found in Table 4-22. PA, added sugar intake, and fruit and vegetable intake variables
predicted the EI competencies of self-awareness $F(3,49) = 35.186, p < .005, \text{adj. } R^2 = .66$; adaptability $F(3,49) = 51.337, p < .005, \text{adj. } R^2 = .74$; empathy $F(3,49) = 45.007, p < .005, \text{adj. } R^2 = .72$; and conflict management $F(3,49) = 32.421, p < .005, \text{adj. } R^2 = .64$

and were statistically significantly, $p < .05$.

Added sugar intake was a statistically significant predictor in each of the 12 EI competencies, and added statistically significantly to these predictions, $p < .05$. In addition, PA and added sugar intake variables were statistically significant predictors for the following EI competencies: positive outlook $F(3,49) = 37.625, p < .005, \text{adj. } R^2 = .68$; influence $F(3,49) = 35.014, p < .005, \text{adj. } R^2 = .66$; inspirational leadership $F(3,49) = 46.817, p < .005, \text{adj. } R^2 = .73$; and teamwork $F(3,49) = 43.887, p < .005, \text{adj. } R^2 = .71$, adding to the statistical significance of these predictions, $p < .05$.

**Summary**

Chapter 4 presented the findings of this study. The findings were organized around the objectives that guided this research. The objectives of the study were to:

(a) describe the demographics of Florida County Extension Directors (CEDs); (b) describe the emotional intelligence of Florida CEDs; (c) determine the dietary quality of Florida CEDs; (e) determine the physical activity of Florida CEDs; (f) describe the dietary, physical activity and weight perceptions of Florida CEDs; (g) examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables; and (h) determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

The findings presented in Chapter 4 will be described in further detail in Chapter 5, where conclusions, recommendations, and implications will also be presented.
Table 4-1. Participant group totals

<table>
<thead>
<tr>
<th>Group</th>
<th># of Participants</th>
<th>Voluntarily Withdrew</th>
<th>Totals at Start of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED Group</td>
<td>63</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Multi-rater Group</td>
<td>315</td>
<td>60</td>
<td>255</td>
</tr>
</tbody>
</table>
Table 4.2. Respondent rates for phases

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>n</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>63</td>
<td>60</td>
<td>95.23%</td>
</tr>
<tr>
<td>Phase 2 CED Group</td>
<td>63</td>
<td>55</td>
<td>87.30%</td>
</tr>
<tr>
<td>Phase 2 Multi-rater Group</td>
<td>315</td>
<td>255</td>
<td>80.95%</td>
</tr>
<tr>
<td>Phase 3</td>
<td>63</td>
<td>56</td>
<td>88.88%</td>
</tr>
<tr>
<td>Final CED Group(^a)</td>
<td>63</td>
<td>55</td>
<td>87.30%</td>
</tr>
</tbody>
</table>

*Note.* \(^a\)Included in data are participants completing all three, or at least the first two of three phases.

Table 4.3. PostHoc reliability of ESCI instrument constructs

<table>
<thead>
<tr>
<th>Instrument Constructs</th>
<th>Reliability Coefficient (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Self-Awareness</td>
<td>.986</td>
</tr>
<tr>
<td>Emotional Self-Control</td>
<td>.986</td>
</tr>
<tr>
<td>Achievement Orientation</td>
<td>.985</td>
</tr>
<tr>
<td>Positive Outlook</td>
<td>.985</td>
</tr>
<tr>
<td>Adaptability</td>
<td>.984</td>
</tr>
<tr>
<td>Empathy</td>
<td>.984</td>
</tr>
<tr>
<td>Organizational Awareness</td>
<td>.984</td>
</tr>
<tr>
<td>Influence</td>
<td>.985</td>
</tr>
<tr>
<td>Coach and Mentor</td>
<td>.985</td>
</tr>
<tr>
<td>Conflict Management</td>
<td>.985</td>
</tr>
<tr>
<td>Inspirational Leadership</td>
<td>.984</td>
</tr>
<tr>
<td>Teamwork</td>
<td>.984</td>
</tr>
</tbody>
</table>

Table 4.4. Descriptive statistics of CED respondents (n = 55)

<table>
<thead>
<tr>
<th></th>
<th>Frequency (f)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>54.5</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>45.5</td>
</tr>
<tr>
<td>Highest Degree Earned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Masters</td>
<td>48</td>
<td>87.3</td>
</tr>
<tr>
<td>Doctorate</td>
<td>7</td>
<td>12.7</td>
</tr>
<tr>
<td>Florida Extension Judicial Districts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest</td>
<td>14</td>
<td>25.5</td>
</tr>
<tr>
<td>Northeast</td>
<td>12</td>
<td>21.8</td>
</tr>
<tr>
<td>Central</td>
<td>8</td>
<td>14.5</td>
</tr>
<tr>
<td>South Central</td>
<td>10</td>
<td>18.2</td>
</tr>
<tr>
<td>South</td>
<td>11</td>
<td>20.0</td>
</tr>
</tbody>
</table>
Figure 4-1. Distribution of years as CED ($M = 9.60; SD = 8.91$)
Figure 4-2. Distribution of years in Extension ($M = 19.64; SD = 10.70$)
Figure 4-3. Distribution of CED respondent age ($M = 52.64; SD = 8.70$)
Figure 4-4. Distribution of BMI Scores ($n = 54; M = 28.42; SD = 5.55$)

Table 4-5. BMI category frequencies and percentages ($n = 54; SD = .986$)

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency ($f$)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Normal</td>
<td>17</td>
<td>31.5</td>
</tr>
<tr>
<td>Overweight</td>
<td>16</td>
<td>29.6</td>
</tr>
<tr>
<td>Obese</td>
<td>16</td>
<td>29.6</td>
</tr>
<tr>
<td>Morbidly Obese</td>
<td>5</td>
<td>09.3</td>
</tr>
</tbody>
</table>
Figure 4-5. Percentages of BMI categories (normal, overweight, obese, morbidly obese)
Table 4-6. Means for Emotional and Social Competency Inventory (ESCI)

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Competency</th>
<th>Self Mean</th>
<th>SD</th>
<th>Multi-raters Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>Emotional self-awareness</td>
<td>3.70</td>
<td>0.56</td>
<td>3.61</td>
<td>0.72</td>
</tr>
<tr>
<td>Self-management</td>
<td>Emotional self-control</td>
<td>4.07</td>
<td>0.60</td>
<td>4.18</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>Achievement orientation</td>
<td>4.30</td>
<td>0.60</td>
<td>4.24</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>Positive outlook</td>
<td>4.17</td>
<td>0.51</td>
<td>4.15</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td>Adaptability</td>
<td>4.03</td>
<td>0.52</td>
<td>4.00</td>
<td>0.70</td>
</tr>
<tr>
<td>Social awareness</td>
<td>Empathy</td>
<td>3.96</td>
<td>0.41</td>
<td>3.82</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Organizational awareness</td>
<td>4.20</td>
<td>0.53</td>
<td>4.22</td>
<td>0.74</td>
</tr>
<tr>
<td>Relationship management</td>
<td>Influence</td>
<td>3.93</td>
<td>0.40</td>
<td>3.83</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>Coach and mentor</td>
<td>4.25</td>
<td>0.42</td>
<td>3.98</td>
<td>0.85</td>
</tr>
<tr>
<td></td>
<td>Conflict management</td>
<td>4.00</td>
<td>0.50</td>
<td>3.78</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>Inspirational leadership</td>
<td>3.94</td>
<td>0.55</td>
<td>3.79</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>Teamwork</td>
<td>4.44</td>
<td>0.40</td>
<td>4.25</td>
<td>0.64</td>
</tr>
</tbody>
</table>

*Note.* Self $n = 48$; Multi-raters $n = 55$.

Table 4-7. Means for ESCI clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Self Mean</th>
<th>SD</th>
<th>Multi-raters Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>3.70</td>
<td>0.56</td>
<td>3.61</td>
<td>0.72</td>
</tr>
<tr>
<td>Self-management</td>
<td>4.14</td>
<td>0.56</td>
<td>4.14</td>
<td>0.66</td>
</tr>
<tr>
<td>Social awareness</td>
<td>4.08</td>
<td>0.47</td>
<td>4.02</td>
<td>0.74</td>
</tr>
<tr>
<td>Relationship management</td>
<td>4.11</td>
<td>0.46</td>
<td>3.92</td>
<td>0.76</td>
</tr>
</tbody>
</table>

*Note.* Self $n = 48$; Multi-raters $n = 55$. 

Note. Self $n = 48$; Multi-raters $n = 55$. 

116
Table 4-8. Gender means for Emotional and Social Competency Inventory (ESCI)

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Competency</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Self-Awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional self-awareness</td>
<td>3.50</td>
<td>0.69</td>
<td>3.73</td>
</tr>
<tr>
<td>Emotional self-control</td>
<td>4.14</td>
<td>0.62</td>
<td>4.22</td>
</tr>
<tr>
<td>Self-Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement orientation</td>
<td>4.16</td>
<td>0.69</td>
<td>4.32</td>
</tr>
<tr>
<td>Positive outlook</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td>4.00</td>
<td>0.62</td>
<td>4.05</td>
</tr>
<tr>
<td>Social awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td>3.80</td>
<td>0.74</td>
<td>3.83</td>
</tr>
<tr>
<td>Organizational awareness</td>
<td>4.21</td>
<td>0.64</td>
<td>4.22</td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence</td>
<td>3.78</td>
<td>0.59</td>
<td>3.89</td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coach and mentor</td>
<td>3.91</td>
<td>0.84</td>
<td>4.06</td>
</tr>
<tr>
<td>Conflict management</td>
<td>3.70</td>
<td>0.80</td>
<td>3.86</td>
</tr>
<tr>
<td>Inspirational leadership</td>
<td>3.74</td>
<td>0.87</td>
<td>3.85</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4.20</td>
<td>0.60</td>
<td>4.30</td>
</tr>
</tbody>
</table>

Note. Males $n = 30$; Females $n = 25$. 
<table>
<thead>
<tr>
<th>Competency</th>
<th>35-44 ($n=11$)</th>
<th>45-54 ($n=16$)</th>
<th>55-64 ($n=23$)</th>
<th>65-74 ($n=5$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-awareness</td>
<td>3.63</td>
<td>0.45</td>
<td>3.54</td>
<td>0.89</td>
</tr>
<tr>
<td>Emotional Self-Control</td>
<td>4.20</td>
<td>0.49</td>
<td>4.01</td>
<td>0.76</td>
</tr>
<tr>
<td>Achievement Orientation</td>
<td>4.35</td>
<td>0.32</td>
<td>4.05</td>
<td>0.75</td>
</tr>
<tr>
<td>Positive Outlook</td>
<td>4.24</td>
<td>0.39</td>
<td>4.03</td>
<td>0.83</td>
</tr>
<tr>
<td>Adaptability</td>
<td>4.06</td>
<td>0.45</td>
<td>3.87</td>
<td>0.91</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.85</td>
<td>0.58</td>
<td>3.71</td>
<td>0.91</td>
</tr>
<tr>
<td>Organizational Awareness</td>
<td>4.30</td>
<td>0.52</td>
<td>4.08</td>
<td>0.88</td>
</tr>
<tr>
<td>Influence</td>
<td>3.74</td>
<td>0.41</td>
<td>3.73</td>
<td>0.77</td>
</tr>
<tr>
<td>Coach and Mentor</td>
<td>3.96</td>
<td>0.70</td>
<td>3.83</td>
<td>1.03</td>
</tr>
<tr>
<td>Conflict Management</td>
<td>3.75</td>
<td>0.53</td>
<td>3.64</td>
<td>0.90</td>
</tr>
<tr>
<td>Inspirational Leadership</td>
<td>3.72</td>
<td>0.63</td>
<td>3.63</td>
<td>1.02</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4.29</td>
<td>0.53</td>
<td>4.10</td>
<td>0.75</td>
</tr>
</tbody>
</table>
Table 4-10. ESCI and Extension administrative district means and ANOVA analyses

<table>
<thead>
<tr>
<th>Competency</th>
<th>Northwest Mean</th>
<th>SD</th>
<th>Northeast Mean</th>
<th>SD</th>
<th>Central Mean</th>
<th>SD</th>
<th>South Central Mean</th>
<th>SD</th>
<th>South Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>3.71</td>
<td>0.80</td>
<td>3.53</td>
<td>0.61</td>
<td>3.35</td>
<td>0.85</td>
<td>3.50</td>
<td>0.51</td>
<td>3.84</td>
<td>0.81</td>
<td>0.596</td>
</tr>
<tr>
<td>Emotional Self-Control</td>
<td>4.22</td>
<td>0.63</td>
<td>4.25</td>
<td>0.43</td>
<td>3.96</td>
<td>0.76</td>
<td>4.03</td>
<td>0.61</td>
<td>4.34</td>
<td>0.69</td>
<td>0.651</td>
</tr>
<tr>
<td>Achievement Orientation</td>
<td>4.28</td>
<td>0.72</td>
<td>4.38</td>
<td>0.45</td>
<td>3.90</td>
<td>0.83</td>
<td>4.03</td>
<td>0.40</td>
<td>4.44</td>
<td>0.74</td>
<td>0.301</td>
</tr>
<tr>
<td>Positive Outlook</td>
<td>4.06</td>
<td>0.73</td>
<td>4.12</td>
<td>0.54</td>
<td>4.04</td>
<td>0.71</td>
<td>4.03</td>
<td>0.55</td>
<td>3.71</td>
<td>0.81</td>
<td>0.766</td>
</tr>
<tr>
<td>Adaptability</td>
<td>4.04</td>
<td>0.71</td>
<td>4.03</td>
<td>0.55</td>
<td>3.71</td>
<td>0.81</td>
<td>3.93</td>
<td>0.39</td>
<td>4.16</td>
<td>0.97</td>
<td>0.725</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.85</td>
<td>0.77</td>
<td>3.83</td>
<td>0.63</td>
<td>3.49</td>
<td>0.87</td>
<td>3.74</td>
<td>0.51</td>
<td>4.05</td>
<td>0.95</td>
<td>0.608</td>
</tr>
<tr>
<td>Organizational Awareness</td>
<td>4.30</td>
<td>0.73</td>
<td>4.28</td>
<td>0.64</td>
<td>3.89</td>
<td>0.83</td>
<td>4.07</td>
<td>0.35</td>
<td>4.41</td>
<td>1.04</td>
<td>0.566</td>
</tr>
<tr>
<td>Influence</td>
<td>3.83</td>
<td>0.72</td>
<td>3.89</td>
<td>0.58</td>
<td>3.66</td>
<td>0.67</td>
<td>3.67</td>
<td>0.30</td>
<td>4.03</td>
<td>0.77</td>
<td>0.659</td>
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<tr>
<td>Coach and Mentor</td>
<td>4.19</td>
<td>0.88</td>
<td>3.93</td>
<td>0.74</td>
<td>3.68</td>
<td>1.16</td>
<td>3.82</td>
<td>0.47</td>
<td>4.15</td>
<td>0.98</td>
<td>0.617</td>
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<tr>
<td>Conflict Management</td>
<td>3.90</td>
<td>0.91</td>
<td>3.30</td>
<td>1.01</td>
<td>3.69</td>
<td>0.43</td>
<td>3.97</td>
<td>0.77</td>
<td>3.77</td>
<td>0.81</td>
<td>0.430</td>
</tr>
<tr>
<td>Inspirational Leadership</td>
<td>3.86</td>
<td>0.92</td>
<td>3.87</td>
<td>0.67</td>
<td>3.43</td>
<td>1.13</td>
<td>3.61</td>
<td>0.49</td>
<td>4.06</td>
<td>1.05</td>
<td>0.559</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4.23</td>
<td>0.68</td>
<td>4.28</td>
<td>0.64</td>
<td>3.96</td>
<td>0.75</td>
<td>4.19</td>
<td>0.41</td>
<td>4.49</td>
<td>0.68</td>
<td>0.521</td>
</tr>
</tbody>
</table>

*Note.* Extension districts: Northwest (*n* = 14); Northeast (*n* = 12); Central (*n* = 8); South Central (*n* = 10); South (*n* = 11). *α* = .05.
Figure 4-6. ESCI self-awareness means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-7. ESCI emotional self-control means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-8. ESCI achievement orientation means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-9. ESCI positive outlook means (Northwest, \( n = 14 \); Northeast, \( n = 12 \); Central, \( n = 8 \); South Central, \( n = 10 \); South, \( n = 11 \))
Figure 4-10. ESCI adaptability means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-11. ESCI empathy means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-12. ESCI organizational awareness means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-13. ESCI influence means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-14. ESCI coach and mentor means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-15. ESCI conflict management means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-16. ESCI inspirational leadership means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
Figure 4-17. ESCI teamwork means (Northwest, $n = 14$, Northeast, $n = 12$; Central, $n = 8$; South Central, $n = 10$; South, $n = 11$)
<table>
<thead>
<tr>
<th>Dietary Category</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Met (n)</th>
<th>Unmet (n)</th>
<th>Percent Met&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber (g)</td>
<td>17.63</td>
<td>16.20</td>
<td>6.46</td>
<td>8</td>
<td>45</td>
<td>15%</td>
</tr>
<tr>
<td>Calcium (mg)</td>
<td>825.37</td>
<td>758.84</td>
<td>303.35</td>
<td>11</td>
<td>42</td>
<td>21%</td>
</tr>
<tr>
<td>Whole Grain (oz)</td>
<td>1.04</td>
<td>0.55</td>
<td>1.34</td>
<td>3</td>
<td>50</td>
<td>6%</td>
</tr>
<tr>
<td>Dairy (c)</td>
<td>1.44</td>
<td>1.30</td>
<td>0.79</td>
<td>2</td>
<td>51</td>
<td>4%</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables (c)</td>
<td>3.87</td>
<td>3.88</td>
<td>1.03</td>
<td>29</td>
<td>24</td>
<td>55%</td>
</tr>
<tr>
<td>Added Sugar (tsp)</td>
<td>15.93</td>
<td>11.21</td>
<td>11.98</td>
<td>8</td>
<td>45</td>
<td>85%</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup>Refers to percentage of CEDs who met the daily recommended values. <sup>b</sup>Refers to percentage of CEDs who consumed more than the daily recommended allowances.
Figure 4.18. Distribution of CED (n = 53) predicted fiber (g) intake ($M = 17.63; SD = 6.46$)
Figure 4-19. Distribution of CED (n= 53) predicted calcium (mg) intake ($M = 825.37; SD = 758.84$)
Figure 4-20. Distribution of CED (n= 53) of predicted whole grain (oz) intake ($M = 1.04; \ SD = 1.34$)
Figure 4-21. Distribution of CED (n= 53) of predicted dairy (c) intake ($M = 1.44; SD = 0.79$)
Figure 4-22. Distribution of CED (n= 53) of predicted fruit and vegetable (c) intake ($M = 3.87; SD = 1.03$)
Figure 4.23. Distribution of CED (n=53) of predicted added sugar (tsp) intake ($M = 15.93; SD = 11.98$)

<table>
<thead>
<tr>
<th>Dietary Category</th>
<th>Males</th>
<th></th>
<th>Females</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Fiber (g)</td>
<td>18.66</td>
<td>6.51</td>
<td>16.39</td>
<td>6.31</td>
</tr>
<tr>
<td>Calcium (mg)</td>
<td>887.88</td>
<td>286.50</td>
<td>749.85</td>
<td>311.84</td>
</tr>
<tr>
<td>Whole Grains (oz)</td>
<td>1.25</td>
<td>1.68</td>
<td>0.79</td>
<td>0.72</td>
</tr>
<tr>
<td>Dairy (c)</td>
<td>1.60</td>
<td>0.81</td>
<td>1.26</td>
<td>0.74</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables (c)</td>
<td>3.79</td>
<td>0.97</td>
<td>3.98</td>
<td>1.11</td>
</tr>
<tr>
<td>Added Sugar (tsp)</td>
<td>16.86</td>
<td>11.51</td>
<td>14.82</td>
<td>12.68</td>
</tr>
</tbody>
</table>

*Note.* Males $n = 29$; Females $n = 24$.  

Table 4.12. CED predicted dietary intake means by gender
Table 4-13. Percentage of daily recommended amounts met by CED gender

<table>
<thead>
<tr>
<th>Dietary Category</th>
<th>Males Met DRI</th>
<th>Females Met DRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber (g)</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Calcium (mg)</td>
<td>30%</td>
<td>8%</td>
</tr>
<tr>
<td>Whole Grains (oz)</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Dairy (c)</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables (c)</td>
<td>41%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Males Over Daily Recommended Allowance Females Over Daily Recommended Allowance

| Added Sugar (tsp) | 79% | 92% |

Note. Males n = 29; Females n = 24.

Table 4-14. MET values and formula for computation of IPAQ MET-minutes

<table>
<thead>
<tr>
<th>Domain</th>
<th>MET Values</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>Walking MET-min/wk = 3.3 * walking min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate MET-min/wk = 4.0 * moderate intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vigorous MET-min/wk = 8.0 * vigorous intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Work METs = Sum of all three METs</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Walking MET-min/wk for = 3.3 * walking min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate MET-min/wk = 6.0 * moderate intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Transport METs = Sum of both METs</td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>Vigorous MET-min/wk = 5.5 * vigorous intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td>Yard/Indoors</td>
<td>Moderate MET-min/wk = 4.0 * moderate intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate MET-min/wk = 3.0 * moderate intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Domestic METs = Sum of all three METs</td>
<td></td>
</tr>
<tr>
<td>Leisure</td>
<td>Walking MET-min/wk = 3.3 * walking min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate MET-min/wk = 4.0 * moderate intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vigorous MET-min/wk = 8.0 * vigorous intensity activity min * days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Leisure METs = Sum of all three METs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall PA Grand Total = Sum of METs for all four domains</td>
<td></td>
</tr>
</tbody>
</table>

Note. Min= minutes; wk= week.
### Table 4-15. IPAQ criterion for PA category

<table>
<thead>
<tr>
<th>PA Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 Low:</td>
<td>Individuals who do not meet criteria for Categories 2 or 3 are considered ‘low’.</td>
</tr>
<tr>
<td>Category 2 Moderate:</td>
<td>3 or more days of vigorous-intensity activity of at least 20 minutes per day OR 5 or more days of moderate-intensity activity and/or walking of at least 30 minutes per day OR 5 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum Total PA of at least 600 MET-minutes/week.</td>
</tr>
<tr>
<td>Category 3 High:</td>
<td>Vigorous-intensity activity on at least 3 days achieving a minimum Total PA of at least 1500 MET-minutes/week OR 7 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum Total PA of at least 3000 MET-minutes/week.</td>
</tr>
</tbody>
</table>
Figure 4-24. Distribution of CED IPAQ MET values ($n=55$; $M=1823.62$, $Mdn=1586.00$, $SD=902.72$).
Figure 4-25. Distribution of female CED IPAQ MET values (n=25; $M=1917.74$; $Md=1674.00$; $SD=968.01$).
Figure 4-26. Distribution of male CED IPAQ MET values (n= 30; \( M = 1745.19 \); \( Mdn = 1488.50 \); \( SD = 853.18 \)).
Figure 4-27. Bar chart of overall CED PA category percentages (Low= 7.3%, Moderate= 78.2%, and High= 14.5%).
Figure 4-28. Bar chart of male CED PA category percentages (Low= 7.3%, Moderate= 78.2%, and High= 14.5%).
Figure 4-29. Bar chart of female CED PA category percentages (Low= 7.3%, Moderate= 78.2%, and High= 14.5%).

Table 4-16. Weight and diet perception frequencies and percentages (n= 55)

<table>
<thead>
<tr>
<th></th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy with Current Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>27%</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>73%</td>
</tr>
<tr>
<td>Work-related Factors Affected Diet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours</td>
<td>33</td>
<td>60%</td>
</tr>
<tr>
<td>Food Availability</td>
<td>15</td>
<td>27%</td>
</tr>
<tr>
<td>Travel</td>
<td>14</td>
<td>25%</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>15%</td>
</tr>
</tbody>
</table>
Figure 4-30. Bar chart of percentages of CEDs happy with current weight.

Table 4-17. Conditions Affecting Diet frequencies and percentages ($n=55$)

<table>
<thead>
<tr>
<th>Items Affected Diet</th>
<th>Frequency ($f$)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>42</td>
<td>76%</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td>Cancer</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Weight-Loss Diet</td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td>Religion</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>4%</td>
</tr>
</tbody>
</table>
Table 4-18. PA perceptions frequencies and percentages (n= 55)

<table>
<thead>
<tr>
<th>Happy with Current PA</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>27%</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>73%</td>
</tr>
</tbody>
</table>

Physical Impairment Affected PA

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
<td>20%</td>
</tr>
<tr>
<td>No</td>
<td>44</td>
<td>80%</td>
</tr>
</tbody>
</table>

Work-related Items Affect PA

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Hours</td>
<td>39</td>
<td>71%</td>
</tr>
<tr>
<td>Stress</td>
<td>17</td>
<td>31%</td>
</tr>
<tr>
<td>Location</td>
<td>10</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>7%</td>
</tr>
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</table>

Figure 4-31. Bar chart of percentages of CEDs happy with current PA level.
Figure 4-32. Bar chart of percentages of CEDs with a physical impairment affecting PA.
Table 4-19. Correlations between emotional intelligence competencies and dietary quality

<table>
<thead>
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Note. SA = Self-Awareness; ESC = Emotional Self-Control, AO = Achievement Orientation; PO = Positive Outlook; AD = Adaptability; EM = Empathy; OA = Organizational Awareness; IN = Influence; C&M = Coach & Mentor; CM = Conflict Management; IL = Inspirational Leadership; TW = Teamwork; Whl.Grn. = Whole Grain; Frt & Veg = Fruit & Vegetable
Table 4.20. Correlations between emotional intelligence competencies and physical activity

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*Note. SA = Self-Awareness; ESC = Emotional Self-Control, AO = Achievement Orientation; PO = Positive Outlook; AD = Adaptability; EM = Empathy; OA = Organizational Awareness; IN = Influence; C&M = Coach & Mentor; CM = Conflict Management; IL = Inspirational Leadership; TW = Teamwork; PA = Physical Activity*
Table 4.21. Summary of multiple regression analyses: Dependent variable clusters

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<tr>
<th>Dependent variable: Self-awareness</th>
<th>Predictors</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>( R^2_{adj} )</th>
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<tbody>
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<td>.011*</td>
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<th>t</th>
<th>p</th>
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<th>β</th>
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Note. *\( p < .05; B = \) unstandardized regression coefficient; \( SE_B = \) Standard error of the coefficient; \( \beta = \) standardized coefficient; \( PA = \) physical activity
Table 4-22. Summary of regression analyses: Dependent variable competencies

### Dependent variable: Self-awareness (self-awareness cluster)

<table>
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<tr>
<th>Predictors</th>
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<th>β</th>
<th>t</th>
<th>p</th>
<th>R² adj</th>
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<td>0.313</td>
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### Dependent variable: Emotional self-control (self-management cluster)

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### Dependent variable: Achievement orientation

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Note. * $p < .05$; $B$ = unstandardized regression coefficient; $SE_B$ = Standard error of the coefficient; $\beta$ = standardized coefficient; PA = physical activity
CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the study was to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, and selected demographics. The independent variables for this study were dietary quality and physical activity, along with selected demographics. The dependent variable for this study was emotional intelligence by way of four individual clusters: self-awareness, self-management, social awareness, and relationship management.

Chapter 1 established the importance of examining the Florida Cooperative Extension System’s County Extension Directors, their related leadership competencies and health status. The Chapter also offered an overview of emotional intelligence, dietary quality and physical activity’s relationship to individuals’ emotions and the need for organizational wellness.

Chapter 2 provided the review of literature guiding the study, as well as, the theoretical framework. The literature review focused on empirical research in the following areas: dietary quality (DQ) and emotions, physical activity (PA) and emotions, the connection between DQ and PA, the theoretical framework of emotional intelligence, and individual demographics and organizational wellness. Finally, in Chapter 2 the culminating conceptual model derived from the theory base and review of literature was presented.

Chapter 3 specified the research methodology of this study, including a description of the research design, procedures, population and sample, instrumentation, data collection procedures, and methods of data analysis.
Chapter 4 presented findings related to each of the seven objectives. A full description of the results related to each objective was provided.

Chapter 5 offers a summary of the study and provides conclusions grounded in each objective’s findings. Additionally, the Chapter presents implications and recommendations for future research.

**Objectives**

This study was designed to examine the relationship between the emotional intelligence of Florida CEDs and their dietary quality, physical activity, and selected demographics. The specific objectives guiding this research study were to:

- Describe the demographics of Florida County Extension Directors (CEDs);
- Describe the emotional intelligence of Florida CEDs;
- Determine the dietary quality of Florida CEDs;
- Determine the physical activity of Florida CEDs;
- Describe the dietary, physical activity and weight perceptions of Florida CEDs;
- Examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables; and
- Determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

**Methods**

This study utilized a non-experimental descriptive/correlational design. Independent variables included dietary quality and physical activity, along with selected demographic items like self-reported weight and height for Body Mass Index, years of service, and perceptions about food, physical activity, and emotions. The dependent variable for this study was emotional intelligence described in four individual clusters: self-awareness, self-management, social awareness, and relationship management.
The study’s population was current Florida County Extension Directors (CEDs) employed with the University of Florida/Institute of Food and Agricultural Sciences (IFAS) Extension. This was a census study, so all CEDs in the state of Florida \((N = 64)\) were recruited to participate in the study. A secondary population of interest was that of Extension Agents and other Extension support staff (subordinates) and peers, where a convenience sample of about five multi-raters per CED \((N \approx 315)\), were pre-selected by the researcher from a UF/IFAS supplied online employee contact list.

The instruments used in this study were selected for their appropriateness and fit to address the research question. To assess the dependent variables of emotional intelligence, the 360° *Emotional and Social Competencies Inventory* (ESCI) was used. The ESCI was used to identify the perceptions of how well CEDs employed EI competencies and included a self-assessment, as well as, a multi-rater component. For the purposes of analyses, the multi-rater scores were used as the valid EI scores as advised by the instrument’s distributor. The ESCI used 72 5-point Likert-type scaled questions to assess perceptions of leaders’ EI competency.

A variety of surveys were utilized to assess the independent variables. The *International Physical Activity Questionnaire* (IPAQ) Long-Form was used to measure CED physical activity levels. The instrument was comprised of five physical activity domains: job-related; transportation; housework, house maintenance, and caring for family; recreation, sport, and leisure-time; and time spent sitting. It contained 27 questions, and respondents reported time-spent participating each day in hours and/or minutes for each individual activity.

The *Dietary Screener Questionnaire*Web (DSQ*Web) was used to assess
dietary quality and is an online self-administered dietary questionnaire measuring the frequency of consumption in the past month of selected food and beverage intake. The 26-item DSQ:Web captures intakes of fruits and vegetables, daily/calcium, added sugars, whole/grains/fiber, red meat, and processed meat. The DSQ:Web was created by the National Cancer Institute and is based upon the USDA’s dietary guidance.

A separate demographic instrument asked respondents to identify gender, age, years of experience as a CED, years of service in Cooperative Extension, and self-reported Body Mass Index (BMI) (height and weight). It also included perceptions of personal dietary, physical activity, and weight items, indication of whether current weight was desired weight, and if prior disease (cancer, heart disease, diabetes, religion) affected diet.

There were three data collection phases within this study beginning in August, 2014 and concluding in November, 2014. The first phase was conducted at a statewide Extension conference and included the IPAQ and Demographic instruments. For CEDs not attending the conference, they were notified and sent copies by mail along with a self-addressed stamped envelope in order to mail back responses. The second phase included the online self-assessment and multi-rater versions of the ESCI, where respondents received the emailed link by, HayGroup®, the instrument distributor’s company. The third and final phase consisted of the online DSQ, which concluded data collection for the study on November 17th, 2014.

Data were analyzed using SPSS version 22. Data corresponding to each objective were analyzed through the use of descriptive statistics, inferential statistics, Pearson’s Product Moment, Spearman’s Rho correlations, as well as, regression
methods.

**Summary of Findings**

The findings of this study are summarized following the study’s objectives.

**Description of Population and Response**

The population in this study consisted of current Florida County Extension Directors (CEDs). Just over half of the participants in this study were male (54.5%, \( n = 30 \)), with an average age of 52.64 and the mean years of service as a CED was 9.60 (SD = 8.91). The response rate varied from 85.74% to 96.23% for each phase. The final data group (\( n = 55 \)) was comprised of CEDs who had completed all three phases, or at least self-reported scores for Phase 1 and multi-rater scores for Phase Two.

**Objective One**

Objective one sought to describe the demographics of Florida County Extension Directors (CEDs). The results indicated there were slightly more male CEDs than female. A Master’s degree was the most common degree earned of the population and Florida’s Northwest Extension District had the most representation of respondents. Respondents had been a CED on average for 9.6 years, while the average years of working in Extension was 19.64. The mean age was 52.64, and the majority of CEDs fell into the 55-64 age range. When it came to self-reported Body Mass Index (BMI), results revealed the majority CEDs were overweight, obese, or morbidly obese.

**Objective Two**

Objective two was to describe the emotional intelligence of Florida County Extension Directors (CEDs). CEDs were asked to self-rate themselves on 12 constructs comprising four quadrants (self-awareness, self-management, social awareness, and relationship management) of emotional intelligence using the ESCI. The ESCI 360°
also measured the demonstration of CEDs’ behaviors, through the perceptions of multi-raters used for the true score in analyses. The ESCI used a 1 to 5 Likert-scale, ranging from never to consistently. Strength is signified when participants’ (multi-rater) scores are ≥ 85% of the scale (a score of 4.3) which means others perceive them to be demonstrating that competency often or consistently. Self-rated means were higher than multi-rater means in all but two (Organizational Awareness and Emotional Self-Control) of the 12 ESCI competencies. Both self-rated and multi-rated scores revealed Teamwork as the highest competency rating and Emotional Self-Awareness as the lowest-rated competency. CEDs scored themselves as meeting or exceeding the 4.3 score average for Teamwork and Achievement Orientation only, and having the highest ratings in Self-Management, followed by Relationship Management, Social Awareness, and lastly Self-Awareness. As noted earlier, multi-rater scores were used as the valid scores in this study. Multi-rater scores ranked the 12 EI competencies exhibited by CEDs from highest to lowest: 1) Teamwork; 2) Achievement Orientation; 3) Organizational Awareness; 4) Emotional Self-Control; 5) Positive Outlook; 6) Adaptability; 7) Coach and Mentor; 8) Influence; 9) Empathy; 10) Inspirational Leadership; 11) Conflict Management; and 12) Emotional Self-Awareness. The multi-rater cluster rankings also differed slightly from the self-rated scores. CEDs appear to maintain Self-Management (emotional self-control, achievement orientation, positive outlook, and adaptability) the best, followed by Social Awareness (empathy and organizational awareness), Relationship Management (influence, coach and mentor, conflict management, inspirational leadership, and teamwork), and lastly, Self-Awareness (emotional self-awareness). However, it is important to note, none of the
reported multi-rater mean scores were ≥ 85% of the scale (a score of 4.3). This signifies none of the 12 competencies were demonstrated often or consistently (HayGroup, 2011).

The findings also revealed females held higher multi-rater mean scores in each of the 12 EI competencies compared to males. However, inferential analyses found there to be no statistically significant differences between male and female EI competency scores. The 65-74 age range had the highest mean values in nine out of the 12 EI competencies, while the 55-64 age range ranked second, followed by the 35-44 range. CEDs in the 45-54 age range had the lowest mean values for all 12 ESCI competencies. To further describe the EI of Florida CEDs, mean values were analyzed and revealed that the South Extension Administrative District had the highest mean scores, followed by the Northwest, Northeast, South Central, and the Central District ranked fifth. However, the differences among the five Districts did not result in any statistically significant differences.

**Objective Three**

Objective three was to determine the dietary quality of Florida CEDs. Three out of four CEDs felt that food affects emotions and moods; however, more females felt that food had an impact on moods and emotions than males. The *Dietary Screener Questionnaire* (DSQ) assessed the respondents’ average consumption of daily/calcium, added sugars, whole/grains/fiber, red meat and processed meat. For this study, daily dietary intake data was measured against several daily recommended dietary guidelines. Most CEDs were deficient in daily reference intakes for the majority of the items studied. Only 21% or less of CEDs consumed the daily recommended amount of fiber, calcium, whole grains, and dairy recommendations. Just over half of CEDs ate
the daily recommended amount of fruits and vegetables. Added sugars accounted for the highest percentage (85%) with CEDs consuming more than the recommended daily allowance. Males had higher intake mean values for fiber, calcium, whole grains, and dairy than females; however, females reported higher fruit and vegetable intake, as well as, added sugar consumption. None of the females in the study met the daily whole grain or dairy recommendations. The majority of men failed to meet any of the daily recommended values for intake items.

**Objective Four**

Objective four sought to determine the physical activity of Florida CEDs. All of the CEDs studied (N = 55), except four males, felt that physical activity affected their emotions/moods. The *International Physical Activity Questionnaire* (IPAQ) Long-Form was used to assess PA levels and results found the majority of CEDs reported moderate levels of physical activity. Furthermore, females maintained higher PA means and median scores than males.

**Objective Five**

Objective five set out to describe the dietary, physical activity and weight perceptions of Florida CEDs. Nearly three-quarters of CED respondents were not happy with their current body weight. More than half said work hours affected their diet, while nearly a quarter reported the availability of food and work related travel also affected their dietary quality. Three-quarters of the respondents stated their current diet was not affected by any past or current health related or personal issues like heart disease, cancer, diabetes, weight-loss, diet, religion or other. In addition, the majority of CEDs said they were not happy with their current level of physical activity. CEDs reported work hours as the primary obstacle of PA, followed by work stress, and
location of their job site; however, the majority of CEDs reported a physical impairment was not the reason for their inactivity.

**Objective Six**

Objective six was to examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables. The dependent variable, emotional intelligence, was found to have very high negative and positive relationships with a number of its components and those of the independent variable, dietary quality. Very high correlations were found for fruit and vegetable intake and all four EI clusters: Self-Awareness \( r = .72 \), Self-Management \( r = .76 \), Social Awareness \( r = .73 \), and Relationship Management \( r = .70 \). Very high negative correlations were also found with total added sugar intake and each of the four ESCI clusters as well as each of the 12 ESCI constructs. The clusters reported: self-awareness \( r = -.70 \), self-management \( r = -.85 \), social awareness \( r = -.83 \), and relationship management \( r = -.83 \).

The dependent variable, emotional intelligence, and the independent variable of physical activity had very high and substantial correlations. The four ESCI clusters reported very high and substantial correlations: self-awareness \( r = .72 \), self-management \( r = .65 \), social awareness \( r = .66 \), and relationship management \( r = .68 \).

**Objective Seven**

Objective seven was to determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

First, multiple regression analyses were performed in relation to the CED’s multi-
rater emotional intelligence scores. Four models were discovered which provided statistically significant predictors for cluster components of emotional intelligence. All regression models used the same independent variables—physical activity, added sugar intake, and fruit and vegetable intake.

For the first model, the EI cluster *self-awareness* was statistically significantly predicted by physical activity, added sugar intake, and fruit and vegetable intake \( F(3,49) = 35.186, \ p < .005, \ adj. \ R^2 = .66 \). All three variables added statistically significantly to the prediction, \( p < .05 \). For model 2, all three independent variables of PA, added sugar intake, and fruit and vegetable intake were found to be statistically significant predictors \( (p < .05) \) of the *self-management* EI cluster \( F(3,49) = 63.157, \ p < .005, \ adj. \ R^2 = .78 \).

Model 3’s prediction on EI cluster *social awareness* and PA, added sugar intake, and fruit and vegetable intake was found to be statistically significant \( (p < .05) \), \( F(3,49) = 51.830, \ p < .005, \ adj. \ R^2 = .75 \). For model 4, only two of the three, PA and added sugar intake, were discovered as statistically significant \( (p < .05) \) predictors of the *relationship management* EI cluster \( F(3,49) = 50.419, \ p < .005, \ adj. \ R^2 = .74 \).

**Conclusions**

The findings are limited to the population of this study. With this limitation in mind, and based on the findings of this study, several conclusions can be drawn.

1. A majority of this study’s respondents are male, with an average in the lower 50s, have earned a Master’s degree, and have been working as a County Extension Director (CED) for at least 10 years, and on average in Extension for nearly 20 years.

2. A majority of CEDs self-reported their height and body weight, which calculated Body Mass Index (BMI) as either overweight, obese, or morbidly obese.

3. CEDs on average rated themselves as having higher emotional intelligence competency scores than multi-raters rated them in all but two (Organizational Awareness and Emotional Self-Control) of the 12 ESCI competencies. Both self-
rater and multi-rater scores revealed Teamwork as the highest competency rating and Emotional Self-Awareness as the lowest.

4. Multi-rater scores revealed that none of the 12 ESCI competencies were demonstrated often or consistently (Likert scaled score of 4.3 or higher) by CEDs.

5. Multi-rater scores discovered CEDs perform self-management at a higher level than social awareness, relationship management and self-awareness.

6. Male CEDs had lower ESCI competency score mean values than females in all 12 ESCI competencies; however, when analyzed, gender differences were not statistically significant.

7. Older (65-74) CEDs were reported as having higher EI scores in nine out of the 12 EI competencies, while CEDs in the 45-54 age range had the lowest mean values for all 12 ESCI competencies.

8. The South Extension Administrative District (n = 11 participants) had the highest means (for 11 of 12 ESCI competencies), followed by the Northwest (n = 14 participants), Northeast (n = 12 participants), and South Central (n = 10 participants). The Central District (n = 8 participants) ranked fifth in all 12 ESCI competency means.

9. A majority of respondents felt the food they eat affects their emotions/moods; more females felt food had an impact on moods and emotions than males.

10. A majority of respondents are deficient in their daily reference intakes (DRIs) of fiber, calcium, whole grains, and dairy recommendations. Just over half of CEDs reported eating the daily recommended amount of fruits and vegetables; the majority consumed more than the recommended daily allowance for added sugar. Females met more of the DRIs than males, consuming more fruits and vegetables than males. However, females had higher added sugar intake and consumed it more often than their male counterparts.

11. A majority of respondents feel physical activity affects an individual’s emotions and moods. The majority of CEDs self-reported ‘moderate’ physical activity levels. Females maintained higher self-reported PA mean and median scores than males.

12. A majority of respondents indicate they are not happy with their current body weight. Work hours affect the diets of most CEDs, while a smaller amount report the availability of food and work-related travel as hindrances to their dietary quality. A majority also reported their current diet is not affected by past or current disease, diet, or religious preferences.
13. A majority of respondents stated they are not happy with their current level of physical activity. However, for the most part a physical impairment did not impede respondents’ physical activity, but long work hours did.

14. Respondents who reported higher predicted daily fruit and vegetable intake tended to have higher multi-rater emotional intelligence cluster scores in self-awareness (emotional self-awareness), self-management (emotional self-control, achievement orientation, positive outlook, and adaptability), social awareness (empathy and organizational awareness), and relationship management (influence, coach and mentor, conflict management, inspirational leadership, and teamwork).

15. Respondents who reported consuming higher daily levels of added sugar tended to have lower EI cluster scores.

16. As respondents’ self-reported physical activity levels increased, their EI cluster scores also increased.

17. A variety of models were found to be significant predictors of respondents’ multi-rater emotional intelligence scores. Those models included independent variables, such as physical activity, fruit and vegetable consumption, and added sugar intake. EI clusters of self-awareness (emotional self-awareness), self-management (emotional self-control, achievement orientation, positive outlook, and adaptability), and social awareness (empathy and organizational awareness) were statistically significantly predicted by physical activity, fruit and vegetable consumption, and added sugar intake. Relationship management (influence, coach and mentor, conflict management, inspirational leadership, and teamwork) was statistically significantly predicted by physical activity and added sugar intake.

**Implications from Findings**

**Objective One:** Describe the demographics of Florida County Extension Directors (CEDs)

**Conclusion 1.** A majority of this study’s respondents are male, with an average age in the lower 50s, have earned a Master’s degree, and have been working as a County Extension Director (CED) for at least 10 years, and on average in Extension for nearly 20 years. This conclusion contributes to the notion described in prior research (Patterson, 1997; Pittman & Bruny, 1986) that normally CEDs are promoted from within the Extension System as demonstrated by the years of service in Extension and the
years of experience in the CED position. The average work years in Extension is double that of the advanced position of CED, which would signify they were promoted from within the organization.

**Conclusion 2.** A majority of CEDs self-reported their height and body weight, which calculated Body Mass Index (BMI) as either overweight, obese, or morbidly obese. This study found 68.5% of CEDs are either overweight (29.6%) or obese (29.6%), therefore, this conclusion aligns with previous research (CDC, 2013), that states 69 percent of America’s adult population is either overweight or obese. However, when it comes to obesity, FL CED respondents (29.6%) are more obese than Florida’s (26.4%) state average (Trust for America’s Health & Robert Wood Foundation, 2013) for adults. Given this increasing trend, higher obesity rate, and Florida Extension Roadmap goal of, “Empowering individuals and families to build healthy lives and achieve social and economic success” (UF/IFAS Extension, 2013), FL CEDs could benefit from some very intentional weight loss measures.

**Objective Two:** Describe the emotional intelligence of Florida CEDs

**Conclusion 3.** CEDs on average rated themselves as having higher emotional intelligence competency scores than multi-raters rated them in all but two (Organizational Awareness and Emotional Self-Control) of the 12 ESCI competencies. Both self-rater and multi-rater scores revealed Teamwork as the highest competency rating and Emotional Self-Awareness as the lowest. This finding coincides with research provided by the instrument creators (HayGroup, 2014) in that there is often a significant difference between self and other ratings. Individuals high in self-awareness tend to have smaller gaps (Carulli & Com, 2003). The higher a participant’s level in the organization, and the lower his or her performance, the more the self-rating tends to be
inflated (HayGroup, 2011). CEDs and multi-raters alike ranked emotional self-awareness as the lowest competency, therefore, this gives reason to why self-assessment scores could be higher than multi-rater scores. The majority of CEDs would benefit from further development in emotional self-awareness. Teamwork was the reported highest ranking among CED self-assessment and multi-raters, which supports the same published by HayGroup (2011) in the norm sample of 273 organizations and over four-thousand participants.

Conclusion 4. Multi-rater scores revealed that none of the 12 ESCI competencies were demonstrated often or consistently (Likert scaled score of 4.3 or higher) by CEDs. This conclusion implies that FL CEDs could benefit from further development in all 12 ESCI Competencies. It also aligns with prior research indicating that while it has been determined it is a needed skill, most FL CEDs have never participated in any formal leadership competency training, namely emotional intelligence (Ladewig & Rohs, 2000; Moore & Rudd, 2004; Sanders, 2014).

Conclusion 5. Multi-rater scores discovered CEDs perform self-management at a higher level than social awareness, relationship management and self-awareness. This finding suggests that while FL CEDs do not demonstrate self-management (emotional self-control, achievement orientation, positive outlook, and adaptability) often or consistently (as signified by a 4.3 score or higher), their subordinates and peers view them as exhibiting these competencies at a greater strength than others.

Conclusion 6. Male CEDs had lower ESCI competency score mean values than females in all 12 ESCI competencies; however, when analyzed, gender differences were not statistically significant. These same gender mean results were reflected in the
HayGroup’s (2011) ESCI norms. Further, previous empirical evidence found females possess more and often advanced emotional capabilities (Fernandez-Berrocal, Cabello, Castillo, & Extremera, 2011), which have resulted in females having higher EI skills when compared to males (Kaifi & Noori, 2010). Again, mean gender differences were present, but differences were not significant, which leads to the point made by, Fernandez-Berrocal, Cabello, Castillo, & Extremera (2011), that studies considering the relationship between gender and EI deal with it more in an indirect way than as a dependent variable in and of itself. Results from such studies suggested that the link between gender and EI merits examination in its own right (2011). Gender, as an explanatory cause of behavior always functions in intricate interactions with other variables, demographic as well as socio-cultural (McIntyre & Edwards, 2009).

Conclusion 7. Older (65-74) CEDs were reported as having higher EI scores in nine out of the 12 EI competencies, while CEDs in the 45-54 age range had the lowest mean values for all 12 ESCI competencies. These findings are supported by prior research in that age is one of the demographic variables most related to the development of EI, like in other types of intelligence (Mayer et al., 1999). Mayer & Salovey (1997) claimed that EI is an authentic intelligence that increases with age and experience (Extremera et al., 2006; Kafetsios, 2004). This implies that as they age and gain more experience, FL CEDs tend to demonstrate higher levels of emotional intelligence.

Conclusion 8. The South Extension Administrative District (n = 11 participants) had the highest means (for 11 of 12 ESCI competencies), followed by the Northwest (n = 14 participants), Northeast (n = 12 participants), and South Central (n = 10
participants). The Central District ($n = 8$ participants) ranked fifth in all 12 ESCI competency means. These disparities mimic those found in the ESCI norms (HayGroup, 2011), in that there were mean differences for each of the competencies for participants residing in one of five different geographic regions. Despite mean differences among the Districts, the differences were not statistically significant. However, these findings still imply that with no formal statewide leadership competency training at the time of the study, CEDs’ exposure to leadership competencies are varied. CEDs are under the direction of the District Extension Director (DED) assigned to their region, and DEDs and CEDs alike have various educational, social, and cultural backgrounds and work experiences contributing to their personal leadership. Therefore, this is another reason FL CEDs may benefit from formal EI development training.

**Objective Three**: Determine the dietary quality of Florida CEDs

**Conclusion 9.** A majority of respondents felt that the food they eat affects their emotions/moods; more females felt food had an impact on moods and emotions than males. It is unknown if CED respondents know the science behind why dietary quality affects moods, and/or if this informs in any way their daily dietary consumption. As far as gender differences in this case, it could be implied that because females have been found to possess more and often advanced emotional capabilities (Fernandez-Berrocal, Cabello, Castillo, & Extremera, 2011), they may be more cognizant of the potential impact dietary quality has on moods.

**Conclusion 10.** A majority of respondents are deficient in their daily reference intakes (DRIs) of fiber, calcium, whole grains, and dairy recommendations. Just over half of CEDs reported eating the daily recommended amount of fruits and vegetables; the majority consumed more than the recommended daily allowance for added sugar.
Females met more of the DRIs than males, consuming more fruits and vegetables than males. However, females had higher added sugar intake and consumed it more often than their male counterparts. These findings reveal that the majority of FL CED males and females could benefit from refining their dietary quality and better adhering to dietary guideline recommendations. Such action could also benefit individual CED health, obesity rates, disease prevention, and organizational wellness (Centers for Disease Control and Prevention, 2010; Healthy People 2020, 2011; Hoffman and Schwartz, 2008).

**Objective Four:** Determine the physical activity of Florida CEDs

**Conclusion 11.** A majority of respondents feel physical activity affects an individual’s emotions and moods. The majority of CEDs self-reported ‘moderate’ physical activity levels. Females maintained higher self-reported PA mean and median scores than males. With all respondents agreeing, except for four male CEDs, these findings signify that most CEDs see the potential benefits of physical activity in one’s life. The self-reported scores fell in the ‘moderate’ range of three levels (low, moderate, high), which suggests most CEDs do not maintain a ‘high’ level of PA. These self-reported ‘moderate’ scores, coupled with the fact the majority of CEDs are self-reportedly overweight or obese, implies they could benefit from increased PA and striving to achieve that ‘high’ PA level.

**Objective Five:** Describe the dietary, physical activity and weight perceptions of Florida CEDs

**Conclusion 12.** A majority of respondents indicate they are not happy with their current body weight. Work hours affect the diets of most CEDs, while a smaller amount report the availability of food and work-related travel as hindrances to their dietary
quality. A majority also reported their current diet is not affected by past or current disease, diet, or religious preferences. These findings imply an overwhelming amount of respondents have acknowledged they were unhappy with their current status and likely desire change. Due to the fact the majority were not hindered by a debilitating illness, current diet, or religious preference, it appears most CEDs are physically able to incorporate and benefit from personal life changes involving time management.

**Conclusion 13.** A majority of respondents stated they are not happy with their current level of physical activity. However, for the most part a physical impairment did not impede respondents’ physical activity, but long work hours did. These findings imply CEDs could benefit from a plan for better work-life-balance, and intentionally creating a set time each day for planned physical activity. The Florida Extension Roadmap may also be used as a motivating factor for increased CED PA.

**Objective Six:** Examine the relationship between the emotional intelligence of Florida CEDs and dietary quality, physical activity, and selected demographic variables

**Conclusion 14.** Respondents who reported higher predicted daily fruit and vegetable intake tended to have higher multi-rater emotional intelligence cluster scores in self-awareness (emotional self-awareness), self-management (emotional self-control, achievement orientation, positive outlook, and adaptability), social awareness (empathy and organizational awareness), and relationship management (influence, coach and mentor, conflict management, inspirational leadership, and teamwork).

The expectation of this study was to find a positive relationship between EI scores and fruit and vegetable intake. Recently, diet has made its way to the forefront of research for its importance in mental and emotional health (Zainuddin & Thuret, 2012). Emerging studies focusing on the link between nutrition and mental health have
purposefully established that learning, memory and mood can be influenced by diet (Gomez-Pinilla, 2008). Epidemiological studies have supported the association between proper diet and mental illnesses, where inverse links concerning dietary quality and the common mental disorders of depression and anxiety have been recognized and documented in adults (Jacka, Kremer, Berk et al., 2010; Jacka, Pasco, Mykletun et al., 2010; Nanri, Kimura, Matsushita et al., 2010; Sanchez-Villegas, Delgado-Rodriquez, Alonso et al., 2009; Akbaraly, Brunner, Ferrie et al., 2009). Likewise, a vast array of epidemiological evidence has been accumulating relating diet to cognitive abilities, particularly to aging adults (Solfrizzi, Frisardi, Seripa et al., 2011; Kanoski & Davidson, 2011; Gu & Scarmeas, 2011).

One of the brain structures related to learning, memory, and mood is the hippocampus (Zainuddin & Thuret, 2012). Essentially, the hippocampus is one of the two configurations in the adult brain where the establishment of newborn neurons, or neurogenesis, continues (2012). Therefore, alteration of adult hippocampal neurogenesis (AHN) by diet as related to caloric intake, meal frequency and texture has appeared to be a possible method by which nutrition impacts moods and mental health (Zainuddin & Thuret, 2012). Diet has been shown to significantly control AHN (Zainuddin & Thuret, 2012). Nutrition can affect AHN in four various ways: calorie intake, meal frequency, meal texture, and dietary content (2012). Research has found that meal frequency is a key player in controlling AHN (Zainuddin & Thuret, 2012). Consuming the right kinds of foods are also critical.

Research associating fruit and vegetable intake and EI is still developing. However, a number of studies have discovered a connection between low glucose
levels and weak self-control (Gailliot & Baumeister, 2007). For instance, people often have more difficulty controlling their attention (Smid et al., 1997), managing their emotions (Gold & MacLeod, 1995; McCrimmon, Frier & Deary, 1999), and disregarding their aggressive urges (DeWall, Deckman, Gailliot, & Bushman, 2011) when glucose levels are low (Bushman, 2014). When blood sugar is lower than its set baseline, the ability to curb negative emotions is impaired (2014). Emotional control requires energy—energy that is in short supply when an individual is hungry. Self-regulation and impulse control uses both physical and mental energy. When that energy is depleted, an individual has a higher tendency to do and say things they will later regret (2014). Bushman (2014) posits that maintaining healthy blood sugar levels may aid in self-regulation and emotional outburst avoidance. An effective way to help is by avoiding refined carbohydrates and sugary foods, and resort instead to fruits (2014) and non-starchy vegetables (Telis, 2014), that help maintain glucose levels for longer durations (Bushman, 2014).

**Conclusion 15.** Respondents who reported consuming higher daily levels of added sugar tended to have lower multi-rater EI cluster scores. These findings aligned with previous research on sugar and its effect on the brain. The association between diet and well-being may start even before birth. Berk asserted a positive correlation between a mother’s consumption of sweets and processed foods during pregnancy and behavioral and mental health issues in her child at age five (2014). Further, caffeine, fat, and sugar intake can all negatively affect AHN (Zainuddin & Thuret, 2012), the alteration of adult hippocampal neurogenesis by diet, known to impact moods and emotions. A diet high in sugar has also been reported to reduce AHN (Van Der Borght
et al., 2011). Additionally, studies looking at foods-to-moods have found varying results, suggesting that consuming high-carbohydrate (turns to sugar) and high-fat foods produces improved moods, but only for a few minutes (Macht & Mueller, 2007). This notion relates to previous statements, in that added sugar in the diet gives very quick spikes in glucose, which are artificial at best, quickly sending individuals into a crashing mode, making them more likely to experience negative moods and emotional outbursts. Added sugars’ effect on moods and emotions also implies its direct relation to emotional intelligence competencies. In addition, consuming more than the daily recommended allowance of sugar contributes greatly to one’s risk of obesity, as well as, other possible disease.

**Conclusion 16.** As respondents’ self-reported physical activity levels increased, their multi-rater emotional intelligence cluster scores also increased. These findings line up with previous research. Engaging regularly in PA is one of the best ways to improve general health, including physical, psychological, and emotional health (Li et al., 2009). The latest neuroscience studies have reported that PA can stimulate morphological and functional alterations in the central nervous system involved in emotional regulation (Kita, 2012). Emotional response has normally implied emotional experience (e.g., pleasure, anger, anxiety, and depression) and emotional expression or behavior (e.g., palpitation, arousal, facial pallor, and expressive behaviors) (2012). The brainstem, hypothalamus, and limbic system are believed to be involved in mediating emotional responses (Derryberry & Tucker, 1992; Monk, 2008). For instance, the amygdala in the limbic system is largely involved in the detection of stimuli that may impact, positively or negatively, the well-being of an organism (Phan, Taylor, Welsch, Ho, Britton & Liberzon,
The hypothalamus and brainstem are critical for emotional expression and control the integrated stress responses via autonomic and hormonal functions (Kita, 2012). Moreover, the hippocampus, which is a limbic structure, has a vital primary part in learning and memory, while it is also known to play a role in mood regulation and stress response (Nathan & Amelia, 2010; Snyder, Soumier, Brewer, Pickel, & Cameron, 2011). Due to the fact these emotion-related neural mechanisms usually function on the subconscious level, it has been hard to control the activities of each region consciously (Kita, 2012). Interestingly, and in contrast, PA seems to be a simple way of altering these neural mechanisms to mediate emotion regulation (2012). The role of the monoaminergic neuronal systems in the brainstem on emotion regulation has been extensively studied in pleasure, anger, arousal, and stress-related disorders like depression and anxiety.

Many researchers accredited the following emotional benefits to regular PA: enhanced positive and pleasant emotions, positive mood and more moderate anxiety-reduction effects, elevated sense of happiness, and higher levels of optimism (Li, Lu & Wang, 2009).

Therefore, it could be implied from previous research and this study’s findings, that regular participation in PA could contribute to an increased level of one’s emotional intelligence.

**Objective Seven:** Determine the predictive value of the relationship of dietary quality, physical activity, and selected demographic variables on emotional intelligence.

**Conclusion 17.** A variety of models were found to be significant predictors of respondents’ multi-rater emotional intelligence scores. Those models included independent variables, such as physical activity, fruit and vegetable consumption, and
added sugar intake. EI clusters of self-awareness (emotional self-awareness), self-management (emotional self-control, achievement orientation, positive outlook, and adaptability), and social awareness (empathy and organizational awareness) were statistically significantly predicted by physical activity, fruit and vegetable consumption, and added sugar intake. Relationship management (influence, coach and mentor, conflict management, inspirational leadership, and teamwork) was statistically significantly predicted by physical activity and added sugar intake.

The regression models supported all the relationships identified in objective six, except for one. When combined, PA, fruit and vegetable intake, and added sugar consumption accounted for 66% of the variation in CEDs’ self-awareness cluster of emotional intelligence. PA, fruit and vegetable intake, and added sugar consumption explained 78% of the variation in CEDs’ self-management EI cluster, while PA, fruit and vegetable intake, and added sugar consumption described 75% of the variation in the social awareness cluster. Lastly, PA and added sugar consumption accounted for 74% of the variation in CEDs’ relationship management EI cluster. Each of these suggests that not only is there a relationship between CEDs’ dietary quality, physical activity and emotional intelligence, but they can be used to predict the frequency with which CEDs who consume greater amounts of fruits and vegetables and lower amounts of added sugar, along with consistent and advanced levels of PA could result in higher levels of emotional intelligence. This implies that by manipulating a CED’s dietary quality and level of physical activity can have a positive and greater impact on his or her emotional intelligence. It is important to note that other variables related to a CED’s experiences,
background, as well as personal attributes, values, and beliefs may also influence their emotional intelligence. Further research is needed to support these findings.

Discussion

Emotional Intelligence

Given the strong emphasis on interpersonal communication, relationship-building, and leadership roles, this study offers findings that indicate Florida County Extension Directors could benefit from formal training and development in the constructs of emotional intelligence as it relates to self-awareness, self-management, social awareness, and relationship management. Previous studies (Sanders, 2014; Moore and Rudd, 2004) have determined the need for such training, but most of those have been based upon self-assessment and felt-needs, and while formal leadership competency training may currently be in the works, CEDs collectively have not received any formal leadership training, specifically in emotional intelligence. This study was the first to determine need by way of an emotional and social competency 360° assessment model. While self-assessment is beneficial for establishing felt-need and individualized coaching, multi-rater evaluations are known to give a more reliable, valid, and holistic view of how well others experience a leader’s behavior, and at what consistency a leader actually demonstrates emotional intelligence competencies (HayGroup, 2011). The EI results were also broken down according to Florida Extension Administration Districts and may offer a more strategic development plan for targeted training, however, when looking at the averages of scores of this census population, need exists for formal training for all CEDs in all 12 EI competencies investigated. Understanding that while different personal factors and experiences can help shape an individual’s personality and emotional make-up and response, formalized CED EI training would still
offer equal exposure and the foundational opportunity for all to learn competencies that can be developed as EI can (2011).

**Dietary Quality and Physical Activity and Relationship to EI**

This study found that most respondents perceive that food and physical activity impact moods and emotions. It was also indicated that the majority of CEDs are either overweight or obese, and not happy with their current body weight or level of physical activity. In addition, it was determined that they are deficient in daily intakes of various nutrients like fiber, calcium, and whole grains. While more than half are consuming the daily recommended amounts of fruits and vegetables, a greater majority are consuming an overabundance of added sugars.

Because respondents have acknowledged the fact they are unhappy with their current weight and level of physical activity, and have also made the connection and believe food and physical activity to be related to moods and emotions, could offer a meaningful opportunity for Extension Administration to share additional findings that may spearhead needed individual and organizational health change.

First, it is important to realize the possible health risks involved in having an unhealthy weight, unhealthy diet, and not getting enough exercise. Proper diet and exercise would result in weight loss which could contribute to decreased chance of disease and premature death, while improving general overall health, quality of life, moods and emotions, and job performance (Centers for Disease Control and Prevention, 2010; Li, Lu & Wang, 2009; Hoffman & Schwartz 2008). It is for these reasons lifestyle changes are recommended for Florida CEDs.

Secondly, these findings signify the need for organizational health change, and support earlier studies indicating obesity, increased work intensity and stress, and
increasing psychosocial health problems could be affecting the organization’s health and productivity (Niedhammer et al., 2012; Zwetsloot et al., 2010). In addition, a change plan could also aid in bettering workplace attitudes and relationships, as well as, workplace politics (Meisler and Vigoda-Gadot, 2013). With technological advancements and private-industry competition, Extension must arrive at ways to be most relevant. Becoming a front-runner in managing and promoting its employees’ health so that a platform of creativity and innovation is encouraged and expected is vital. Aside from cost-saving benefits, such efforts can result in better performance, greater value, and return on investment (Zwetsloot et al., 2010).

Thirdly, as mentioned previously, Florida Extension Road Map’s goal of encouraging Floridians to “embrace healthy lives” as well as its mandate of “empowering individuals and families to build healthy lives and achieve social and economic success” (UF Extension Road Map Website, 2013), offers another reason for CEDs to take seriously the importance of modeling healthy lifestyles as leaders, which could then trickle down to followers, ultimately benefiting community outreach efforts. Before, the Extension Road Map may have been viewed by Extension leaders and faculty as a document in place for Florida residents as it related to Extension information. However, this document should also be viewed as a Map in which Extension leaders and faculty also use to model their personal and professional lives after. Having this perspective and guide would make leader and faculty outreach efforts more authentic and effective.

Prior research has separately supported DQ and PA’s relationships to mood and emotion improvement. However, no previous literature exists that explores the
relationship between the two on emotional intelligence. This study examined this relationship and found a very high correlation exists between physical activity, elements of dietary quality and emotional intelligence. Though these findings are significant, it is essential that additional research be conducted to more deeply understand the relationship and how individuals and organizations alike can utilize this relationship to improve their leadership, relationships, health, and quality of life.

**Recommendations for Future Research**

Follow-up studies could help the leadership profession understand the impacts of dietary quality and physical activity on leaders’ emotional intelligence. Based upon the findings of this study, the following recommendations for further research were made:

1. Replication of the study with different audiences.

2. For the purposes of greater strength and generalizability, replication of the study with random sampling, inclusion of upper-level administration, and replacement of *Dietary Screener Questionnaire* with multiple dietary 24-hour recall collections.

3. Replication of study with clinical and control components for diet and physical activity variables, while longitudinally tracking participants.

**Recommendations for Practice**

**Extension Professionals**

Based on the findings of this study related to UF/IFAS Extension and its leaders, the following recommendations for practice were made:

1. Formal and intentional emotional intelligence training needs to be designed and implemented in the Florida Cooperative Extension System.

2. Due to both male and female CED self-reported deficient eating habits, they could benefit from following proper daily nutritional guidelines. The Food and Nutrition Board of the Institute of Medicine, National Academies (Fnic.nal.usda.gov, 2010) recommends 38 grams of fiber a day for adult males 18-50, and 30 grams for males 51 and older. For females, 25 grams are recommended for those 19-50, and 21 grams for females 51 and older. The Committee to Review Dietary Reference Intakes for Vitamin D and Calcium, Food and Nutrition Board, Institute of Medicine
(2010) recommends males 19-70 should consume 1,000 mg of calcium a day, and those 71 and older, 1,200 mg a day. For females 19-50, the recommendation is 1,000 mg, and 1,200 mg a day for those 51 and older. The USDA ChooseMyPlate.gov (2014) recommends whole grain intake should amount to at least four ounces for males 19-30, three and a half ounces for males 31-50, and three ounces for those 51 and older. Females should consume three ounces of whole grains each day (2014). Adult males and females should take in three cups of dairy a day. Males 19-50 should eat three cups of vegetables a day, and those 51 and older, two and a half cups (2014). Females 19-50 should consume two and a half cups of vegetables, and those 51 and older, two cups. Two cups of fruit are recommended for males each day. Two cups are also recommended for females 19-30, and one and a half cups for those 31 and older (2014). Lastly, the American Heart Association (Heart.org., 2014) advises males should limit their daily added sugar consumption to no more than nine teaspoons a day, and six teaspoons for females.

3. Time management involving work-life-balance, carving time out to eat each day, and planning, preparing, and packing healthy meals and snacks for work are viable solutions to respondents’ listed impediments. In addition, using conceptual skills and visioning to keep the Florida Extension Road Map mission and goal of empowering Floridians to live healthy lifestyles at the forefront could motivate the CED to do their part to model such healthy behavior, by also using this Map as a guide for personal and professional leader-modeling.

4. The health status findings of CEDs needs to be shared with this group of Directors. This awareness should create a springboard for individual and organizational change by way of Administration creating a space for change to occur by allowing for intentional, innovative, autonomous, measureable, and localized methods and incentives for motivating change. The notion is to create change first at the local county office level, and then to the greater organization.

5. Providing training and development for both emotional intelligence and proper diet and physical activity would allow for CEDs to be more cognizant of its connection, while being more purposeful in incorporating the two in their lives and work. Incorporating these recommendations could positively impact the individual and organization by way of better health and longevity, interpersonal communication, relationships, leadership, Road Map attainment, job performance, and work environment, whereas a Healthy You = Healthy Extension (Appendix Q). In addition, as EI is increased among leaders, it is likely to lead to greater follower trust, better employee attitude and productivity, and ultimately a much better work climate.
Leadership Development Professionals

Based on the findings of this study related to the emotional intelligence, dietary quality, and physical activity of leaders, the following recommendations for practice were made:

1. With this study’s first-ever results, along with the long accepted anecdotal evidence, there is a strong potential that similar activities could be advantageous for other organizations, groups, and or mid-level managers and leaders.

2. This study’s findings could inform future leadership development planning to consider the relationship and its potential benefits of combining EI and health and nutrition to create a more holistic approach to leader development.

Organizational Health

Based on the findings of this study related to emotional intelligence, dietary quality, and physical activity of this organization’s leaders, the following recommendations for organizational health were made:

1. A plan for managing organizational health is warranted for this organization. The organization could benefit from promoting healthy lifestyles, implementation of policy changes, accountability, annual health screenings, offering employee incentives, and leader-modeling.

2. A change plan should include policy changes. Among others, one such change could be in the food selections offered at functions, locally and organizationally, where only healthy food items could be served. This policy could also incorporate offering only healthy choices in office vending as well. An accountability plan could be established to hold local offices and Districts accountable to policy adherence as well leader-modeling.

3. The organizational health change plan should include both EI and healthy living components which should result in better leader and employee EI—the, creating better relationships which foster leader/follower trust and better leader-member exchange. Garnered trustworthiness and support as leaders and employees work together as a team to live out Road Map initiatives could contribute to less workplace politics, due to leaders and subordinates working collectively to accomplish vision and mission goals.

4. An organizational health change plan should include intentional space for encouraging and expecting collaboration, creativity, and innovation. This would directly affect organizational effectiveness, relevance, and return on investment,
where leaders’ proper dietary quality and physical activity are also positively contributing to higher EI, thus creating a healthier and happier workplace.

Summary

This chapter presented a summary of the study’s objectives and presented conclusions stemming from the findings. Chapter 5 also provided recommendations for further research, and for Extension and leadership practice.

The study’s findings indicated that physical activity, fruit and vegetable intake and added sugar consumption have an impact on and predict Florida County Extension Directors’ emotional intelligence. These findings provided recommendations for Extension, leaders, and research seeking to further expand on the effects of dietary quality and physical activity on emotional intelligence for the purpose of individual and organizational awareness and change.
APPENDIX A
FLORIDA EXTENSION ADMINISTRATIVE DISTRICTS

Extension Administrative Districts

Northwest
Pete Vergot

Northeast
Eric Simonne

Central
Tim Momol

South Central
Charles Vavrina

South
Joe Schaefer

Nick T. Place, Dean and Director - Florida Cooperative Extension Service.
Thomas A. Obreza, Interim Associate Dean - Extension Administration
University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) 1038 McCarty Hall, PO Box 110210, Gainesville, FL 32611 - September 2012.
APPENDIX B
INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** and **moderate** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal.

**PART 1: JOB-RELATED PHYSICAL ACTIVITY**

The first section is about your work. This includes paid jobs, farming, volunteer work, course work, and any other unpaid work that you did outside your home. Do not include unpaid work you might do around your home, like housework, yard work, general maintenance, and caring for your family. These are asked in Part 3.

1. Do you currently have a job or do any unpaid work outside your home?

   - Yes
   - No  [ ]  **Skip to PART 2: TRANSPORTATION**

The next questions are about all the physical activity you did in the **last 7 days** as part of your paid or unpaid work. This does not include traveling to and from work.

2. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, heavy construction, or climbing up stairs **as part of your work**? Please do not include walking.

   _____ days per week

   - No vigorous job-related physical activity  [ ]  **Skip to question 4**

3. How much time did you usually spend on one of those days doing **vigorous** physical activities as part of your work?

   _____ hours per day
   _____ minutes per day

4. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads **as part of your work**? Please do not include walking.
5. How much time did you usually spend on one of those days doing moderate physical activities as part of your work?

______ hours per day
______ minutes per day

6. During the last 7 days, on how many days did you walk for at least 10 minutes at a time as part of your work? Please do not count any walking you did to travel to or from work.

______ days per week

7. How much time did you usually spend on one of those days walking as part of your work?

______ hours per day
______ minutes per day

PART 2: TRANSPORTATION PHYSICAL ACTIVITY

These questions are about how you traveled from place to place, including to places like work, stores, movies, and so on.

8. During the last 7 days, on how many days did you travel in a motor vehicle like a train, bus, car, or tram?

______ days per week

9. How much time did you usually spend on one of those days traveling in a train, bus, car, tram, or other kind of motor vehicle?

______ hours per day
______ minutes per day

Now think only about the bicycling and walking you might have done to travel to and from work, to do errands, or to go from place to place.

10. During the last 7 days, on how many days did you bicycle for at least 10 minutes at a time to go from place to place?

______ days per week

□
11. How much time did you usually spend on one of those days to bicycle from place to place?

____ hours per day

____ minutes per day

12. During the last 7 days, on how many days did you walk for at least 10 minutes at a time to go from place to place?

____ days per week

☐ No walking from place to place

PART 3: HOUSEWORK, HOUSE MAINTENANCE, AND CARING FOR FAMILY

This section is about some of the physical activities you might have done in the last 7 days in and around your home, like housework, gardening, yard work, general maintenance work, and caring for your family.

14. Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, chopping wood, shoveling snow, or digging in the garden or yard?

____ days per week

☐ No vigorous activity in garden or yard

15. How much time did you usually spend on one of those days doing vigorous physical activities in the garden or yard?

____ hours per day

____ minutes per day

16. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate activities like carrying light loads, sweeping, washing windows, and raking in the garden or yard?

____ days per week

☐
No moderate activity in garden or yard  

17. How much time did you usually spend on one of those days doing **moderate** physical activities in the garden or yard?

   _____ hours per day
   _____ minutes per day

18. Once again, think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **moderate** activities like carrying light loads, washing windows, scrubbing floors and sweeping **inside your home**?

   _____ days per week

   □ No moderate activity inside home  

19. How much time did you usually spend on one of those days doing **moderate** physical activities inside your home?

   _____ hours per day
   _____ minutes per day

**PART 4: RECREATION, SPORT, AND LEISURE-TIME PHYSICAL ACTIVITY**

This section is about all the physical activities that you did in the **last 7 days** solely for recreation, sport, exercise or leisure. Please do not include any activities you have already mentioned.

20. Not counting any walking you have already mentioned, during the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time in your leisure time?

   _____ days per week

   □ No walking in leisure time  

21. How much time did you usually spend on one of those days **walking** in your leisure time?

   _____ hours per day
   _____ minutes per day

22. Think about only those physical activities that you did for at least 10 minutes at a time. During the **last 7 days**, on how many days did you do **vigorous** physical activities like aerobics, running, fast bicycling, or fast swimming in your leisure time?

   _____ days per week

   □
23. How much time did you usually spend on one of those days doing *vigorous* physical activities in your leisure time?

_____ hours per day
_____ minutes per day

24. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *moderate* physical activities like bicycling at a regular pace, swimming at a regular pace, and doubles tennis in your leisure time?

_____ days per week

[ ] No moderate activity in leisure time

PART 5: TIME SPENT SITTING

The last questions are about the time you spend sitting while at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading or sitting or lying down to watch television. Do not include any time spent sitting in a motor vehicle that you have already told me about.

26. During the last 7 days, how much time did you usually spend sitting on a weekday?

_____ hours per day
_____ minutes per day

27. During the last 7 days, how much time did you usually spend sitting on a weekend day?

_____ hours per day
_____ minutes per day

This is the end of the questionnaire, thank you for participating.
APPENDIX C
DIETARY SCREENER QUESTIONNAIRE

These questions are about foods you ate or drank during the past month, that is, the past 30 days. When answering, please include meals and snacks at home, at work or school, in restaurants, and anywhere else. Mark an X to indicate your answer. To change your answer, completely fill in the box for the incorrectly marked answer. Then mark an X in the correct one. Your answers are important.

- How old are you (in years)?
  - 

- Are you male or female?
  - Male
  - Female

- During the past month, how often did you eat hot or cold cereals? Mark one X.
  - Never → Go to question 8.
  - 1 time last month
  - 2-3 times last month
  - 1 time per week
  - 2 times per week
  - 3-4 times per week
  - 5-6 times per week
  - 1 time per day
  - 2 or more times per day

- During the past month, what kind of cereal did you usually eat? Print cereal.

- If there was another kind of cereal that you usually ate during the past month, what kind was it? Print cereal, if none leave blank.

- During the past month, how often did you have any milk (either to drink or on cereal)? Include regular milks, chocolate or other flavored milks, lactose-free milk, buttermilk. Please do not include soy milk or small amounts of milk in coffee or tea. Mark one X.
  - Never → Go to question 8.
  - 1 time last month
  - 2-3 times last month
  - 1 time per week
  - 2 times per week
  - 3-4 times per week
  - 5-6 times per week
  - 1 time per day
  - 2-3 times per day
  - 4-5 times per day
  - 6 or more times per day

- During the past month, what kind of milk did you usually drink? Mark one X.
  - Whole or regular milk
  - 2% fat or reduced-fat milk
  - 1%, ½%, or low-fat milk
  - Fat-free, skim or nonfat milk
  - Soy milk
  - Other kind of milk → Print milk.

- During the past month, how often did you drink regular soda or pop that contains sugar? Do not include diet soda. Mark one X.
  - Never
  - 1 time last month
  - 2-3 times last month
  - 1 time per week
  - 2 times per week
  - 3-4 times per week
  - 5-6 times per week
  - 1 time per day
  - 2-3 times per day
  - 4-5 times per day
  - 6 or more times per day
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the past month, how often did you drink <strong>100% pure fruit juices</strong> such as orange, mango, apple, grape and pineapple juices? Do <strong>not</strong> include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. <strong>Mark one</strong>.</td>
<td>Never, 1 time last month, 2-3 times last month, 1 time per week, 2 times per week, 3-4 times per week, 5-6 times per week, 1 time per day, 2-3 times per day, 4-5 times per day, 6 or more times per day</td>
</tr>
<tr>
<td>During the past month, how often did you drink <strong>sweetened</strong> fruit drinks, sports or energy drinks, such as Kool-Aid, lemonade, Hi-C, cranberry drink, Gatorade, Red Bull or Vitamin Water? Include fruit juices you made at home and added sugar to. Do <strong>not</strong> include diet drinks or artificially sweetened drinks.</td>
<td>Never, 1 time last month, 2-3 times last month, 1 time per week, 2 times per week, 3-4 times per week, 5-6 times per week, 1 time per day, 2-3 times per day, 4-5 times per day, 6 or more times per day</td>
</tr>
<tr>
<td>During the past month, how often did you drink coffee or tea that had <strong>sugar</strong> or <strong>honey</strong> added to it? Include coffee and tea you sweetened yourself or pre-sweetened tea and coffee drinks such as Arizona Iced Tea and Frappuccino. Do <strong>not</strong> include artificially sweetened coffee or diet tea.</td>
<td>Never, 1 time last month, 2-3 times last month, 1 time per week, 2 times per week, 3-4 times per week, 5-6 times per week, 1 time per day, 2-3 times per day, 4-5 times per day, 6 or more times per day</td>
</tr>
<tr>
<td>During the past month, how often did you eat <strong>fruit</strong>? Include fresh, frozen or canned fruit. Do <strong>not</strong> include juices.</td>
<td>Never, 1 time last month, 2-3 times last month, 1 time per week, 2 times per week, 3-4 times per week, 5-6 times per week, 1 time per day, 2 or more times per day</td>
</tr>
<tr>
<td>During the past month, how often did you eat a green leafy or lettuce <strong>salad</strong>, with or without other vegetables?</td>
<td>Never, 1 time last month, 2-3 times last month, 1 time per week, 2 times per week, 3-4 times per week, 5-6 times per week, 1 time per day, 2 or more times per day</td>
</tr>
</tbody>
</table>
### During the past month, how often did you eat any kind of fried potatoes, including french fries, home fries, or hash brown potatoes?

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### During the past month, how often did you eat any other kind of potatoes, such as baked, boiled, mashed potatoes, sweet potatoes, or potato salad?

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### During the past month, how often did you eat fried beans, baked beans, beans in soup, pork and beans or any other type of cooked dried beans? Do not include green beans.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### During the past month, how often did you eat brown rice or other cooked whole grains, such as bulgur, cracked wheat, or millet? Do not include white rice.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### During the past month, not including what you just told me about (green salads, potatoes, cooked dried beans), how often did you eat other vegetables?

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### During the past month, how often did you have Mexican-type salsa made with tomato?

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day
20. During the past month, how often did you eat pizza? Include frozen pizza, fast food pizza, and homemade pizza.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

21. During the past month, how often did you eat tomato sauces such as with spaghetti or noodles or mixed into foods such as lasagna? Do not include tomato sauce on pizza.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

22. During the past month, how often did you eat any processed meat, such as beef, pork, ham, or sausage? Do not include chicken, turkey or seafood. Include red meat you had in sandwiches, lasagna, stew, and other mixtures. Red meats may also include veal, lamb, and any lunch meats made with these meats.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

23. During the past month, how often did you eat any kind of cheese? Include cheese as a snack, cheese on burgers, sandwiches, and cheese in foods such as lasagna, quesadillas, or casseroles. Do not include cheese on pizza.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day
### 25. Whole Grain Bread

During the past month, how often did you eat **whole grain bread** including toast, rolls and in sandwiches? Whole grain breads include whole wheat, rye, oatmeal and pumpernickel. **Do not** include white bread.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### 26. Chocolate or Candy

During the past month, how often did you eat **chocolate** or any other types of candy? **Do not** include sugar-free candy.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### 27. Doughnuts, Sweet Rolls, Danish, Muffins, Pan Dulce, or Pop-tarts

During the past month, how often did you eat **doughnuts,** sweet rolls, Danish, muffins, pan dulce, or pop-tarts? **Do not** include sugar-free items.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### 28. Cookies, Cake, Pie or Brownies

During the past month, how often did you eat **cookies, cake, pie or brownies?** **Do not** include sugar-free kinds.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### 29. Ice Cream or Frozen Desserts

During the past month, how often did you eat **ice cream or other frozen desserts?** **Do not** include sugar-free kinds.

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day

### 30. Popcorn

During the past month, how often did you eat **popcorn?**

- Never
- 1 time last month
- 2-3 times last month
- 1 time per week
- 2 times per week
- 3-4 times per week
- 5-6 times per week
- 1 time per day
- 2 or more times per day
APPENDIX D
DEMOGRAPHIC SURVEY

Directions: Please mark the best answer that describes you. Remember your responses will be kept confidential; please respond honestly.

1) Gender: _____ Male _____ Female

2) Highest Education Degree Completed
   _____ Bachelors _____ Masters _____ Doctorate

3) How many years as a CED? _____ yrs.  4) Total years in Extension _____ yrs.

5) What is your age?
   _____ 25-34 _____ 35-44 _____ 45-54 _____ 55-64 _____ 65-74 _____ 75 or older

6) Your current body weight _____ lbs.  7) Current height _____ ft. _____ in.

8) Are you happy with your current weight? Y N

9) Are you happy with your current level of physical activity? Y N

10) Does a physical impairment affect your physical activity? Y N

11) What work-related factors (if any) affect your diet?
    Hours Availability of food Travel Other ____________

12) What work-related factors (if any) affect your physical activity?
    Hours Stress Location Other ____________

13) Circle any past/current items affecting your current diet:
    Heart disease Cancer Diabetes Weight-Loss Diet Religion Other _______

14) Do you believe the food you eat affects your emotions/moods? Y N

15) Does physical activity affect your emotions/moods? Y N
APPENDIX E
INSTITUTIONAL REVIEW BOARD APPROVAL

DATE: August 29, 2014

TO: Christopher Mott
PO Box 110540
Campus

FROM: Ira S. Fischler, PhD, Chair
University of Florida
Institutional Review Board 02

SUBJECT: Approval of Protocol #2014-U-0886
Emotional Intelligence, Dietary Quality, and Physical Activity

SPONSOR: None

I am pleased to advise you that the University of Florida Institutional Review Board has recommended approval of this protocol. Based on its review, the UFRIRB determined that this research presents no more than minimal risk to participants, and based on 45 CFR 46.117(c), an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either: (1) That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern; or (2) That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

The IRB authorizes you to administer the informed consent process as specified in the protocol. If you wish to make any changes to this protocol, including the need to increase the number of participants authorized, you must disclose your plans before you implement them so that the Board can assess their impact on your protocol. In addition, you must report to the Board any unexpected complications that affect your participants.

This approval is valid through August 26, 2015. If you have not completed the study prior to this date, please telephone our office (392-0433), and we will discuss the renewal process with you. Additionally, should you complete the study on or before the expiration date, please submit the study closure report to our office. The form can be located at http://irb.ufl.edu/irb02/irb-02-forms.html.

It is important that you keep your Department Chair informed about the status of this research protocol.

ISF:dl
DATE: October 13, 2014

TO: Christopher Mott
    PO Box 110540
    Campus

FROM: Ira Fischler, PhD; Chair
       University of Florida
       Institutional Review Board 02

SUBJECT: Revision of Protocol #2014-U-0886

TITLE: Emotional Intelligence, Dietary Quality, and Physical Activity

SPONSOR: None

The request to revise the above referenced protocol has been reviewed and approved. Approval of this study is valid through August 26, 2015.

The Board must review any further revisions to this protocol, including the need to increase the number of participants authorized prior to implementation.

IF: (d)

- Deleted third-phase and added Web-based version of the Dietary Screener Questionnaire
- Revised consent
Dear CEDs:

Next week you will have the opportunity to participate in a very important study as we focus on strengthening Extension leadership and our UF/IFAS Road Map’s initiative of Healthy Living. The first in a three-part series of short surveys to be conducted with CEDs will be administered Thursday of EPAF. Your participation is vital as a leader in our organization and especially as we seek to live out our Mission and Road Map initiatives.

On **Thursday, August 28th** at EPAF, please come by **Grand Lagoon Ballroom ABC** anytime from **10am – 11 am or 4pm – 5pm**. You will receive further information about this study and be asked to complete a quick 10-minute questionnaire. If you will not be attending this year’s EPAF, you will be sent this first survey as an online link the week proceeding EPAF. In the coming weeks after EPAF, everyone will be receiving two separate emails with online links for the remaining two components. I’m encouraging you to participate in the whole series of this study. As a participant, know that your responses will be kept confidential and there will be no reporting of individuals. Please respond honestly, as the purpose of this study is to offer valuable information as we look to better the organizational health of UF/IFAS Extension. The researcher will share with you preliminary results as a group when we meet in Gainesville in November for the state CED meeting. Consequently, it will be important to have statewide CED participation to most accurately represent our organization.

Thank you in advance for your time and participation and for making this a priority. For questions about the research study please contact my doctoral student, Chris Mott at chris.mott@ufl.edu

Nick

Nick T. Place
UF/IFAS Dean for Extension and Director,
Florida Cooperative Extension Service

UF
IFAS Extension
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1038 McCarty Hall • PO Box 110210 • Gainesville, FL 32611-0210
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APPENDIX G
2014 EPAF CONFERENCE
APPENDIX H
PHASE ONE ANNOUNCEMENT FLYER

AUGUST 28

UF | IFAS Extension
UNIVERSITY OF FLORIDA

Welcome to FLORIDA
THE SUNSHINE STATE

CEDS: WE NEED YOU FOR 10 MINS!

Grand Lagoon Ballroom ABC
Thursday anytime between—
10am - 11am or 4pm - 5pm

You will be asked to complete a quick 10-minute health survey. Your participation Thursday and for the two following phases which will be emailed to you after EPAF is vital to our organization. Come see Chris Mott Thursday in the Ballroom and grab some goodies after helping us. Thank you in advance for your participation!

-Dean Place
APPENDIX I
CED INFORMED CONSENT

Informed Consent

Protocol Title: Emotional Intelligence, Dietary Quality, and Physical Activity

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study: The purpose of the study is to examine the relationship between the emotional intelligence of Florida County Extension Directors and their dietary quality, physical activity, and selected demographics.

What you will be asked to do in the study: During Phase 1, you will be asked to complete the International Physical Activity Questionnaire (IPAQ) (Booth, 2000), and several demographic questions. Phase 2 will consist of you receiving an emailed link and being asked to complete the online Emotional and Social Competency Inventory (ESCI 3.0), Version 3 (Boyatzis & Goleman, 2007). The third and final phase will consist of you receiving an individualized emailed link and login credentials to the Dietary Screener Questionnaire (DSQ Web) (National Cancer Institute, 2009). For this, you will be asked to use the online questionnaire to respond to questions about your average food and beverage consumption for the past 30-days.

Time required: The International Physical Activity Questionnaire and demographic questions will take 10-12 minutes to complete. The Emotional and Social Competency Inventory will take approximately 18 minutes to complete. The Dietary Screener Questionnaire will take approximately 20 minutes to complete. All phases combined will take approximately 50 minutes to complete, over the course of six weeks total.

Risks and Benefits: There are no anticipated risks or benefits to participating in the study.

Compensation: There is no compensation for participating in this study.

Confidentiality: Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number starting with Phase 1. The list connecting your name to this number will be kept in a locked file. When the study is completed and the data have been analyzed, the list will be destroyed. Your name will not be used in any report.

Voluntary participation: Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study: You have the right to withdraw from the study at anytime without consequence.

Who to contact if you have questions about the study: Chris Mott, Graduate Assistant, Department of Agricultural Education and Communication, 411 Rolfs Hall, P.O. Box 110540, Gainesville, FL 32611, (352) 273-3425, chris.mott@ufl.edu

Who to contact about your rights as a research participant in the study: (UFR superb Protocol # U-866-2014) UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250, (352) 392-0433.

Agreement: I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

Participant: ________________________ Date: ________________

Principal Investigator: ________________________________
Dear CED,

Greetings! We are sorry we missed you at EPAF. Dean Place sent out an email a couple of weeks ago about the opportunity for you to participate in a very important study as we focus on strengthening Extension leadership and our UF/IFAS Road Map’s initiative of Healthy Living. The first in a three-part series of short surveys to be conducted with CEDs is enclosed. Your participation is vital as a leader in our organization and especially as we seek to live out our Mission and Road Map initiatives.

Attached you will find the questionnaire along with an informed consent. Please sign one copy of the informed consent; the other copy is for you to keep. Complete the entire survey and return it with one copy of the signed consent in the self-addressed stamped envelope provided in this packet. As a participant, know that your responses will be kept confidential and there will be no reporting of individuals. Please respond honestly, as the purpose of this study is to offer valuable information as we look to better the organizational health of UF/IFAS Extension. The researcher will share with you preliminary results as a group when we meet in Gainesville in November for the state CED meeting. Consequently, it will be important to have statewide CED participation to most accurately represent our organization.

Thank you in advance for your time and participation and for making this a priority. We ask all surveys to be mailed back by Friday, September 12th. For questions about the research study please contact my doctoral student, Chris Mott at chris.mott@ufl.edu

Thank you,

Chris Mott, PhD Candidate
Nick Place, Dean and Director of Extension
Informed Consent

Protocol Title: Emotional Intelligence

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study: The purpose of the study is to examine the relationship between the emotional intelligence of Florida County Extension Directors and their dietary quality, physical activity, and selected demographics.

What you will be asked to do in the study: You will receive an emailed link and be asked to complete the online Emotional and Social Competency Inventory (ESCI 3.0), Version 3 (Boyatzis & Goleman, 2007).

Time required: The Emotional and Social Competency Inventory will take approximately 18 minutes to complete.

Risks and Benefits: There are no anticipated risks or benefits to participating in the study.

Compensation: There is no compensation for participating in this study.

Confidentiality: Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file. When the study is completed and the data have been analyzed, the list will be destroyed. Your name will not be used in any report.

Voluntary participation: Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study: You have the right to withdraw from the study at anytime without consequence.

Who to contact if you have questions about the study: Chris Mott, Graduate Assistant, Department of Agricultural Education and Communication, 411 Rolfs Hall, P.O. Box 110540, Gainesville, FL 32611, (352) 273-3425, chris.mott@ufl.edu

Who to contact about your rights as a research participant in the study: UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; (352) 392-0433.

Agreement: I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

Participant: __________________________ Date: __________________________

Principal Investigator: __________________________ Date: __________________________

Approved by
University of Florida
Institutional Review Board 02
Protocol # 2014-U-0886
For Use Until 09/28/2015
Dear CEDs,

Thank you so much for the great participation we had with Phase 1 of our study administered at EPAF and the mailed questionnaire for those unable to attend. Next week you will have the opportunity to participate in Phase 2 of a very important study as we focus on strengthening Extension leadership and our UF/IFAS Road Map’s initiative of Healthy Living. On Monday you will receive an email from the HayGroup® with a link and an username and password for an important survey. Please plan to take about 20 minutes to complete the online survey sometime by week’s end. Your participation is vital as a member in our organization and especially as we seek to live out our Mission and Road Map initiatives. As a participant, know that your responses will be kept confidential and there will be no reporting of individuals. Please respond honestly, as the purpose of this study is to offer valuable information as we look to better the organizational health of UF/IFAS Extension. The researcher will share with you preliminary results as a group when we meet in Gainesville in November for the state CED meeting. Consequently, it will be important to have statewide CED participation to most accurately represent our organization.

Thank you in advance for your time and participation and for making this a priority. For questions about this research study please contact my doctoral student, Chris Mott at chris.mott@ufl.edu

Dr. Nick T. Place  
UF/IFAS Dean for Extension and Director,  
Florida Cooperative Extension Service

UF IFAS Extension  
UNIVERSITY OF FLORIDA  
1038 McCarty Hall • PO Box 110210 • Gainesville, FL 32611-0210  
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rollikr@ufl.edu • http://solutionsforyourlife.com
Dear County Extension Agents, Support Staff, Volunteers and Stakeholders,

Next week you will have the opportunity to participate in a very important study as we focus on strengthening Florida Cooperative Extension leadership and our UF/IFAS Road Map’s initiative of Healthy Living. On Monday you will receive an email from the HayGroup® with a link and an username and password for an important survey. Please plan to take about 20 minutes to complete the online survey sometime by week’s end. Your participation is vital as a member in our organization and especially as we seek to live out our Mission and Road Map initiatives. As a participant, know that your responses will be kept confidential and there will be no reporting of individuals, nor will your County Extension Director (CED) have access to your survey answers. Please respond honestly, as the purpose of this study is to offer valuable information as we look to better the organizational health of UF/IFAS Extension. Consequently, it will be important to have your participation to most accurately represent our statewide organization.

Thank you in advance for your time and participation and for making this a priority. For questions about this research study please contact my doctoral student, Chris Mott at chris.mott@ufl.edu

Dr. Nick T. Place
UF/IFAS Dean for Extension and Director,
Florida Cooperative Extension Service

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mailto:rollikr@ufl.edu • http://solutionsforyourlife.com
CED,

Please click on the link below to view an important announcement about your participation in our current CED Research Study.

http://youtu.be/R_TTQa8GH zg

The third and final phase of our study will be launched Monday. Please look for an email arriving directly from my PhD Student, Chris Mott (chris.mott@ufl.edu), on Monday with your login credentials for Phase 3 of our study. Also, be one of the first 30 to complete the Phase 3 Questionnaire and have the chance to win a Fitbit! You will also be entered into the second drawing where all participants will have a chance to win a second Fitbit.

Thank you, again, for your participation in this very important piece.

Dr. Nick T. Place,
UF/IFAS Dean for Extension and Director,
Florida Cooperative Extension Service

1038 McCarty Hall • PO Box 110210 • Gainesville, FL 32611-0210
Ph: 352-392-1761 • Fx: 352-846-0458
nplace@ufl.edu • http://solutionsforyourlife.com
**UF/IFAS Extension Director and Dean Nick Place**

**Video Transcript:** Hello! I want to bring a special message to our County Extension Directors here around the state. I want to first of all thank those of you who are participating in our study on health and emotional intelligence—particularly those of you who have participated in the first phases of this study. Thank you very much for getting that done and for your participation. Secondly, the third and final phase of this study will be coming out this next week. And this is an opportunity for you to provide us some feedback in regards to your regular health and diet practices. It’s going to be a short 15-minute survey. We are looking forward to your participation in this third and final phase. Lastly, I want to let you know about a drawing that will be taking place. There are actually two drawings. One is for the first 30 people who complete this third phase—you’ll have the opportunity to win a *Fitbit*, which is a great thing that I have myself. But then also, all of you who have completed all three phases of this study, will also have an opportunity to win one of these neat devices. So, lastly, thank you for your help and participation. And remember with what we are trying to do now of having a healthy you, leads to a very healthy UF/IFAS Extension organization. So thank you very much in advance for your participation.

###
Dear CED,

Greetings! Last week you received a video announcement from Dean Place announcing the third and final phase of our CED health study. The National Cancer Institute has granted us permission to use their quick online Dietary Screener Questionnaire (DSQ). The questionnaire will ask you questions about your average food and beverage consumption over the past month. There are no right or wrong answers; please just respond honestly. The link to the website, our study code, and your username and password are listed below. After clicking the link, please copy and paste your unique login information to complete this short online questionnaire.

Questionnaire link is: https://riskfactor.cancer.gov/dsq-respondent.htm

**Study Code is:** UFIFASCED  
**Your ID:** UFL034
**Your Password:** UF79TG76

Thank you so much for taking the time to complete the final phase of this important study. As Dr. Place’s video pointed out, the first 30 to complete this survey will be entered into a drawing to win a Fitbit! A second drawing will take place for all CEDs who participated in all three phases. You basically have two chances to win, so complete it today! Thank you, again, and please reply with any questions you may have.

Respectfully,

**Chris Mott, PhD Candidate**  
*Instructor, Leadership Development*  
AEC Leadership Development  
University of Florida  
352.273.3425
Dear CEDs,

Thank you to the many of you who participated in our research study this past fall. Please take a moment and click the link below to view a short video announcing the winners of our FitBit® drawing. Thank you, again, for your time and help with this important study.

http://youtu.be/ySfHduipE9Q

Best,

Nick

Dr. Nick T. Place,
UF/IFAS Dean for Extension and Director,
Florida Cooperative Extension Service
Video with UF Doctoral Researcher, Chris Mott

Video Transcript: Greetings, Florida County Extension Directors. My name is Chris Mott and you probably recognize my name from several of the emails you received from Dean Place, concerning a research study we've been working on for emotional intelligence, health, and nutrition. We’re really excited about the results of this study and we’ll be sending those results out to you in the next few weeks, so be on the lookout. First off I wanted to say thank you so much for the time you’ve put in and the effort involved in completing each of these phases. I know that you wear many different hats and so you’re time is very valuable. So we really appreciate that. As promised back in October, we’re here to do the drawings for the FitBit®.  <<Music>> All right so our drawing for our first FitBit® which belongs to one of those first 30-finishers for our third and final phase, the Dietary Screener, belongs to __________. __________, congratulations! All right this is the drawing for the second FitBit®, for all those who completed all three phases of our study. Your name has been placed in this jar, and there are 55 CEDs who completed all those. __________, is the winner of our second
FitBit®, congratulations! I just wanted to say thank you so much once again for your time and participation. We’ll be sending those results out pretty soon. Until then, think about this. A healthier YOU, equals a healthier Extension. Thank you. <<Music>>

###
APPENDIX P
STUDY PARTICIPANTS BY FLORIDA EXTENSION DISTRICT AND COUNTY

Legend:
Solid colors: Participating County
Faded colors: No participation due to CED vacancy, retirement, incomplete data, or refusal to participate
APPENDIX Q
HEALTHY YOU = HEALTHY EXTENSION

healthyYou = healthyExtension™
LIST OF REFERENCES


217


The International Physical Activity Questionnaire (IPAQ), 2005. Available at http://www.ipaq.ki.se/


One Forbes Road, Lexington, MA.


Reviews Neuroscience, 9(7), 568+. Retrieved from http://go.galegroup.com/ps/i.do?id=GALE%7CA193446790&v=2.1&u=gain40375&it=r&p=AONE&sw=w&asid=e53f8c9847e435091206bb1b63b148df


BIOGRAPHICAL SKETCH

Christopher Eugene Mott was born and raised in Florida’s most northeastern point on Amelia Island which lies in Nassau County and sits on the borders of Florida and Georgia. As a lifelong Florida Gator, Mott attended the University of Florida and in 1999 earned his Bachelor of Science in telecommunication located in UF’s College of Journalism and Communications. While working during his undergraduate years at the on-campus radio and television outlets as well as a student assistant in the Department of Environmental Horticulture, he learned of the College of Agricultural and Life Sciences’ Agricultural Communications program and was accepted to their Master of Science program. His first teaching assignment came during this time as he was a lab instructor in a junior-level research and business writing course for agricultural and life science majors. It was during this time he formed a love of teaching. However, the real significance of teaching in his life was solidified through his experience teaching conversational English in Budakalasz’, Hungary, a small village outside of Budapest. For two summer missions Mott developed curriculum and helped Hungarians with limited English language skills learn to read, understand, and speak English.

Following his 2002 graduation with a Master of Science from the University of Florida, Mott was recruited by his former high school teacher-turned principal to begin a broadcast communications program at a school in his home county. After three years of teaching at Callahan Middle School, Mott accepted an opportunity to create a multimedia program at Sunset Middle School, located in Tennessee’s highest-achieving school district, Williamson County Schools. He had the opportunity to author curriculum for three grade levels, which was then implemented at several other schools in the district. While there, he also served as a Related Arts Team Leader, Building
Leadership Team Member, School Improvement Accreditation Team Member, and coach, while teaching part-time adult education classes at night for Nashville State Community College and Metro Nashville Public Schools.

After six years in Tennessee, and nine total of teaching and leadership opportunities, Mott yearned to gain a better understanding of leadership, so he accepted an assistantship to earn his PhD in leadership development, returning to his alma mater, University of Florida, under the advisement of Dr. Nicole Stedman. Through his assistantship and research responsibilities Mott has provided three statewide professional development training initiatives in adult learning, leadership competencies, and emotional intelligence, dietary quality, and physical activity. He also served as a lab instructor for multiple semesters of Effective Oral Communication Strategies as well as a teaching assistant for leadership development and organizational leadership courses. Mott also served as lead instructor for the core leadership minor course, Leadership Development Theory, overseeing the learning of nearly 100 students and two teaching assistants. Mott was also selected and honored as the 2014-2015 recipient of the Jack L. Fry Excellence in Teaching Award by a Graduate Student in the UF College of Agricultural and Life Sciences.

It is Mott’s dream to continue his passion for leadership, learning, and empowering others while centering efforts on employee development and organizational change, offering expertise in emotional intelligence, data-driven organizational health/behavior awareness, and critical and creative thinking for innovative development and effective problem solving.