

2017

Influences of Perceived social Network Structure Characteristics on College Student's Perceptions of Social Capital Value and Career Decision-Making Self-Efficacy

Troy Autin

Louisiana State University and Agricultural and Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_dissertations



Part of the [Human Resources Management Commons](#)

Recommended Citation

Autin, Troy, "Influences of Perceived social Network Structure Characteristics on College Student's Perceptions of Social Capital Value and Career Decision-Making Self-Efficacy" (2017). *LSU Doctoral Dissertations*. 4483.

https://digitalcommons.lsu.edu/gradschool_dissertations/4483

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Doctoral Dissertations by an authorized graduate school editor of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.

INFLUENCES OF PERCEIVED SOCIAL NETWORK STRUCTURE
CHARACTERISTICS ON COLLEGE STUDENT'S PERCEPTIONS OF
SOCIAL CAPITAL VALUE AND CAREER DECISION-MAKING SELF-
EFFICACY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The College of Human Sciences and Education

by

Troy Autin

B.A. Louisiana State University, 1999

M.P.A Louisiana State University, 2008

AUGUST 2017

© 2017 Copyright
Troy Autin
All rights reserved

ACKNOWLEDGEMENTS

I would like to thank everyone who helped and supported me on this lifetime achievement. First, thanks to my committee, my chair Dr. Michael Burnett, my minor chair Dr. Kevin McCarter, Dr. Eugene Kennedy, Dr. Satish Verma, and Dr. Martin Johnson. Dr. Burnett, thank you for really pushing me towards this goal. Sometimes I felt that you wanted this for me more than I did. Dr. Kennedy, thanks for taking the time to meet with me at a moment's notice. Thanks to Dr. Kennedy and Dr. McCarter for the statistical advice, guidance and patience as I struggled with my study. Dr. Verma, thank you for your edits and basically coming out of retirement to be on my committee. Dr. Johnson, it has been a pleasure to have you as the Dean's representative, and your expertise has been a wonderful complement to the committee. I would be remiss not to thank Dr. Tracey Rizzuto, who provided me with much needed direction and gave so much of her time. I cannot thank her enough for her expertise and the proof reading that she put into this document.

Thanks to Dr. Jonathon Hyde and Mrs. Renee Richard-Gonce for allowing me to use Residential Life in this study. Additionally, thanks to Dr. Maylen Aldana, who never allowed me to quit. If I had a nickel for every time you asked me about my dissertation. You were a great boss and even better supporter. Also from Residential Life, Dr.s Monique Cain, Celena Trahan and Julie Herinquez, thank all of you for pushing me forward, reviewing with me and being my sound board. A special thanks to Dr. Renee Lastrapes and her partner Kay, who provided me with the statistical and emotional support when I believed this goal couldn't be accomplished. Jess Downs and Kenissa McCay also deserve thanks for their support as I was ending this journey. Especially, Kenissa, you deciphered all the Microsoft Word puzzles that left me bewildered.

Finally, I would like to thank my family for their support, patience and encouragement through-out this process. A special thank you to my daughter, Brinkley Autin. She has inspired me to be a better man from the day she was born. I would have never thought about attempting this if it wasn't for her. Also, thank you to Christine Bourgeois who's patience and uplifting nature kept me going when I was "done" with this project emotionally. Aidan Negulescu deserves thanks for his patience he showed with me having to be "less" fun because of school work. Thanks to my Mother, Dena Hood, and Step-father, J.C. Hood for supporting me and pushing me to accomplish this marathon goal and all of my other accomplishments in life. Thanks to Tamara McClanahan and my nephew, Josh McClanahan, for the hours of talking to me during my "ups" and "downs" of this manuscript. Thank you to my siblings Rita Autin, Lloyd Autin, Jennifer Autin, Tina Hood, Christy Hood and Michelle Hood for a lifetime of support. Finally, thank you to my great friends that I see as brothers. My dearest friend, Larry Donaldson, has been there for me since we met at three years old. Dr. Chad Domangue has inspired me since college. Danny Aguirre tries his best at making jokes and is always ready to make me laugh. Lance Fanguy has been a cheerleader for everything I have attempted. Scott Leavell, Javier Pallais and Rod Gains deserve thanks for their constant belief in me.

This dissertation is in remembrance of my late Father, Michael Autin and Brother-in-law, Dwayne McClanahan. Wish you were both here to celebrate this accomplishment with us. I know both of you are very proud. I share this with all of you

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT.....	x
CHAPTER ONE: INTRODUCTION.....	11
Rationale	11
Objectives	14
Significance of the Study	15
Conceptual Framework.....	16
CHAPTER TWO: LITERATURE REVIEW	19
Social Capital.....	19
Perceived Social Capital Value (SCV)	21
Perceptions of Social Network Structure Characteristics (SNSC)	22
Perceptions of SCV and Perceptions of SNSC	27
Career Decision-Making Self-Efficacy (CDMSE)	30
University Living Communities	30
CHAPTER THREE: METHODS.....	34
Population and Sample	34
Instrumentation	36
Data Collection	38
Measures	40
Data Analysis	43
CHAPTER FOUR: FINDINGS.....	47
Objective One Results	48
Objective Two Results.....	49
Objective Three Results.....	53
Objective Four Results.....	56
Objective Five Results	58
Objective Six.....	61
CHAPTER FIVE: SUMMARY.....	63
Summary of Purpose.....	63
Summary of Objectives	63
Summary of Methods.....	65
Summary of Findings.....	68
Conclusions, Implications, and Recommendations	75
REFERENCES	91

APPENDIX A: Survey Invitation Email and Reminder	99
APPENDIX B: Louisiana State University Institutional Review Board Approval Form March 2	101
APPENDIX C: Permission to Use Student Population from Director of Residential Life Communications and Administration	102
APPENDIX D: Introductory Consent Page of Survey	103
APPENDIX E: Bonding Name Generator Item	104
APPENDIX F: Bridging Name Generator Item	105
APPENDIX G: Density Interpreter Item	106
APPENDIX H: Homophily Interpreter Item	107
APPENDIX I: Perceived Social Capital Value Item	108
APPENDIX J: Permission for CDMSE-SF Distribution.....	109
APPENDIX K: Sample CDMSE-SF Items	110
APPENDIX L: Gender Demographic Question	111
APPENDIX M: First Generation Question	112
APPENDIX N: Box Plots of Perceived Social Capital Value by Residential Community Adapted from SPSS 24.	113
APPENDIX O: Box Plots of CDMSE Total Score by Residential Community Adapted from SPSS 24.....	114
APPENDIX P: Box Plots of Network Homophily by Residential Community Adapted from SPSS 24.....	115
APPENDIX Q: Box Plots of Bonding Network Size by Residential Community Adapted from SPSS 24.....	116
APPENDIX R: Box Plots of Bridging Social Network Size by Residential Community Adapted from SPSS 24.	117
APPENDIX S: Box Plots of Overall Social Network Size by Residential Community Adapted from SPSS 24.	118

APPENDIX T: Box Plots of Multiplex Network Size by Residential Community Adapted from SPSS 24.....	119
APPENDIX U: Correlation Matrix of Investigation Variables and Normality Histogram.....	120
APPENDIX V: Preacher & Hayes (2013) Mediation Output Adapted from SPSS 24	121
APPENDIX W: T-test of Gender and SNSC, SCV and CDMSE	138
VITA.....	139

LIST OF TABLES

Table 1	Description of Perceived Social Network Structure Characteristics of Overall, Bonding, Bridging, and Multiplex Network Size and Network Homophily Among Freshman Students Enrolled in a Research University.....	51
Table 2	Social Network Density as Perceived by Freshman Students Enrolled at a Research University.....	51
Table 3	Total CDMSE Score Range of College Freshman Students Enrolled at a Research University.....	53
Table 4	Perceived Social Network Characteristics Variables, SCV, and CDMSE of Freshman College Students at a Research University Who Reside in On-Campus Living Communities	54
Table 5	ANOVA Results for Differences in College Freshman Residing in Different On-Campus Communities	56
Table 6	Pearson Product Moment Correlation Scale to Determine Strength of Relationship Adapted from Hinkle et al. (2003).	57
Table 7	CDMSE Score Ranges of College Freshman Students Enrolled at a Research University (adapted from Betz & Taylor, 2012).....	75

LIST OF FIGURES

Figure 1 Relationship between “Alters in an Ego Network” adapted from Lakon et al. (2008).	18
Figure 2 Visual Network Scale of Perceived Network Density from Egocentric View Adapted from Mehra et al. (2014).	42
Figure 3 Pearson Product Moment Correlations of Social Network Characteristics, SCV and CDMSE of College Students that are Enrolled at a Research University.....	57
Figure 4 Regression models a, b, and c Testing the Direct effects of Social Network Characteristics Variables on SCV and CDMSE and the Direct Effect of SCV on CDMSE CDMSE.	60
Figure 5 Regression Model Testing the Total Effect of Social Network Characteristics and SCV on CDMSE.	60

ABSTRACT

The collective group of resources that are accessible to an individual because of people within his/her social network is known as social capital. Social capital becomes more valuable when an individual sees that it can help with goal achievement. This is especially true with college-aged students who are deciding on academic major, career path and if they should persist or drop out. The purpose of this study was to determine the influence of social network characteristics on the perceived social capital value (SCV) and career decision-making self-efficacy (CDMSE) among freshman college students enrolled at a research university.

This present study examined how a student's social network characteristics are related to their perceived SCV and CDMSE. The researcher measured bonding network size, bridging network size, overall network size, multiplex network size, network density and network homophily as the social network characteristics of interest. The Name Generator and the short-form of the Career Decision-Making Self-Efficacy scale (CDMSE-SF) were administered to 122 freshman students who resided in three different on-campus living communities (traditional, career exploration residential college and agriculture residential college) to measure their perceived social network characteristics, perceived SCV and CDMSE. ANOVA tests were performed to compare the three on-campus communities' student's perceived social network characteristics, SCV and CDMSE. Multiple regression analysis was used to determine if SCV mediates perceived social network characteristics prediction of CDMSE.

Results indicated that there are no differences in on-campus communities' student's perception of social network characteristics, SCV and CDMSE. Also, results show that there is little to no relationship between SCV or social network characteristics and CDMSE. However, the researcher did find that freshman college students derive their perceptions of their social

capital value from networks that are more homophilic ($r = 0.186$, $p < 0.05$) and smaller, more emotionally supportive social bonding networks ($r = 0.216$, $p < 0.05$). The researcher concludes that social network training and coaching should be delivered to freshman college students from their first semester through their graduation to properly develop a well-rounded social network that can provide emotional/social support as well as having access to new information to provide career advantage.

CHAPTER ONE: INTRODUCTION

Rationale

The idiom, “it’s not what you know, it’s who you know” is often used and cited as a reminder of the importance of connecting with others to be successful. The “who you know” in the statement refers to the social relations that individuals develop, collectively known as a “social network.” Social networks provide access to more resources than the knowledge, skills and ability possessed by the individual alone would provide (Bordieu, 1986). Resources that come from this social network provide a value or “social capital” that can be used by people within that network (Bordieu, 1986; Kilduff & Brass, 2010). Adler and Kwon (2002, p.23) define social capital as “...the goodwill available to individuals or groups that stems from an actor’s social relationships” (Adler & Kwon, 2002, p. 23).

Perception of social capital value (SCV) is empirically linked to the production of harmful and beneficial academic and career outcomes, especially for students and young employees (Adler, 2002; Burt, Kilduff, & Tasselli, 2013; Flap, 1994; Lent, Brown, & Hackett, 2000; Van Der Gaag, 2008). Students and young employees who have perceptions of high social capital tend to stay within their career paths longer, show less turn-over/ dropout rates and show a greater likelihood to persist to graduation (Cain, 2012; Brands, 2013, Dess & Shaw, 2001; Harpham, 2005; Warr, 1999). Conversely, perceptions of low SCV have been empirically linked to negative career outcomes (Dess & Shaw, 2001; Lindstrom, 2006; Warr, 1999). Individuals with a low SCV perceptions have a greater propensity for negative career and academic outcomes, such as turnover, low morale, feeling of lack of support and lack of access to new information that may lead to career advantage (Burt, 2013; Brands, 2013; Dess & Shaw, 2001; Warr, 1999). Perceiving low SCV may curtail a student’s ability to develop academically and

professionally by lowering their sense of career decision-making self-efficacy (Adler, 2002; Burt, Kilduff, & Tasselli, 2013; Flap, 1994; Lent, Brown, & Hackett, 2000; Van Der Gaag, 2008.)

The structural characteristics of the relationships within a social network play an important part in providing social capital (Burt, 1992; Coleman, 1988). The value of social capital is assessed by each individual in a social network according to their personal perceptions about the utility of the resources to help him or her achieve a goal (Killworth & Bernard, 1979). However, social capital is of little or no value unless the individual recognizes the potential benefits that can derive from the resources within their network. There are several factors that can impact the perceptions of SCV (Mehra et al., 2014). Some of these factors include social network structure characteristics such as breadth, density, and diversity of network relationships.

The breadth, or size measured in number of relationships, of an individual's social network may lead to perceptions of resource accessibility or inaccessibility. As the social network grows in size, the probability of resource availability increases (Granovetter, 1985), but it doesn't guarantee that a needed resource is available. However, individuals exaggerate frequency of interactions and the number of relationships in their network thus providing a chance for individuals to overestimate or underestimate the amount of social resources and derive a false perception of his/her SCV (Freeman & Webster, 1994; Mehra et al, 2014). Network density is the "closeness" of the individuals within a social network (Harpham, 2005). For example, if everyone in the network knows each other, the network is considered very dense, if the members of the network do not know or interact with each other than the network is sparse (Burt, 1992; Coleman, 1988; Harpham, 2005). Perceptions of a highly dense network lead to increased perceptions of social support, a measure of social capital (Zhu, 2013). Individuals who

perceive high levels of social support also perceive higher level of social capital value (Mehra, et al. 2014; Zhu, 2013). Lastly, network diversity, referred to as homophily in the social network literature, describes the extent to which the members within a social network are alike (Harpham, 2005). A network that is perceived as very homophilic, or very similar, can be perceived as very valuable in emotional and social support, but not as valuable to an individual who may desire new information or competitive advantage that a diverse or less homophilic network would provide (Burt, 1992; Coleman, 1988; Mehra et al, 2014; Zhu, 2013). Additional to social network structure characteristics, individual career goals are a major influence on perceived SCV. (Burt, 1992; Coleman, 1988; Mehra et al., 2014; Zhu et al, 2014).

Career goals are greatly affected by a person's career decision-making self-efficacy (CDMSE) (Taylor & Betz, 2012) and is also connected to a person's social network (Lent, Brown, & Hackett, 2000; Martin, Miller, & Simmons, 2014). An example of this connection is the use of academic and career mentors for access to resources that aid in deciding career path and goal achievement (Siebert, Kraimer, & Liden, 2001). CDMSE is one's belief in his/her own ability to choose a career area, which encompasses problem solving, occupational information, and career planning (Taylor & Betz, 1983). Social network characteristics have been shown to be related to an individual's SCV and social network characteristics have also been shown to be linked to CDMSE (Mehra et al., 2014; Quimby & O'Brien, 2004). This is especially the case with college student populations (Mehra et al., 2014; Quimby & O'Brien, 2004). Understanding the relationship between perceived SNSC and both perceptions of SCV and CDMSE, universities can implement programs that will provide social capital that is perceived as valuable, especially among college students to improve their college experience. Therefore, the primary purpose of this study is to determine the influence of social network characteristics on the

perceived SCV and CDMSE among college students in Louisiana. Additionally, the study attempts to determine if a relationship exists between perceived SCV and CDMSE among this group.

Objectives

The following objectives were established to guide the research:

1. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:

- Gender;
- Whether or not a first-generation college student.

2. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social network value; and

Career Decision-Making Self-Efficacy (CDMSE).

3. Compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social network value; and
- CDMSE.

4. Determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

5. To determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus

6. Based on research literature the following objective was established as a series of research hypotheses:

- Overall perceived social network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived multiplex network size is positively related to perceptions of SCV among freshman students at a research university.

Significance of the Study

There are many benefits in knowing what social network characteristics influence individuals to derive perceptions of their social capital value (Brands, 2013; Burt, 2010; Burt, 2013; Mehra et. al., 2014). This proposed research aims to provide insight into what perception of SNSCs influence a student's perceptions of SCV and CDMSE. If the findings from this study show a relationship between perceptions of SNSCs and perceptions of SCV, then residential life professionals and academic departments that host LLCs s can customize their curriculum to

retain students and provide more support for their success. The insight from these findings could assist counselors and mentors to help create interaction opportunities among a student's peers that will cultivate increased perceptions of social capital value and an individual's CDMSE. This research also provides inroads for university practitioners to lower drop-out rates, increase enrollment and increase graduation by providing beneficial perceptions of SNSCs and raising perceptions of SCV (Dess & Shaw, 2001; Cain, 2012, Choi, 2011; Laufgraben, 2005, Zhu, 2013).

Additionally, if this investigation shows that perceptions of SNSC influences an individual's perceptions of SCV then it will further the literature by shedding light on why some people get more out of their social networks than others in the same network. The research will also provide new pathways of research into the social network and social capital literature by empirically linking both with career decision making self-efficacy literature. Also, if the research shows a significant relationship between social network, SCV and career outcomes, then the project may successfully introduce the concept of perceived social capital into the higher education literature, and lead to new and fertile area of research within higher education.

Conceptual Framework

Bourdieu (1986) and Coleman (1988) formally introduced the sociological literature to a concept of available resources that are attainable and beneficial to individuals through relationships, also called social networks. Bourdieu (1986) coined this concept "social capital." Social capital is available to the members of a social network and comes in a variety of forms, such as trust, information, social support and emotional support (Adler, 2002; Bordieu, 1986; Coleman, 1988; Lin, 1999, 2001; Putnum, 1993, 2000, 2007). The value of the social capital is set by individuals who may seek those resources to achieve a goal or satisfy a need (Adler, 2002;

Flap, 1994; Van Der Gaag, 2008). Conceptually defined, social capital is a resource that an individual has access to (i.e., emotional and informational support) and/or use of (i.e., a neighbor's lawn mower to cut your grass) (Lin, 1999, 2001; Lai, Lin, and Leung, 1998; Rostila, 2010). Social capital can be conceptualized at the individual level if the individual can personally benefit from the returns achieved by utilizing the social resource from the network (e.g., information, emotional support, etc.) (Rostila, 2010). Conceptually, social capital can be seen as social support, community trust, information access, and emotional support (Lin, 1999, 2001; Lai, Lin, and Leung, 1998; Rostila, 2010). Operationally, social capital is measured by the volume of resources available to the individual (Van Der Gaag, 2005).

One research approach to the social capital construct is from the perspective of a focal individual, referred to as the “ego” (Li, 2013; Mehra et al, 2014; Wellman, 1999; Zhu, 2013). The early social capital literature focused more on the social network view, a “bird’s eye view” of the workings of a network. Recently, researchers have taken more of an interest in a “ground level” network view, referred to as “ego network” (Wellman, 1999). This network perspective provides data on how the ego sees his/her network structure (Lakon, 2008). The data is provided by ego without additional feedback from network “alters,” the other members in the network (Lakon, 2008). Lakon’s (2008) ego network, as presented by Figure 1.2, illustrates an ego network perspective with the arrows pointing outward to the alters. Ego is the only feedback response that knows each of the alters. The connection between ego and the alters is referred to as relational “ties” (Adler & Kwon, 2002). For example, a college student who lives in an on-campus college community may have several “alters” within the residence hall that he/she may seek for emotional and/or career support.

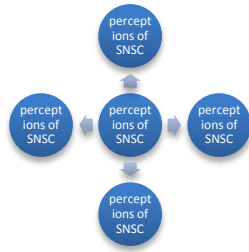


Figure 1 Relationship between “Alters in an Ego Network” adapted from Lakon et al. (2008).

CHAPTER TWO: LITERATURE REVIEW

This chapter provides an overview of literature pertinent to this study. The review begins with research that discusses the dependent variable of this study, perceived social capital value SCV. The chapter then proceeds into a review of perception of social network structure characteristics (SNSC) followed by a section focused on perceived SCV and SNSC. This chapter ends with a discussion of the outcome variable CDMSE followed by a brief discussion of university living communities.

Social Capital

Adler and Kwon (2002) suggest that the base of a relationship in a social network is one of three types that provide infrastructure for its function: market, hierarchical, or social. While the market and hierarchical types can indirectly influence social capital, social relationships in a social network directly influence social capital (Adler & Kwon, 2002). Without the presence of a social network structure, social capital is non-existent (e.g., Adler, 2002; Bordieu, 1986; Coleman, 1988; Lin, 1999, 2001; Putnum, 1993, 2000, 2007). In other words, if an individual has not developed any relationships to create a social network structure, then he/she only has access to resources that he/she can obtain alone. As an ego interacts with others in a social network, he/she develops perceptions of SNSC and perceptions of social capital inside the network (Brands, 2013; Burt, 2013; Coleman, 1988; Freeman, 1994; Killworth & Benard, 1979; Mehra et al, 2014).

Coleman (1988) and Burt (1992) outline two types of social capital that can be identified based on a social network's structural characteristics. Coleman's (1988) bonding social capital refers to the trust, social norms, and social support that result from close social relationships. Bonding social capital is rich with close relationship ties that are exercised frequently, such as

ties to friends and family. In social network structures that produce bonding social capital, alters know each other, creating a dense allocation of relationships (Coleman, 1988). The dense network described by Coleman (1988) provides social capital that comes from “every day” support (i.e., emotional, often needed instrumental task assistance, group norms). Coleman’s (1988) social network is high in homophily (i.e., the alters are very similar to ego), which limits the introduction of new ideas but supports the creation of a culture and community norms. Coleman’s (1988) social network is considered “closed” because of the lack of information that enters.

In contrast, Burt (1992) views social capital as the resources available from a “bridging” social network. Bridging social capital gives individuals an “advantage” by allowing them to access new information by bridging into other social networks (Burt, 2013). Burt (2013) sees bridging social capital as the diverse benefits from a sparse network that has external ties not found in a dense, closed network. This view of social capital is in direct opposition to Coleman’s (1988) dense network social capital. In Burt’s (2013) sparse network, alters may not be familiar or interact with fellow alters in an ego’s network. Additionally, bridging into foreign networks opens up the ego’s network to alters who differ from fellow alters. Thus, bridging increases the potential for ego to access new resources not available to others in his/her network, thereby providing an advantage (Burt, 2010; Granovetter, 1985).

Goal Attainment

The social network research suggests that goal attainment is a significant contributor to an individual’s decision to change his/her social network structure (Adler, 2002; Brands, 2013; Flap, 1994; Van Der Gaag, 2008). If an individual perceives that he/she has the social capital to achieve a set goal, he/she may not feel compelled to expand a social network perceived as adequate. Mehra et al. (2014) found that ego perceives social capital value based on perceived

social capital resources that he/she sees as an asset for personal goal attainment. In other words, ego assesses the value of his/her social capital based on its capacity to help ego achieve personal goals. These findings suggest that the perception of social capital value depends on the goals of an individual. So an individual may perceive social capital in his/her social network and place a high or low value on it depending on whether or not it meshes with his/her goals.

If an individual perceives that he/she has already accumulated the social capital necessary to achieve a desired goal, then he/she will perceive the value of that social capital to be high (Burt, et al., 2013; Mehra et al, 2014). On the other hand, if an individual perceives that he/she has inadequate social resources to accomplish a goal, the he/she will perceive the value of his/her social capital to be low (Dess & Shaw, 2001). For example, students may not choose a specific major because they perceive a lack of academic support within their social networks (Choi, 2011; Killworth & Bernard, 1979). Therefore, perceived social capital value is based on an individual's goals, perception of the social capital embedded in his/her perceived social network structure, and assessment of whether it can benefit him/her.

Perceived Social Capital Value (SCV)

How ego perceives social capital value has recently started to attract empirical attention in cognitive social structure research (Brands, 2013; Mehra, 2014; Zhu, 2013). Thus, understanding how ego gauges the value of his/her social capital would also contribute to that research. Studies have shown that individuals may not always be aware of the social capital available in their networks. Instead, they perceive either a lack of resources or access to resources that are inaccessible (Cain, 2012; Killworth, 1979; Mehra et al., 2014).

Individuals place a value on perceived social capital that is subjective to their personal goals (Krackhardt, 1987; Mehra et al., 2014). In their research on social capital and voluntary

turnover, Dess and Shaw (2001) found that individuals who perceived coworkers as sources of needed social capital were less likely to leave an organization. In the same study, when an alter that ego viewed as important left the organization, ego's perceptions of SCV lowered because of the perceived loss of social capital (Dess & Shaw, 2001). This result from the study can be viewed as a loss of social capital value from both the Coleman (1988) bonding network or the Burt (1985) bridging social network. When employees saw members of their network and sources of a capital leave their organization, the more likely the employee would also leave the organization voluntarily (Dess & Shaw, 2001). This points to individuals perceiving a loss of social capital and in turn losing social capital value. On the other hand, Dess and Shaw's (2001) study did reemphasize that when an employee perceived a high level of social capital value within the organization, they were less likely to leave the organization and expand their networks. Siebert (2001) found that perceived social capital in the form of access to information and career mentorship was also viewed as highly valuable for success in the workplace. Studies of university students have shown similar results (Caine, 2012). When students perceived that they had access to a lot of resources through their relationships, they also perceived higher levels of social capital value (Brands, 2013, Mehra et al., 2014, Zhu et al, 2013)

Perceptions of Social Network Structure Characteristics (SNSC)

Social network structure characteristics (SNSC) describe how participants in the network are related to each other, how many participants are in the social network, and the diversity of those participants (Burt, 1982; Coleman, 1988; Wasserman & Faust, 1994). Coleman (1988) and Burt (1982) have proposed different types of social capital that are derived from two distinct social network structures—bonding and bridging—based on unique characteristics. For instance, if all the participants in a social network know each other, the social structure is considered

“dense”, a characteristic of Coleman’s (1988) bonding social network structure. On the other hand, a social network structure in which all of the participants do not know each other is labeled “sparse,” a characteristic of Burt’s (1992) bridging social network structure. Additionally, a social network that has less diversity among the participants is said to be high in “homophily” (Van Der Gaag, 2008). According to Coleman (1988), a social network with individuals that are very similar or highly homophilic, provides social capital of trust, social norms and social support. Burt (1992) argues that having a social network with individuals that are different from each other and the ego provides social capital that gives ego competitive advantage.

Researchers have found that individuals rely more on perceptions of SNSC rather than objective or actual SNSC to make determinations of future behavior (Killworth & Bernard, 1979; Mehra et al., 2013). To put in a simple phrase, perception is reality when it comes to individuals making decisions about what steps to take next in order to achieve his or her goals. Even if the individual has access to a resource, he or she will rely on their perception of the availability to decide what to do next.

Freeman (1994) investigated the gap between actual and perceived social network structure by studying 37 members of an on-campus residential hall who ate at a nearby community dining facility. He found that the members exaggerated the frequency of interactions and the number of alters in close proximity. The students cognitively broke down the group of members with whom they interacted into sub-groups or tiers of individuals (Freeman, 1994). The more a participant interacted with another student, the more the participant exaggerated the number, closeness, and frequency of the interactions (Freeman, 1994). In other words, the more the participants saw their fellow residents, the more they reported interacting with them. Freeman also found that individuals grouped those with whom they interacted into clusters of

similar affiliation, sometimes referred to in social network literature as “small worlds” (Freeman, 1994; Krackhardt, 2008). Thus, Freeman (1994) discovered that proximity contributes to the development of perceptions of SNSC. He suggests that the more a formal social environment facilitates common interactions, the more an individual will exaggerate the characteristics of his/her social network structure (Freeman, 1994). The study found that the individual will perceive the social network structure to be bigger, denser, and higher in homophily the more they interacted with and were in the same proximity of alters (Freeman, 1994).

As an ego’s perceived social network size grows, he/she separates alters into groups according to the capital that the alters provide (Freeman, 1994; Lakon, 2008). Alters that provide resources that are associated with Coleman’s (1988) emotional and day to day social capital are considered part of ego’s bonding social network. Alters that provide new and different information are perceived as being in the ego’s bridging social network (Burt, 1992). An alter can belong to both types of social capital networks: bridging and bonding (Lakon, 2008; Siebert, 2001). Alters who can provide both bridging and bonding social capital are described as having a “multiplex tie” (Fisher, 1977; Lakon, 2008). A multiplex relationship is one in which a person occupies a position in an individual’s social network and may provide access to both types of social capital, bridging and bonding (Fisher, 1977; Lakon, 2008). A multiplex relationship is more likely to provide more diverse resources more frequently and consistently than a relationship with only one social capital resource function (Lakon, 2008; Kapferer, 1969; Krohn, 1986). Multiplex ties have been empirically linked to perceived SCV and career success (Lakon, 2008; Siebert, 2001).

Siebert and colleagues (2001) studied the relationship between access to job information/ job feedback and the career success of 448 young employees. In the study, the researchers

measured feedback as a bonding/emotional supportive resource provided by a trusted source that individuals have built a strong and close relationship with (Siebert et al., 2001). Job information was measured as a bridging/informational resource (Siebert et al., 2001). While both of the resources offered social capital that was beneficial to the individuals, it was access to alters who provided both job feedback and information (i.e. mentors who were further in their career and had a close relationship with the individual) that correlated more positively with career success (Siebert et al.;2001). Simply put multiplex relationships were more positively related to career success than either bridging or bonding social capital alone (Siebert, 2001). These findings suggest that multiplex relationships should also be investigated when researching practical social networks that provide bridging and bonding social capital.

Homophily and Density

Bridging and bonding social capital have received empirical support for their association with informational support, emotional support, and everyday instructional support (Adler & Kwon, 2002; Payne et al., 2011; Zhang et al., 2011; Zhu et al., 2013). However, in cognitive perspective research, high density and high homophily perceptions of SNSC are often more positively linked with perceived social capital than low density and low homophily (Harpham, 2005; Mera et al., 2014; Zhu et al., 2013). Zhu and colleagues (2013) research on perceived bonding social capital using a sample of 1129 first-year college students at a public university found that perceptions of bonding social structure characteristics are related to feelings of support and well-being. The research by Zhu and colleagues (2013) on subjective well-being affirms Mehra et al.'s (2014) and Harpham's (2005) findings that ego perceives more social capital when he/she perceives bonding social network structure characteristics in his/her network. However, additional research is needed to further validate the previously identified

relationships between perceptions of SNSC, homophily and density, and perceptions of social capital.

Social Network Size

Social network size is the sum of all alters with whom ego has interactions (Van Der Gaag, 2008). Researchers have acknowledged that individuals only need one alter to provide access to social capital, and any additional alters that provide the same capital are a luxury (Burt, 2010; Granovetter, 1983). Therefore, once ego perceives that he/she has access to needed capital through at least one tie, additional ties are not necessary (Granovetter, 1993).

In ego-level research, ties are used as a way to identify the size that ego perceives his/her social network structure to be (Brand, 2013; Krackhardt, 1987; Van Der Gaag, 2008). The number of ties reported are inflated by ego, who exaggerates the number of ties with which he/she interacts because of the proximity of alters (Freeman, 1994). In addition to inflating the overall size of his/her network, ego mentally clusters alters into both perceived bonding and perceived bridging social networks (Freeman, 1994; Krackhardt, 2008; Fisher, 1977; Lakon, 2008; Siebert, 2001). Individuals who are perceived to be in ego's bonding social network are viewed as providers of emotional and everyday support (Coleman, 1988). Individuals who are perceived to be in ego's bridging social network are viewed as providers of information and advantage (Burt, 1992). The size of a bonding or bridging social network is determined by the number of alters ego places in that network. If individuals are perceived by ego to be in both bridging and bonding social networks, they are considered "multiplex ties" (Lakon, 2008). Burt (1992) and Coleman's (1988) concepts of social capital seem to be mutually exclusive; however, practical networks may have relational ties that provide both bonding and bridging social capital (Siebert, 2001). Multiplex ties are empirically linked to beneficial career outcomes such as career success (Siebert, 2001).

Increasing network size does not necessarily guarantee that ego will gain access to a social resource, but it does increase its probability (Granovetter, 1985). Both Coleman (1990) and Burt (2013) acknowledge that multiple relationships are not necessary as long as an individual has access to the desired social resource. Granovetter (1985) specifically states that as long as an individual has a single relation that can offer the necessary resources, they have adequate access to that social capital. However, Burt (2013) and Granovetter (1985) also suggest that as the number of relational ties increase, the probability that more resources will become available to an individual increase. The larger the perceived size of the network, the more likely that ego will perceive social capital resources (Brands, 2013; Granovetter, 1993; Van Der Gaag, 2008). This study will attempt to further validate the research of Granovetter (1985) and Burt (2013) by investigating the relationship between perceived network size (overall, bridging, bonding, multiplex) and perceived social capital.

Perceptions of SCV and Perceptions of SNSC

Perceptions of SNSC may clarify how individuals perceive SCV. Social network analysis overwhelmingly suggests that the characteristics of bridging social capital (e.g., sparse and diverse networks) are more beneficial than bonding social capital to individuals and should be valued higher because of the advantages provided (Adler & Kwon, 2002; Burt, 2013; Granovetter, 1983). In contrast, cognitive research suggests that perceptions of bonding SNSC are associated with perceptions of higher SCV (Harpham, 2005; Mehra et al., 2014; Zhu, 2013). In their study of women in a Panhellenic organization, Mehra and colleagues (2014) found that perceived SNSCs are positively related to higher perceptions of SVC. The women perceived a high level of social capital because of the perceived closeness and frequency of interaction within their social network structure (Mehra et al., 2014). However, Harpham (2005) found that

individuals who perceived social network structures as less dense and low in homophily often reported lower overall social capital value and, specifically, low social support. The discrepancy between the social network analysis view of valuable social capital as bridging and the cognitive one of bonding demonstrates that the relationship between perceptions of SNSC and perceptions of SCV needs further investigation. Additional investigation into perceptions of SNSC and its relationships with perceptions of SCV may serve to validate previous findings.

Homophily and Density

The main tenets of difference between Coleman's (1988) and Burt's (2013) respective view of social capital are differences in the social structures density and homophily. Perceptual inaccuracies of both of these characteristics may be a key into how ego evaluates their social capital. Freeman (1994) suggested that individuals exaggerate the frequency of their interactions and interactions between alters, which provides a bias in their perception of density or sparseness of their social structure. Additionally, he also found that individuals put peers they interact with into clusters of similar affiliation and assume that members in that affiliation know each other than those who are not affiliated with the group (Freeman,1994). So, ego may perceive alters that are in their same LLC and same major as part of a dense network of peers that are similar to them due to exaggerated overestimation of interactions; also, ego in a traditional hall perceives their less frequent interactions and may exaggerate and overestimate their network as being sparse and more diverse than it actually is. Based on Freeman's (1994) findings, ego perceives their alters in their social network to be either part of a dense and homophilic network that is conducive to Coleman's (1988) bonding social capital or sparse and diverse that provide bridging social capital (Burt, 2013). Further looking into these findings, Mehra et al. (2014) researched perceived social capital among sorority women. The research found that perceived social structure characteristics are related to social capital; perceived network density was a

better indicator for perceived social capital value than having a sparse network (Mehra et al., 2014). Overall, Mehra et al. (2014)'s findings supported Coleman's (1988) bonding social network that is dense and homophilic and is positively related to perceived social capital. These findings are in opposition to Burt (2001) who found network density and homophily was negatively related to social capital in actual networks, not perceived, as measured by performance of managers in an organization. Zhu (2013) found that social network structure that produced a high level of social support correlated with subjective well-being in an ego level study. Networks with high level of social support are a characteristic of a bonding social capital network (Coleman, 1988), although the study did not ask explicitly about the structure of egos perceived social network. With the findings of recent studies, density and homophily network characteristic's contributions should be considered when investigating how ego develops perceptions of social capital value. While research has established perceived density is associated with perceived social capital, (Mehra et al., 2014), perception of ego's network diversity has not been established as associated to social capital in the research.

Network Size

Perception of network size has been viewed as a key perceived social network structure characteristic with mixed outcomes throughout the literature (Adler & Kwon, 2002; Brands, 2013). While both Coleman (1988) and Burt (1985) acknowledge that alters that provide access to an already accessible is redundant and not a value added to ego, social network researchers do agree that the more people within a social network provides more of a probability that a resource is available and leads to more social capital. Logically, it is hard to imagine that a larger network, either bonding or bridging, would influence an individual to perceive lower social capital value than a smaller version of that same network. Investigating the relationship of perceived size of an

individual's social network relationship with his/her perceived SCV would add to the social network research.

Career Decision-Making Self-Efficacy (CDMSE)

Social capital researchers have become interested in how ego perceives his/her social network structure and social capital and how that perception leads to career outcomes (Brands, 2013; Cain, 2012; Dess, 2001; Li, 2013). One such outcome of interest to both researchers and practitioners is career decision-making self-efficacy (CDMSE). CDMSE measures individuals' perceptions of their access to information and emotional support, aspects of Burt's (2013) and Coleman's (1988) social capital, respectively, through their social networks (Taylor & Betz, 1983). Research has shown that elements of perceptions of SCV are associated with CDMSE (Quimby & O'Brien, 2004; Wright, Perrone-McGovern, Boo, & White, 2014).

Quimby and O'Brien (2004) researched the influence of perceptions of social support and perceptions of career barriers on CDMSE among 354 women in a non-traditional college. They found that the perception of high-valued social support positively influenced CDMSE and was more influential than the perception of career barriers. Wright (2014) followed up this study by examining the relationship of trust and attachment to CDMSE by sampling 486 college students. He further affirmed Quimby and O'Brien's (2004) findings by suggesting that perceptions of SCV associated with trust and attachment is positively related to CDMSE. Investigating the relationship between perceptions of SCV and CDMSE based on the evidence of previous research may link these variables empirically in the literature.

University Living Communities

The formal social environment's geographic location, spatial design, and underlying social culture provide avenues by which individuals can build social relationships, cognitively

group, and compare themselves to those within and without that group (Coleman, 1988; Festinger, 1954; Freeman, 1994; Flynn, 2010; Krackhardt, 1987; Lin, 1999). The formal social environment can also erect barriers. Some formal social environments are designed to provide more designated interaction opportunities than others. For example, Panhellenic organizations facilitate member interactions through meetings, socials, and a common experience. These interactions build a cohesive and homogeneous social network, which builds trust, provides social support, and creates an organizational culture (Coleman, 1988). Other formal social environments provide less facilitation (Laufgraben, 2005). An example of this latter kind of formal social structure is a traditional college community. A traditional college community has minimal member requirements and student populations pursuing various academic majors. These students have the opportunity to build new relationships that differ from the ones they already have within their network. This opportunity allows students to build a social structure that is sparse and that provides informational advantages (Burt, 1992). However, ego may not always perceive the interactions or benefits that the formal social environment is intended to facilitate (Cain, 2012; Killworth & Bernard, 1979; Laufgraben, 2005; Mehra et al., 2014; Zhu, 2013).

Universities and colleges around the United States have been implementing “living learning communities” (LLCs) to create a formal social environment that integrates students into college both academically and socially (Cain, 2012). The intent of these communities is to provide a social environment imbued with social resources to support the academic and career goals of a group of students that shares a common major, interest or identity (Laufgraben, 2005). For instance, some LLCs focus on academic disciplines (e.g., engineering majors), while others provide refuge to students with common values or lifestyles (e.g., environmental sustainable

housing; housing geared toward the lesbian, gay, bi-sexual, transgender and queer (LGBTQ) community).

LLCs were created upon the idea that focusing on the needs and support of a specified group of students, particularly those that segregate based on academic discipline or performance, would result in better academic outcomes for their residents compared to those in the general population of students (Laufgraben, 2005). The LLCs typically have member criteria in which the students have to apply and meet qualifications to be accepted. For instance, Science LLCs only accept science majors that meet their designated minimum GPA requirement and college entrance exam scores. The communities only house LLC members. Students in LLCs are typically freshmen and are offered in-building programs that are exclusively accessible to members of the LLC (Laufgraben, 2005). In contrast, “traditional living communities” are residential living communities that are open to the general population of students and do not offer customized programming for their residents (Laufgraben, 2005).

Because “not all learning occurs in the classroom” (Laufgraben, 2005, p. 380), members of the LLC are enticed to interact with peer members in and out of the classroom. Student’s perceptions of social network structure are formed by observing and interacting with peer LLC members (Freeman, 1994; Krackhardt, 1987). While traditional communities provide some opportunity to increase social capital, LLCs intentionally provide more programs to enhance social capital of their members. However, this does not guarantee that the students perceive access to social capital or value their social capital as much as the LLCs would hope (Cain, 2012). Students derive SCV from the perception of resources not objectionable resources (Mehra et al., 2014). What has not been investigated is if students perceive their SCV as a result of perceptions of SNSC influenced by a university-created formal social environment, like LLCs.

Higher education research suggests that members of LLCs benefit from positive academic outcomes such as persistence to graduate, student retention to second year, and smoother college entrance transition (see Cain, 2012 for review). Cain (2012) found that first generation students in traditional halls perceived a lower level of social support than their counterparts in the LLCs. Those students also reported that they had not planned to return to the university at a higher rate than those in the LLC (Cain, 2012).

A key selling point about LLCs is that being a member leads to better academic outcomes and better prepares students to achieve their goals than those in a traditional community (Cain, 2012, Laufgraben, 2005). Each LLC has a different program structure for their members (Laufgraben, 2005). While some LLCs focus on building a bonding social capital, other LLCs may want students to explore and get bridging social capital.

CHAPTER THREE: METHODS

This chapter describes the procedures, materials, and instrumentation utilized to answer the research objective stated in Chapter One. The structure of this chapter includes the following sections: (a) population and sample, (b) instrumentation, (c) data collection and (d) data analysis.

Population and Sample

Target population is freshman college students who live on campus at a public research university in the South. The sample includes all members of the accessible population. The accessible population in this study is first-year students who live in one of three on-campus communities. (Traditional community, a Career based LLC and an academic content based LLC).

Each student self-selected the community where he/she resides after meeting specific qualifications. The first community required that residents pursue an agriculture content discipline. The second community is specifically designed for students who have yet to declare a major and thus focuses on “career discovery.” The final community is a traditional community in which the only requirement is acceptance to the university. All three community living formats are co-educational, traditional suite-style university dorm rooms with roommates of the same gender. These communities are housed in standalone buildings that are close in proximity but physically separated from other on-campus communities. In other words, these community buildings are not attached to other community buildings. Although considered co-ed, each community separates members of different biological genders by floor and has an equal number of men and women.

Academic Content LLC

Student members of the academic content-based LLC, “Ag. Res college” was a portion of the accessible population used in this study. This population consists of 100 students that have

met the university academic qualifications to be invited to live inside the community. These qualifications are as follows: they are pursuing a major in an agricultural discipline. Because the students are part of the LLC, they are mandated to enroll in course sections that are created specifically for residents of the Ag. Res college. For example, the Ag. Res college offers “Intro to Agriculture business 1001” and is taught within the residential community by an agriculture department “rector.” A “rector” is the title given to a University hired professor from an academic department in the focus area that works specifically with the LLC to provide programs, advising, and a higher level of exposure to the students than traditional faculty. The students in this LLC must take at least 9 hours each semester within the Agriculture LLC curriculum. The Ag. Res college does not offer classes outside of the Agriculture department, so students who wish to take elective courses (e.g., calculus) may do so outside of the Ag. Res college, which may or may not have fellow members of the college in those classes. However, the majority of the students’ courses within the major are within the LLC and with LLC members. Once invited or “accepted” to join this LLC, the student self-selected to join the program and agreed to participate in the program for the full academic year.

Career Based LLC

The 77 participants from the career based LLC (career exploration res college) are students who have yet to decide on a major. The career exploration res college offers programs exclusive to its student members and are centered on career planning, such as exclusive presentations from people of different career backgrounds and designated career Q & A’s. The career exploration res college is also assigned a rector to ensure that the curriculum is specific to career exploration. Because the students have not declared a major, they may take any courses available to them within the university catalog of any discipline. While members of the career exploration res college share close quarters with each other, like the Ag res college, they may or

may not have classes with other members of the career exploration res college because they are not required to take any specific courses.

Traditional Community

There are approximately 463 members in the traditional community who were used as the control group in this study. Participants in traditional communities are from the general population of the university that choose to live in this specific community. These students may or may not have declared a major and can take any class available to them. The community may put on programs, but the programs are not focused on a specific objective that may benefit the student. This community does not provide any extra-access to faculty members, services or experiences.

Instrumentation

The following section is an introduction of the instruments that were used to conduct this research. These instruments have been identified as appropriate instruments to measure social network variables from the cognitive point of view of the individuals.

Name Generator

The “name generator” is the oldest, most used tool for gaining information on ego’s relationships from their alters (Brands, 2013; McCallister & Fischer, 1978; Van Der Gaag M., 2008). Social capital researchers see the name generator as a “very flexible instrument” with “no strict guidelines for question inclusion” that is “especially recommended when detailed analysis of social network contents in specific populations are pursued” (Flap, Snijders, Volker, & Van Der Gaag, 1999, p. 3). Although Van der Gaag and Webber (2008) suggests minimal guidelines such as providing respondent’s context when asking for names (e.g. think of people in your living community). The Name Generator uses the ego network approach to ask respondents to provide a list of names of members in their social network, alters, given parameters and without

the assistance of a checklist (Van Der Gaag & Webber, 2008). For example, in this research, the respondents were asked to provide “Names of members in your living community that you go to for help with emotional support and for everyday type tasks”. This reduces bias for ego to think of a sub-section of their social network that comes organically as sources of a type of social capital as opposed to providing a checklist that may prompt a response not naturally thought of by the participant (Smith et al., 2012).

Interpreter Questions

The Name Generator is suggested to be combined with “interpreter” questions to get more detailed information about the alters provided by the participant (Flap, Snijders, Volker, & Van Der Gaag, 1999). In this research, the interpreter questions gathered information on ego’s perception of their network homophily of academic majors and their perceived network density through direct measures. For example, for perceived homophily the question stated, “of the individuals that you named as sources of emotional and informational support, how many have the same major as you?” For network density, the participants were given a similar prompt

Career Decision-Making Self-Efficacy Short Form

The career decision-making self-efficacy scale “CDMSE” is designed to measure individual’s career decision-making self-efficacy using five sub-scales (Taylor & Betz, 1983). The CDMSE comes in two forms, the original CDMSE long form (CDMSE-LF) and the CDMSE short form (CDMSE-SF) (Betz & Taylor, 2012). The adapted version of the original CDMSE-LF, the CDMSE-SF, is a validated shortened version of the original CDMSE that reduces the items from 10 in each sub-scale (50 items total) to 5 in each subscale (25 items total) (Betz et al., 1996). Participants are asked to respond to 25 items about their career decisions such as, “How confident are you that you can prepare a good resume?” The participants then respond via a 5-point scale, with one being “not confident at all” and 5 being “complete

confidence.” (Betz et al., 1996). The sum of scores are calculated into an overall CDMSE score ranging from 5–125 to be analyzed as the dependent variable in this study.

High reliability scores have been reported in both forms of the CDMSE (Betz & Taylor, 2012). CDSE-LF was reported to have a 0.97 total reliability score when studying 346 students from a large state university when Taylor & Betz (1983) developed the original instrument.

Subsequently, the sub-scales Cronbach alpha reliability scores ranged from 0.86 to 0.89 (Betz & Taylor, 2012). Other researchers have reported comparable scores for internal consistency (for a review see Betz & Taylor, 2012). CDMSE-SF has similar reliability scores as the original in populations of college students with small drop-off of reliability even though it is half the items (Betz et al., 1996). The CDSME-SF has demonstrated a total Cronbach’s alpha of .91 in its initial development using college students and subsequent studies getting similar results (Betz et al, 1996; Betz & Taylor, 2012). Betz (1996) reported the five sub-scales Cronbach’s alphas range of reliability to be from 0.73 to 0.83, which also saw similar results from subsequent research (Betz & Taylor, 2012). Content validity and factor structure was created using theory of career maturity (Crites, 1978), five career choice competencies as a base, and confirmatory factor analysis to factor the items into each sub-scale domain (for more detail on the content validity of the scale see CDMSE manual, Betz, 2012). Additionally, both instruments have been concluded to have criterion and construct validity through empirical testing and follow-up studies (for more on criterion and construct validity see CDMSE manual, p. 9, Betz, 2012).

Data Collection

The data was taken at the egocentric level to understand the egos cognitive view of his/her social network to determine what influences their perceptions of that social network structure and social capital value. This includes cognitive social structure approach, which

measures the experiences and perceptions of the ego within his/her social networks by getting feedback directly from himself/herself (Brands, 2013). The survey was administered using Qualtrics, an online survey application, and was open for two weeks (14 days), including a one-week extension due to low initial response rate. Survey reminder emails were sent on the 3rd, 7th, 10th day of the survey (See Appendix A). Before the data collection was started, the researcher obtained certifying permission from the IRB (See Appendix B) and Department of Residential Life (See Appendix C) to move forward.

The instrument was distributed online through a survey host, Qualtrics. The link to the survey was delivered to the participant's university email address that was provided to the researcher by the Department of Residential Life. Written permission through email was obtained by the researcher from the university's Department of Residential Life for use of the participant's email addresses as well as the IRB. The email message included a section from the researcher thanking the participants in advance for their feedback, a link to the survey and a description of the incentive for taking the survey. The incentive to take the survey was an opportunity for the participants to place their name into a raffle for a \$50 Visa gift cards and an additional \$20 gift card to a local restaurant. There was a total of three \$50 gift cards and three \$20 gift cards, one for each participating community.

Participation in the survey was voluntary and all information gathered was held in the strictest of confidence by the researcher with electronic responses stored on a secure website. Before entering the survey, a "face" page (See Appendix D) containing a consent form was presented to the participant. The form had the researchers contact information and a section that stated, "By completing and submitting this instrument, you are giving your consent to participate in the study."

Once the data was collected, it was downloaded from the website into an excel file on the researcher's personal computer. Once the data was downloaded to the researcher's personal computer, the researcher analyzed the names given on the Name Generator and breaking them into four groups: bonding social network, bridging social network, multiplex social network and overall social network. After the names were grouped, the researcher recoded the names on the Name Generator into numerical values. The researcher then deleted all names from the list.

Measures

To achieve the objectives set forth by the researcher in chapter 1 of this dissertation the researcher measured the following variables of perceived SNSC, perceived SCV and CDMSE.

Perceived Bonding Social Network Size

Perceived bonding social network is the people alters that ego sees as very close to them and providing emotional and day-to-day tasks (Adler & Kwon, 2002). Perceived bonding network size was measured by using the Name Generator (Van Der Gaag & Webber, 2008). Participants responded using a name generator, which asks respondents to provide a list of names, given certain parameters and without the assistance of a checklist (Van Der Gaag & Webber, 2008). Specifically, the respondents were instructed to "Think of your peers who reside in your community, please write the first two letters of the first and last name of the people who you feel provide you with emotional and everyday-type resources (i.e. you can talk to them about personal matters, they can provide help with small tasks like picking up groceries for you, give you a ride, change a tire for you or loan you a small amount of money)." The names on this list were recoded from string text to an integer that describes the number of names on the list (See Appendix E).

Perceived Bridging Social Network Size

A Name Generator was used to measure bridging social network size. Bridging social network is the group of alters that ego sees as resources of information that is not accessible to everyone in their network (Burt, 1992). The participants were instructed to “Think of your peers who reside in your community, please write the first two letters of the first and last name of the people who you feel provide you with informational type resources (i.e. knows about internships or job openings, gives you current and usable information before others know about it, can give you advice about areas you are not familiar with).” The names on this list were recoded from string text to an integer that describes the number of names on the list (See Appendix F).

Perceived Multiplex Social Network Size

Perceived multiplex social network size was measured using the perceived bridging and bonding social network size name generators provided by the participants. Names that appear on both lists were placed on the perceived multiplex social network size list. The names on this list were recoded from string text to an integer that describes the number of names on the list.

Overall Perceived Social Network Size

Overall perceived social network size was measured by using the perceived bridging and bonding social network size name generators. All unique names on the lists were counted and put into an overall list. The names on this list were recoded from string text to an integer that describes the number of names on the list.

Perceived Network Density

Perceived network density was measured using an adapted, single-item “interpreter” question based on a visual network scale (Mehra et al., 2014). Interpreter, or follow-up, questions are used to clarify the structure characteristics of the perceived social network that the participant has in mind (Van Der Gaag, 2008). The participants were asked to use the names they

provided on both name generators as context for their answer. The participants were given the prompt, “Thinking of the names you have listed on the previous two lists, which of the following diagrams closest describe the relationship of the individuals on both lists?” (See Appendix G). The visual network scale (see Figure 2) shows five networks that display various levels of density on a five-point scale (1 = none of my friends are friends with each other, 5 = all of my friends are friends with each other) (Mehra et al., 2014).

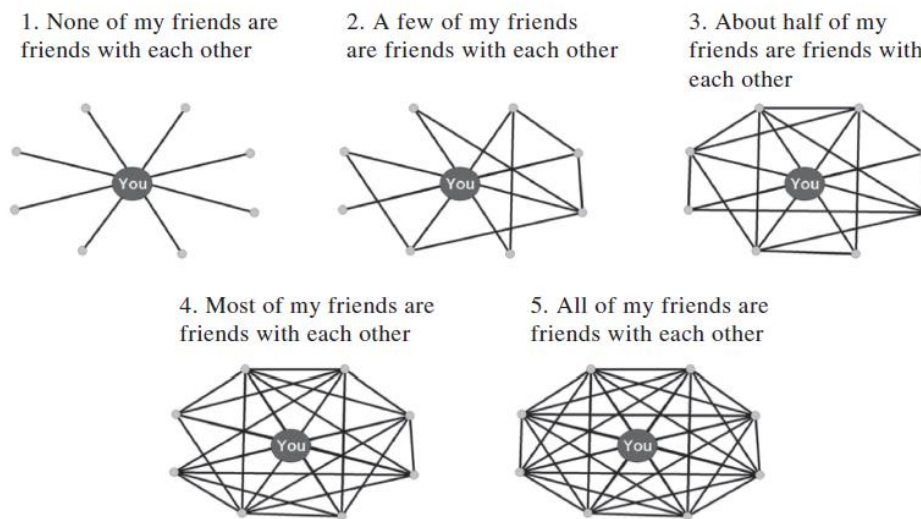


Figure 2 Visual Network Scale of Perceived Network Density from Egocentric View. Adapted from Mehra et al. (2014).

Perceived Network Homophily

Perceived network homophily was measured by a single, direct-measure interpreter question. The compositional quality can be measured directly by attaching the interpreter question to the name generator and using the prompt, “Thinking of the names you have listed on both of the previous lists, how many of those on the lists are pursuing the same career path as you?” (See Appendix H).

Perceived Social Capital Value (SCV)

Perceived SCV was measured directly to the participants to judge their value of social capital on a ten-point scale. The respondents were asked the following: “Think of all the names you have on both of your lists, please answer the following question on a scale of 1-10 (1= not at all; 5 = somewhat, 10= all). On the following scale indicate the intent to which the names you have listed can help you achieve your personal goals (ex. Relationship goals, spiritual goals, etc.) and career goals (ex. Get into the job industry you wish to work in, provide career advice throughout your career)?” (See Appendix I).

Career Decision-Making Self-Efficacy

Career decision-making self-efficacy was measured using the CDMSE-SF (Taylor & Betz, 2012). The CDMSE-SF has 25 items that ask the participants to answer questions on a five-point scale that ranges from “No confidence at all” to “Complete Confidence”. The scale is as follows: 1 = “No confidence at all”, 2 = “Very little confidence”; 3 = “Moderate confidence”, 4 = “Much confidence”, 5 = “Complete confidence”. The sum of the scores of the 25 items was calculated into a total CDMSE score. Express written permission to distribute the instrument was given by its publisher (Appendix J) along with guidelines of sample questions that may be published for public consumption (Appendix K).

Data Analysis

In this research, the data plan was designed to achieve the objectives and test the hypothesis set forward in chapter one. The researcher used SPSS to analyze the data and used the appropriate statistical tools to achieve the objectives and test the set hypothesis.

Objective 1: Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:

- Gender;

- Whether or not a first-generation college student.

The researcher used SPSS 24 to report the frequencies and percentages in categories to describe the respondent's gender and whether or not they identify themselves as first generation college students.

Objective 2: Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social capital value; and
- Career Decision-Making Self-Efficacy (CDMSE).

The researcher used SPSS 24 to report descriptive statistics including mean and standard deviation of the respondent's perceived SNSC, perceived SCV and Career Decision-making Self-Efficacy (CDMSE).

Objective 3: Compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:

- Perceived social network structure characteristics (SNSC);
- Perceived social capital value (SCV); and
- CDMSE.

The researcher used SPSS to conduct an ANOVA test to investigate if there is a difference in the three on-campus residence halls (traditional, career-based, and academic content) on the variables of perceived SNSCs, perceived SCV and CDMSE. This includes reporting the effect size of each test using Eta squared (η^2) using the most often calculated formula (Levine & Hullett, 2002 Pearson, 1911):

$$\eta^2 = SS_{\text{between}} / SS_{\text{total}}$$

If the ANOVA test produced an F statistic that is significant, a Tukey-Kramer pairwise comparison would have been used post hoc. Researcher also tested to determine assumptions of ANOVA are satisfied.

Objective 4: Determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

The researcher conducted Pearson product-moment correlation with the variables within perceived SNSC and the two dependent variables, perceived SCV and CDMSE. Pearson product-moment correlation is appropriate because of the variables continuous nature.

Objective 5: To determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus

The researcher determined if perceived SCV mediates a significant portion of the variance of CDMSE from perceived SNSC. This objective was achieved by using multiple regression and testing interaction between perceived SCV and the perceived SNSC variables: density, homophily, overall network size, multiplex network size, bridging network size and bonding network size. The researcher cleaned and tested the data to ensure that the assumptions of multiple linear regression are satisfied. For assumptions that were not properly met, the researcher checked robustness of linear multiple regression to that assumption. If multiple linear

regression is robust to that assumption, the researcher proceeded. If not, then the researcher used another tool that has assumptions the data satisfies.

Objective 6: Based on research literature the following objective was established as a series of research hypothesis:

- Overall perceived social network size will be positively related to perceptions of SCV among freshman students at a research university;
- Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived multiplex network size is positively related to perceptions of SCV among freshman students at a research university.

The researcher used SPSS to report correlation analysis of the relationship that overall social network size, perceived bonding social network size, perceived bridging social network size and perceived multiplex network ties have with perceived SCV among the sample population. The assumptions for the correlational test will be analyzed by the researcher to ensure that the data fits the test.

CHAPTER FOUR: FINDINGS

The primary purpose of this study is to determine the influence of social network characteristics on the perceived SCV and CDMSE among college students in Louisiana. The dependent variables of this study were the perception of the students SCV and CDMSE of students enrolled in the Spring Semester of a research-extensive university in Louisiana and reside in on-campus living communities.

The following specific objectives were formulated to guide the research:

The following objectives were established to guide the research:

1. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:
 - Gender;
 - Whether or not a first-generation college student.
2. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:
 - Perceived social network structure characteristics;
 - Perceived social network value; and
 - Career Decision-Making Self-Efficacy (CDMSE).
3. Compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:
 - Perceived social network structure characteristics;
 - Perceived social network value; and
 - CDMSE.

4. Determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

5. To determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus:

6. Based on research literature the following objective was established as a series of research hypotheses:

- Overall perceived social network size is positively related to perceptions of SCV among freshman students at a research university;

- Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;

- Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;

- Perceived multiplex network size is positively related to perceptions of SCV among freshman students at a research university;

Objective One Results

The first objective of the study was to describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:

- Gender;

- Whether or not a first-generation college student.

Gender

The first demographic variable on which the subjects were asked to report was gender (See Appendix L). There were only two available options for this response, male or female. Of the 122 respondents, 86 students (70.5%) identified as female and 38 students (29.5%) identified as male.

First-Generation College Student

Another variable on which the subjects were described was whether or not they identified as a first-generation college student (See Appendix M). Of the 122 respondents, 34 students (27.9%) identified as a first-generation college student, 88 students (72.1%) identified as not being a first-generation college student.

Objective Two Results

The second objective of the study was to describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:

- Perceived social network structure characteristics,
- Perceived social capital value, and
- Career Decision-Making Self-Efficacy (CDMSE)

Perceived Social Network Characteristics

The perceived social network characteristics network size was measured four different ways: bonding network, bridging network, multiplex network and overall network. The first measure of perceived social network size used respondents perceived bonding social network (See Appendix C). This variable was measured by asking the respondents to list the names of their peers in their community who they “feel provide emotional and everyday-type resources”.

The names they listed there were counted to provide a numeric total of names who appeared on the list. The respondents reported a bonding social network size mean of over four with a minimum and maximum sizes being 0 to 14 respectively ($n=122$; $\bar{x} = 4.29$; $SD= 3.1$) (See Table 4.1).

The second variable of perceived network size measured was bridging social network (See Appendix D). This variable was measured by asking the respondents to list the names of their peers in their community who they “feel provide informational type resources (i.e. knows about internships or job openings, gives you current and usable information before others know about it, can give you advice about areas you are not familiar).” The responses for perceived bridging social network size ranged from 0 to 14 with a mean of 2.75 ($n =122$; $SD=2.7$) (See Table 4.1).

The variable overall perceived network size was derived by adding the number of unique names in the respondent’s perceived bonding and bridging social networks. The respondent’s ($n = 122$) overall social network size ranged from a minimum of 0 members in their social network to a maximum of 24 members in their network with an average of over five people ($\bar{x} = 5.32$; $SD = 4.36$) (See Table 4.1).

The last network size variable analyzed was multiplex. This variable was derived by counting the number of names that were on both, the bridging and bonding lists given by the respondents. The lowest computed multiplex network size was 0 to the highest calculated multiplex network size was 11. ($n=122$; $\bar{x} = 1.57$; $SD = 1.7$) (See Table 4.1).

The perceived social network characteristic variable homophily (See Appendix E) was measured by asking the respondent, “Thinking of the names you have listed on both of the previous lists, how many of those on the lists are pursuing the same career path as you?” Ten of

the cases were classified as outliers and were eliminated from this analysis because the respondent reported a number of members who had the same career path as them that was higher than they had in their overall social network. The remaining 112 responses ranged from 0 to nine ($\bar{x} = 1.4$; $SD = 1.7$) (See Table 1).

Table 1 Description of Perceived Social Network Structure Characteristics of Overall, Bonding, Bridging, and Multiplex Network Size and Network Homophily Among Freshman Students Enrolled in a Research University.

	N	Mean	SD	Min	Max
Overall Social Network Size	122	5.32	4.36	0	24
Bonding Social Network Size	122	4.29	3.13	0	14
Bridging Social Network Size	122	2.59	2.75	0	14
Multiplex Social Network Size	122	1.57	1.86	0	11
Homophily	112 ^a	1.44	1.72	0	9

^a = 10 cases were identified and eliminated from this analysis because they reported a number of members who had the same career path as them than they had in their overall social network.

The final variable of perceived social network characteristics measured was density. On the provided visual scale five options representing network density (See Appendix G), the median response was, “About half of my friends are friends with each other”. The response “Most of my friends are friends with each other” was provided the most frequently (29.5%) and “All of my friends are friends with each other” was selected the least frequently (11.5%) (See Table 2).

Table 2 Social Network Density as Perceived by Freshman Students Enrolled at a Research University

	N	Percentage
None of my friends are friends with each other.	15	12.3
A few friends are friends with each other.	25	20.5
About half of my friends are friends with each other.	32	26.2
Most of my friends are friends with each other.	36	29.5
All of my friends are friends with each other.	14	11.5
Total	122	100

Perceived Social Capital Value

To measure perceived social capital value, the participants were asked to report their perception of their social capital value on a 0 to ten scale based on the list of people they listed on their bridging and bonding lists. Of the 112 respondents that reported perceived social capital value, the lowest value was 0 indicating the respondent perceives no social capital value in his/her network to achieve future goals and the highest value was 10 indicating that the respondent perceives that his/her network has the capital that he/she needs to accomplish all of their goals ($\bar{x} = 5.96$, $SD = 2.63$).

Career Decision-Making Self-Efficacy

Another variable on which subjects were described was their total CDMSE score. This was used by using the CDMSE-SF. The CDMSE-SF has 25 items that ask the participants to answer questions on a five-point scale that ranges from “No confidence at all” to “Complete Confidence”. The scale is as follows: 1 = “No confidence at all”, 2 = “Very little confidence”; 3 = “Moderate confidence”, 4 = “Much confidence”, 5 = “Complete confidence”. The sum of the scores of the 25 items were calculated into a total CDMSE score. The minimum score on the CDMSE-SF is 25 and a maximum possible score is 125.

Of the 112 respondents, values ranged from 58 to 125 with a mean of 97.85 ($SD=15.29$). A scale of interpretation is provided in the manual for use of the CDMSE. The scales include the following values: 25 to 62 indicates that the respondent has “low to little confidence and needs intervention”; 63 to 87 indicates that the respondent has “moderate confidence and may be comfortable exploring or may need some help; and 88 to 125 indicates that the respondent has “good confidence and is comfortable with this skill set”. For frequencies for each range see Table 3.

Table 3 Total CDMSE Score Range of College Freshman Students Enrolled at a Research University

	CDMSE Score Range	Frequency	Percentage
Low to Little confidence: Needs Intervention	25 to 62	1	0.8
Moderate Confidence: May be comfortable exploring may need some help	63 to 87	34	27.9
Good Confidence: Comfortable with this skill set	88 to 125	87	71.3
Total	25 to 125	122	100

Note. The CDMSE score is calculated by taking the sum of the score on all the instrument items (Betz & Taylor, 2012).

Objective Three Results

The third objective of the investigation was to compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social network value; and
- CDMSE.

Community Descriptions

The three communities were individually analyzed from the results of the variables for perceived social network structure characteristics (overall social network size, bonding social network size, bridging network size, multiplex network size, network homophily and network density)(See Appendix M – S) . The Agriculture residential college (n = 23) reported the highest mean value for the three of the eight variables: bonding network size ($\bar{x} = 4.82$), network density ($\bar{x} = 3.26$) and network homophily ($\bar{x} = 1.95$). On the variables bridging network size ($\bar{x} = 2.13$), perceived social capital value ($\bar{x} = 5.21$), and CDMSE ($\bar{x} = 95.17$), the Agriculture residential college had the lowest mean value of the communities in the study.

The Career Exploration community had the highest value in four of the eight variables: overall network size ($\bar{x} = 6.04$), bridging social network size mean ($\bar{x} = 3.4$), multiplex social network mean ($\bar{x} = 2.24$) and SCV ($\bar{x} = 6.80$). The Career Exploration community scored the lowest only on the variable network density ($\bar{x} = 2.96$)

The traditional hall reported the highest mean in one of the eight measured variables: CDMSE ($\bar{x} = 99.70$). However, the traditional hall reported the lowest value mean on four of the eight measured variables: overall network size ($\bar{x} = 5.07$), bonding network size ($\bar{x} = 4.00$), multiplex network size ($\bar{x} = 1.17$), and network homophily ($\bar{x} = 1.34$). (See Table 4).

Table 4 Perceived Social Network Characteristics Variables, SCV, and CDMSE of Freshman College Students at a Research University Who Reside in On-Campus Living Communities

Variable		Traditional ^a	Ag. Res Coll. ^b	Career Exp ^c
Overall Social Network Size	Mean	5.07	5.78	6.04
	SD	4.61	4.11	3.72
	Range	1 , 24	1 , 20	1 , 18
Bonding Social Network Size	Mean	4.00	4.82	4.88
	SD	2.87	3.27	3.25
	Range	0 , 14	1 , 14	1 , 14
Bridging Social Network Size	Mean	2.46	2.13	3.40
	SD	2.75	2.34	2.95
	Range	0 , 14	0, 10	0, 14
Multiplex Social Network Size	Mean	1.39	1.17	2.24
	SD	1.78	1.26	2.18
	Range	0 , 11	0 , 4	0 , 10
Network Homophily	Mean	1.34	1.95	1.24
	SD	1.87	1.66	1.26
	Range	0 , 9	0 , 6	0 , 5
Network Density	Mean	3.12	3.26	2.96
	SD	1.20	1.13	1.24
	Range	1 , 5	1 , 5	1 , 5
Perceived Social Capital Value	Mean	5.90	5.21	6.8
	SD	2.85	2.29	2.16
	Range	0 , 10	2 , 10	3 , 10

(Table 4 Continued)

Variable		Traditional ^a	Ag. Res Coll. ^b	Career Exp ^c
Career Decision-Making Self-Efficacy	Mean	99.70	95.17	97.85
	SD	14.56	14.99	17.25
	Range	58 , 125	65 , 125	70 , 125

^a Traditional n = 64^b Agriculture Residential College n = 23^c Career Exploration Residential College n = 25

ANOVA Tests

To investigate statistical differences in the groups, several one-way ANOVA tests were performed on each of the variables. Before the ANOVA test could be performed, the data had to be tested to ensure that assumptions of the ANOVA test were met. The first assumption to be tested was the test of normality through the Shapiro-Wilkes test. The Shapiro-Wilkes is a conservative normality test that test a null hypothesis that the data is normal against the alternate hypothesis that the data is not normal (Tabachnick & Fidell, 2013). After further investigation, it was found that none of the variables met the assumption of normality. The data was checked again for outliers. After further investigation the researcher threw out 10 cases which were deemed outliers because they reported a higher number of peers that have the same career path as they do than they did peers in their overall social network. Only the variable total CDMSE score resulted in a normal score ($p = 0.07$).

However, the F statistic is robust violations of the normality assumption so the ANOVA test, so the researcher proceeded with the test and found no significance in any of the results and a no and small effect sizes in all but two variables, SCV and Multiplex Network Size, which reported intermediate effects (Cohen, 1988) (See Table 5). The researcher tested additional statistical tests as alternatives to the ANOVA that were not described in the methods section of this manuscript to find similar results of no significance.

Table 5 ANOVA Results for Differences in College Freshman Residing in Different On-Campus Communities

Dependent Variable	F Score	P Value	η^2	Interpretation of Effect Size (Cohen, 1988)
Bonding Network Size	1.080	0.343	0.019	Small Effect
Bridging Network Size	1.494	0.229	0.027	Small Effect
Multiplex Network Size	2.601	0.079	0.046	Intermediate Effect
Overall Network Size	0.535	0.587	0.010	Small Effect
Network Homophily	1.308	0.275	0.023	Small Effect
Network Density	0.382	0.683	0.007	No Effect
SCV	2.243	0.111	0.040	Intermediate Effect
CDMSE	1.094	0.338	0.020	Small Effect

Note. Degree of Freedom = 2,109; N = 112; Cohen (1988) reports the following intervals for η^2 : 0.000 to 0.009: no effect; 0.010 to 0.039: small effect; 0.040 to .109: Intermediate effect; .110 to 0.200: large effect.

Objective Four Results

The fourth objective of the research was to determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

To accomplish this objective, the variables were tested for correlations using the Pearson product correlation. The Pearson product moment correlation, r , is robust of the assumption of normality.

The formula for the Pearson product moment correlation is as follows:

$$r = \frac{\sum z_x z_y}{N}$$

Where: r = correlation coefficient

\sum = the sum of

z_x = Z score for variable X

z_y = Z score for variable Y

$z_x z_y$ = the cross product of Z scores

N = the number of scores

(AEA, 2017)

The following Table 6 can be used to determine the strength of correlation (Hinkle, Wiersma, & Jurs, 2003)

Table 6 Pearson Product Moment Correlation Scale to Determine Strength of Relationship
Adapted from Hinkle et al. (2003)

Correlation Coefficient	Strength of Relationship
+/- 0.70 to 1.00	Strong
+/- 0.30 to 0.69	Moderate
+/- 0.00 to 0.29	Weak or None

The results of the Pearson correlation test showed a significant positive relationship between the variable SCV and the perceived social network structure characteristic variables bonding social network size ($r = .216$, $p \leq 0.05$) and network homophily ($r = .186$, $p \leq 0.05$). The variable CDMSE showed no significant correlations with any of the variables of perceived social network characteristics (See Figure 3). Scatterplots of the correlations and normality histograms were outputted and produced (See Appendix T).

	1	2	3	4	5	6	7	8	Mean	SD
1. Total CDMSE	-								97.85	15.29
2. Bonding Network Size	0.068	-							4.36	3.04
3. Bridging Network Size	0.094	0.642**	-						2.60	2.73
4. Multiplex Network Size	0.001	0.490**	.678**	-					1.53	1.82
5. Overall Network Size	0.107	0.907**	0.802**	0.354**	-				5.43	4.31
6. Network Homophily	0.097	0.456**	0.288**	0.207*	0.417**	-			1.44	1.72
7. Network Density	0.117	0.229*	0.028	0.029	0.167	0.264**	-		3.11	1.19
8. Perceived Social Capital Value	0.117	0.216*	0.125	0.118	0.182	0.186*	0.148	-	5.96	2.63

Note: N = 112
 ** $p < 0.01$
 * $p < 0.05$

Figure 3 Pearson Product Moment Correlations of Social Network Characteristics, SCV and CDMSE of College Students that are Enrolled at a Research University

Objective Five Results

The next objective in the investigation was to determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus.

To achieve this objective, a regression model using a mediator variable is appropriate when testing for significant indirect effects of a mediating variable on the effects that an independent variable has on a dependent variable (Kline, 2011). This consists of building multiple regression models to test for indirect, direct and total effects of social network characteristics effect on CDMSE. The mediation model tests four regression models: a, b, c, and c' (Baron & Kenny, 1986). The “a” model is a simple regression that tests the social network characteristic variables effect on the mediating variable SVC (See Figure 4).

$$M = B_0 + B_1X + e$$

The “b” model test the direct effect SVC, the proposed mediating variable, has on the variable CDMSE.

$$Y = B_0 + B_1M + e$$

The “c” model tests the direct effect that the social network characteristics has on CDMSE without SVC in the model.

$$Y = B_0 + B_1X + e$$

If the “a” and/or “c” models are not significant, then it can be concluded that the independent variable, the social network characteristics in this case, has no relationship with the mediator and/or dependent variable (Baron & Kenny, 1986). If there is not a significant relationship in the “b” model, it can be concluded that there is no relationship between the mediator variable and the dependent variable and no mediation can exist (Baron & Kenny, 1986). If any of the paths, a, b or c, are not significant, it can be determined that no mediation exists (Baron & Kenny, 1986).

The Final step in the mediation model is to test for total effects of the whole model, the “c” model (See Figure 5). To calculate the total effect, the model is a multiple regression model in which all of the paths are combined (Baron & Kenny, 1986).

$$Y = B_0 + B_1X + B_2M + e$$

If the mediator variable is not significant to the model, then the indirect effect is not significant and the variable does not mediate the effect of the independent variable on the direct variable (Baron & Kenny, 1986). If both, the mediation and the independent variables are significant in the c’ model, then there is a partial mediation (Baron & Kenny, 1986, Kline, 2011). Lastly, if the independent variable no longer has a significant effect on the dependent variable in the c’ model and the mediation variable remains significant, it can be concluded that a full mediation effect is present in the model (Baron & Kenny, 1986, Kline, 2011).

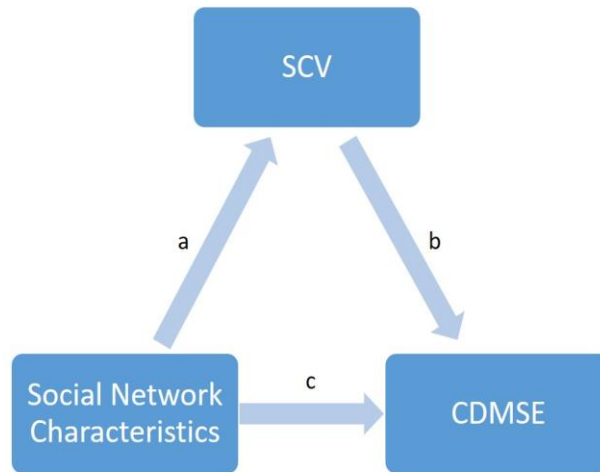


Figure 4 Regression models a, b, and c Testing the Direct effects of Social Network Characteristics Variables on SCV and CDMSE and the Direct Effect of SCV on CDMSE.

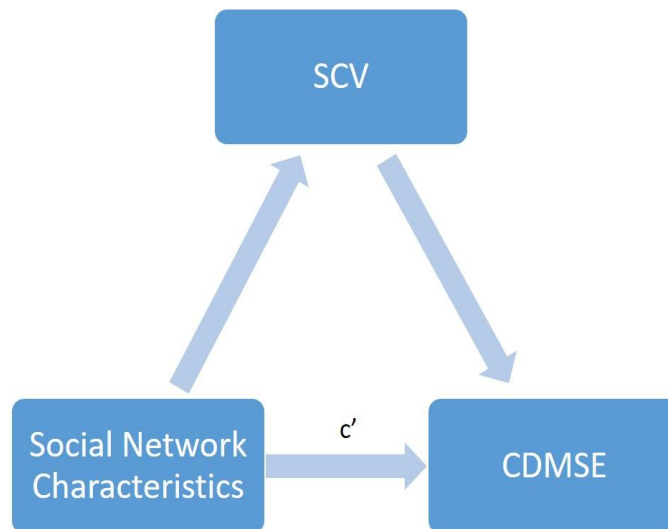


Figure 5 Regression Model Testing the Total Effect of Social Network Characteristics and SCV on CDMSE.

To conduct mediation model analysis, the assumptions for multiple regression must be adhered (Kline, 2011). One of the assumptions is that the data is both univariate and multivariate normal, which as previously discussed the data is not. However, the use of non-parametric “bootstrapping” is an appropriate option to meet this assumption (Kline, 2011). Non-parametric bootstrapping consists of using the collected as a population and randomly select cases from that

data with replacement (Kline, 2011). The literature suggests to conduct this procedure 5000 times (Kline, 2011).

To analyze the data, SPSS statistical software was used once adding the PROCESS macro version 2.16 (Hayes, 2013). The instructions, background literature and script was downloaded and is accessible to the public at www.processmacro.org/download.htm. After testing the models, the data output suggested that there were no significant relationships among the moderator variable and the dependent variable in any of the hypothesized models using the social network structure characteristic variables as the independent variables (see Appendix U).

Objective Six

The final objective in the research is formed as research hypothesis and attempted to be achieved by testing the following hypothesis. Based on research literature the following objective was established as a series of research hypothesis:

a) Overall perceived social network size is positively related to perceptions of SCV among freshman students at a research university;

b) Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;

c) Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;

d) Perceived multiplex network size is positively related to perceptions of SCV among freshman students at a research university.

Hypothesis A

The variable SCV was tested for a positive relationship with network size variables (Overall, bonding, bridging and multiplex) using Pearson product moment coefficient. The analysis of the relationship between overall social network size and perceived social capital

value shows a “weak or no” positive relationship ($r = 0.182$, $p = 0.55$). This finding does not support the research hypothesis that overall perceived social network size is positively related to perceptions of social capital value.

Hypothesis B

The variable SCV was analyzed by using Pearson product moment coefficient for a relationship with the perceived social characteristic bonding social network size variable. The results of this analysis found that there is a “weak” positive relationship between SCV and the size of an individual’s bonding social network size ($r = 0.216$, $p = 0.022$). This result supports the research hypothesis that bonding social network size is positively related to individuals perceived social capital value.

Hypothesis C

The third variable analyzed to test the relationship with perceived social capital value was bridging social network size. The results of the analysis suggest that there is a “weak or no” relationship between bridging social network size and perceived social capital value ($r = 0.125$, $p = 0.188$). This result does not support the hypothesis result that there would be a positive relationship.

Hypothesis D

The last variable analyzed to test the relationship with perceived social capital value was multiplex social network size. The results of the test show that there is “weak or no” relationship ($r = 0.118$, $p = 0.213$) with perceived social capital value. This finding does not support the proposed research hypothesis that there is a significant positive relationship between multiplex social network size and perceived social capital value.

CHAPTER FIVE: SUMMARY

Summary of Purpose

Understanding the relationship between perceived SNSC and both perceptions of SCV and CDMSE, universities can implement programs that will provide social capital that is perceived as valuable, especially among college students to improve their college experience. Therefore, the primary purpose of this study was to determine the influence of social network characteristics on the perceived SCV and CDMSE among college students in Louisiana. Additionally, the study attempts to determine if a relationship exists between perceived SCV and CDMSE among this group.

Summary of Objectives

The following objectives were established to guide the research:

1. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:
 - Gender;
 - Whether or not a first-generation college student.
2. Describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:
 - Perceived social network structure characteristics;
 - Perceived social network value; and
 - Career Decision-Making Self-Efficacy (CDMSE).
3. Compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social network value; and
- CDMSE.

4. Determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

5. To determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus.

6. Based on research literature the following objective was established as a series of research hypotheses:

- Overall perceived social network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;
- Perceived multiplex network size is positively related to perceptions of SCV among freshman students at a research university.

Summary of Methods

The target population in this study was freshman college students who live on campus at a public research university in the South. The sample included all members of the accessible population. The accessible population (N = 640) in this study were first-year students who live in one of three on-campus communities. (Traditional community, a Career based LLC and an academic content based LLC). The academic content LLC was the residential college that focused on Agriculture majors.

Each student self-selected the community where he/she resides after meeting specific qualifications. The first community required that residents pursue an agriculture content discipline. The second community is specifically designed for students who have yet to declare a major and thus focuses on “career discovery.” The final community is a traditional community in which the only requirement is acceptance to the university. All three community living formats are co-educational, traditional suite-style university dorm rooms with roommates of the same gender. These communities are housed in standalone buildings that are close in proximity but physically separated from other on-campus communities. In other words, these community buildings are not attached to other community buildings. Although considered co-ed, each community separates members of different biological genders by floor and has an equal number of men and women.

There were two instruments to measure the variables in this study: The Name Generator and the short form of the CDMSE scale (CDMSE-SF). The “Name Generator” is the oldest, most used tool for gaining information on ego’s relationships from their alters (Brands, 2013; McCallister & Fischer, 1978; Van Der Gaag M., 2008). The Name Generator uses the ego network approach to ask respondents to provide a list of names of members in their social

network, alters, given parameters and without the assistance of a checklist (Van Der Gaag & Webber, 2008). For example, in this research, the respondents were asked to provide “Ten names of members in your living community that you go to for help with emotional support and for everyday type tasks,”. This reduces bias for ego to think of a sub-section of their social network that comes organically as sources of a type of social capital as opposed to providing a checklist that may prompt a response not naturally thought of by the participant (Smith et al., 2012).

The name generator is suggested to be combined with “interpreter” questions to get more detailed information about the alters provided by the participant (Flap, Snijders, Volker, & Van Der Gaag, 1999). In this research, the interpreter questions gathered information on ego’s perception of their network homophily of academic majors and their perceived network density through direct measures. For example, for perceived homophily the question stated “of the individuals that you named as sources of emotional and informational support, how many have the same major as you?” and was provided a visual scale to identify the perceived density of their network.

The career decision-making self-efficacy scale “CDMSE” is designed to measure individual’s career decision-making self-efficacy using five sub-scales (Taylor & Betz, 1983). The adapted version of the original CDMSE-LF, the CDMSE-SF, is a validated shortened version of the original CDMSE that reduces the items from 10 in each sub-scale (50 items total) to 5 in each subscale (25 items total) (Betz et al., 1996). Participants were asked to respond to 25 items about their career decisions such as, “How confident are you that you can prepare a good resume?” The participants then responded via a 5-point scale, with one being “not confident at all” and 5 being “complete confidence.” (Betz et al., 1996). The sum of scores were derived into

an overall CDMSE score ranging from 5–125 to be analyzed as the dependent variable in this study.

The data was taken at the egocentric level to measure the ego's cognitive view of his/her social network to determine what influences their perceptions of that social network structure and social capital value. The survey was administered using Qualtrics, an online survey application, and was open for two weeks (14 days), including a one-week extension due to low initial response rate. Survey reminder emails were sent on the 3rd, 7th, 10th day of the survey. Participant's names were placed into a raffle for a \$50 Visa gift cards and an additional \$20 gift card to a local restaurant. There was a total of three \$50 gift cards and three \$20 gift cards, one for each participating community. Permission for this study was requested and granted from University administrators and the Institutional Review Board.

The first objective was to analyze two categorical variables, gender and whether or not first-generation college student. Frequencies were produced to describe these variables because each were dichotomous. The second objective was analyzed using descriptive statistics, such as mean, median and standard deviation, for the social network structure characteristics, SCV and CDMSE. For the third objective, the data needed to be analyzed by a one-way ANOVA with the campus communities as the independent variable and social network characteristics, SCV and CDMSE each as the dependent variable. The F scores for each of the ANOVA tests and the corresponding effect size, Eta squared (η^2), were reported. Objective four required the social network characteristics' relationship with CDMSE and SCV to be analyzed by Pearson product moment correlation (r). Objective five was analyzed by using multiple regression in a mediation model to determine if a model exist explaining variance in CDMSE from perceived social network characteristics when SCV is used as a moderator. To analyze this the researcher had to

add the PROCESS macro (Hayes, 2013) into SPSS 24. The final objective was established as hypothesis. To test the hypothesis, the researcher had to use Pearson product-moment correlation (r) to analyze the relationship between the social network size variables and SCV.

Summary of Findings

The findings of this study are discussed by objective.

Objective One

The first objective of the study was to describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following demographic characteristics:

- Gender;
- Whether or not a first-generation college student.

Gender

The first demographic variable on which the subjects were asked to report was gender. There were only two available options for this response, male or female. Of the 122 respondents, 86 students (70.5%) identified as female and 38 students (29.5%) identified as male.

First-Generation College Student

Another variable on which the subjects were described was whether or not they identified as a first-generation college student. Of the 122 respondents, 34 students (27.9%) identified as a first-generation college student, 88 students (72.1%) identified as not being a first-generation college student.

Objective Two

The second objective of the study was to describe freshman students enrolled in a research university (RU/VH) who are residing on campus on the following social/psychological characteristics:

- Perceived social network structure characteristics;

- Perceived social capital value; and
- Career Decision-Making Self-Efficacy (CDMSE).

Perceived Social Network Characteristics

The perceived social network characteristic network size was measured four different ways: bonding network, bridging network, multiplex network and overall network. The first measure of perceived social network size was using the respondent's perceived bonding social network. This variable was measured by asking the respondents to list the names of their peers in their community who they "feel provide emotional and everyday-type resources". The names there they listed were counted to provide a numeric total of names who appeared on the list. The respondents reported a bonding social network size mean of over four with a minimum and maximum sizes being 0 to 14 respectively ($n=122$; $\bar{x} = 4.29$; $SD= 3.1$).

The second variable of perceived network size measured was bridging social network. This variable was measured by asking the respondents to list the names of their peers in their community who they "feel provide informational type resources (i.e. knows about internships or job openings, gives you current and usable information before others know about it, can give you advice about areas you are not familiar)." The responses for perceived bridging social network size ranged from 0 to 14 with a mean of 2.75 ($n=122$; $SD=2.7$).

The variable overall perceived network size was calculated by adding the number of unique names in the respondent's perceived bonding and bridging social network. The respondent's ($n = 122$) overall social network size ranged from a minimum of 0 members in their social network to a maximum of 24 members in their network with an average of over five people ($\bar{x} = 5.32$; $SD = 4.36$).

The last network size variable analyzed was multiplex. This variable was calculated by counting the number of names that were on both, the bridging and bonding list given by the respondents. The lowest reported multiplex network size was 0 to the highest reported multiplex network size was 11. ($n=122$; $\bar{x} = 1.57$; $SD = 1.7$).

The perceived social network characteristic variable homophily was measured by asking the respondent, “Thinking of the names you have listed on both of the previous lists, how many of those on the lists are pursuing the same career path as you?” Ten of the cases were classified as outliers and were eliminated from the study because the respondent reported a number higher of members who had the same career path as them than they had in their overall social network. The remaining 112 responses ranged from 0 to nine ($\bar{x} = 1.4$; $SD= 1.7$).

Perceived Social Capital Value

To measure perceived social capital value, the participants were asked to report their perception of social capital value on a 0 to ten scale based on the list of people they listed on their bridging and bonding lists. Of the 122 respondents that reported perceived social capital value, the lowest value was 0 indicating the respondent perceives no social capital value in his/her network to achieve future goals and the highest value was 10 indicating that the respondents perceives that his/her network has the capital that he/she needs to accomplish all of their goals ($n =122$, $\bar{x} = 5.8$, $SD = 2.7$).

Career Decision-Making Self-Efficacy

Career decision-making self-efficacy was measured by the short-form of the CDMSE. Of the 112 respondents, values ranged from 58 to 125 with a mean of 97.85 ($SD=15.29$). A scale of interpretation is provided in the manual for use of the CDMSE. The scales include the following values: 25 to 62 indicates that the respondent has “low to little confidence and needs intervention”; 63 to 87 indicates that the respondent has “moderate confidence and may be

comfortable exploring or may need some help; and 88 to 125 indicates that the respondent has “good confidence and is comfortable with this skill set”.

Objective Three

The third objective of the investigation was to compare freshman students enrolled in a research university (RU/VH) who are residing on campus by the type of on campus residence hall in which they are housed (Traditional, career, and academic content) on the following social/psychological characteristics:

- Perceived social network structure characteristics;
- Perceived social network value; and
- CDMSE.

The three communities were individually analyzed from the results of the variables for perceived social network structure characteristics (overall social network size, bonding social network size, bridging network size, multiplex network size, network homophily and network density). The Agriculture residential college ($n = 23$) reported the highest mean value for the three of the eight variables: bonding network size ($\bar{x} = 4.82$), network density ($\bar{x} = 3.26$) and network homophily ($\bar{x} = 1.95$). On the variables bridging network size ($\bar{x} = 2.13$), perceived social capital value ($\bar{x} = 5.21$), and CDMSE ($\bar{x} = 95.17$), the Agriculture residential college had the lowest mean value of the communities in the study.

The Career Exploration community had the highest value in four of the eight variables: overall network size ($\bar{x} = 6.04$), bridging social network size mean ($\bar{x} = 3.4$), multiplex social network mean ($\bar{x} = 2.24$) and SCV ($\bar{x} = 6.80$). The Career Exploration community scored the lowest only on the variable network density ($\bar{x} = 2.96$)

The traditional hall reported the highest mean in one of the eight measured variables: CDMSE ($\bar{x} = 99.70$). However, the traditional hall reported the lowest value mean on four of the

eight measured variables: overall network size ($\bar{x} = 5.07$), bonding network size ($\bar{x} = 4.00$), multiplex network size ($\bar{x} = 1.17$), and network homophily ($\bar{x} = 1.34$).

To investigate statistical differences in the groups, several one-way ANOVA tests were performed on each of the variables. The researcher found no significance in any of the results and a no and small effect sizes in all but two variables, SCV ($\eta^2 = 0.040$) and Multiplex Network Size ($\eta^2 = 0.046$), which reported intermediate effects (Cohen, 1988). The researcher tested additional statistical tests as alternatives to the ANOVA that were not described in the methods section of this manuscript to find similar results of no significance.

Objective Four

The fourth objective of the research was to determine if relationships exist between the perceived social network structure characteristics and the following social/psychological characteristics among freshman students enrolled in a research university (RU/VH) who are residing on campus:

- Perceived social capital value; and
- CDMSE.

To accomplish this objective, the variables were tested for correlations using the Pearson product correlation. The results of the Pearson correlation test showed a significant positive relationship between the variable SCV and the perceived social network structure characteristic variables bonding social network size ($r = .216$, $p \leq 0.05$) and network homophily ($r = .186$, $p \leq 0.05$). The variable CDMSE showed no significant correlations with any of the variables of perceived social network characteristics

Objective Five

The next objective in the investigation was to determine if a model exists explaining a significant portion of the variance in CDMSE from perceived social network structure characteristics when mediated by perceived social network value among freshman students enrolled in a research university (RU/VH) who are residing on campus.

To achieve this objective, a regression model using a mediator variable is appropriate when testing for significant indirect effects of a mediating variable on the effects that an independent variable has on a dependent variable (Kline, 2011). This consists of building multiple regression models to test for indirect, direct and total effects of social network characteristics effect on CDMSE. After testing the models, the data output suggested that there were no significant relationships among the moderator variable and the dependent variable in any of the hypothesized models using the social network structure characteristic variables as the independent variables.

Objective Six

The final objective in the research is formed as research hypothesis and attempted to be achieved by testing the following hypothesis. Based on research literature the following objective was established as a series of research hypothesis:

- a) Overall perceived social network size is positively related to perceptions of SCV among freshman students at a research university;
- b) Perceived bonding network size is positively related to perceptions of SCV among freshman students at a research university;
- c) Perceived bridging network size is positively related to perceptions of SCV among freshman students at a research university;
- d) Perceived multiplex network size is positively related to perceptions of SCV

among freshman students at a research university.

Hypothesis A

The analysis of the relationship between overall social network size and perceived social capital value shows a “weak or no” positive relationship ($r = 0.182$, $p = 0.55$). This finding does not support the research hypothesis that overall perceived social network size is positively related to perceptions of social capital value statistically.

Hypothesis B

The variable SCV was analyzed by using Pearson product moment coefficient for a relationship with the perceived social characteristic bonding social network size variable. The results of this analysis found that there is a “weak” positive relationship between SCV and the size of an individual’s bonding social network size ($r = 0.216$, $p = 0.022$). This result supports the research hypothesis that bonding social network size is positively related to individuals perceived social capital value.

Hypothesis C

The third variable analyzed to test the relationship with perceived social capital value was bridging social network size. The results of the analysis suggest that there is a “weak or no” relationship between bridging social network size and perceived social capital value ($r = 0.125$, $p = 0.188$). This result does not support the hypothesis result that there would be a positive relationship.

Hypothesis D

The last variable analyzed to test the relationship with perceived social capital value was multiplex social network size. The results of the test show that there is “weak or no” relationship ($r = 0.118$, $p = 0.213$) with perceived social capital value. This finding does not support the

proposed research hypothesis that there is a significant positive relationship between multiplex social network size and perceived social capital value.

Conclusions, Implications, and Recommendations

Conclusion One

1. Freshman students at large research universities (RU/VH) have good confidence in their ability to make career decisions and are comfortable with their skill set.

This conclusion is based on the finding that the overall total CDMSE mean (\bar{x} = 97.85; n = 112) which falls into “Good confidence “range” (See Table 7) of the provided scale in the CDMSE manual (Betz & Taylor, 2012).

Table 7 CDMSE Score Ranges of College Freshman Students Enrolled at a Research University (adapted from Betz & Taylor, 2012)

	CDMSE Score Range
Low to Little confidence: Needs Intervention	25 to 62
Moderate Confidence: May be comfortable exploring may need some help	63 to 87
Good Confidence: Comfortable with this skill set	88 to 125
Total	25 to 125

Note: CDMSE range reflects the range for the cumulative score of all instrument items

It is clear in the study that freshman students believe that they have already acquired the skills and resources to make a career decision.

This is consistent with the findings of previous studies in the literature. In two studies of CDMSE validity, researchers found similar findings using two different populations. In the first study, researchers used participants enrolled in introductory psychology courses at a large Midwestern university and participants from the general population of a small private university (Betz, Hammond, & Multon, 2005). The participant’s scores in that study also suggested that they have good confidence in their skill set according to the CDMSE score range chart (\bar{x} = 97.5; n = 1,720) (Betz, Hammond, & Multon, 2005). In the second investigation, African American

students at a historically Black land-grant institution located in the southeastern United States were found to have a slightly higher CDMSE score (\bar{x} = 100.0; n = 220) (Chaney, Hammond, Betz, & Multon, 2007).

These results would be interesting to career-decision counselors and academic advisors on university campuses by providing insight on the level of confidence that freshman students have about their ability to make academic decisions that affect their career path. Because freshman students have a high level of confidence in their career decision making ability, they may not seek out needed helpful resources because they don't perceive a deficiency. In fact, the students with less available resources and /or exposure to resources score higher on the CDMSE than those who have more career resources. This is evident in the findings that the traditional residential hall (\bar{x} = 99.7; n = 64) had a higher score than students in the two residential colleges that focused on agriculture academic majors (\bar{x} = 95.7; n = 23) and the career exploration hall specifically focused on helping students make career decisions (\bar{x} = 95.6; n = 25). It is possible, that the students who have more resources get overwhelmed by their available options and they are not as confident in their decision making and doubt a bit more. For instance, Dr. Baba Shiv, a neuro-economist professor at Stanford University, mentions that having too many choices increases doubt and lowers happiness in his recent Ted talk (Shiv, 2012).

A healthy doubt in CDMSE may be a good thing as long as the student realizes they have the resources to help them. However, if the student does not see they have available resources to attain career goals they may leave. Universities can provide an intervention to students early in their academic paths by having a class that is based on the career side of their studies and how to make decision as they move to graduation. Fouad, Cotter, & Kantamneni (2003) found that implementing a career decision course early in a college student's curriculum raised CDMSE

and reduced career decision-making difficulties. Additionally, through the class, the university can recognize those students who may need personal career advisement. This may allow the university to help guide a student to a career path that fits them and retain students who may feel that the university does not satisfy their career goals and is considering leaving.

Additionally, further investigation on CDMSE is needed. This research was conducted on first-year college students. Future research should perform studies that provide insight into a college students career decision-making self-efficacy throughout their time on campus until graduation. A longitudinal study into a student's career decision-making self-efficacy would add to the research by shedding light into the development of career decision-making. This will provide insight into how CDMSE develops throughout a student's college career. Also, research into how student's exposure career path options affect their career decision-making self-efficacy would add to the decision-making literature.

Conclusion Two

1. Freshman students derive their emotional and close relationships from a fairly typical sized social network.

This conclusion is based on the findings that mean bonding social network is 4.36. This evidence shows that freshman students look for social support from very few individuals. This is important to note, because these freshmen entered the university with the opportunity to increase their network size due to them being housed with many classmates that they have never met before. This finding, however, supports previous literature on social networks that show individuals have from three to 5 close friends in their inner-circle that they rely on for emotional and social support (Dunbar & Spoors, 1995). While individuals have the cognitive capability to increase their overall social network to over 100 alters, they list roughly 4 to 5 alters as providing close, emotional support (Dunbar & Spoors, 1995). In fact, in follow-up research, Roberts,

Dunbar, Pollet, & Kuppens (2009) found evidence to further support the close “circle” concept, but also that as people grow their network they lose the feeling of emotional closeness. The evidence also holds true when dealing with online social networks as well (Dunbar, Arnaboldi, Conti, & Pasarella, 2015). This finding is also provocative to social scientists who are interested in the effect of modern technology and the building of social networks. It shows that even with the saturation of modern technology that tends to isolate individuals, such as video games, and ways to indirectly communicate through social media, that individuals still have the same numbers of peers that they look to for close emotional and social support in their practical network.

Conclusion Three

2. Freshman students have a small overall social network because they have an under-developed bridging social network.

This conclusion is based on the finding that the average reported overall social network is between five and six alters ($\bar{x} = 5.44$; $n = 112$) and a bridging social network that consists of between two to three people ($\bar{x} = 2.60$; $n = 112$). According to Dunbar (Dunbar & Spoors, 1995), individuals have the capacity to build a social network of over 150 peers with the majority of them being bridging social relationships. However, age and gender play a role in developing social network size (Roberts et al. , 2009).

The older a person gets the more they build their social network, specifically, their bridging network (Roberts et al., 2009). This may be an economical function of more growth than decay of friendship ties. As an individual gets older, they perceive the addition of new alters and don't perceive the decay of other relationships that are not nurtured. While individuals may perceive they still have a connection, bridging social relationships tend to decay over time because of lack of interaction (Burt, 2010). The respondents in this survey were only in their

second semester of college, so they may have not had the ample opportunity to build relationships and have close relationships decay to the point where they are bridging. The students lived within close proximity of each other and saw each other often. This frequent interaction, though some may be brief, gives the ego the perception of being in a close network (Freeman & Webster, 1994). This leads to ego perceiving their relationships as more of a bonding relationship than a more distant bridging-type relationship.

Additionally, studies among student populations show that bridging relationships decay faster if they are not directly associated to ego and do not have mutual alters (Krackhardt, 1998). The student received this survey at the end of their freshman year. Therefore, it is possible that an ego met alters that they perceived as bridging social relationships in the beginning of their Freshman year, then the same alters either shifted into their bonding social network through perceived frequent interactions or they were not perceived inside the social network at all.

Even though the researcher found no differences in the SNSCs, SCV and CDMSE between the genders through Independent T-Test (see Appendix W), Gender may have played a role in the findings as well. It has been found that relationships with females are more emotionally intense, especially with female-female relationships (Benenson & Christakos, 2003; Reis, Senchak, & Solomon, 1985). Males are the key to bigger overall social networks via their bridging social networks because they tend to have few close relationships and more distant associations with alters (Roberts et al., 2009). In fact, research shows that females who have large social networks indicate they have a large amount of male friends (Roberts et al, 2009) The respondents to the survey were majority female (70.9%) which may explain why the populations reported a low overall social network size and a small bridging network.

Based on this conclusion, the researcher recommends that universities implement interventions in which network opportunities to build their bridging social capital is the primary focus. Specifically, a women-focus intervention should be put in place to help women build a diverse network which includes interacting with male counterparts. Additionally, universities can be more proactive in finding male mentors for female students to increase their bridging network. The building of their bridging social network would increase the probability of accessing career guiding information that will help them overcome perceived barriers into industries that tend to be more male dominated (Quimby & O'Brien, 2004). The same interventions would help the entire student body as they look to build their network. After all, a little bit of network skill building can do wonders (Burt, 2010, Granovetter, 1983).

Conclusion Four

3. Freshman students derive their perception of social capital value based on Coleman's (1988) definitions of social capital

This conclusion is based on the finding that of all of the social network characteristics, only bonding social network ($r = 0.216$, $p < 0.05$) and network homophily ($r = 0.186$, $p < 0.05$) were significant predictors of SCV. This finding is consistent with the literature that the larger the bonding social network and the more homophilic their network the higher the SCV, no matter the density of that network (Lindstrom, 2008; Mehra et al., 2014). However, these findings are contrary to previous literature and conventional thought that individuals derive more valuable social capital from diverse, sparse social networks or at least relationships that are multiplex that provide advantage (Adler & Kwon, 2002; Burt, 2010; Granovetter, 1983; Siebert et al., 2001). Although, it should be noted that the conventional thought of sparse networks as more beneficial comes from social network analysis literature that takes a macro view of the social network. As with the most recent studies, this investigation is from the cognitive perspective of the ego and

looks at the perception of social capital which stems from ego's perceived available social capital resources. Another interesting finding is that although high density is a characteristic of Coleman's (1988) bonding social network, it was found to be non-significant as a predictor ($r = 0.148$; $p > 0.05$) of SCV. This indicates that it doesn't matter to the ego if their alters in their network know each other as long as the individual feels the network is just like him/her and provides the needed emotional support.

The result of these findings may be effected by two influences. First, individuals normally keep their social network small with the majority of it being inactive (Roberts et al. 2009). Ego recalls his/her alters according to his/her needed social resources (Brands, 2013; Roberts et al., 2009). For example, emotional support is an everyday and frequent need. Diverse information is not. It is more likely that individuals recall alters that have recently provided them support (Van Der Gaag & Webber, 2008). Alters that are not frequently interacted and/or recently interacted with are not only part of ego's bridging network, but are also considered inactive in their network. Ego only activates the part of the network when they have a felt need for a social resource (i.e. need to find a job) (Roberts, Dunbar, Pollet, & Kuppens, 2009). Participants in this and Mehra et al.'s (2014) study may have not felt a need for bridging social capital and recalled mostly alters who provide everyday support. This is very likely for freshman students who may not have the pressing need for diverse information such as job leads. Also, the study consisted of mostly females, as previously discussed, and they may value emotional support over information support social capital.

The researcher recommends that universities should implement network building education programs from the beginning of a student's freshman year. This way, they will have the thought of career decisions on their mind throughout. With career entry on their mind, it is

more likely that they will actively seek to increase their social network to get access to social capital that will help them decide and possibly enter into the career field of their choice. The researcher further recommends that a study in which students are asked about their social networks and their perception of their SCV should be longitudinal would add to the existing social capital literature. This way researchers would see how students develop their bridging and bonding social network throughout their college career by measuring as various milestones (i.e. moved off campus, entered into academic college, junior year). This would provide information about how alters shift from one network to another and how SCV may change as the student matures and gets closer to career entry.

Conclusion Five

4. Freshman students in residential college community housing do not benefit from an increase of social capital value when compared to freshman students residing in traditional housing.

This conclusion is based on the findings that there is not a significant difference in the three residential communities comparing perceived social capital value using a one-way ANOVA ($F(2, 109) = 2.243, p = 0.111$). This finding is contrary to higher education literature that residential colleges provide a more focused and additional pool of social resources that will aid a student's goal attainment than would a traditional hall (Cain, 2012; Laufgraben, 2005). However, even though differences were not significant statistically, it is worth noting that the career exploration college students ($\bar{x} = 6.80$; $SD = 2.16$) reported the highest SCV followed by the traditional college ($\bar{x} = 5.90$; $SD = 2.85$) and the agriculture residential college ($\bar{x} = 5.21$; $SD = 2.29$) (See Appendix J). Cain (2012) found in her dissertation of students in residential colleges that students do not always perceive that they have access to needed social resources to be successful to build their SCV. Therefore, students in the residential college may not perceive a

higher value of SCV because they see the resources that are available to them are not different from the typical student. This result may be influenced by the sample size and low response rate of the survey (17.5 %). The career exploration group had the highest response rate (32.4%), but only had 25 respondents. The Agriculture residential hall had 23 respondents for a 23% response rate and the traditional residence hall had 64 respondents for a response rate of 13.8%. The difference in sample size may have contributed in violating the assumption of heterogeneity of variances. The researcher attempted alternative statistical test that are not as sensitive to the heterogeneity of variances assumption, including non-parametric tests, only to find similar results.

The researcher recommends further investigation into differences among residential colleges perceptions of SCV. An increase in sample size would provide clearer information into whether residential living communities students derive higher or lower SCV. The researcher also recommends that universities increase marketing of accessible resources to students in residential colleges in an attempt to make them aware of the exclusive resources they have available to them. This may influence their level of SCV.

Conclusion Six

5. The CDMSE of freshman students in the study is typical of college students in other studies and similar among the residential communities included in the study.

This conclusion is based on the findings that there is not a significant difference in the three residential communities comparing CDMSE using a one-way ANOVA ($F(2, 109) = 1.09$, $p = 0.338$). This finding is contrary to the literature that indicates focused and customized education on career and self-discovery should increase CDMSE (Bandura, 2001, Betz et al., 2005, Fouad et al., 2009, Laufgraben, 2005, Quimby & O'Brien, 2004). This would indicate that the residential colleges, which provide social resources specific to student's major, career path or

career decision development would have a higher CDMSE than the traditional halls. However, the findings of this investigation are contrary to the literature. The traditional hall (even though not statistically significant) reported a higher CDMSE while the residential colleges followed behind as previously discussed.

Once again, results may have been influenced by the students being overwhelmed by the new information about career choices from their customized resources for the residential colleges (Shiv, 2012) and/or the difference in sample sizes in the analysis. Although, the possibility that providing a student the freedom to explore as they feel comfortable among students from diverse areas, as they do in the traditional hall, may provide an increase in CDMSE should not be overlooked. It is recommended by the researcher that additional studies on student housing and the association to CDMSE be conducted. This would include longitudinal studies that track the CDMSE of the students who resided in each community as they reach milestones as they get closer to graduation and career entry. Also, investigating the CDMSE of students with the added component of living off-campus would provide additional insight into the influences that student housing has on CDMSE.

Conclusion Seven

6. Residential communities do not influence freshman student's social network characteristics.

This conclusion is based on the findings that there were not any significant findings when analyzed by a one-way ANOVA when testing for differences in residential communities in overall social network size ($F(2, 109) = 0.535, p = 0.587$), bonding social network size ($F(2, 109) = 1.08, p = 0.343$), bridging social network size ($F(2, 109) = 1.49, p = 0.229$), multiplex network size ($F(2, 109) = 2.60, p = 0.079$), network homophily ($F(2, 109) = 1.30, p = 0.275$) or network density ($F(2, 109) = 0.382, p = 0.683$). This is contrary to the literature that states

different communities produce different types of social capital that is customary to the social network characteristics.

A residential community that heavily focuses on student interactions should have a much more homophilic and dense social network (Coleman, 1988, Laufgraben, 2005). This would intuitively suggest that the Agriculture residential college would have a higher reported homophily and density than students that are not required to interact as often as in the traditional community.

The research on bonding social network size is torn. While Coleman (1988) suggests that having a social network that is dense and homophilic provides a large bonding social network. The Agriculture residential college provides the most frequent interaction opportunities among students in the same classes and career paths when compared to career exploration college and the traditional college and it should provide a perception of more close relationships (Freeman & Webster, 1994) and increased bonding network size. However, according to Dunbar and Spoors (1995), individuals average about five alters they perceive as resources of emotional and everyday support, bonding support. Thus, this would suggest that there should be no difference in bonding social network size among the residential communities which these findings would further validate.

The findings on overall social network size and bridging social network size are contradictory of the literature. Residential halls that provide opportunity to meet diverse and unconnected alters would provide more bridging alters (Burt, 1988, Granovetter, 1983). The traditional hall provides the most opportunity to meet peers not already in ego's social network by not requiring them to attend programs and classes that is specific to him/her. Dunbar and Spoors (1995) state that the number of bridging alters represent the majority of a social network

and can push an overall network size to about 150. This intuitively suggests that the more a residential community pushes for interactions to build closer relationships, such as the Agriculture residential college, then the smaller the bridging and overall social network size. The more a residential community allows for individuals to meet alters from different backgrounds, as in the traditional residence hall, then the bigger the bridging and overall social network. However, this investigation yielded that there is no difference in bridging and overall social network size among the residential communities.

The research on multiplex ties is inconclusive. The finding in this research shows there is no difference in the communities when multiplex social network size is the dependent variable. According to Siebert and colleagues (2001) and Lakon (2008), networks that provide opportunities for ego to strengthen his/her relationships with bridging alters would increase multiplex ties. The career exploration college provide both ample opportunities for bonding and bridging ties accumulated by ego from having structured programs among familiar and similar background peers and at the same time have the freedom of major to provide bridging social capital.

These conclusions might be influenced by several factors. One factor may be the time of the year in which the instrument was given. The survey was distributed at the end of the academic year. While this may have provided time to build a well-rounded social network, it may be the case that some of the alters might have shifted from one social network to another due to frequency of interaction (Freeman, 1994). For example, a student that has met his/her roommate for the first time was looked upon as a bridging alter because they provided a new perspective and information that they have in their social network before. By the spring semester the student and his/her roommate may have grown close emotionally and now he/she considers

the roommate as a bonding or multiplex alter. This instance can also happen where a bonding alter shifted into a bridging or multiplex role. The respondents might have also been biased by survey fatigue. The results of the instrument show that many respondents did not spend much time on the survey. This may have enticed them to limit the amount of alters that they responded with. This is especially an important note because bridging alters tend to be peers who don't necessarily come to mind at first glance (Brand, 2013, Burt, 2013, Van DerGaag et al., 2008). The lack of bridging alters drives down the size of the overall social network size and the probability of multiplex peers.

The researcher recommends that further research be conducted on how social network characteristics are derived and perceived by students in different residential environments. This includes off-campus and Panhellenic organizations. A longitudinal study that follows the students until graduation would also provide insight into how the network that they build in the freshman community developed over their college career.

Conclusion Eight

7. A freshman college student's perception of social capital value does not influence that student's CDMSE

This conclusion is based on the finding that SCV and CDMSE were not significantly correlated with each other through Pearson product moment correlation ($r = 0.117$; $p = 0.220$). This is counter intuitive of what the literature suggests. One possible reason why this analysis yielded this outcome may have to do with the items in the shortened CDMSE scale, CDMSE-SF, and the fact that the participants in the survey listed a small number of bridging and multiplex network alters. The CDMSE-SF items asks the participants about their ability to get information about their career path to make a qualified decision. In terms of social capital, this would seem that the CDMSE-SF is more biased towards bridging social capital than bonding social capital.

For reasons previously discussed, the participants in this study may have focused more on their bonding social network when deriving a value of their perceived social capital while the CDMSE-SF intends the participant to think of their bridging alters, thus, providing a low correlation. There is similar precedence in other research that help substantiate this finding. Mehra and colleagues (2014) found that members in a Panhellenic organization had a high rating of social capital value even though they felt that they had a dense and highly homophilic bonding social network. Zhu (2013) actually found that the larger the overall social network, the lower individuals reported their social capital value. Again, the majority of the literature points to bridging social capital as the more valuable because it provides advantage, as opposed to this and other investigations that show ego perceives their social capital value based on their bonding social network. The main tenets of the CDMSE-SF are measuring the perception of the availability of useful informational resources and the confidence that the participant has that these resources can help with goal attainment. Goal attainment is the key to social capital value because, if ego perceives the lack of resources to attain the goal, they will either add bridging alters or reevaluate the feasibility of accomplishing the goal (Burt, 1992; Brands, 2013; Choi, et al., 2011; Dess & Shaw, 2001; Granovetter M., 1985; Killworth & Bernard, 1979). This can be seen by ego perceiving career barriers and with the lack of a career mentor to provide advice, then ego may not attempt to accomplish the goal (Quimby & O'Brien, 2004). So, it is possible that SCV measured participants bonding social capital value and CDMSE-SF measured bridging social capital value. If ego is not compelled to think of bridging relationships because those relationships are only activated when needed (Brands, 2013), then he/she derives perceived value of social capital by his/her bonding network. The CDMSE-SF compelled the participants to

activate their bridging social capital by asking questions such as, “how confident are you can talk to a person who is already employed in an area you are interested in?” (Betz & Taylor, 2012).

Also in the study, the participants were asked to think of the lists of alters they produced earlier as bonding and bridging resource providers to answer about SCV. They were not similarly prompted to do the same for CDMSE-SF. It is possible that the participants thought of their global social network when answering items on the CDMSE-SF compared to thinking of just their peers who live in the same building when asked about SCV.

Lastly, the literature overwhelmingly suggests that bridging social capital is the most valuable (Adler & Kwon, 2002; Burt, 2010; Granovetter M., 1983). Although, more and more research, including this one, seems to indicate that from the eyes of the ego, bonding social capital is more valuable (Mehra et al, 2014; Zhu, 2013). It is possible that ego just perceives value in immediate social resources. Put simply, if ego does not need an alter’s social resource at the time he/she is asked to evaluate personal social capital, then the alter may not be considered when ego is deriving the SCV. This is biased toward bonding social capital because it is frequently used.

The researcher recommends further research into the relationship of SCV and CDMSE. This can be done by creating a scale of SCV that has multiple items that consist of asking the ego about emotional and informational social capital. The findings of this investigation imply that SCV as a variable is dynamic, multi-dimensional and a single measure may not truly capture SCV. Some of the items could even come from the CDMSE-SF, especially in the sub factors of “occupational information” and “planning” (Betz & Taylor, 2012). Other items could consist of questions about ego’s happiness with his/current social network state, and emotional and social support. A validated scale founded on empirical research would further the literature

substantially. Also, the scale has to implement bridging alter path-activation questions so ego does not bias the scale by only thinking of bonding alters because of their frequent use. Once again, this can be done by asking the questions about ego's perceptions that he/she has access to informational resources that may not come to mind every day.

REFERENCES

- Adkins, A. (2016, May 5). *Gallup Business Journal*. Retrieved June 9, 2016, from Gallup: <http://www.gallup.com/businessjournal/191459/millennials-job-hopping-generation.aspx>.
- Adler, P., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27, 17-40.
- AEA. (2017, April 30). *Correlation Coefficients*. Retrieved from www.aea267.k12.ia.us: <https://www.aea267.k12.ia.us/assessment/statistics/descriptive-statistics/correlation/correlation-coefficients/>.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1-26.
- Baron, R., & Kenny, D. (1986). The Moderator - Mediator Variable Distinction in Social Psychology Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51, 1173 - 1182.
- Benenson, J. F., & Christakos, A. (2003). The greater fragility of females' versus males' closest same-sex friendships. *Child Development*(74), 1123 - 1129.
- Betz, N., & Taylor, K. (2012). *CDSE Manual*. Mind Garden, Inc.
- Betz, N., Hammond, M., & Multon, K. (2005). Reliability and validity of response continua for the Career Decision Self-efficacy scale. *Journal of Career Assessment*, 13, 131-149.
- Boehm, J., & Lyubomirsky, S. (2008). Does Happiness Promote Career Success? *Journal of Career Assessment*, 16(1), 101-116. doi:10.1177/1069072707308140.
- Bourdieu, P. (1986). The forms of capital. In J. R. (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.
- Borgatti, S., Jones, C., & Everett, M. (1998). Network measures of social capital. *Connections*, 2(21), 36-46.
- Boyas, J., Wind, L., & Kang, S. (2012). Exploring the relationship between employment-based social capital, job stress, burnout, and intent to leave among child protection workers: An age-based path analysis model. *Children and Youth Services Review*, 50-62. doi:10.1016/j.childyouth.2011.08.033.
- Brands, R. (2013). Cognitive social structures in social network research: A review. *Journal of Organizational Behavior*, 34, S82- S103.

- Brewer, M. (1999). The psychology of prejudice: Ingroup love or outgroup hate. *Journal of Social Sciences*, 55(3), 429-444.
- Burt, R. S. (1982). *Toward a structural theory of action*. New York: Academic Press.
- Burt, R. S. (1992). *Structural Holes*. Cambridge, MA: Harvard Univ. Press.
- Burt, R. S. (2010). *Neighbor Networks*. Oxford, UK: Oxford University Press.
- Burt, R. S., Kilduff, M., & Tasselli, S. (2013). Social network analysis: foundations and frontiers of advantage. *Annual Review of Psychology*, 64, 527 - 47.
- Cain, M. (2012, May 15). Impact on the Engagement of At-Risk Students: Evaluation of Postsecondary Living Learning Communities(Doctoral Dissertation). Baton Rouge, LA, US: ETD LSU.
- Chaney, D., Hammond, M., Betz, N., & Multon, K. (2007). The reliability and factor structure of the Career Decision Self-efficacy Scale- SF with African Americans. *Journal of Career Assesment*, 194-205.
- Chen, X., Wang, P., Wegner, R., Gong, J., Fang, X., & Kaljee, L. (2015). Measuring Social Capital Investment: Scale Development and Examination of Links to Social Capital and Percieved Stress. *Social Indicators Research*, 669-687. doi:10.1007/s11205-014-0611-0.
- Choi, B. Y., Park, H., Yang, E., Lee, S. K., Lee, Y., & Lee, S. M. (2011). Understanding Career Decision Making Self-Efficacy: A Meta-Analytic Approach. *Journal of Career Development*, 1-18. doi:10.1177/0894845311398042.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, CA: Lawrence Earlbaum Associates.
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 94(Supplement: Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure), S95-S120.
- Crites, J. O. (1978). *Career Maturity Inventory*. Monterey, CA: CTB/McGraw Hill.
- Cuseo, J. (2015, June 10). *Ohio University*. Retrieved from Ohio University: <https://www.ohio.edu/fye/upload/retention-fiscal-benefits.pdf>.
- Dess, G., & Shaw, J. (2001). Voluntary Turnover, Social Capital and Organizational Performance. *The Academy of Management Review*, 26(3), 446-456. Retrieved from <http://www.jstor.org/stable/259187>.
- Dunbar, R. I., Arnaboldi, V., Conti, M., & Pasarella, A. (2015). The structure of online social networks mirrors those in the offline world. *Social Networks*, 43, 39 - 47.

- Dunbar, R., & Spoors, M. (1995). Social networks, Support Cliques and Kinship. *Human Nature*, 6(3), 273 - 290.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117-140.
- Flap, H., Snijders, T., Volker, B., & Van Der Gaag, M. (1999). *Measurement instruments for social capital of individuals*. Retrieved September 15, 2016, from gaag.home.xs4all.nl: <https://gaag.home.xs4all.nl/work/SSND.pdf>.
- Flynn, F. J., Reagans, R. E., & Guillory, L. (2010). Do you two know each other? Transitivity, homophily, and the need for (network) closure. *Journal of Personality and Social Psychology*, 99(5), 855-869. doi:DOI: 10.1037/a0020961.
- Flynn, F. J., Reagans, R. E., Amanatullah, E. T., & Ames, D. (2006). Helping one's way to the top: Self - monitors achieve status by helping others and knowing who helps whom. *Journal of Personality and Social Psychology*, 99(5), 1123-1137.
- Fouad, N., Cotter, E. W., & Kantamneni, N. (2003). The Effectiveness of Career Decision-Making Course. *Journal of Career Assessment*, 17(3), 338-347.
- Freeman, L. C., & Webster, C. M. (1994). Interpersonal proximity in social and cognitive space. *Social Cognition*, 12(3), 223-247.
- Granovetter, M. (1983). The strength of weak ties: a network theory revisited. *Sociological Theory*, 1, 201 - 233.
- Granovetter, M. (1985). Economic action and social structures: the problem of embeddedness. *American Journal of Sociology*, 91, 481 - 510.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360 - 1380.
- Harpham, T. (2005). The Measurement of Community Social Capital Through Surveys. In I. Kawachi, *Social Capital and Public Health* (pp. 51-62). New York: Spring.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hechter, M. (1987). *Principles of group solidarity*. Berkeley: University of California Press.
- Hinkle, D., Wiersma, W., & Jurs, S. (2003). *Applied Statistics for the Behavioral Sciences* (5th ed.). Belmont, CA: Wadsworth.
- Hirsch, P. M. (1999). Umbrella Advocates Versus Validity Police: A Life-Cycle Model. *Organization Science*, 10(2), 199-212.

- Inkelas, K., Daver, Z., Vogt, K., & Leonard, J. (2007). Living-learning programs and first-generation college students' academic and social transition to college. *Research in Higher Education*, 48(4), 403-434.
- Kawachi, I., Kennedy, B., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality and morality. *American journal of public health*, 87(9), 1491-1498.
- Kilduff, M., & Brass, D. (2010). Organizational Social Network Research: Core Ideas and Key Debates. *The Academy of Management Annals*, 4(1), 317-357. doi:10.1080/19416520.2010.494827.
- Kilduff, M., & Krackhardt, D. (1994). Bringing the individual back in: A structural analysis of the internal market for reputation in organizations. *Academy of Management Journal*, 37(1), 87-108.
- Kilduff, M., & Oh, H. (2006). Deconstructing diffusion: An ethnostatistical examination of medical innovation network data reanalyses. *Organizational Research methods*, 9(4), 432-455.
- Kilduff, M., Crossland, C., Tsai, W., & Krackhardt, D. (2008). Organizational network perceptions versus reality: A small world after all? . *Organizational Behavior and Human Decision Processes*, 107(1), 15-28.
- Killworth, P., & Bernard, H. R. (1979). Informant accuracy in social network data III : A comparison of triadic structure in behavioral and cognitive data. *Social Networks*, 2(1), 19 - 46.
- Kline, R. (2011). *Principles and Practice of Structural Equation Modeling* (3rd ed.). New York, NY: The Guilford Press.
- Knoke, D., & Kulinski, J. H. (1982). *Network analysis (Sage university paper series on quantitative applications in the social sciences no. 07-028)*. Beverly Hills, CA: Sage.
- Krackhardt, D. (1987). Cognitive social structures. *Social Networks*, 9(2), 109-134.
- Krackhardt, D. (1998). Simmelian ties: super strong and sticky. In R. M. Kramer, & M. Neale, *Power and Influence in Organizations*. (pp. 21 - 38). Thousand Oaks, CA: Sage.
- Krackhardt, D., & Hanson, J. (1993). Informal networks: The company behind the chart. *Harvard Business Review*, 71(4), 104-111.
- Kumbasar, E., Romney, K., & Batchelder, W. H. (1994). Systematic biases in social perception. *The American Journal of Sociology*, 100(2), 477-505.
- Lakon, C. M. (2008). Network-Based Approaches for Measuring Social Capital. In I. S. Kawachi, *Social Capital and Health* (pp. 63-81). New York, NY: Springer Science + Business Media, LLC.

- Lamertz, K. (2002). The social construction of fairness: Social influence of sense making in organizations. *Journal of Organizational Behavior*, 23, 19-37.
- Laufgraben, J. (2005). Learning communities. *Challenging and supporting the first-year student: A handbook for improving the first year of college*, 371-387.
- Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36-49.
- Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. . *Journal of Counseling Psychology*, 47, 36-49.
- Levine, T., & Hullett, C. (2002, October). Eta Squared, Partial Eta Squared, and Misreporting of Effect Size in Communication Research. *Human Communication Research*, 28(4), 612 - 625.
- Li, M. (2013). Social Network and Social Capital in Leadership and Management Research: A review of Causal Methods. *The Leadership Quarterly*, 24, 638-665.
- Lin, N. (1999). Building a network theory of social capital. *Connections*, 28-51.
- Lin, N., & Cook, K. B. (2001). *Social capital: Theory and research*. New York: Transaction Publishers.
- Lindstrom, M. (2008). Social Capital and Health-Related Behaviors. In I. Kawachi, S. Subramanian, & D. Kim, *Social Capital and Health* (pp. 215-238). New York: Springer.
- Martin, J. P., Miller, M. K., & Simmons, D. R. (2014). Exploring the Theoretical Social Capital of First Generation College Students for Engineering Education. *International Journal of Engineering Education*, 30(4), 822 - 836.
- McCallister, L., & Fischer, C. (1978). A procedure for surveying personal networks. *Sociological Methods and Research*, 131-148.
- Mehra, A. B.-K. (2014). Imaginary Worlds: Using visual network scales to capture perceptions of social networks. *Research in the Sociology of Organizations*, 40, 315-336.
- Merriam-Webster. (2016, 9 27). *Simple Definition of Career*. Retrieved from Merriam-Webster: <http://www.merriam-webster.com/dictionary/career>.
- Molenaar, I. W., & Sijtsma, K. (2000). AProgram for Mokken scale analysis for polytomous items. *MSP5 for windows*. . (Groningen, Ed.).
- Moynihan, D., & Pandey, S. (2008). The ties that bind: Social networks, person-organization value fit, and turnover intention. *Journal of Public Administration Research and Theory*, 18(2), 205-227.

- Osgood, D., Wilson, J., O'Mally, P., Bachman, J., & Johnston, L. (1996). Routine Activities and Individual Deviant Behavior. *American Sociological Review*, 635-655.
- Payne, G. M. (2011, March). Multilevel Challenges and Opportunities in Social Capital Research. *Journal of Management*, 37(2), 491-520.
- Pearson, K. (1911). On a correction needful in the case of the correlation ratio. *Biometrika*(8), 254 - 256.
- Podolny, J., & Baron, J. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 62(5), 673-693.
- Putnam, R. (1993). *Making Democracy Work - Civic Traditions in Modern Italy*. . Princeton, New Jersey: Princeton University Press.
- Quimby, J. L., & O'Brien, K. M. (2004). Predictors of student and career decision-making self-efficacy among nontraditional college women. *The Career Development Quarterly*, 52, 323-339.
- Reis, H. T., Senchak, M., & Solomon, B. (1985). Sex differences in the intimacy of social interaction: further examination of potential explanations. *Journal of Personality and Social Psychology*(48), 1204 - 1217.
- Roberts, S., Dunbar, R., Pollet, T., & Kuppens, T. (2009). Exploring variation in active network size: Constraints and ego characteristics. *Social Networks*, 31, 139 - 146.
- Rostila, M. (2010). The Facets of Social Capital. *Journal of the Theory of Social Behaviour*, 41(3), 308-326.
- Shiv, B. (2012). *Baba Shiv: Sometimes it's good to give up the driver seat*. (B. Shiv, Performer) Palo Alto, California. Retrieved May 29, 2017, from https://www.ted.com/talks/baba_shiv_sometimes_it_s_good_to_give_up_the_driver_s_seat.
- Siebert, S., Kraimer, M. I., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, 44(2), 219 - 237.
- Smith, E., Menon, T., & Thompson, L. (2012). Status differences in the cognitive activation in social networks. *Organizational Science*, 23(1), 67-82.
- Stangor, C. (2011). *Research methods for the behavioral sciences* (4th Edition ed.). Mountain View, CA: Cengage.
- Strauss, V. (2015, August 24). *The real reason behind the U.S. teacher shortage*. Retrieved from <https://www.washingtonpost.com/news/answer-sheet/wp/2015/08/24/the-real-reasons-behind-the-u-s-teacher-shortage/>.

- Tabachnick, B., & Fidell, L. S. (2013). *Using Multivariate Statistics*. Boston, MA: Pearson Education, Inc.
- Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 37, 63-81.
- Taylor, K., & Betz, N. (2012, January 1). *Career Decision Making Self Efficacy Scale (CDMSE)*. Retrieved September 14, 2016, from Mind Garden Web Site: <http://www.mindgarden.com/79-career-decision-self-efficacy-scale#horizontalTab5>.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41, 464-476.
- U.S. Department of Health and Human Services, H. R. (2014). *The Future of the Nursing Workforce: National- and State- Level Projections, 2012-2025*. Rockville, Maryland.
- Van Der Gaag, M., & Snijders, T. (2005). The Resource Generator: social capital quantification with concrete items. *Social Networks*(27), 1-29.
- Van Der Gaag, M., & Webber, M. (2008). Measurement of Individual Social Capital. Questions, Instruments, and Measurements. In I. S. Kawachi, *Social Capital and Health* (pp. 29-49). New York: Springer Science + Business Media LLC.
- Van Der Gaag, M., & Webber, M. (2008). Measurement of Individual Social Capital. Questions, Instruments, and Measurements. In I. S. Kawachi, *Social Capital and Health* (pp. 29-49). New York: Springer Science + Business Media LLC.
- van Dierendonck, D., Schaufeli, W., & Buunk, B. (1998). The evaluation of an individual burnout intervention program: The role of inequity and social support. *Journal of Applied Psychology*, 83(3), 392-407.
- Wang, Y. (2016, March 8). *Is a law school lying about employment data? A struggling grad sues, and an unprecedented trial begins*. Retrieved June 8, 2016, from The Washington Post: <https://www.washingtonpost.com/news/morning-mix/wp/2016/03/08/are-law-schools-lying-about-employment-data-a-struggling-grad-sues-and-an-unprecedented-trial-begins/>.
- Warr, P. (1999). Well-being and the Workplace. In D. Kahneman, E. Diener, & N. Schwarz, *Well-being: The Foundations of Hedonic Psychology* (pp. 392-412). New York, NY, US: Russell Sage Foundation.
- Webber, M., & Huxley, P. (2007). Measuring access to occupational prestige: The validity and reliability of the Resource Generator-UK and its association with common mental disorder in the UK general population. *Social Science and Medicine*, 481-492.
- Wellman, B. (1999). *Networks in the global village*. Boulder, Colorado: Westview Press.

- Wright, S. L., Perrone-McGovern, K., Boo, J., & White, A. (2014, January). Influential factors in academic and career self-efficacy: Attachment, supports, and career barriers. *Journal of Counseling & Development*, 92(1), 36-46. doi:10.1002/j.1556-6676.2014.00128.x.
- Zhu, X. W. (2013). Pathways to happiness: From personality to social networks. *Social Networks*, 35, 382-393.

APPENDIX A: SURVEY INVITATION EMAIL AND REMINDER

Dear Career Discovery Student Resident,

Tell me about your social networks!

My name Troy Autin and I am an LSU student who works in assessment in the Department of Residential Life. I am doing my dissertation research on your community and the social networks within it.

Your experience matters, so will you take 5-7 minutes to complete this survey about your social network (it's mobile friendly!)?

If you complete the survey, you'll be entered into a drawing to win a \$50 Amazon gift card and an additional \$20 gift card from Tio Javi's restaurant! This offer is exclusively for members of the Career Discovery college and the email link is unique so please do not forward.

Your response is greatly appreciated and will be kept anonymous!

Follow this link to the Survey:

[Take the survey](#)

Or copy and paste the URL below into your internet browser:

http://lsu.qualtrics.com/jfe/form/SV_8jquSSK9NA9YzBj?Q_DL=0e2WnHX1wlydsuV_8jquSSK9NA9YzBj_MLRP_eh79Ggk1RpOGszH&Q_CHL=email

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

Hey,

Just a reminder to complete the survey if you want to have a chance at the \$70 in prizes. The \$50 Amazon gift card and the \$20 Tio Javi's Mexican restaurant gift card will be given to a member of the Ag Res College. Your feedback is important so don't miss out!

Follow this link to the Survey:

[Take the survey](#)

Or copy and paste the URL below into your internet browser:

http://lsu.qualtrics.com/jfe/form/SV_1HoOs6XcCt0jznv?Q_DL=0qTzt3wTQdg8D9r_1HoOs6XcCt0jznv_MLRP_bDVqbbNhoEPITm5&Q_CHL=email

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

APPENDIX B: LOUISIANA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

APPROVAL FORM MARCH 2

ACTION ON EXEMPTION APPROVAL REQUEST



TO: Troy Autin
SHREWD

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: March 22, 2017

RE: IRB# E10410

TITLE: Influences of perceived social network structure characteristics on college student's perceptions of social capital value and career decision-making self-efficacy

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu
lsu.edu/research

New Protocol/Modification/Continuation: New Protocol

Review Date: 3/21/2017

Approved ☒ **Disapproved** ☐

Approval Date: 3/22/2017 **Approval Expiration Date:** 3/21/2020

Exemption Category/Paragraph: 2b

Signed Consent Waived?: Yes

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman 

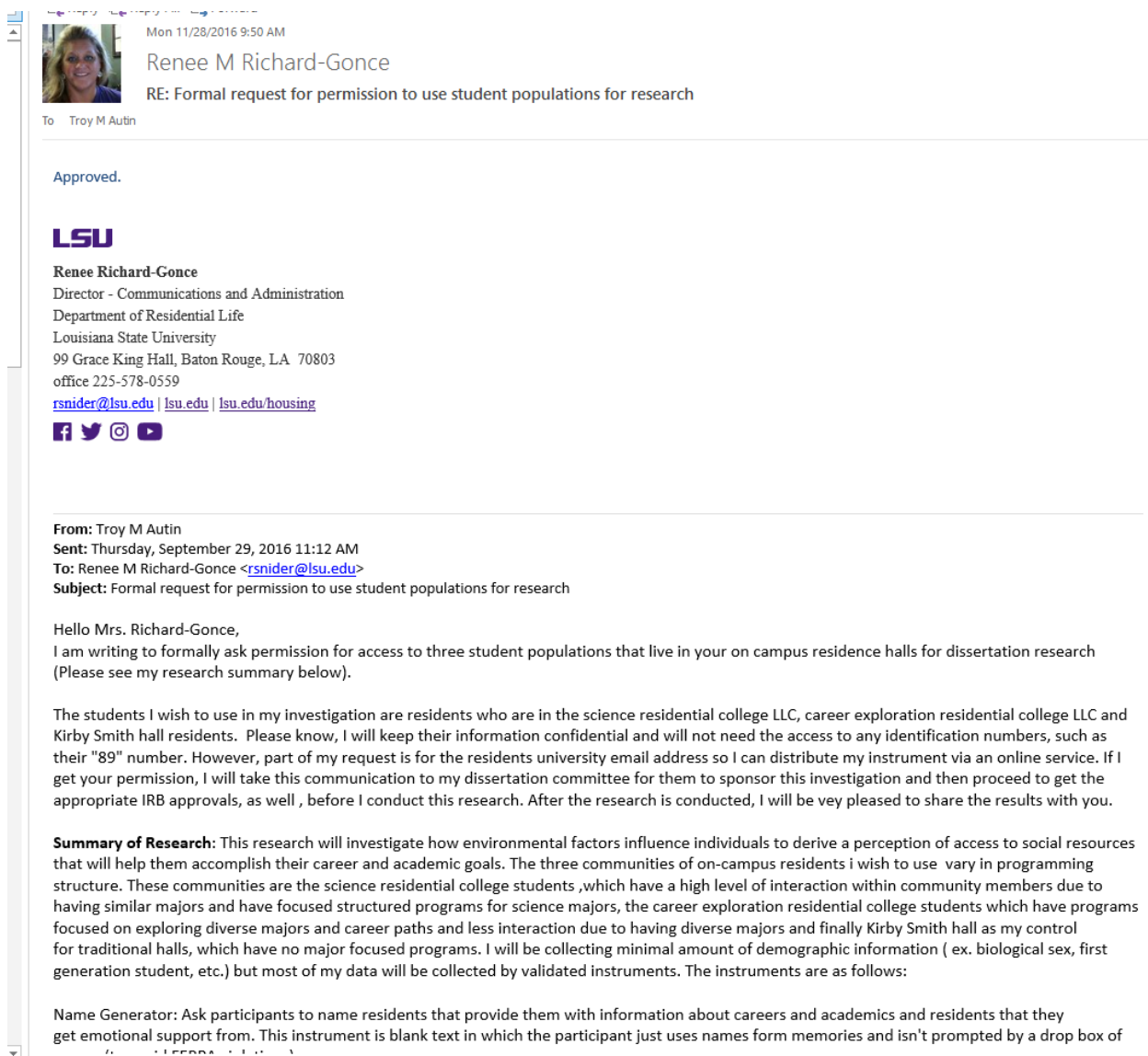
PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

* All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>

APPENDIX C: PERMISSION TO USE STUDENT POPULATION FROM DIRECTOR OF RESIDENTIAL LIFE COMMUNICATIONS AND ADMINISTRATION



APPENDIX D: INTRODUCTORY CONSENT PAGE OF SURVEY



LOUISIANA STATE UNIVERSITY

Dear Kirby Smith Resident,

Thank you for participating in this brief survey. This survey is administered through Qualtrics and will take 5 – 10 minutes to complete. Once completed, your name will be entered into a raffle to win a \$50 Amazon gift card.

The primary purpose of this study is to determine the influence that social network structure has on college student's social capital value and career decision-making self-efficacy. Participation in this study is voluntary and both the data gathered and the data gathering process is not harmful to the participant's physical, emotional or reputation well-being.

Results of this study may be published, but no identifying information will be included. The identity of the participants will remain confidential and any identifying marks within the survey redacted.

By continuing this survey, you are giving consent to participate in this study.

If you have any questions about the survey, please contact the principle investigator, Troy M. Autin, 225-205-0859 or tautin1@lsu.edu

This study has been approved by the LSU IRB. For questions concerning participant rights, please contact the IRB Chair, Dr. Dennis Landin, 225-578-8692 or irb@lsu.edu.

>>

APPENDIX E: BONDING NAME GENERATOR ITEM

Thinking of your peers who reside in your community, type the first two letters of the first name and first two letters of the last name of people you feel provide you with emotional and everyday type resources (i.e. you can talk to them about personal matters, they can provide help with small task like picking up groceries for you, give you a ride or loan you a small amount of money)

APPENDIX F: BRIDGING NAME GENERATOR ITEM

Thinking of your peers who reside in your community, type the first two letters of the first name and first two letters of the last name of up to 10 people you feel provide you with informational type resources (i.e. knows about internships or job openings, they can provide an advantage by giving you information before others may know)

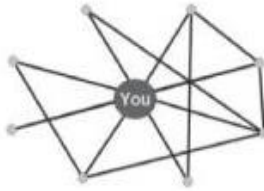
APPENDIX G: DENSITY INTERPRETER ITEM

Please use the visual network scale below to answer the following question:

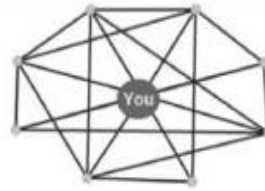
1. None of my friends are friends with each other



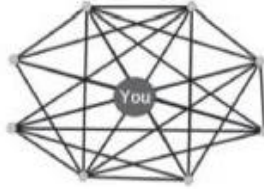
2. A few of my friends are friends with each other



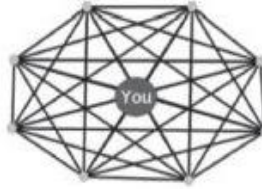
3. About half of my friends are friends with each other



4. Most of my friends are friends with each other



5. All of my friends are friends with each other

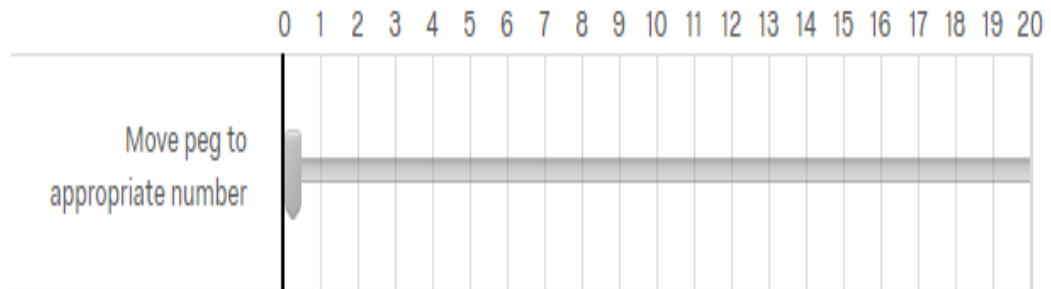


Of the all names you listed on both of the previous lists, which of these describe your network of friends?"

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

APPENDIX H: HOMOPHILY INTERPRETER ITEM

Thinking of the all names you have listed on both of the previous lists, how many of them are pursuing the same career path as you?



APPENDIX I: PERCEIVED SOCIAL CAPITAL VALUE ITEM

Please reference all of the names you have on both lists to answer the question. On the following scale of 1 – 10 (1 = not at all; 5 = somewhat; 10 = all), indicate the extent to which the names you have listed can help you achieve both your personal goals (ex. Relationship goals, spiritual goals, etc.) and career goals (ex. Get into a job industry you are interested, provide career advice throughout your work-life) (Provide one overall score)?

APPENDIX J: PERMISSION FOR CDMSE-SF DISTRIBUTION

For use by Troy Autin only. Received from Mind Garden, Inc. on April 7, 2017



www.mindgarden.com

To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her research:

Instrument: *Career Decision Self-Efficacy Scale*

Authors: *Nancy E. Betz and Karen M. Taylor*

Copyright: *2012 Nancy E. Betz and Karen M. Taylor. All rights reserved.*

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

CDSE, Copyright © 2012 by Nancy E. Betz and Karen M. Taylor. All rights reserved in all media.
Published by Mind Garden, Inc., www.mindgarden.com Page

APPENDIX K: SAMPLE CDMSE-SF ITEMS

1. Select one major from a list of potential majors you are considering
2. Accurately assess your abilities.
3. Prepare a good resume.

APPENDIX L: GENDER DEMOGRAPHIC QUESTION

What gender do you more closely identify?

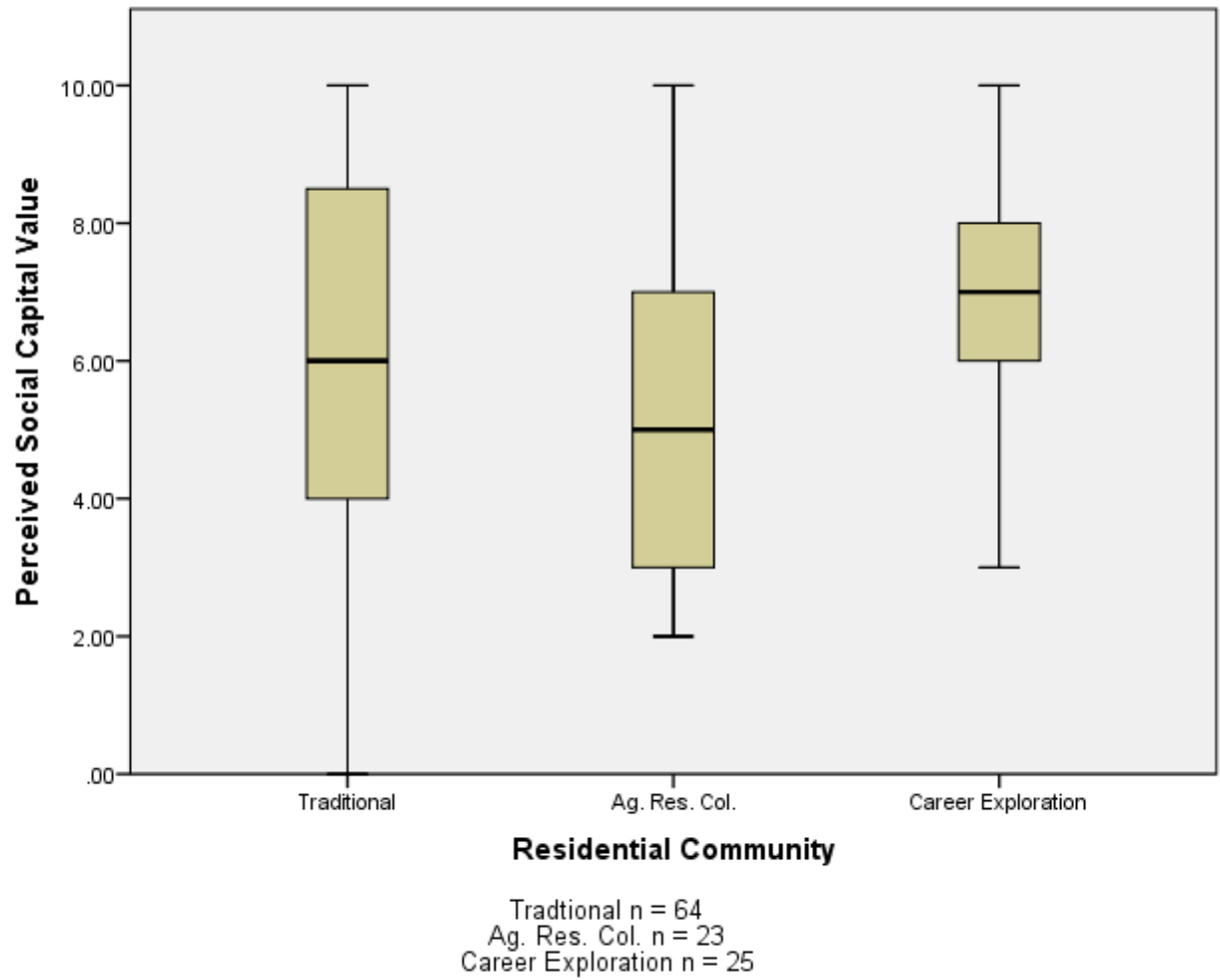
- Male
- Female

APPENDIX M: FIRST GENERATION QUESTION

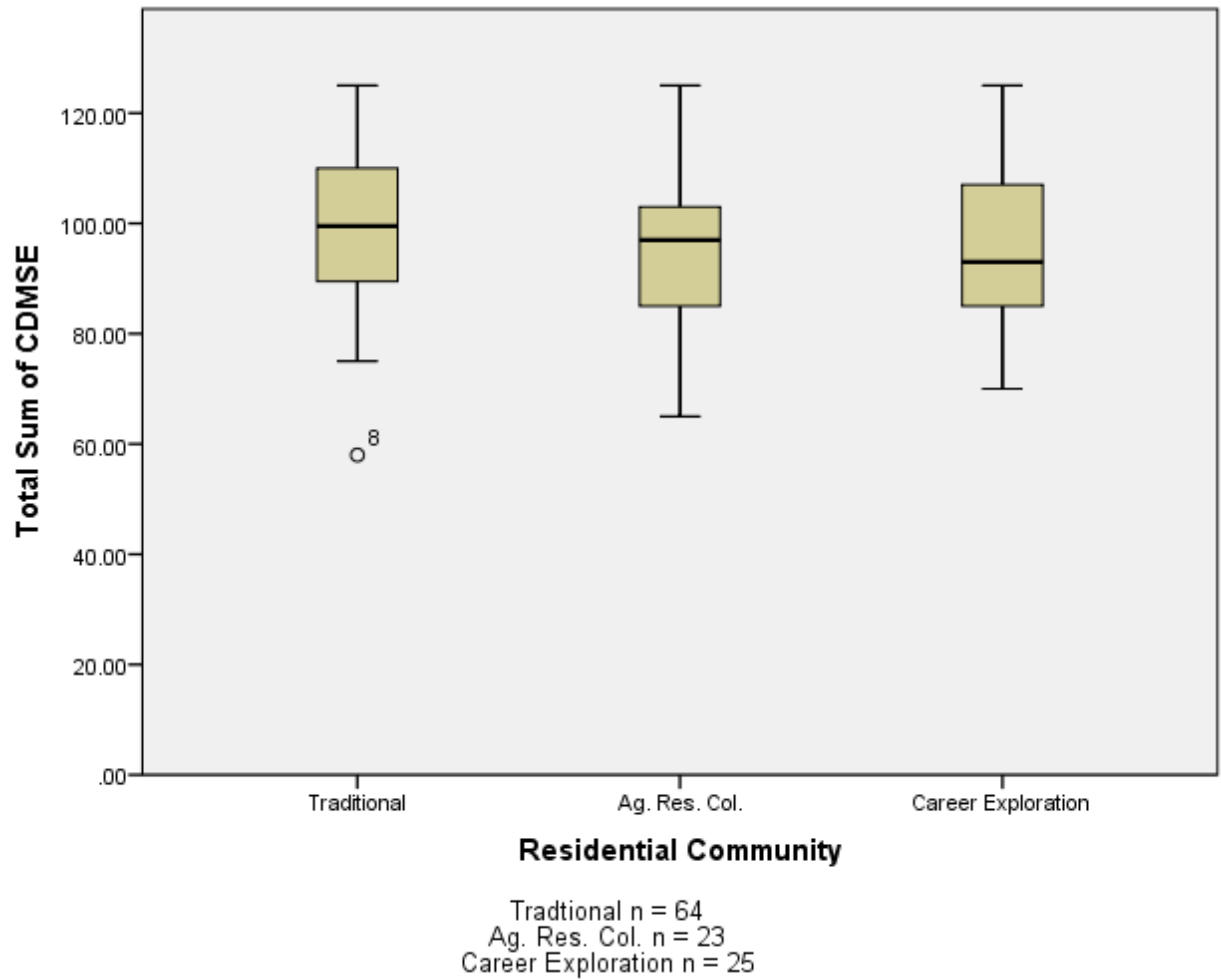
Are you a first-generation college student?

- Yes
- No

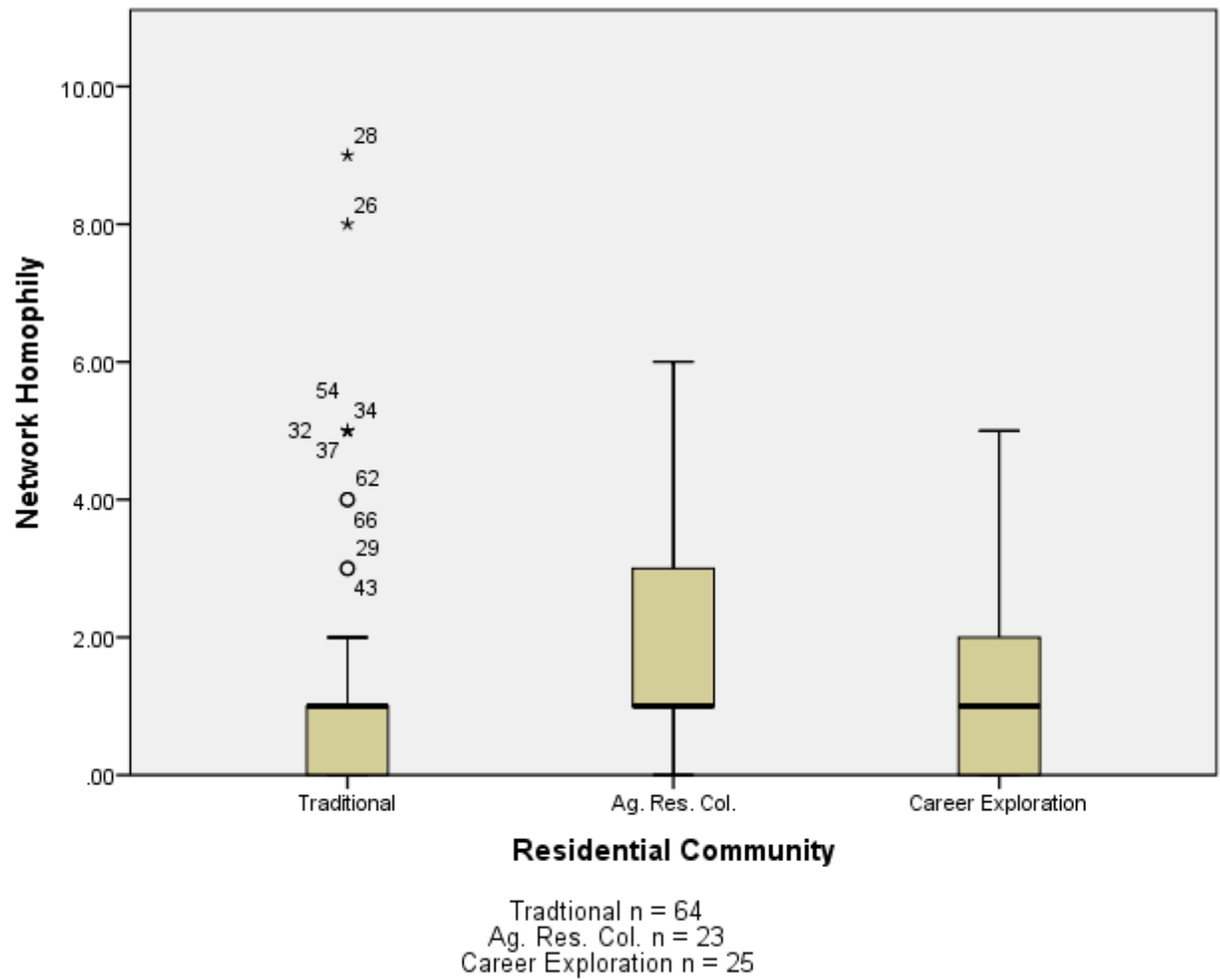
APPENDIX N: BOX PLOTS OF PERCEIVED SOCIAL CAPITAL VALUE BY
RESIDENTIAL COMMUNITY ADAPTED FROM SPSS 24.



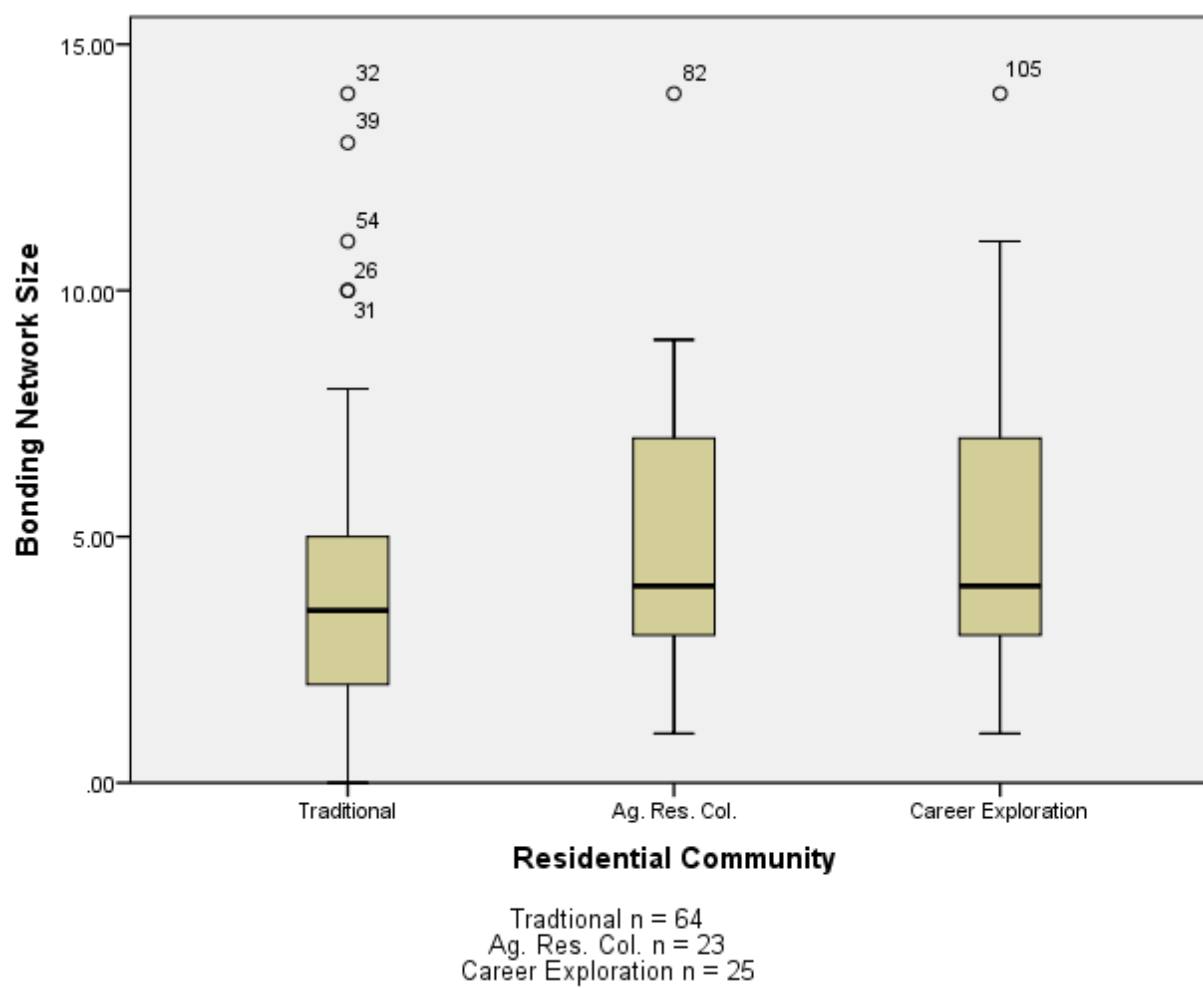
APPENDIX O: BOX PLOTS OF CDMSE TOTAL SCORE BY RESIDENTIAL
COMMUNITY ADAPTED FROM SPSS 24.



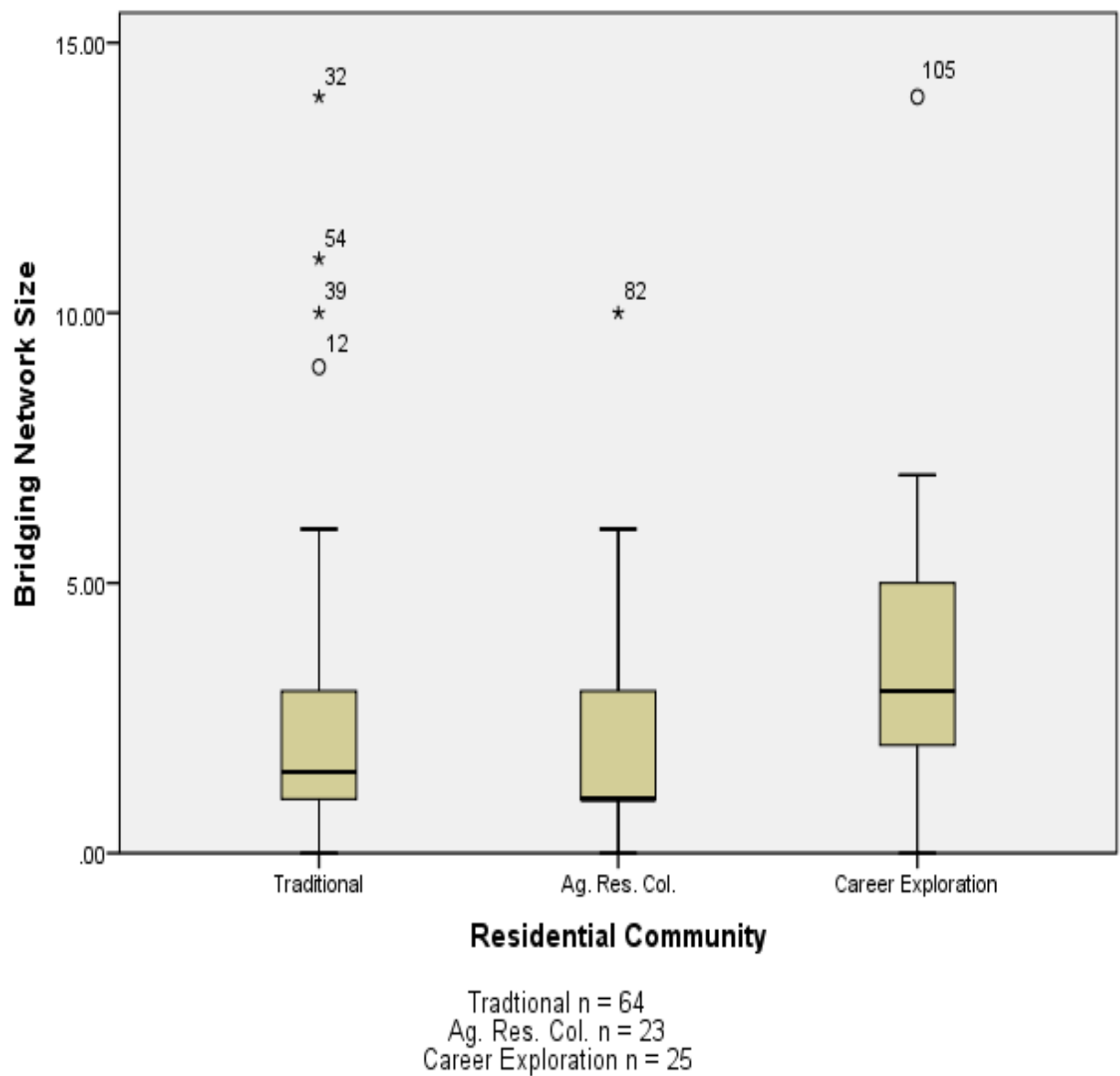
APPENDIX P: BOX PLOTS OF NETWORK HOMOPHILY BY RESIDENTIAL
COMMUNITY ADAPTED FROM SPSS 24.



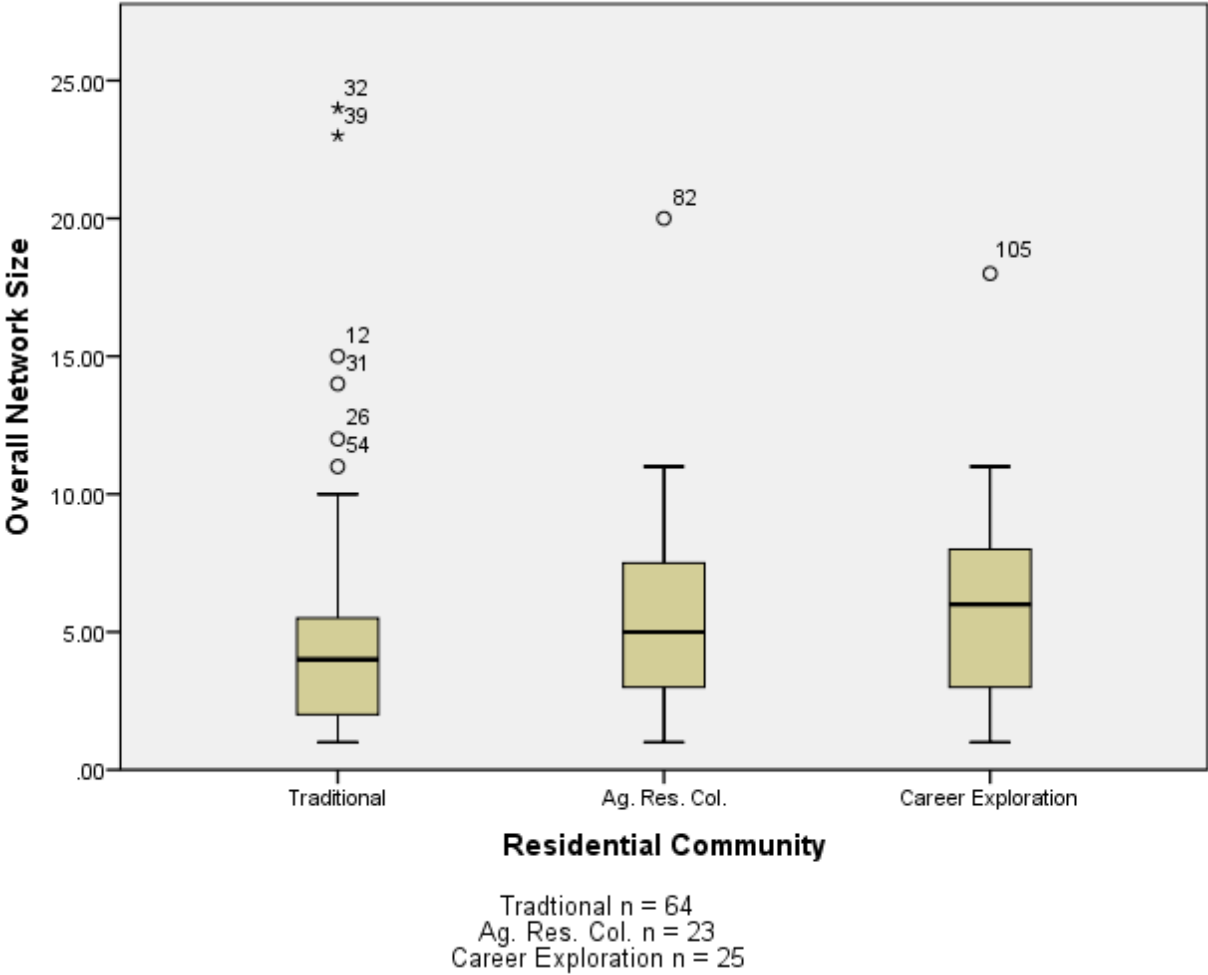
APPENDIX Q: BOX PLOTS OF BONDING NETWORK SIZE BY RESIDENTIAL
COMMUNITY ADAPTED FROM SPSS 24.



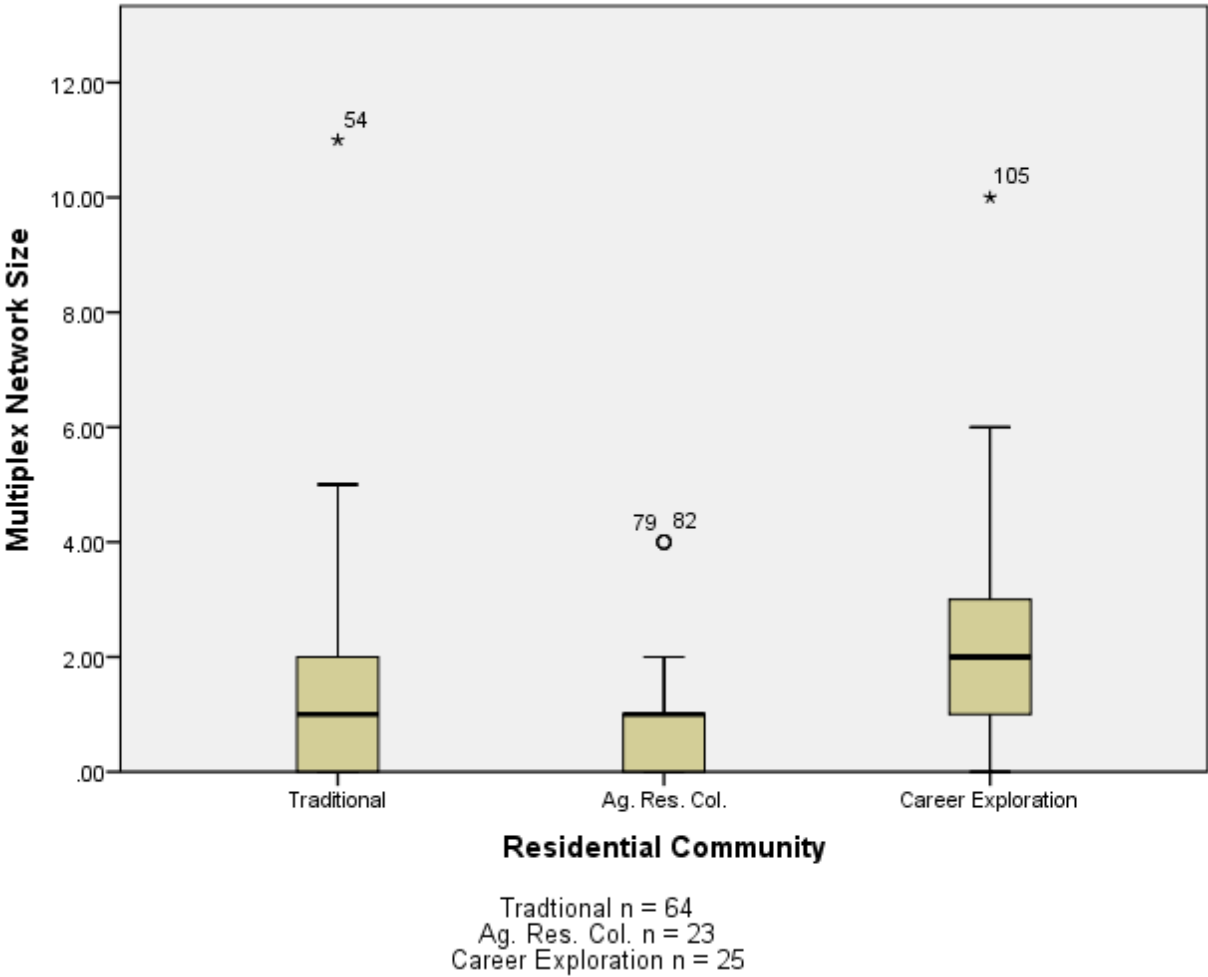
APPENDIX R: BOX PLOTS OF BRIDGING SOCIAL NETWORK SIZE BY RESIDENTIAL COMMUNITY ADAPTED FROM SPSS 24.



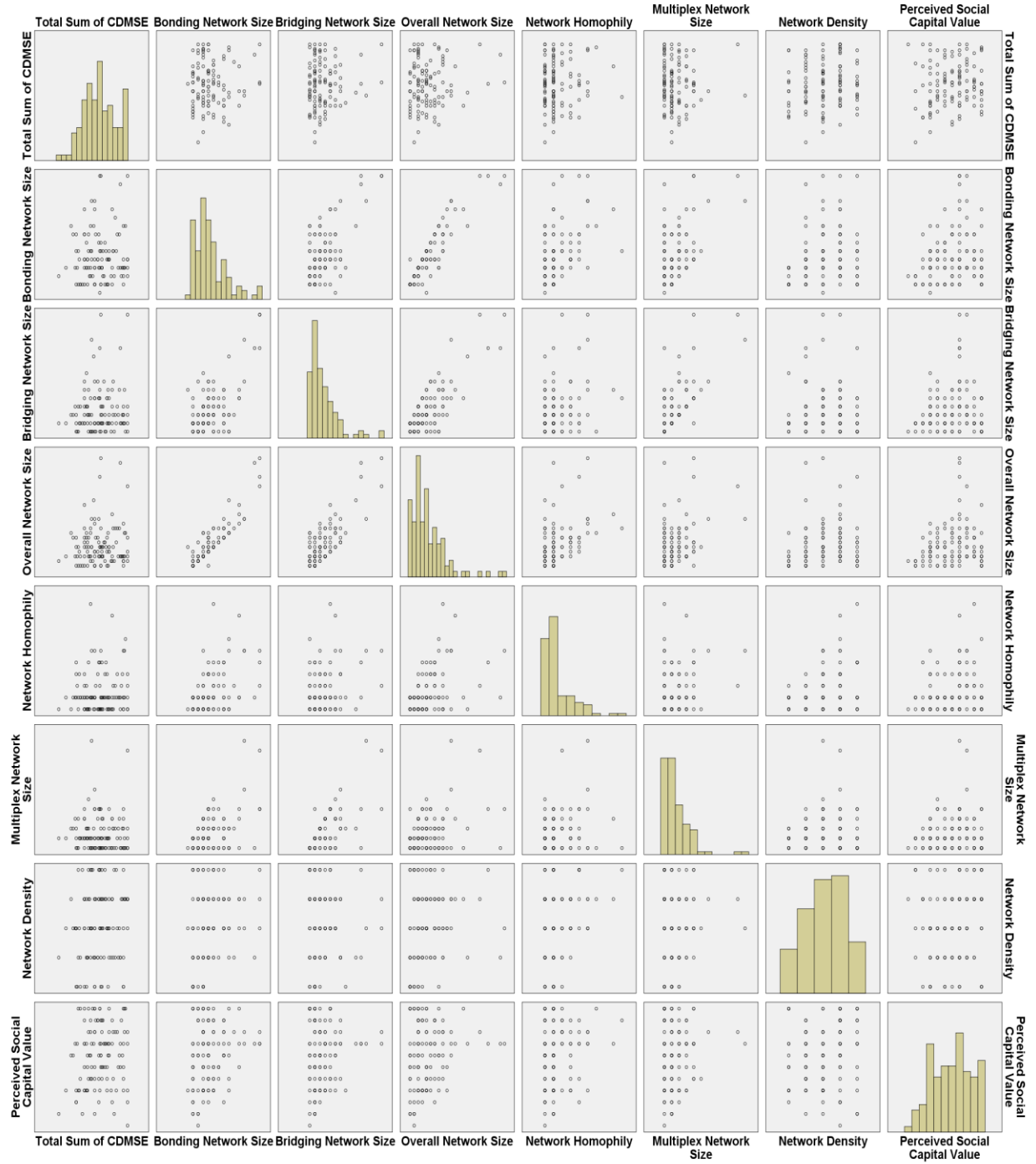
APPENDIX S: BOX PLOTS OF OVERALL SOCIAL NETWORK SIZE BY RESIDENTIAL COMMUNITY ADAPTED FROM SPSS 24.



APPENDIX T: BOX PLOTS OF MULTIPLEX NETWORK SIZE BY RESIDENTIAL COMMUNITY ADAPTED FROM SPSS 24.



APPENDIX U: CORRELATION MATRIX OF INVESTIGATION VARIABLES AND NORMALITY HISTOGRAM



APPENDIX V: PREACHER & HAYES (2013) MEDIATION OUTPUT ADAPTED FROM
SPSS 24

```
* Encoding: UTF-8.

/* PROCESS for SPSS 2.16.3 */.
/* Written by Andrew F. Hayes */.
/* www.afhayes.com Copyright 2012-2016 */.
/* Online distribution other than through */.
/* www.afhayes.com or processmacro.org is not authorized */.
/* Please read the documentation available in Appendix A of */.
/* Hayes (2013) prior to use www.guilford.com/p/hayes3 */.

/* Documentation available in Appendix A of
http://www.guilford.com/p/hayes3 */.
/* and www.processmacro.org */.

preserve.
set printback=off.
/* PROCESS for SPSS 2.16.3 */.
/* Written by Andrew F. Hayes */.
/* www.afhayes.com */.
/* Copyright 2012-2016 */.
/* Online distribution other than through */.
/* www.afhayes.com or processmacro.org is not authorized */.
/* Please read the documentation */.
/* available in Appendix A of */.
/* Hayes (2013) prior to use */.
/* www.guilford.com/p/hayes3 */.
/* Documentation available in Appendix A of
http://www.guilford.com/p/hayes3 */.
preserve.
set printback=off.
```

Bonding

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Release 2.16.3
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

```

*****
***
Model = 4
  Y = TotCD
  X = Bond
  M = SCV

Sample size
  112

*****
***
Outcome: SCV

Model Summary
      R      R-sq      MSE      F      df1      df2
p
.0224      .2156      .0465      6.6906      5.3649      1.0000      110.0000

Model
      coeff      se      t      p      LLCI
ULCI
constant      5.1500      .4282      12.0282      .0000      4.3015
5.9985
Bond      .1865      .0805      2.3162      .0224      .0269
.3461

Covariance matrix of regression parameter estimates
      constant      Bond
constant      .1833      -.0283
Bond      -.0283      .0065

*****
***
Outcome: TotCD

Model Summary
      R      R-sq      MSE      F      df1      df2
p
.4256      .1247      .0156      234.5125      .8610      2.0000      109.0000

Model
      coeff      se      t      p      LLCI
ULCI
constant      93.1708      3.8571      24.1558      .0000      85.5262
100.8154
SCV      .6226      .5645      1.1029      .2725      -.4962
1.7414
Bond      .2229      .4882      .4566      .6489      -.7447
1.1905

Covariance matrix of regression parameter estimates
      constant      SCV      Bond
constant      14.8771      -1.6410      -.6861
SCV      -1.6410      .3186      -.0594

```

```

Bond          -.6861      -.0594      .2383

***** TOTAL EFFECT MODEL *****
Outcome: TotCD

Model Summary
      R      R-sq      MSE      F      df1      df2
p      .0676      .0046      234.9737      .5048      1.0000      110.0000
.4789

Model
      coeff      se      t      p      LLCI
ULCI
constant      96.3770      2.5374      37.9828      .0000      91.3485
101.4055
Bond          .3390      .4772      .7105      .4789      -.6066
1.2846

Covariance matrix of regression parameter estimates
      constant      Bond
constant      6.4383      -.9941
Bond          -.9941      .2277

***** TOTAL, DIRECT, AND INDIRECT EFFECTS *****

Total effect of X on Y
      Effect      SE      t      p      LLCI      ULCI
      .3390      .4772      .7105      .4789      -.6066      1.2846

Direct effect of X on Y
      Effect      SE      t      p      LLCI      ULCI
      .2229      .4882      .4566      .6489      -.7447      1.1905

Indirect effect of X on Y
      Effect      Boot SE      BootLLCI      BootULCI
SCV      .1161      .1344      -.0820      .4757

Partially standardized indirect effect of X on Y
      Effect      Boot SE      BootLLCI      BootULCI
SCV      .0076      .0087      -.0057      .0299

Completely standardized indirect effect of X on Y
      Effect      Boot SE      BootLLCI      BootULCI
SCV      .0231      .0264      -.0163      .0929

Ratio of indirect to total effect of X on Y
      Effect      Boot SE      BootLLCI      BootULCI
SCV      .3425      56.3941      -.2088      82.6508

Ratio of indirect to direct effect of X on Y
      Effect      Boot SE      BootLLCI      BootULCI
SCV      .5209      30.8658      -.0208      1110.8162

R-squared mediation effect size (R-sq_med)

```

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0027	.0073	-.0035	.0338

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
5000

Level of confidence for all confidence intervals in output:
95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----

Bridging

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 4
Y = TotCD
X = Bridg
M = SCV

Sample size
112

Outcome: SCV

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	.1254	.0157	6.9065	1.7579	1.0000	110.0000
.1876						

Model

		coeff	se	t	p	LLCI
ULCI	constant	5.6491	.3438	16.4329	.0000	4.9678
6.3304	Bridg	.1209	.0912	1.3259	.1876	-.0598
.3016						

Covariance matrix of regression parameter estimates

	constant	Bridg
constant	.1182	-.0217
Bridg	-.0217	.0083

Outcome: TotCD

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.1419	.0201	233.4199	1.1202	2.0000	109.0000
.3299						

Model

		coeff	se	t	p	LLCI
ULCI	constant	92.9825	3.7147	25.0310	.0000	85.6201
100.3450	SCV	.6192	.5543	1.1170	.2664	-.4794
1.7178	Bridg	.4533	.5343	.8483	.3981	-.6057
1.5122						

Covariance matrix of regression parameter estimates

	constant	SCV	Bridg
constant	13.7990	-1.7357	-.5227
SCV	-1.7357	.3072	-.0371
Bridg	-.5227	-.0371	.2855

***** TOTAL EFFECT MODEL *****

Outcome: TotCD

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.0945	.0089	233.9457	.9904	1.0000	110.0000
.3218						

Model

		coeff	se	t	p	LLCI
ULCI	constant	96.4803	2.0008	48.2219	.0000	92.5152
100.4453	Bridg	.5281	.5307	.9952	.3218	-.5236
1.5798						

Covariance matrix of regression parameter estimates

	constant	Bridg
constant	4.0030	-.7342
Bridg	-.7342	.2816

***** TOTAL, DIRECT, AND INDIRECT EFFECTS *****

Total effect of X on Y

	Effect	SE	t	p	LLCI	ULCI
	.5281	.5307	.9952	.3218	-.5236	1.5798

Direct effect of X on Y

	Effect	SE	t	p	LLCI	ULCI
	.4533	.5343	.8483	.3981	-.6057	1.5122

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0749	.0941	-.0412	.3788

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0049	.0060	-.0028	.0238

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0134	.0163	-.0070	.0652

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1417	1.464E+012	-.1560	10.3114

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1651	8.6940	-.1184	16.8699

R-squared mediation effect size (R-sq_med)

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0025	.0050	-.0008	.0277

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
5000

Level of confidence for all confidence intervals in output:
95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----

Multiplex

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16.3

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

Model = 4
Y = TotCD
X = Multi
M = SCV

Sample size
112

Outcome: SCV

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	.1185	.0140	6.9184	1.5666	1.0000	110.0000
.2134						

Model						
	coeff	se	t	p	LLCI	
ULCI						
constant	5.7007	.3258	17.4991	.0000	5.0551	
6.3463						
Multi	.1717	.1371	1.2517	.2134	-.1001	
.4434						

Covariance matrix of regression parameter estimates

	constant	Multi
constant	.1061	-.0289
Multi	-.0289	.0188

Outcome: TotCD

Model Summary						
	R	R-sq	MSE	F	df1	df2
p						

.4680 .1176 .0138 234.9221 .7645 2.0000 109.0000

Model						
		coeff	se	t	p	LLCI
ULCI	constant	93.9259	3.6926	25.4360	.0000	86.6072
101.2446	SCV	.6870	.5556	1.2365	.2189	-.4142
1.7882	Multi	-.1082	.8048	-.1345	.8933	-1.7033
1.4869						

Covariance matrix of regression parameter estimates

	constant	SCV	Multi
constant	13.6355	-1.7598	-.6787
SCV	-1.7598	.3087	-.0530
Multi	-.6787	-.0530	.6477

***** TOTAL EFFECT MODEL

Outcome: TotCD

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	.0012	.0000	236.0516	.0001	1.0000	110.0000
.9904						

Model						
		coeff	se	t	p	LLCI
ULCI	constant	97.8422	1.9029	51.4177	.0000	94.0711
101.6133	Multi	.0097	.8011	.0121	.9904	-1.5778
1.5972						

Covariance matrix of regression parameter estimates

	constant	Multi
constant	3.6210	-.9855
Multi	-.9855	.6417

***** TOTAL, DIRECT, AND INDIRECT EFFECTS

Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
.0097	.8011	.0121	.9904	-1.5778	1.5972

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.1082	.8048	-.1345	.8933	-1.7033	1.4869

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1179	.1503	-.0569	.6128

Partially standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0077	.0097	-.0040	.0389

Completely standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0140	.0169	-.0065	.0686

Ratio of indirect to total effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	12.1461	1.627E+012	84.5831	9.529E+013

Ratio of indirect to direct effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	-1.0897	125.3924	-8852.2194	-.5092

R-squared mediation effect size (R-sq_med)				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	-.0002	.0042	-.0119	.0070

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
5000

WARNING: Bootstrap CI endpoints below not trustworthy. Decrease confidence or increase bootstraps
-8852.2194

Level of confidence for all confidence intervals in output:
95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----

Overall Size

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com

```

*****
***
Model = 4
  Y = TotCD
  X = Overall
  M = SCV

Sample size
      112

*****
***
Outcome: SCV

Model Summary
      R      R-sq      MSE      F      df1      df2
p
.0548      .1820      .0331      6.7846      3.7666      1.0000      110.0000

Model
      coeff      se      t      p      LLCI
ULCI
6.1464      constant      5.3595      .3971      13.4965      .0000      4.5725
.2248      Overall      .1112      .0573      1.9408      .0548      -.0023

Covariance matrix of regression parameter estimates
      constant      Overall
constant      .1577      -.0179
Overall      -.0179      .0033

*****
***
Outcome: TotCD

Model Summary
      R      R-sq      MSE      F      df1      df2
p
.3092      .1460      .0213      233.1425      1.1864      2.0000      109.0000

Model
      coeff      se      t      p      LLCI
ULCI
100.1778      constant      92.6588      3.7937      24.4244      .0000      85.1398
1.6921      SCV      .5844      .5589      1.0455      .2981      -.5234
.9922      Overall      .3150      .3417      .9221      .3585      -.3621

Covariance matrix of regression parameter estimates
      constant      SCV      Overall

```

constant	14.3921	-1.6743	-.4275
SCV	-1.6743	.3124	-.0347
Overall	-.4275	-.0347	.1167

***** TOTAL EFFECT MODEL

Outcome: TotCD

Model Summary						
	R	R-sq	MSE	F	df1	df2
p	.1072	.0115	233.3398	1.2785	1.0000	110.0000
.2606						

Model						
	coeff	se	t	p	LLCI	ULCI
constant	95.7907	2.3288	41.1327	.0000	91.1755	100.4059
Overall	.3800	.3361	1.1307	.2606	-.2860	1.0461

Covariance matrix of regression parameter estimates

	constant	Overall
constant	5.4234	-.6143
Overall	-.6143	.1130

***** TOTAL, DIRECT, AND INDIRECT EFFECTS

Total effect of X on Y						
	Effect	SE	t	p	LLCI	ULCI
	.3800	.3361	1.1307	.2606	-.2860	1.0461

Direct effect of X on Y						
	Effect	SE	t	p	LLCI	ULCI
	.3150	.3417	.9221	.3585	-.3621	.9922

Indirect effect of X on Y					
	Effect	Boot SE	BootLLCI	BootULCI	
SCV	.0650	.0814	-.0556	.2866	

Partially standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0042	.0052	-.0038	.0183

Completely standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0183	.0218	-.0152	.0752

Ratio of indirect to total effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1710	101.3936	-.3946	5.4389

Ratio of indirect to direct effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.2063	22.8634	-.3295	14.9234

```

R-squared mediation effect size (R-sq_med)
      Effect      Boot SE    BootLLCI    BootULCI
SCV      .0039      .0068     -.0019     .0324

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
      5000

Level of confidence for all confidence intervals in output:
      95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----

```

Homophily

```

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Release 2.16.3 *****

      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2013). www.guilford.com/p/hayes3

*****
***
Model = 4
      Y = TotCD
      X = Homoph
      M = SCV

Sample size
      112

*****
***
Outcome: SCV

Model Summary
      R      R-sq      MSE      F      df1      df2
p
      .1859      .0346      6.7743      3.9384      1.0000      110.0000
.0497

Model

```

		coeff	se	t	p	LLCI
ULCI						
	constant	5.5528	.3217	17.2621	.0000	4.9153
6.1903						
	Homoph	.2845	.1433	1.9845	.0497	.0004
.5686						

Covariance matrix of regression parameter estimates

	constant	Homoph
constant	.1035	-.0297
Homoph	-.0297	.0205

Outcome: TotCD

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	.1397	.0195	233.5718	1.0840	2.0000	109.0000
.3419						

Model

		coeff	se	t	p	LLCI
ULCI						
	constant	93.3147	3.6376	25.6526	.0000	86.1050
100.5244						
	SCV	.5943	.5599	1.0616	.2908	-.5153
1.7040						
	Homoph	.6898	.8567	.8052	.4225	-1.0081
2.3876						

Covariance matrix of regression parameter estimates

	constant	SCV	Homoph
constant	13.2324	-1.7405	-.5296
SCV	-1.7405	.3134	-.0892
Homoph	-.5296	-.0892	.7338

***** TOTAL EFFECT MODEL *****

Outcome: TotCD

Model Summary

	R	R-sq	MSE	F	df1	df2
p						
	.0968	.0094	233.8413	1.0399	1.0000	110.0000
.3101						

Model

		coeff	se	t	p	LLCI
ULCI						
	constant	96.6149	1.8899	51.1209	.0000	92.8695
100.3603						
	Homoph	.8588	.8422	1.0198	.3101	-.8102
2.5279						

Covariance matrix of regression parameter estimates

	constant	Homoph
constant	3.5718	-1.0260
Homoph	-1.0260	.7093

***** TOTAL, DIRECT, AND INDIRECT EFFECTS *****

Total effect of X on Y					
Effect	SE	t	p	LLCI	ULCI
.8588	.8422	1.0198	.3101	-.8102	2.5279

Direct effect of X on Y					
Effect	SE	t	p	LLCI	ULCI
.6898	.8567	.8052	.4225	-1.0081	2.3876

Indirect effect of X on Y				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .1691	.2073	-.1181	.7418	

Partially standardized indirect effect of X on Y				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .0111	.0134	-.0080	.0475	

Completely standardized indirect effect of X on Y				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .0191	.0231	-.0124	.0858	

Ratio of indirect to total effect of X on Y				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .1969	3.5036	-.2382	9.5749	

Ratio of indirect to direct effect of X on Y				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .2451	23.8714	-.1411	54.9841	

R-squared mediation effect size (R-sq_med)				
Effect	Boot SE	BootLLCI	BootULCI	
SCV .0035	.0065	-.0020	.0316	

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:

5000

Level of confidence for all confidence intervals in output:

95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX -----

Density

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Release 2.16.3
*****

      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

*****
***
Model = 4
      Y = TotCD
      X = Density
      M = SCV

Sample size
      112

*****
***
Outcome: SCV

Model Summary
      R      R-sq      MSE      F      df1      df2
p      .1476      .0218      6.8640      2.4501      1.0000      110.0000
.1204

Model
      coeff      se      t      p      LLCI
ULCI
constant      4.9460      .6960      7.1059      .0000      3.5666
6.3254
Density      .3268      .2088      1.5653      .1204      -.0870
.7405

Covariance matrix of regression parameter estimates
      constant      Density
constant      .4845      -.1358
Density      -.1358      .0436

*****
***
Outcome: TotCD

Model Summary
      R      R-sq      MSE      F      df1      df2
p      .1545      .0239      232.5322      1.3325      2.0000      109.0000
.2681

Model
```

		coeff	se	t	p	LLCI
ULCI	constant	90.2490	4.8935	18.4425	.0000	80.5501
99.9478	SCV	.5907	.5550	1.0645	.2895	-.5092
1.6906	Density	1.3109	1.2286	1.0670	.2883	-1.1241
3.7459						

Covariance matrix of regression parameter estimates

	constant	SCV	Density
constant	23.9467	-1.5232	-4.1031
SCV	-1.5232	.3080	-.1006
Density	-4.1031	-.1006	1.5094

***** TOTAL EFFECT MODEL

 Outcome: TotCD

	Model Summary					
	R	R-sq	MSE	F	df1	df2
p	.1171	.0137	232.8136	1.5301	1.0000	110.0000
.2187						

		coeff	se	t	p	LLCI
Model						
ULCI	constant	93.1708	4.0537	22.9841	.0000	85.1373
101.2043	Density	1.5039	1.2158	1.2370	.2187	-.9056
3.9135						

Covariance matrix of regression parameter estimates

	constant	Density
constant	16.4325	-4.6064
Density	-4.6064	1.4783

***** TOTAL, DIRECT, AND INDIRECT EFFECTS

Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
1.5039	1.2158	1.2370	.2187	-.9056	3.9135	

Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
1.3109	1.2286	1.0670	.2883	-1.1241	3.7459	

Indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1930	.3051	-.1330	1.2267

Partially standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0126	.0197	-.0090	.0774

Completely standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0150	.0232	-.0102	.0918

Ratio of indirect to total effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1284	17.7925	-.2013	5.7903

Ratio of indirect to direct effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.1473	18.9101	-.1972	14.6748

R-squared mediation effect size (R-sq_med)				
	Effect	Boot SE	BootLLCI	BootULCI
SCV	.0035	.0070	-.0012	.0383

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
5000

Level of confidence for all confidence intervals in output:
95.00

NOTE: Kappa-squared is disabled from output as of version 2.16.

----- END MATRIX

APPENDIX W: T-TEST OF GENDER AND SNSC, SCV AND CDMSE

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Perceived Social Capital Value	Equal variances assumed	0.237	0.627	-0.577	120	0.565	-0.31202	0.54086	-1.38287	0.75884
	Equal variances not assumed			-0.576	65.544	0.566	-0.31202	0.54142	-1.39314	0.7691
Total Sum of CDMSE	Equal variances assumed	0.164	0.686	0.554	120	0.581	1.72351	3.11067	-4.4354	7.88243
	Equal variances not assumed			0.569	69.719	0.571	1.72351	3.02974	-4.31955	7.76657
Bonding Network Size	Equal variances assumed	0.918	0.34	-0.635	110	0.527	-0.39894	0.6283	-1.64409	0.84621
	Equal variances not assumed			-0.669	71.233	0.506	-0.39894	0.59651	-1.58828	0.79039
Bridging Network Size	Equal variances assumed	0.248	0.619	-0.572	110	0.568	-0.32278	0.5639	-1.4403	0.79475
	Equal variances not assumed			-0.63	79.49	0.531	-0.32278	0.51243	-1.34264	0.69709
Multiplex Network Size	Equal variances assumed	0.177	0.675	-1.269	110	0.207	-0.4736	0.37308	-1.21297	0.26576
	Equal variances not assumed			-1.37	75.708	0.175	-0.4736	0.34565	-1.16207	0.21486
Overall Network Size	Equal variances assumed	0.637	0.426	-0.279	110	0.781	-0.24811	0.89021	-2.0123	1.51607
	Equal variances not assumed			-0.286	66.973	0.776	-0.24811	0.86686	-1.97838	1.48215
Perceived Social Capital Value	Equal variances assumed	3.418	0.067	0.094	110	0.925	0.05128	0.54435	-1.02749	1.13005
	Equal variances not assumed			0.088	54.181	0.93	0.05128	0.58321	-1.1179	1.22046
Total Sum of CDMSE	Equal variances assumed	0.323	0.571	-1.268	110	0.207	-3.97587	3.13453	-10.18778	2.23604
	Equal variances not assumed			-1.234	59.173	0.222	-3.97587	3.22112	-10.42092	2.46919

VITA

Troy Autin has worked in organizational development for over 15 years. His experience includes managing small business, business development, management consulting and working with federal and state government. At LSU, he became interested in I/O psychology and quantitative research methodology which led to the pursuit of a doctorate in human resources and leadership development with a minor in applied statistics. He enjoys teaching statistics and math at Our Lady of the Lake College and is employed at the LSU's Olinde Career Center as Assessment and Data Manager.