

2022

Appalachian adolescents in an Out-of-School-Time program: Examining the role of social support from family and friends for coping skills and intellectual risk-taking outcomes

Summer Kuhn

West Virginia University, summer.kuhn@hsc.wvu.edu

Follow this and additional works at: <https://researchrepository.wvu.edu/etd>



Part of the [Educational Sociology Commons](#), [Family, Life Course, and Society Commons](#), and the [Other Education Commons](#)

Recommended Citation

Kuhn, Summer, "Appalachian adolescents in an Out-of-School-Time program: Examining the role of social support from family and friends for coping skills and intellectual risk-taking outcomes" (2022). *Graduate Theses, Dissertations, and Problem Reports*. 11338.

<https://researchrepository.wvu.edu/etd/11338>

This Thesis is protected by copyright and/or related rights. It has been brought to you by the The Research Repository @ WVU with permission from the rights-holder(s). You are free to use this Thesis in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you must obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This Thesis has been accepted for inclusion in WVU Graduate Theses, Dissertations, and Problem Reports collection by an authorized administrator of The Research Repository @ WVU. For more information, please contact researchrepository@mail.wvu.edu.

Appalachian adolescents in an Out-of-School-Time program: Examining the role of social support from family and friends for coping skills and intellectual risk-taking outcomes.

Summer Kuhn

Masters Thesis submitted to the Eberly College of Arts and Sciences at West Virginia University
in partial fulfillment of the requirements for the degree of Masters in Sociology and
Anthropology

Chris Scheitle, PhD, Chair

Katie Corcoran, PhD

Rachel Stein, PhD

Department of Sociology and Anthropology

Morgantown, West Virginia

2022

Keywords: social support, rural adolescents, coping, intellectual risk taking, Out-of-School-Time

Copyright 2022 Summer Kuhn

ABSTRACT

Appalachian adolescents in an Out-of-School-Time program: Examining the role of social support from family and friends for coping skills and intellectual risk-taking outcomes.

Summer Kuhn

Research on young adults has emphasized the importance of social support for generating positive physical, mental, and academic outcomes. This study aims to understand the impact of social support from family and friends on coping skills and intellectual risk-taking among high school seniors participating in an Out-of-School-Time (OST) program in Appalachia. Data from the program's annual evaluation (2014-2018) was analyzed to measure associations between perceived social support from family and friends and students' coping skills and intellectual risk-taking. Moreover, potential differences in these associations across genders were considered. Analyses found a significant association between family-based social support and coping skills, while friend-based social support was not significantly associated with coping skills. Being female, minority, or first-generation also had positive significant associations with coping skills. In addition, results showed an independent significant association between family and friends' social support and intellectual risk-taking. The analysis did not find support for a moderating effect of gender. Interestingly, students with a first-generation status displayed significantly greater intellectual risk-taking relative to their non-first-generation peers. Coping skills and intellectual risk-taking are important skills for high school students who are interested in attending college/university. Understanding trends and associations for coping skills and intellectual risk-taking can provide new program activities as well as policies for OST programs. In addition, information can be shared with local communities of the program to implement social support interventions as well as other collegiate programs to increase college persistence and success.

Table of Contents

Introduction	1
Conceptualizing Social Support.....	2
Social Support and Gender Differences	5
Social Support and Coping Skills	6
Social Support and Intellectual Risk Taking	8
Social Support and Rural Contexts.....	8
Method	10
Participants	10
Evaluation	11
Measures.....	12
Outcome: Coping Skills	13
Outcome: Intellectual Risk-Taking	13
Controls.....	14
Results.....	14
Ordinary Least Squares Models: Coping Skills	16
Ordinary Least Squares Models: Intellectual Risk Taking	18
Discussion.....	20
Coping Skills	21
Intellectual risk-taking.....	24
Limitations	26
Future Research	27
References	29
Tables and Figures	45
Table 1. Social Support Scale	45
Table 2. Coping Scale	45
Table 3. Intellectual Risk-Taking	46
Table 4. Demographic information among study participants.	46
Table 5. Scale means analyzed in the study.....	47
Table 6. Ordinary least squares regression models predicting coping skills (unstandardized coefficients).....	49
Table 7. Ordinary least squares regression models predicting Intellectual Risk Taking (unstandardized coefficients).....	49

Figure 1. Predicting intellectual risk-taking scores along the family social support scale based on the regression model found in Table 7. 50

Figure 2. Predicting intellectual risk-taking scores along the friends' social support scale based on the regression model found in Table 7. 50

Introduction

Adolescence is comprised of various physical and mental events that impact young adults' growth and development into adulthood. Adolescents are faced with major life changes including both physical changes (i.e., puberty) and social/environmental changes related to discovering their identity, learning social norms, exploring their sexuality, controlling stressful situations, and planning for their future (Cocorada and Mihalascu 2012). Even though adolescents are still largely dependent on their parents or guardians during this developmental stage, they are also growing more independent. Many factors influence how adolescents engage with and learn about the world. Structural contexts (i.e., social economic status, race, gender,) shape an individual's experiences and, when these experiences become "problematic," stress manifests (Pearlin 1989:242). Stress may be a familiar term and even an everyday experience; yet it can be defined simply as "how the brain and body respond to any demand" (National Institute of Mental Health 2019) whether it is "physically, mentally, or emotionally" (Cleveland Clinic, 2019).

One factor that heavily influences how adolescents address stress experiences is social support given by individuals closest to them (Zhang, Yan, Zhao, and Yuan 2015). Social support has been studied among adolescents to better understand its impact on adolescent development and has been associated with generating positive physical, mental, and academic outcomes (Ryan, Huebner, Diaz, and Sanchez 2009; Guan and Fuligni 2015; Demaray and Malecki 2002; Brausch and Decker 2014).

In this study, evaluations from adolescents participating in an Out-of-School-Time (OST) program—defined as "a supervised program that young people regularly attend when school is not in session" (CDC 2021)—were examined to understand the impact of perceived family and

friends' social support on self-reported coping skills and intellectual risk-taking outcomes. The following sections will give a general overview of social support, its associations with various outcomes, and impact on rural youth.

Conceptualizing Social Support

Perceived social support consists of the aid one acknowledges they receive when seeking assistance from their social environment (Brausch and Decker 2014). This social environment may include family such as parents, siblings, and/or friends and teachers that give support to “enhance functioning and/or may buffer him/her from adverse outcomes” (Malecki and Demaray 2006: 377). In general, adolescents who feel they have a strong social support network thrive more compared to those that report a weak or lacking social support network (Lerner 2003).

Social support is conceptualized and operationalized in a variety of ways. For instance, one can look at social support as an exchange between two people that boosts at least one individual's welfare (Demaray and Malecki 2002; Shumaker and Brownell 1984). Other studies examine the variation of the social support through the source (i.e., family, friend, someone special, teacher), amount of social support given (i.e., very little to a great deal), and what type of social support was given (i.e., emotional, spiritual, financial) (Kenny, Gallagher, Alvarez-Salvat, and Silsby 2002).

For the study presented here, Tardy's (1985) five factors of social support are used to conceptualize social support. According to Tardy, one can analyze social support through direction (give or received), disposition (availability or “actual utilization”), description versus evaluation, categories (“emotional, instrumental, informational, and appraisal”, and sources (the individuals that make up the support network i.e., family, friends, school personnel) (1985:188-189). Social support was measured in this study through a self-report survey where students

agreed or disagreed with statements concerning the social support they do or do not receive from family and friends (Table 1; Zimlet et al 1988). In addition to Tardy's five factors of social support, the administration of the Perceived Social Support Survey constructed by Zimlet and colleagues (1988) is an ideal instrument to administer to young people due to its "brief and easy-to-follow" nature (Bruwer, Emsley, Kidd, Lochner, and Seedat 2008: 196). This self-reported survey allows individuals to recall how they feel about general statements and instead of recalling specific events and/or answering interview questions.

General Impact of Social Support on Adolescents

Social support is important throughout the life course, yet it is vital during the adolescent years as individuals transition into adulthood. Adolescent development is marked with many changes as youth seek to increase their independence, face academic burdens, relationship pressures, puberty, entry pressures to attend college and/or the workforce (Brausch and Decker 2013). Thus, social support may assist adolescents navigating many of these stressors (Park et al 2013). Additionally, there is evidence that the opposite occurs when social support is lacking or weak, i.e., increased stress levels (Weinstein and Ryan 2011).

In this study, social support from family and friends was compared. Research finds that different forms of social support have varying effects on wellbeing outcomes. For instance, experiencing weak parental support when it comes to sexual orientation, can be associated with drug use (Rosario, Schrimshaw, and Hunter 2009) and negative physical health outcomes (Ryan, Huebner, Diaz, and Sanchez 2009). Furthermore, friend-based social support has shown to be very important to youth behavior (Mercken, Snijders, Steglich, Vartiainen, and de Vries 2010; Ruegar, Malecki, and Demaray 2010) resulting in a positive correlation with high self-esteem as well as low depression feelings (Guan and Fuligni 2015; Bruwer et al 2008). Research shows

that students with weak parental/classmate social support and low family socioeconomic status (SES), report lower GPAs compared to those with high SES (Malecki and Demaray 2006). In these cases GPA remained constant no matter their parental and/or classmate social support (Malecki and Demaray 2006).

When we consider suicidal ideation, a few studies have reported opposite results concerning the relative impacts of social support from friends as compared to social support from family. One said peer social support mattered more (Kandel, Raveis, and Davies et al 1991) and others have said parental social support was more beneficial (Lewinsohn, Rohde, and Seeley 1993; Wichstrom 2009). In terms of mental health, Garneski and Diekstra (1996) found social support from friends played a major role in emotional issues yet social support from family played a more influential part in emotional and behavioral issues. Furthermore, research supports the idea that no matter the source of social support, either from family or friends, stressors experienced in life are addressed better when social support plays an active role (Ystgaard 1997). However, Brausch and Decker (2014) share that adolescents disclose various levels of perceived social support from family and friends, therefore it is important to examine social support from family and friends independently. Research shows that family support is vital for adolescents (Youniss and Smollar 1985), yet they tend to spend more time with their friends/peers compared to their family as they grow older (Richards, Crowe, Larson and Swarr 1998; Brausch and Decker 2014). Therefore, adolescents may “value the support and opinions from friends and classmates more than from their parents” (Brausch and Decker 2014: 781). Even though parents/guardians may provide more realistic support when it comes to education and future career opportunities (Zhang, Yan, Zhao, and Yuan 2015; Malmberg 2001; Brown 1990), research shows that adolescents tend to befriend those who have similar academic goals (Kenny

et al 2002), and strong peer relationships are important for emotional support (Werner and Smith 1992) as well as academic support.

The primary aim of this research is to examine the roles of family and friends' social support on the outcomes of coping skills and intellectual risk-taking among OST high school seniors. The study sets out to address the general research question: Is social support positively associated with adolescents' coping skills and intellectual risk-taking? It is hypothesized that social support, regardless of the source, will positively impact coping skills and intellectual risk-taking (Brausch and Decker 2014). Furthermore, the study will examine: Does the effect of social support on adolescents' coping skills and intellectual risk-taking depend on whether that support comes from family or friends? It is hypothesized that social support from friends will have a larger association with adolescents' coping skills and intellectual risk-taking as compared to social support from family (Richards, Crowe, Larson, and Swarr 1998). However, there are inconsistent conclusions in the literature when it comes to identifying if social support from family or friends has a greater impact on outcomes (Brausch and Decker 2014).

Social Support and Gender Differences

Furthermore, the current study considers how the influence of social support may differ depending on the adolescent's gender. There is evidence that males are more susceptible to "emotional problems" compared to females when males report weak or lack strong perceived social support from family and friends (Zhang, Yan, Zhao, and Yuan 2015: 513). In other research, it is reported that friend social support impacts females more than males (Zhang, Yan, Zhao, and Yuan 2015; Dalgard et al 2006; Ruegar et al 2010). In general, it is suggested that gender impacts the way individuals perceive social support (Camara, Bacigalupe, and Padilla 2015) and handle stress. Studies have shown that females are more likely to seek out social

support in a stressful event (Eschenbeck, Kohlmann, and Lohaus 2007; Lynch, Kashikar-Zuck, Goldschneider, and Jones 2007; Piko 2011) compared to males who are more likely to find activities that will distract them from dealing with the stressor (Gomez-Fraguela et al 2006). In general females report stronger social support relationships from friends compared to males (Cheng and Chan 2004; Rueger, Malecki, and Demaray 2010). Furthermore, in a study of undergraduates, females had greater “global support and romantic support but less family support” (Eker, Arkar, and Yaldiz 2000: 233) compared to their male counterparts (Davis, Morris, and Kraus 1998).

This study also aimed to measure the differences related to gender, family and friends’ social support on coping skills and intellectual risk taking, addressing the research question: Are the associations between social support and adolescents’ coping skills and intellectual risk-taking moderated by gender? Based on previous literature (Camara, Bacigalupe, and Padilla 20015; Eschenbeck, Kohlmann, and Lohaus 2007; Lynch, Kashikar-Zuck, Goldschneider, and Jones 2007; Piko 2011; Gomez-Fraguela et al 2006), it is predicted that there would be a difference by gender for family and friends’ social support for outcomes of coping skills and intellectual risk-taking. In particular, based on literature presented earlier in this paper (Zhang, Yan, Zhao, and Yuan 2015; Dalgard et al 2006; Ruegar et al 2010), social support for males will matter more for outcomes related to coping and intellectual risk-taking compared to females.

Social Support and Coping Skills

As with social support, coping skills assist adolescents in addressing stressors allowing them to continue to grow and develop into positive adults (Werner 1989). According to researchers Lazarus and Folkman (1984), coping skills are a set of “behavioral and cognitive responses that are designed to minimize the demands of a stressful situation” (Wilson, Pritchard,

and Revalee 2005: 370). Again, similar to social support impacts, a lack of coping strategies can lead to poor physical and mental outcomes (Wheaton 1985; Piko 2001). Examples of coping behaviors can be defined as avoidant coping (Billings and Moos 1981), emotional, and/or problem-based coping (Carver, Scheiver, and Weintraub 1989; Wilson, Pritchard, and Revalee 2005). Avoidant coping is rejection of the problem, i.e., individual pretends the problem doesn't exist (Billings and Moos 1981), emotional-based coping is when an individual addresses their stress by "managing the emotional distress that is associated with the situation," and problem-based coping is when a person tries to carry about action to solve the stress, i.e., "seeking assistance, screening out other activities, and sometimes even forcing one-self to wait before acting." (Carver, Scheier, and Weintraub 1989: 268). In this study, total coping skills were examined, each subcategory of avoidant, emotion, and problem-based coping were combined to give a general sense of coping.

Furthermore, coping skills can be influenced by demographics such as cultural differences and gender (Feldman, Fisher, Ransom, and Dimiceli 1995; Piko 2001). For this study, gender differences are of interest, and the research literature finds evidence of differences between females and males (Tamres, Janicki, and Helgerson 2002; Wilson, Pritchard, and Revalee 2005). Overall, females are more likely to use forms of coping behaviors in times of stress compared to males (Felsten 1998; Houtman 1990; Mullis and Chapman 2000; Porter and Stone 1995; Schaffer and Pritchard 2003). As young folks start to mature into adolescents, we start to observe gender differences in how they cope in different stressful environments (Piko 2001). Males are observed to be "more aggressive and to ventilate their feelings through the use of swearing" (Bird and Harris 1990) thus using more problem-based coping skills (Stone and

Neale 1984) compared to females who report using more emotional-based coping skills (i.e., seeking another person to talk with) (Ptacek et al 1994).

Social Support and Intellectual Risk Taking

In this study, intellectual risk-taking was measured through the Learning Goal Orientation scale (Button, Mathieu, Zajac 1996): “[...] learning goals items were written to reflect a desire to engage in challenging activities, an eagerness to improve oneself, and a tendency to use one’s past performance as a standard to evaluate current performance” (McKinney 2003: 17). Individuals having a learning goal orientation tend to focus on task mastery, seek out challenging tasks, have a greater belief in their own potential success, and in general are more confident (Ames and Archer 1988; Meece, Blumenfel, and Hoyle 1988). This learning goal orientation is a type of risk-taking.

Given any type of risk-taking, males seem to take more risk compared to females (Byrnes, Miller, and Scharfer 1999; Slovic 1966). Furthermore, males are more likely to make risky decisions no matter the outcome (Slovic 1966), and it is reported that females are less likely to participate in intellectual risk-taking compared to males (Byrnes, Miller, and Scharfer 1999). This lack of intellectual risk-taking could harm females in their future academic adventures and thus their careers. However, it is found that females have higher levels of intellectual achievement than males and are better at focusing on tasks (Patick, Ryan, Pintrich 1999). Interestingly, a 1990 youth centered study found that rural males were more likely to report high risk-taking compared to female and urban peers (Clifford, Chou, Mao, Lan, and Kuo, 1990).

Social Support and Rural Contexts

Social support and rural environments have been studied (Letvack 2002; Adams et al 200; Baxter et al 1998; Letvack 1997; Johnson 1998); however, much of this research has

focused on international adolescents (Bruwer et al 2008; Cocorada and Michalascu 2012), urban adolescents (Kenny et al 2002; Canty-Mitchell and Zimlet 2000), and/or older rural adults (McCullough 1995; Okwumabua, Baker, Wong, and Pilgram 1997; Weinert 2000; Koopman et al 2001; Bardach, Tarasenko, and Schoenberg 2011). This study focused on adolescents from Appalachia participating in an OST program and rural culture may play an essential role in how students interact with the world. It is important to explore this population to gain a better understanding of Appalachia students who participate in OST programs.

There are various definitions of “rural,” yet many define it as an area with “low population density, sparse settlement, and remoteness or distance from urban resources” (Letvak 2002: 250). By federal guidelines, U.S. Bureau of the Census defines rural as being “all population, housing, and territory not included within an urban area” (2021) and reported 19.3% of the United States population resided in a rural area in 2010 (U.S. Bureau of the Census 2019). The Appalachian region consists of 13 states from New York to Mississippi that consistently suffer from poverty (15.8% versus 14.1% U.S.), low numbers of successful bachelor’s degrees or higher (24.2% versus 31.5% U.S.), and low per capita personal income (\$42k versus \$53k U.S.) compared to the rest of the United States (Appalachian Regional Commission 2021). In addition, rural populations have more community members under the age of 65 without insurance and have higher mortality rates when compared to urban populations (Warshaw 2017; North Carolina Rural Health Research Program (NC RHRP) 2017).

Rural suicide is double that of urban suicide (Fontanella et al 2015), higher “cancers related to modifiable risks” (i.e., cancers related to tobacco use, lack of proper screenings HPV/colon) (Warshaw 2017), overdose deaths (CDC 2015), and infants born with neonatal abstinence syndrome (NAS) (Brown, Goodin, and Talbert 2018). Furthermore, individuals from

rural areas are at risk for general health issues, physical and mental, due to limited access to health care and resources as well as culture (Letvak 2002). Many rural areas lack proper education, sometimes not having enough skilled teachers to instruct upper-level courses or even regular classes (Lewine, Manley, Bailey, Warnecke, Davis, and Sommers 2019). Research has found social support impacts decisions to participate in health promoting activities (Adams et al 2000) as well as mental health (McCullough 1995). Rural culture is typically “more conservative political, [...] *strong* religious attitudes and [...] endorse traditional values” (Albrecht and Albrecht 1996: 446).

Among the studies that have focused on rural youth and social support, one examined the impact of social support and coping skills on resiliency among low-income Appalachian adolescents (Markstrom, Marshall, and Tryon 2000). Others include social support and eating habits (Stanton, Green, and Fries 2007) as well as social support and dating violence (Hedge, Sianko, McDonell 2017; Foshee, Ryes, Gottfredson, Chang, and Ennett 2013; McDonell and Mitchell 2010). A major discussion point from both rural-related articles was the need to explore the impact of family and friend social support among rural youth (Stanton, Green, and Fries 2007; Markstrom, Marshall, and Tryon 2000). Rural populations are small “vulnerable population[s] with unique stressors” (Letvak 2002: 255-256) and rural research is relevant and important in understanding how to assist improving the quality of life in rural America.

Method

Participants

Participants were senior high school students who completed the OST program’s annual evaluation between 2014-2018. The OST college preparation and mentoring program is a community-based organization in Appalachia. The program sets out to increase the number of

African American, financially disadvantaged, first in their family to graduate from college, and rural students who want to pursue college degrees in health sciences and/or STEM (science, technology, engineering, and mathematic). The Appalachian OST program assists in dissolving barriers related to the successful entry and graduation from college among underrepresented students thus increasing the number of health practitioners and advocates in medically underserved rural communities. The OST program is a four-year high school program comprised of summer camp experiences on college/university campuses and after school programming during the academic year. During the program's one-week summer camp experiences, students can connect with college-aged mentors, as well as college faculty/staff to engage in STEM and health science enrichment. During their school term students are led by public school teachers as they explore STEM and health science hands on activities and guest speakers as well as work through a community-based annual research project. All participants met at least one of the program's criteria for entry: African American, first-generation college student (neither parent had a four-year college degree), low SES, and/or rural. Other program requirements included maintaining a 3.0 GPA, no behavior issues, and completed 75 hours of community service.

At the end of the four years OST program students are awarded an in-state tuition waiver. This waiver is good for one STEM or health related bachelor's degree (8 semesters), one STEM or health master's degree, and one STEM or health terminal degree (PhD, MD, DDS, DPT, etc.). The waiver is essentially good for ten years and pays for tuition all the way through medical school.

Evaluation

The annual evaluation is completed online through REDCap, a HIPPA approved online software. Students read over an assent form that describes the research study and can agree to submit their

responses as research or not. If students do not agree to have their responses used for research, the evaluators eliminate their data from any publication work, yet leave their responses for program evaluation purposes. Students enter their student code to protect their identity and on average, spend roughly 20-30 minutes completing the evaluation. The evaluation is voluntary and has no impact on their success and/or continuation in the OST program. There was a total of 582 senior evaluations from 2014-2018; however, only 516 had completed evaluations. If a student evaluation was missing any data points for demographic predictors and/or responses for any of the study scales, it was dropped from the analysis. The evaluation is a standard procedure for the program and is completed by all active students. The evaluation has several measurements, yet this paper only examines perceived social support from family and friends, coping skills, and intellectual risk-taking.

Measures

Independent Variable: Perceived Family Social Support, Friends' Social Support, and Gender

The Multidimensional Scale of Perceived Social Support (MSPSS) was published by Zimet, Dahlem, Zimet, and Farley in 1988 (Table 1). This research team examined the relationship between depression and social support. The MSPSS looks at the self-perceived evaluation of social support from three difference sources: family, friends, and significant others. The scale consist of 12 items and the Likert responses were on a five-point scale ranging 1 to 5: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly Agree. This scale has been tested on a variety of populations (Zimet et al 1998; Dahlem, Zimet, and Walker 1991; Stanley, Beck, and Zebb 1998; Eker, Arkar, and Yaldiz 2000). The scale has been validated and found to be reliable (Canty-Mitchell and Zimet 2000) (student reported Cronbach's alpha = .9562 for family social support; student reported Cronbach's alpha = .9553 for friend's social

support). The Perceived Social Support Survey also measures social support from someone special, however, this sub-scale was not of interest to the author due to lack of clarity concerning who an adolescent would think is ‘someone special.’ Additionally, students marked their gender by answering the question *What is your gender?* with responses of male or female.

Outcome: Coping Skills

The coping skills scale consisted of 17 statements from the updated Brief Cope scale (Carver, Scheier, and Weintraub 1989; Carver, Scheier, and Pozo 1992) with adaptations described in a paper written by authors Wilson, Pritchard and Revalee (2005) (Table 2). The leading statement for the survey stated *When I’m stressed or anxious...* then students read through 17 items that described how they cope with the situation. Coping skills consisted of avoidance (5 items), problem solving (5 items), and emotion (7 items) (Wilson, Pritchard, and Revalee 2005). Likert responses were on a four-point scale ranging 1 to 4: (1) I don’t do this at all, (2) I do this a little bit, (3) I do this a medium amount, and (4) I do this a lot. The Brief Cope has been tested on a wide range of populations (Pritchard and McIntosh 2003) including adolescents (Wilson, Pritchard, and Revalee 2005; Townsend 2002). The scale has been validated and found to be reliable (Carver 1997; Perczek, Carver, Price, and Pozo-Kaderman 2000) (student reported Cronbach’s alpha = .8632).

Outcome: Intellectual Risk-Taking

The evaluation used part of the Goal Orientation Scale from Button, Mathieu, and Zajac (1996) to measure intellectual risk-taking (Table 3). The scale consists of eight items that measured learning goal orientation (8 items) and is based on a five-point Likert scale (1) Strongly Disagree to (5) Strongly Agree. Individuals who score high on this scale display strong confidence and willingness to “perform challenging work, learn new skills, and develop

alternative strategies when working on a difficult task” (Button, Mathieu, and Zajac 1996: 32) (student reported Cronbach’s alpha = .9519).

Controls

A few control items representing demographic characteristics of students are included in the analysis. These control variables are selection criteria for students in the OST program. As part of the evaluation students select if they meet any of the following criteria: Race/Ethnicity (African American, Hispanic, etc.), First-generation College, and/or Free or Reduced Lunch. For the study, anyone who self-selected Race/Ethnicity was categorized as minority, First-Generation College was categorized as first-generation, and Free or Reduced Lunch was categorized as having a low SES status.

Results

Among those that completed the annual OST evaluation between 2014-2018, 516 graduating seniors had complete evaluations (Table 4). There was a total of 582 seniors, but 66 seniors were dropped from the study due to missing data. Among those seniors, 70.16% were female, 33.91% from a minority background, 56.2% were first-generation college students, and 52.71% self-reported low SES (Table 4). This is consistent with the overall average for the OST program where 37% are African American, 69% female, 68% first-generation, and 46% low SES.

The average score for both family and friends’ social support was 4.1 where both scales ranged from 1 to 5, the higher the score the more family and/or friends’ social support an individual had (Table 5) (Zimlet, Dahlem, Zimlet, and Farley 1988). Interestingly, these results

are similar to an undergraduate study that used a 7-point scale and found an overall average family social support score of 5.80 and a friends' social support score of 5.85 (Zimlet et al 1988).

Looking at gender differences for family social support and friends' social support independently, the analysis finds that females were slightly higher on average for both social support scales compared to males (Table 5). However, OST students had high social support scores from both family and friends. In previous studies with adolescents, researchers used a 7-point scale with the survey and found an average family social support of 2.31 for females and 2.12 for males. In addition, they found an average friends' social support of 2.90 for females and 2.58 for males (Wilson, Pritchard, and Revalee 2005). Even though the scale was larger the average social support scores were stronger for OST students compared to the adolescents in the Wilson, Pritchard, and Revalee (2005) study. Among undergraduates, an average family support of 6.16 for females and 5.90 for males as well as an average friends' social support of 5.55 for females and 5.70 for males (Zimlet et al 1988).

For the intellectual risk-taking scale with a range of 1 (low intellectual risk-taking) to 5 (high intellectual risk-taking), the study population had an above average score for intellectual risk-taking (4.35) (Table 5). Unlike social support where the author found actual averages to compare, the literature surrounding intellectual risk-taking reported more about the outcomes related to high intellectual risk-taking such as completing stimulating assignments and increased self-confidence (Ames and Archer 1988; Meece, Blumenfel, and Hoyle 1988). Males and females have similar average scores on intellectual risk (Table 5). The observational range is not the same, with males ranging from 3-5 and females from 1-5; yet only 1% of females reported an

intellectual risk-taking score between 1 - 2.875. On average, these OST students have a moderately high score for intellectual risk-taking.

Lastly, the study population averaged 2.62 on the coping skills scale ranging from 1 to 4 (Table 5). The average score on this scale for females was 2.66 compared to the male average of 2.52. There were also more females that scored a 3 compared to many males that scored a 2. In this study, an overall coping skill score was determined using all the questions from the scale. Other studies have divided the scale into three sub-scales to represent avoidant, emotion, and problem-based coping. These results are comparable as we see females score higher in all coping categories: avoidant based coping had a female average of 2.01 and male average of 1.81; emotional coping was 2.31 for females and 2.12 for males; and problem-based coping was 2.90 for females and 2.58 for males (Wilson, Pritchard, and Revalee 2005).

Ordinary Least Squares Models: Coping Skills

Regression models for coping skills can be found in Table 6. Model 1 begins by examining associations between the demographic controls and coping skills. We find that the female, minority, and first-generation measures all have independent associations with students' coping skills, while low SES status does not have an independent association with this outcome. Females scored an average of 0.14 points higher on the coping skills scale relative to males. Students with a minority background and those with first-generation status scored an average of 0.12 points higher on the coping skills scale relative to their counterparts. Those with a low SES status displayed a decrease of 0.05 points on their coping skill scale compared to their other peers.

Model 2 focuses on the two social support scales. We see that there is a significant positive association between family-based social support and coping skills when friend-based

social support is held constant. In addition, this model shows that friends' support, when family social support is constant, has a non-significant positive association with coping skills. As family social support increases by one point, we can expect coping skills to increase by 0.11 points. Even though friends' social support was not significant, we can say that as friends support increases by one point, coping skills will increase by 0.01 points on the scale. This model provides initial rejection for the hypothesis that stated friends' social support would impact coping skills more compared to family social support. However, it supports the general hypothesis that social support has a positive relationship with coping skills.

Model 3 includes both the demographic predictors alongside the two social support scales. Here we see similar results from Model 1 and Model 2 where family social support, female, minority, and first-generation measures all have an independent association with students' coping skills, while friends' social support and low SES status do not have independent associations with coping skills.

Model 4 includes the demographic predictors, family, and friends' social support scales as well as a moderation effect between gender and friend-based social support. We see that family social support, minority, and first-generation measures all have independent associations with students' coping skills, while friends' social support, female status, and low SES status do not have an independent association with coping skills. In addition, data shows that there is no interaction effect between female and friend-based social support. This means that the association between friend support and coping skills do not differ for males and females thus rejecting the hypothesis that there would be a moderation effect of gender.

In the final model (Model 5) demographic predictors, family, and friends' social support as well as a moderation effect between gender and family-based social support were included. As with Model 4, we see that family social support, minority, and first-generation measures all have independent associations with students' coping skills, while friends' social support, female status, and low SES status do not have independent associations with coping skills. Similarly, the results show that there is no interaction effect between female and family social support. This means that the association between family support and coping skills does not differ for males and females, thus rejecting the hypothesis that there is a moderation effect of gender.

Ordinary Least Squares Models: Intellectual Risk Taking

Regression models for coping skills can be found in Table 7. Model 1 begins by examining associations between the demographic measures and coping skills. We find that only first-generation status has an independent association with students' intellectual risk-taking, while female, minority, and low SES status does not have an independent association with this outcome. Among the first-generation students, they scored 0.16 points higher than non-first-generation students. There was still a positive association where females scored an average of 0.08 points higher on the intellectual risk-taking scale relative to males. Students with a minority background scored an average of 0.04 points and those with low SES scored an average of 0.07 points higher on the intellectual risk-taking scale relative to their counterparts.

Model 2 focuses on the two social support scales, family, and friends. We see that there is a significant positive association between family social support and intellectual risk-taking when friends' social support is held constant. In addition, this model shows that friends support, when family social support is constant, also has a significant positive association with intellectual risk-taking. As family and friends' social support increase independently, we can expect intellectual

risk-taking to increase by 0.16 points. This model also provides initial rejection for the hypothesis that stated friends' social support would impact intellectual risk-taking more compared to family social support. However, it supports the general hypothesis that social support has a positive relationship with intellectual risk-taking. Both family and friends' social support significantly impact intellectual risk-taking. Looking at confidence intervals both types of social support are similar (family social support .069 to .260 and friends' social support .063 to .257).

Model 3 includes both the demographic predictors alongside the two social support scales. Here we see similar results from Model 1 and Model 2 where family social support, friends' social support, and first-generation measures all have independent associations with students' intellectual risk-taking, while female, minority, and low SES status do not have independent associations with intellectual risk-taking. For first-generation status, the average increase for the intellectual risk-taking was only 0.02 points compared to the 0.16 points in Model 1.

Model 4 included the demographic predictors, family-based and friend-based social support scales as well as a moderation effect between gender and friend social support. We see that family social support, friends' social support, and first-generation measures all have independent associations with students' intellectual risk-taking, while female status, minority, and low SES status do not have independent associations with this outcome. In addition, data shows that there is no interaction effect between female and friend-based social support. This means that the association between friend-based social support and intellectual risk-taking does

not differ for males and females thus rejecting the hypothesis that there would be a moderation effect of gender.

The final model, Model 5 included the demographic predictors, family and friends' social support scales as well as a moderation effect between gender and family social support. As with Model 4, we see that family-based social support, friend-based social support, and first-generation measures all have independent associations with students' intellectual risk-taking, while female status, minority, and low SES status do not have independent associations with this outcome. Similarly, data shows that there is no interaction effect between female and family social support. This means that the association between family support and intellectual risk-taking does not differ for males and females thus rejecting the hypothesis that there would be a moderation effect of gender.

Discussion

A primary goal of this study was to measure the impact of social support from family and friends on outcomes of coping skills and intellectual risk-taking for rural high school seniors participating in an OST program. It was hypothesized that social support from friends would independently impact coping skills and intellectual risk-taking more than family social support. In addition, it was predicted that there would be differences between genders for the effect of family and friends' social support on outcomes of coping skills and intellectual risk-taking. Overall findings showed that family-based social support significantly impacted outcomes related to coping (Table 6) whereas both family- and friend-based social support significantly impacted outcomes related to intellectual risk-taking (Table 6). Lastly, there was no interaction

effect of gender with either form of social support on coping skills or intellectual risk-taking (Table 6 and Table 7)

Coping Skills

When we look closer at the results for coping skills, we see overall it had the lowest score based on all the scales used in the study (Table 5). For coping skills, the most frequently found average was two points below the highest score one can get on the coping scale. When we consider the study population of adolescents, we know that coping increases as we grow older (Seiffge-Krenke 2000) and learn how to better engage with the world. In general, as we mature into adulthood, the majority of individuals increase their coping skills learning how to adapt to stressful environments (El-Shiekh, Klacznski, and Valaik 1989). Interestingly, social support, high among the OST students, plays an essential role in how one processes stress thus how they apply coping tactics to address the stressor/s (Weinstein and Ryan 2011; Brown and Ryan 2007). Even though coping scores were moderately low, females had a higher coping average (Table 5) compared to males.

Expectedly we see higher coping skills among females as much of the literature supports females generally use more coping skills compared to males (Tamres, Janicki, and Helgeson 2002). Females are known to use all types of coping (Mullis and Chapman 2000; Schaffer and Pritchard 2003) where males are reported to use distractions and aggression to cope with stressors (Bird and Harris 1990). Literature tells us that minorities can have unique stressors compare to their white peers (Steele et al 1999; Kobus and Reyes 2000), yet literature supports that minorities may use more social support when dealing with stressors compared to their white peers (Constanine, Wiltson 2003; Tolan, Gorman-Smith, Henry, Chung, and Hunt 2002; Munsch and Wampler 1993; Markstrom, Marshall, and Tryon 2000). Consistent with the study's

findings, minorities displayed significant associations with coping skills (Table 6). Similarly, we can say that first-generation students also have their own set of stressors compared to those that have had parents graduate from college as they prepare for college (Horton 2015; Zalaquett 1999; Dennis, Phinney, and Chuateco 2005).

Result may be due to the nature of the OST program, where the program is geared towards mentoring students with minority and first-generation backgrounds. Research shows that activities associated with OST programs are directly connected to teen wellbeing as participation decreases behavioral issues (Vandell, Carson, Mahoney, and Walts 2015) as well as drug use and teen pregnancy (Denault and Poulin 2009). The program also considers low SES circumstances in their programming however results displayed a non-significant negative impact on coping skills. The average coping skill for low SES status was only 0.04 less than their counterparts and they share the most frequent score of 3 (Table 5). Even though results did not display much of a difference, we know that social support can play an essential role in students and families living in poverty (Hashima and Amato 1994). For instance, if a student is worried about money, this can add stress to their already stressful environment (Lewine, Manley, Bailey, Warnecke, Davis, and Sommers 2019). Research reports that a family's socioeconomic status "sets the stage for students' academic performance by directly providing resources at home and indirectly providing the social capital necessary to succeed in school" (Sirin 2005:438; Colman 1988). Having strong coping skills can assist adolescents in addressing stressors related to possible poverty issues.

Along those lines, the OST program stresses the importance of peer-to-peer networking as well as mentor relationships with teachers and college representatives (i.e., college aged

mentors, OST staff, and/or college faculty/staff). Peers are alike in that they share similar backgrounds and may relate to each other as they matriculate through the program. Looking at the results (Table 6), family-based social support had an independent association with coping skills while friends' social support only had a positive association, not a significant impact with coping skills. This positive impact of friend-based social support is still important to examine. Research shows that friend-based social support impacts adolescent behavior and can help decrease depression levels thus lessening stressors (Mercken et al 2010; Ruegar, Malecki, and Demaray 2010).

One reason we may see a greater impact of family-based social support is that perhaps these senior students are getting ready to venture into the world and rely more on their parents for guidance of what to do next (Zhang, Yan, Zhao, and Yuan 2015; Malmberg 2001; Brown 1990). OST students may also naturally have greater family social support due to the nature of the program. Students first apply in the 8th grade and family is extremely helpful during this process. This program is also four years long, and family may see the long-term benefits more than a peer and thus may encourage completing the program and dealing with stressors related to finishing high school more (Zhang, Yan, Zhao, and Yuan 2015; Malmberg 2001; Brown 1990).

Lastly, the study did not find a moderation effect related to gender on the relationship between family nor friends' social support and coping skills. As stated above, gender impacts how individuals perceive social support as well as how they use coping strategies (i.e., females are more likely to reach out to others and use different coping strategies compared to males) (Tamres, Janicki, and Helgeson 2002; Mullis and Chapman 2000; Schaffer and Pritchard 2003;

Bird and Harris 1990). Looking further into the literature, one study found that females with less social support are more susceptible to stressors compared to males. They found that male stress levels were the same no matter their perceived social support (Dalgard et al 2006).

Intellectual risk-taking

Intellectual risk-taking displayed positive associations among all demographic predictors however first-generation was the only significant predictor (Table 7). Literature supports that males are more likely to have greater risk-taking attitudes in all areas (Button, Mathieu, and Zajac 1996), yet we see a positive association among females and intellectual risk-taking. Like results above, this could contribute to the program's mission of college readiness. If you are encouraged to attend college and have a program that supports you, it would make sense that your belief in yourself would be high, thus your intellectual risk-taking. Research shows that there are strong associations between college GPA and learning goal orientation results (Button, Mathieu, and Zajac 1996), i.e., intellectual risk-taking scale. In general, there are more females in the program and the program recruits experts that are representative of the students. First-generation students yielded a significant positive association with intellectual risk-taking (Table 7). This result was surprising, yet we know that strong intellectual risk-taking contributes to a greater sense of accomplishment (Dweck 1989) thus giving first-generation college students the motivation they need to succeed. OST first-generation students are encouraged and guided through college preparedness through the OST program's activities. Research reports that first-generation college students are unprepared for college because they are more likely to experience poor high school academics, (Dennis, Phinney, and Chuateco 2005) and their parents simply lack "first-hand knowledge of the college experience" (Horton 2015; Zalaquett 1999). However,

parents who did not attend/graduate from college, may play a role in motivating children to further proposer.

Both family and friends' social support had a positive significant association with intellectual risk-taking. This finding rejects the author's hypothesis that friends' social support would matter more than family social support for intellectual risk-taking. The data supports that both family and friends' social support seem to matter. If we predict the relationship between family social support and intellectual risk-taking, we can see there is a positive relationship as family social support increases, so does intellectual risk-taking (Figure 1). We can also observe this trend with friend-based social support in Figure 2. The OST program impact may be seen in both family and friends' social support as families are usually encouraging of academics (Zhang, Yan, Zhao, and Yuan 2015; Malmberg 2001; Brown 1990) and adolescents hang out with likeminded peers (Kenny et al 2002; Werner and Smith 1992). We can hypothesize that their peers also have a "desire for challenge and learning opportunities" (Chen, Whiteman, Gally, and Kilcullen 2000)—that is, they have a strong intellectual risk-taking aptitude.

Even though we see this positive significant relationship between social support and intellectual risk-taking, there was no measured effect among gender and social support for intellectual risk-taking. Gender did not play a significant role in how social support impacted intellectual risk-taking. Females reported a slightly higher intellectual risk-taking score compared to males but across the regression models gender had no significant impact on intellectual risk-taking. It could be because the OST program is equal to all the students in the program. There is no competition to win a waiver once you are in the program, groups of students work together to complete the curriculum and program requirements. Previous data

supports that males are more likely to have higher intellectual risk-taking scores compared to females (Byrnes, Miller, and Scharfer 1999; Slovic 1966) however, the results show that there is no difference when it comes to gender and intellectual risk-taking. Nonetheless, these results must be interpreted with a few limitations.

Limitations

The primary limitation related to generalizing results was the absence of a comparison group. All participants were high school seniors of the OST program. Conclusions about social support and gender as they relate to coping and intellectual risk-taking would have been stronger with a group of adolescents not impacted by the OST curriculum/program. Furthermore, the study analyzed demographic variables as independent predictors. OST students are most likely to have two or more demographic predictors/program requirements (See Participant under the Methods Section), i.e., minority and low SES, low SES and first-generation, minority and first-generation, or minority, first-generation and low SES. It would have been interesting to see how social support played a role in coping skills and intellectual risk-taking among OST students and the combination of their different demographic predictors/program requirements. Additionally, OST students completed this annual evaluation before they started the program and at the end of each school year. This would have been their fifth time taking the evaluation and there is no way to know if this had an impact on their responses. Overall, the demographic breakdown was roughly 50% among each reference group except for the minority group. The majority of the study participants were non-minority, white. The minority group represented 33.91% (Table 4) of the study population, although not as high as the other groups, the minority percentage did represent the average percentage of minorities in the OST program. Finally, all students were categorized as rural due to the nature of their locations in the Appalachian region. Although

everyone lived in the Appalachian region, some areas may have been considered urban or least metropolitan. However, the impact of different ‘rural’ populations was not within the scope of the project.

Future Research

The author suggests three future research directions that include comparison groups of non-OST students with similar demographics, looking further into the Appalachian areas and better defining rural areas for comparison, and following OST students through college to measure the OST impact during their college career. A possible research question: *Are there differences in how social support impacts coping skills and intellectual risk-taking among high school seniors involved in OST programming compared to their non-OST counterparts?* This research question would address the OST impact on social support and outcomes of coping skills and intellectual risk-taking. Do we see the same trends among both populations? Are there differences we need to further explore? The second probable research question could be: *For participants in the OST program, are there differences in how social support impacts coping skills and intellectual risk-taking among metropolitan and non-metropolitan areas?* Even though all students live in an Appalachian region, the region has metropolitan areas and differences found in the Appalachian regions could be interesting and add to the Appalachian/rural adolescent literature.

A final possible research question could be: *Are there differences in how social support impacts coping skills and intellectual risk-taking among college students involved in OST programming compared to their non-OST counterparts?* The study could allow the author to examine changes as the students continued through their life course. The study would also shed light on long term impacts of the OST program as well as give comparison data to those that did

not participate in the OST program. Given the three additional research proposals, research on social support among adolescents is essential for positive growth as well as strong OST programming. It is important for OST programs to understand social support and coping skills to help develop supporting programming to learn about coping “interventions” thus teaching “adolescents effective ways of coping to minimize the negative effects of stress on both their physical and psychological well-being” (Wilson, Pritchard, and Revalee 2005: 377). As programming is developed, it will be important to understand and realize that gender can play a role in coping skills (Wilson, Pritchard, and Revalee 2005) and intellectual risk-taking.

As Kahn and Antonucci argue (1980: 255), “[s]ocial support is important to individual well-being throughout the life course, both for its direct contributions and for its ability to moderate the effects of stress.” The literature as well the current study demonstrates the importance of understanding social support for adolescents. Social support may impact several factors in a person’s life including the outcomes of coping skills and intellectual risk-taking examined in this study. Coping skills and intellectual risk-taking are important skills for high school students who are interested in attending college/university. Understanding trends and associations for coping skills and intellectual risk-taking can provide new program activities as well as policies for OST programs. In addition, information can be shared with local communities of the program to implement social support interventions as well as other collegiate programs to increase college persistence and success.

References

- Adams, Marsha, Andrea Bowden, Debra Humphrey, and Linda McAdams. 2000. Social support and health promotion lifestyles of rural women. *Online Journal of Rural Nursing and Health Care*, 1(1), 43-65.
- Albrecht, Don and Stan Albrecht. 1996. Family structure among urban, rural and farm

- populations. Classic Sociological Theory Revisited. *Rural Sociology*, 61(3), 446-63.
- Ames, Carole and Jennifer Archer. 1988. Achievement goals in the classroom: Student's learning strategies and motivational processes. *Journal of Educational Psychology*, 80, 260-67.
- Appalachian Regional Commission. 2021. About the Appalachian Region. Available:
<https://www.arc.gov/about-the-appalachian-region/>
- Bardach, Shoshana, Yelena Tarasenko, and Nancy Schoenberg. 2011. The role of social support in multiple morbidity: self-management among rural residents. *Journal of Health Care for the Poor and Underserved* 22, 756-71.
- Baxter, Judith, Susan Shetterly, Cynthia Eby, Lynn Mason, and Charles Cortese, and Richard Hamman. 1998. Social network factor associated with perceived quality of life: The San Luis Valley health and aging study. *Journal of Aging and Health*, 10(3), 287-310.
- Billings, Andrew and Rudolf Moos. 1981. The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine*, 4, 139-57.
- Bird, Gloria and Rhonda Harris. 1990. A comparison of role strain and coping strategies by gender and family structure among early adolescents. *Journal of Early Adolescence*, 10, 141-58.
- Brausch, Amy and Kristina Decker. 2014. Self-esteem and social support as moderators of depression, body image, and disordered eating for suicidal ideation in adolescents. *Journal Abnormal Child Psychology*, 42, 779-89.

- Brown, Bradford. (1990). Peer groups and peer cultures (Chapter 7). In *At the Threshold: The Developing Adolescent*, S. Shirley Feldman and Glen Elliott (Eds). Cambridge, MA: Harvard University Press, 171-96.
- Brown, Joshua, Amie Goodin, and Jeffery Talbert. 2019. Rural and Appalachian disparities in neonatal abstinence syndrome incidence and access to opioid abuse treatment. *The Journal of Rural Health*, 34, 6-13.
- Bruwer, Belinda, Robin Emsley, Martin Kidd, Christine Lochner, and Soraya Seedat. 2008. "Psychometric properties for the Multidimensional scale of perceived social support in youth." *Comprehensive Psychiatry*, 49, 195-201.
- Button, Scott, John Mathieu, and John Zajac. 1996. "Goal orientation in organizational research: a conceptual and empirical foundation." *Organization behavior and human decision processes*, 67(1), 26-48.
- Byrnes, James, David Miller, and William Schafer. 1999. Gender differences in risk-taking: a meta-analysis. *Psychological Bulletin*, 125(3), 367-83.
- Camara, Maria, Gonzalo Bacigalupe, and Patricia Padilla. 2015. The role of social support in adolescents: are you helping me or stressing me out? *International Journal of Adolescence and Youth*, 22(2), 123-36.
- Canty-Mitchell, Janie and Gregory Zimet. 2000. "Psychometric properties of the

- multidimensional scale of perceived social support in Urban adolescents.” *American Journal of Community Psychology*, 28(3), 391-400.
- Carver, Charles. 1997. You want to measure coping but your protocol’s too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100.
- Carver, Charles, Michael Scheier, and Jagdish Weintraub. 1989. Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-83.
- Carver, Charles, Michael Scheier, and Christina Pozo. 1992. Conceptualizing the process of coping with health problems. In *Hostility, coping, and health*, 167-87.
- Center of Disease and Control (CDC). 2015. “Expanding Naloxone use could reduce drug overdose deaths and save lives.” Accessed July 2, 2021 <https://www.cdc.gov/media/releases/2015/p0424-naloxone.html>
- Center of Disease and Control (CDC). 2021. “Out of School Time.” Accessed May 2, 2021 <https://www.cdc.gov/healthyschools/ost.htm>
- Chen, Gilad, Jon-Andrew Whiteman, Stanley Gully, and Robert Kilcullen. 2000. Examination of relationships among trait-like individual differences, state-like individual differences, and learning performance. *Journal of Applied Psychology*, 85(6), 835-47.
- Cheng, Sheung-Tak and Alfred Chan. 2004. The multidimensional scale of perceived social support: Dimensionality and age and gender differences in adolescents. *Personality and Individual Differences*, 37, 1359-69.

Cleveland Clinic. 2019. "Stress." Accessed December 18, 2019.

<https://my.clevelandclinic.org/health/articles/11874-stress>.

Clifford, Margaret, Fen Chou, Kuo-Nan Mao, William Lan, and Sheng-Yu Kuo, 1990. Academic risk-taking, development, and external constraint. *Journal of Experimental Education*, 59, 45-64.

Cocorada, Elena and Violeta Mihalascu. 2012. Adolescent coping strategies in secondary school. *Procedia-Social and Behavioral Sciences*, 33,188-92.

Constantine, Madonna, Leo Wilton, and Leon Cadwell. 2003. The roles of social support in moderating the relationship between psychological distress and willingness to seek psychological help among Black and Latino college students. *Journal of College Counseling*, 6(2), 155-65.

Coleman, James. 1988. Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.

Dahlem, Nancy, Gregory Zimet, and Robin Walker. 1991. The multidimensional scale of perceived social support: A confirmation study. *Journal of Clinical Psychology*, 47, 756-61.

Dalgard, Odd, Christopher Dowrick, Ville Lehtinen, Jose Vazquez-Barquero, Patricia Casey, Greg Wilkinson, Jose Ayuso-Mateos, Helen Page, Graham Dunn, and ODIN Group. 2006. Negative life events, social support and gender difference in depression. *Social Psychiatry and Psychiatric Epidemiology*, 41(6) 444-51.

Davis, Mark, Marie Morris, and Linda Kraus. 1998. Relationship-specific and global perceptions of social support: associations with well-being and attachment. *Journal Personality*

- Social Psychology*, 74, 468-81.
- Demaray, Michelle and Christine Malecki. 2002. "Critical Levels of Perceived Social Support Associated with Student Adjustment." *School Psychology Quarterly*, 17(3), 213-41.
- Denault, Anne-Sophie and Francois Poulin. 2009. Intensity and breadth of participation in organized activities during the adolescent years: Multiple associations with youth outcomes. *Journal of Youth and Adolescence*, 38(9), 1199-213.
- Horton, Joann. 2015. "Identifying at-risk factors that affect college student success." *International Journal of Process Education* 7(1):83-102.
- Dennis, Jessica, Jean Phinney, and Lizette Chuateco. 2005. The Role of Motivation, Parental Support, and Peer Support in the Academic Success of Ethnic Minority First-Generation College Students. *Journal of College Student Development*, 46(3), 223–36.
- Dweck, Carol. 1989. Motivation. In A. Lesgold and R. Glaser (Eds), *Foundations for a Psychology of Education*, 87-136. Hillsdale, NJ: Erlbaum.
- Eker, Dogan, Haluk Arkar, and H Yaldiz. 2000. Generality of support sources and psychometric properties of a scale of perceived social support in Turkey. *Social Psychiatry and Psychiatric Epidemiology*, 35, 228-33.
- El-Shiekh, Mona, Paul Klaczynski and Mary Valaik. 1989. Stress and Coping across the Life Course. *Human Development*, 32(2), 113-17.
- Eschenbeck, Heike, Carl-Walter Kohlmann, and Arnold Lohaus. 2007. Gender differences in coping strategies in children and adolescents. *Journal of Individual Differences*, 28, 18-

26.

Feldman, Shirley, Lawrence Fisher, Donald Ranson, and Sue Dimiceli. 1995. Is 'What is good for the goose food for the gander?' Sex differences in the relationships between adolescent and adult adaptation. *Journal of Research on Adolescence*, 5, 333-6.

Felsten, Gary. 1998. Gender and coping: use of distinct strategies and associations with stress and depression. *Anxiety, Stress, and Coping*, 11, 289-310.

Fontanella, Cynthia, Danielle Hiance-Steelesmith, Gary Phillips, Jeffrey Bridge, Natalie Lester, Helen Sweeney, and John Campo. 2015. Widening rural-urban disparities in youth suicides, United States, 1996-2010. *JAMA Pediatrics*, 169(5), 466-73.

Foshee, Vangie, Heath Reyes, Nisha Gottfredson, Ling-Yin Chang, and Susan Ennett. 2013. A longitudinal examination of psychological, behavioral, academic, and relationship consequences of dating abuse victimization among a primarily rural sample of adolescents. *Journal of Adolescent Health*, 53, 723-29.

Hashima Patricia and Paul Amato. 1994. Poverty, social support, and parental behavior. *Child Development* 65(2), 394-403.

Hedge, Jasmine, Natallia Sianko, and James McDonell. 2017. Professional help-seeking for adolescent dating violence in the rural south: The role of social support and informal help-seeking. *Violence Against Women*, 23(12), 1442-61.

Horton, Joann. 2015. "Identifying at-risk factors that affect college student success."
International Journal of Process Education 7(1):83-102.

Houtman, Irene. 1990. Personal coping resources and sex differences. *Personality and Individual Differences*, 11, 53-63.

- Garnefski, Nadia and Rene Diekstra. 1996. Perceived social support from family, school, and peers: relationship with emotional and behavioral problems among adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 1657–64.
- Gomez-Fraguela, J, A Luengo-Martin, E Romero-Trinanes, P Villar-Torres, and J Sobral-Fernandez. 2006. Estrategias de afrontamiento en al inicio de la adolescencia y su relacion con el consume de Drogas y la conducta problematica. *International Journal of Clinical and Health Psychology*, 6, 241-57.
- Guan, Shu-Sha Angie and Andrew J. Fuligni. 2015. “Changes in parents, sibling, and peer support during the transition to young adulthood.” *Journal of Research on Adolescence*, 26(2), 286-99.
- Johnson, Julie. 1998. Stress, social support, and health in frontier elders. *Journal of Gerontological Nursing*, 24(5), 29-35.
- Kahn, Robert and Toni Antonucci. 1980. Convoys over the life course: Attachment, roles, and social support. In P.B. Baltes, and O. Brim (Eds.), Life-Span Development and Behavior 3, 253-86. New York: Academic Press.
- Kandel, Denise, Victoria Raveis, and Mark Davies. 1991. Suicidal ideation in adolescents: depression, substance use, and other risk factors. *Journal of Youth and Adolescence* 20, 289-308.
- Kenny, Maureen, Laura Gallagher, Rose Alvarez-Salvat, and John Silsby. 2002. “Sources of

- support and psychological distress among academically successful inner-city youth.”
Adolescent, 37(145), 161-82.
- Kobus, Kimberly and Olga Reyes. 2000. A descriptive study of Urban Mexican American adolescents’ perceived stress and coping. *Hispanic Journal of Behavioral Sciences*, 22(2), 163-78.
- Koopman, Cheryl, Karyn Angell, Julie Turner-Cobb, Mary Anne Kreshka, Patricia Donnelly, Rebecca McCoy, Ayse Turkseven, Kathy Graddy, Janine Giese-Davis, and David Spiegel. 2001. Distress, coping and social support among rural women recently diagnosed with primary breast cancer. *The Breast Journal*, 7(1), 25–33.
- Lazarus, Richard and Susan Folkman. 1984. Stress, appraisal, and coping. New York: Springer.
- Lerner, Richard, Elizabeth Dowling, Pamela Anderson. 2003. “Positive youth development: Thriving as the basis of personhood and civil society.” *Applied Developmental Science*, 7, 172–80.
- Letvak, Susan. 2002. The importance of social support for rural mental health. *Issues in Mental Health Nursing*, 23(3), 249-61.
- Lewine, Rich, Kayla Manley, Geoff Bailey, Ashlee Warnecke, Darlene Davis, and Alison Sommers. 2019. “College success among students from disadvantaged background: “Poor” and “Rural” do not spell failure.” *Journal of College Students Retention: Research, Theory & Practice* 0(0):1-13.
- Lewinsohn, Peter, Paul Rohde, and John Seeley. 1993. Psychosocial characteristics of

- adolescents with a history of suicide attempt. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 60-8.
- Lynch, Anne, Susmita Kashikar-Zuck, Kenneth Goldschneider, and Benjamin Jones. 2007. Sex and age differences in coping styles among children with chronic pain. *Journal of Pain and Symptom Management*, 33, 208-16.
- Malecki, Christine K. and Michelle K. Demaray. 2006. "Social support as a buffer in the relationship between socioeconomic status and academic performance." *School Psychology Quarterly*, 21(4), 375-95.
- Malmberg, Lars-Erik. 2001. Future-orientation in educational and interpersonal contexts. *Navigating Through Adolescence: European Perspectives.*
- Markstrom, Carol, Sheila Marshall, and Robin Tryon. 2000. "Resiliency, social support, and coping in rural low-income Appalachian adolescents from two racial groups." *Journal of Adolescence*, 23, 693-703.
- McCulloch, B. Jan. (1995). The relationship of family proximity and social support to the mental health of older rural adults: the Appalachian context. *Journal of Aging Studies*, 9(1),65–81.
- McDonell, Jim, Joyce Ott, and Margaret Mitchell. 2010. Predicting dating violence victimization and perpetration among middle and high school students in a rural southern community. *Children and Youth Services Review*, 32(10), 1458–63.
- McKinney, Arlise. 2003. Goal Orientation: A test of competing models. PhD Dissertation, Department of Management, Virginia Polytechnic Institute and State University,

Blacksburg, Virginia.

- Meece, Judith, Phyllis Blumenfeld, and Rick Hoyle. 1988. Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology*, 80(4), 514–23.
- Mercken, L, T.A.B. Snijders, C. Steglich, E. Vartiainen, and H. de Vries. 2010. Dynamics of adolescent friendship networks and smoking behavior. *Social Networks*, 32(1), 72-81.
- Mullis, Ronald and Paula Chapman. 2000. Age, gender, and self-esteem differences in adolescent coping styles. *Journal of Social Psychology* 140, 539-42.
- Munsch, Joyce and Richard Wampler. Ethnic differences in early adolescents' coping with school stress. *American Journal of Orthopsychiatry*, 63, 633-46.
- National Institute of Mental Health. 2019. "5 Things You Should Know About Stress." Accessed December 18, 2019. <https://www.nimh.nih.gov/health/publications/stress/index.shtml>.
- North Carolina Rural Health Research Program (NC RHRP). 2017. NC Rural Health Research Program: Rural Health Snapshot (2017). Available: https://www.shepscenter.unc.edu/wp-content/uploads/dlm_uploads/2017/05/Snapshot2017.pdf
- Okwumabua, Jebose, F.M. Baker, S.P. Wong, and Beverly Pilgram. 1997. Characteristics of depressive symptoms in elderly urban and rural African Americans. *The Journals of Gerontology*, 52A(4), 241–46.
- Patrick, Helen, Allison Ryan, and Avi Kaplan. 2007. Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology*, 99(1), 83–98.

Pearlin, Leonard I. and Carmi Schooler. 1978. "The structure of coping." *Journal of Health and Social Behavior*, 19(1), 2-21.

Leonard I., Elizabeth G. Menaghan, Morton A. Lieberman and Joseph T. Mullan. 1981. "The stress Process." *Journal of Health and Social Behavior*, 22(4), 337-56.

Park, Jiyoung, Shinobu Kitayama, Mayumi Karasawa, Katherine Curhan, Hazel Markus, Norito Kawakami, Yuri Miyamoto, Gayle Love, Christopher Coe, and Carol Ryff. 2013. Clarifying the links between social support and health: Culture, stress, and neuroticism matter. *Journal of Health Psychology*, 18(2), 226-35.

Perczek, Ruben, Charles Carver, Alicia Price, and Christina Pozo-Kaderman. 2000. Coping, mood, and aspects of personality in Spanish translation and evidence of convergence with English versions. *Journal of Personality Assessment*, 74(1), 63-87.

Piko, Bettina. 2001. Gender differences and similarities in adolescents' way of coping. *Psychological Record*, 51, 223-36.

Porter, Laura and Arthur Stone. 1995. Are there really gender differences in coping? A Reconsideration of previous data and results from a daily study. *Journal of Social and Clinical Psychology*, 14(2), 184-202.

Pritchard, Mary and Daniel McIntosh. 2003. "What predicts psychological outcomes among law students: a longitudinal panel study." *Journal of Social Psychology*, 143, 727-45.

Ptacek, JT, Ronald Smith, and Kenneth Dodge. 1994. Gender differences in coping with stress: when stressor and appraisals do not differ. *Society for Personality and Social Psychology*, 20, 421-30.

- Reevy, Gretch and Christina Maslach. 2001. Use of social support: Gender and personality differences. *Sex Roles*, 44, 437–59.
- Richards, Maryse, Paul Crowe, Reed Larson, and Amy Swarr. 1998. Developmental patterns and gender differences in the experience of peer companionship in adolescence. *Child Development*, 69(1), 154–63.
- Rosario, Margaret, Eric Schrimshaw, and Joyce Hunter. 2009. Disclosure of sexual orientation and subsequent substance use and abuse among lesbian, gay, and bisexual youths: Critical role of disclosure relations. *Psychology of Addictive Behaviors*, 23, 175-84.
- Rueger, Sandra, Christine Malecki, and Michelle Demaray. 2010. Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. *Journal of Youth and Adolescence*, 39(1), 47-61.
- Ryan, Caitlin, David Huebner, Rafael Diaz and Jorge Sanchez. 2009. “Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults.” *Pediatrics*, 123, 346-52.
- Schaffer, Jamie and Mary Pritchard. 2003. Impact of stress on health and coping tactics in relation to sex. *Psi Chi Journal*, 8, 12-20.
- Seiffge-Krenke, Inge and Nicolai Klessinger. 2000. Long term effects of avoidant coping on adolescents’ depressive symptoms. *Journal of Youth and Adolescence*, 29(6), 617-30.
- Shumaker, Sally and Ariene Brownell. 1984. “Toward a theory of social support: Closing conceptual gaps.” *Journal of Social Issues*, 40(4), 11–36.
- Sirin, Selcuk. 2005. Socioeconomic status and academic achievement: a meta-analytic review of research. *Review of Educational Research*, 75(3), 417-53.

- Slovic, Paul. 1966. Risk-taking in children: Age and sex differences. *Child Development*, 37, 169-76.
- Stanley, Melinda, Gayle Beck, and Barbara Zebb. 1998. Psychometric properties of the MSPSS in older adults. *Aging and Mental Health*, 2, 186-93.
- Stanton, Cassandra A., Scott L. Green, and Elizabeth A Fries. 2007. "Diet-specific Social Support among Rural Adolescents." *Journal Nutrition Education Behavior*, 39, 214-18.
- Steele Ric, Todd Little, Stephen Iardi, Rex Forehand, Gene Brody, and Heather Hunter. 2006. A confirmatory comparison of the factor structure of the Children's Depression Inventory between European American and African American Youth. *Journal of Child and Family Study*, 15, 779-94.
- Stone, Arthur and John Neale. 1984. New measure of daily coping. Development and preliminary results. *Journal of Personality and Social Psychology*, 46, 892-906.
- Tamres, Lisa, Denise Janicki, and Vicki Helgeson. 2002. Sex differences in coping behavior: a met-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, 6(1), 2-29.
- Tardy, Charles. 1985. Social Support Measurement. *American Journal of Community Psychology*, 13(2), 187-202.
- Taylor, Shelley. 2018. *Healthy Psychology*. 10th Edition. New York: Mc-Graw Hill.
- Tolan, Patrick, Deborah Gorman-Smith, David Henry, Kyu-Suk Chung, and Marcy Hunt. 2002. The relation of patterns of coping of inner-city youth to psychopathology symptoms.

Journal of Research on Adolescence, 12(4), 423-49.

Townsend, Cynthia. (2002). Perceived stress, coping and dietary fat intake in rural adolescents: gender and ethnic differences. Dissertation from Virginia Commonwealth University. ProQuest Dissertations Publishing.

U.S. Bureau of the Census. 2019. 2010 Census Urban and Rural Classification and Urban Area Criteria. Available: <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html>

U.S. Bureau of the Census. 2021. Urban and Rural. Available: <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>

Vandell, Deborah, Reed Larson, Joseph Mahoney, and Tyler Watts. 2015. Children's organized activities. In R.M. Lerner (Ed), *Handbook of child psychology and developmental science, Volume 4 Ecological Settings and Processes*. New York, NY: Wiley.

Warsaw, Robin. 2017. Health disparities affect millions of rural US communities. AAMCNews. Available: <https://www.aamc.org/news-insights/health-disparities-affect-millions-rural-uscommunities#:~:text=Compared%20with%20urban%20areas%2C%20rural,North%20Carolina%20Rural%20Health%20Research>

Weinert, Clarann. 2000. Social support in cyberspace for women with chronic illness. *Rehabilitation Nursing*, 25(4), 129–135.

Weinstein, Netta and Richard Ryan. 2011. A self-determination theory approach to understanding stress incursion and responses. *Stress and Health*, 27(1), 4-17.

Werner, Emmy. 1989. High risk children in young adulthood: a longitudinal study from birth to

- 32 years. *American Journal of Orthopsychiatry*, 59, 72-81.
- Werner, Emmy and Ruth Smith. 1992. *Overcoming the odds: High risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.
- Wheaton, Blair . 1985. Models for the stress-buffering functions of coping resources. *Journal of Health and Social Behavior*, 36, 352-64.
- Wichström, Lars. 2009. Predictors of Non-Suicidal Self-Injury Versus Attempted Suicide: Similar or Different? *Archives of Suicide Research*, 13(2), 105-22.
- Wilson, Gregory, Mary Pritchard, and Brain Revalee. 2005. "Individual differences in adolescent health symptoms: the effects of gender and coping." *Journal of Adolescence*, 28, 369-79.
- Yarcheski, Adela, Noreen Mahon, and Thomas Yarcheski. 2001. Social support and well being in early adolescents. *Clinical Nursing Research*, 10(2), 163–81.
- Youniss, James and Jacqueline Smollar. 1985. *Adolescent relations with mothers, fathers, and friends*. Chicago: University of Chicago Press.
- Ystgaard M. 1997. Life stress, social support and psychological distress in late adolescence. *Soc Psychiatry Psychiatr Epidemiol*, 32(5), 277-83.
- Zalaquett, Carlos. 1999. Do students of noncollege-educated parents achieve less academically than students of college-educated parents? *Psychological Reports*, 85(2), 417–21.
- Zhang, Baoshan, Yan Xinwei, Fengqing Zhao, and Fei Yuan. 2015. The relationship between perceived stress and adolescent depression: The roles of social support and gender. *Social Indicators Research*, 123(2), 501-18.
- Zimlet, Gregory, Nancy Dahlem, Sara Zimet, and Gordon Farley. 1988. "The multidimensional scale of perceived social support." *Journal of Personality Assessment*, 52(1), 30-41.

Tables and Figures

Table 1. Social Support Scale

Family

My family really tries to help me.

I get the emotional help and support I need from my family.

I can talk about my problems with my family.

My family is willing to help me make decisions.

Friends

My friends really try to help me.

I can count on my friends when things go wrong.

I have friends with whom I can share my joys and sorrows.

I can talk about my problems with my friends.

Responses: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)

Each subcategory score ranges 1 to 5

Reference: Zimlet, Dahlem, Zimet, and Farley 1988

Table 2. Coping Scale

I concentrate my efforts on doing something about the situation I'm in.

I say to myself, "this isn't real."

I use alcohol or other drugs to make myself feel better.

I get emotional support from others.

I give up on trying to deal with it.

I take action to try to make the situation better.

I refuse to believe that it has happened.

I say things to let my unpleasant feeling escape.

I get help and advice from other people.

I try to see my problems in a different light, to make them seem more positive.

I criticize myself.

I try to come up with a plan or strategy about what to do.

I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

I try to find comfort in my religion or spiritual beliefs.

I think hard about what steps to take.

I make fun of the situation.

Responses: (1) I don't do this at all, (2) I do this a little bit, (3) I do this a medium amount, (4) I do this a lot.

Total Score Ranges 1 to 4

References: Carver, Scheier, and Weintraub 1989; Wilson, Pritchard and Revalee 2005

Table 3. Intellectual Risk-Taking

The opportunity to do challenging work is important to me.
 When I fail to complete a difficult task, I plan to try harder the next time I work on it.
 I prefer to work on tasks that force me to learn new things.
 The opportunity to learn new things is important to me.
 I do my best when I'm working on a fairly difficult task.
 I try hard to improve on my past performance.
 The opportunity to extend the range of my abilities is important to me.
 When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work.

Responses: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5)

Total Score Ranges 1 to 5

Reference: Button, Mathieu, and Zajac 1996

Table 4. Demographic information among study participants.

	N (%)
	361
Female	(70.16%)
	175
Minority	(33.91%)
	272
Low SES	(52.71%)
First- Generation	290 (56.2%)

N = 516

Table 5. Scale means analyzed in the study.

Family Social Support	Mean	SE	Mode	Observational Range	Mathematical Range
Total Study Population	4.1	0.89	5	1 to 5	1 to 5
Gender +					
Female	4.13	0.05	5	1 to 5	1 to 5
Male	4.02	0.07	5	1 to 5	1 to 5
Minority					
Yes	4.13	0.06	5	1 to 5	1 to 5
No	4.1	0.05	5	1 to 5	1 to 5
First-Generation					
Yes	4.11	0.05	5	1 to 5	1 to 5
No	4.01	0.05	5	1 to 5	1 to 5
Low SES					
Yes	4.07	0.06	5	1 to 5	1 to 5
No	4.13	0.06	5	1 to 5	1 to 5

Friend Social Support	Mean	SE	Mode	Observational Range	Mathematical Range
Total Study Population	4.1	0.88	5	1 to 5	1 to 5
Gender					
Female	4.13	0.05	4	1 to 5	1 to 5
Male	4.03	0.07	5	1 to 5	1 to 5
Minority					
Yes	4.1	0.07	5	1 to 5	1 to 5
No	4.11	0.05	5	1 to 5	1 to 5
First-Generation					
Yes	4.12	0.05	5	1 to 5	1 to 5
No	4.07	0.06	5	1 to 5	1 to 5
Low SES					
Yes	4.09	0.05	5	1 to 5	1 to 5
No	4.11	0.06	5	1 to 5	1 to 5

Table 5 Continued.

Coping Skills	Mean	SE		Observational Range	Mathematical Range
Total Study Population	2.62	0.53	3	1 to 4	1 to 4
Gender **					
Female	2.66	0.03	3	1 to 4	1 to 4
Male	2.52	0.05	2	1 to 4	1 to 4

Minority ⁺⁺						
Yes	2.66	0.04	3	1.41 to 4		1 to 4
No	2.59	0.03	3	1 to 4		1 to 4
First-Generation ⁺⁺						
Yes	2.65	0.03	3	1 to 4		1 to 4
No	2.58	0.04	3	1 to 4		1 to 4
Low SES						
Yes	2.6	0.03	3	1 to 4		1 to 4
No	2.64	0.04	3	1.18 to 4		1 to 4
<hr/>						
Intellectual Risk	Mean	SE	Mode	Observational Range		Mathematical Range
Taking						
Total Study Population	4.35	0.65	5	1 to 5		1 to 5
Gender ⁺						
Female	4.38	0.03	5	1 to 5		1 to 5
Male	4.3	0.05	5	3 to 5		1 to 5
Minority						
Yes	4.34	0.05	5	3 to 5		1 to 5
No	4.36	0.04	5	1 to 5		1 to 5
First-Generation						

Yes	4.42	0.04	5	1 to 5		1 to 5
No	4.26	0.04	5	2.75 to 5		1 to 5
Low SES [*]						
Yes	4.4	0.04	5	2.5 to 5		1 to 5
No	4.3	0.04	5	1 to 5		1 to 5

⁺⁺ < 0.09; ⁺ < 0.07; ^{*} < 0.05; ^{**} < 0.01; ^{***} < 0.001; N=516

Table 6. Ordinary least squares regression models predicting coping skills (unstandardized coefficients)

	Model 1	Model 2	Model 3	Model 4	Model 5
Female	0.14**	--	0.13**	0.26	0.31
Minority	0.12*	--	0.11*	0.11*	0.11*
Low SES	-0.05	--	-0.05	-0.05	-0.05
First-Generation	0.12*	--	0.11*	0.11*	0.11*
Family Social Support	--	0.11**	0.1	0.10*	0.13*
Friends' Social Support	--	0.01	0.01	0.04	0.01
Friends' Social Support X Gender	--	--	--	-0.03	--
Family Social Support X Gender	--	--	--	--	-0.05
R ²	0.03	0.04	0.06	0.06	0.06

*p<.05 **p<.01; N=516

Table 7. Ordinary least squares regression models predicting Intellectual Risk Taking (unstandardized coefficients)

	Model 1	Model 2	Model 3	Model 4	Model 5
Female	0.08	--	0.04	0.02	0.11
Minority	0.04	--	0.03	0.03	0.03
Low SES	0.07	--	0.09 ⁺	0.09 ⁺	0.09 ⁺
First-Generation	0.16**	--	0.14*	0.14*	0.14**
Family Social Support	--	0.16***	0.17***	0.17***	0.17**
Friends' Social Support	--	0.16***	0.16***	0.15*	0.16**
Friends' Social Support X Gender	--	--	--	0.004	--
Family Social Support X Gender	--	--	--	--	-0.02
R ²	0.02	0.17	0.19	0.19	0.19

⁺<0.098 *p<.05 **p<.01 ***p<.001; N=516

Figure 1. Predicting intellectual risk-taking scores along the family social support scale based on the regression model found in Table 7.

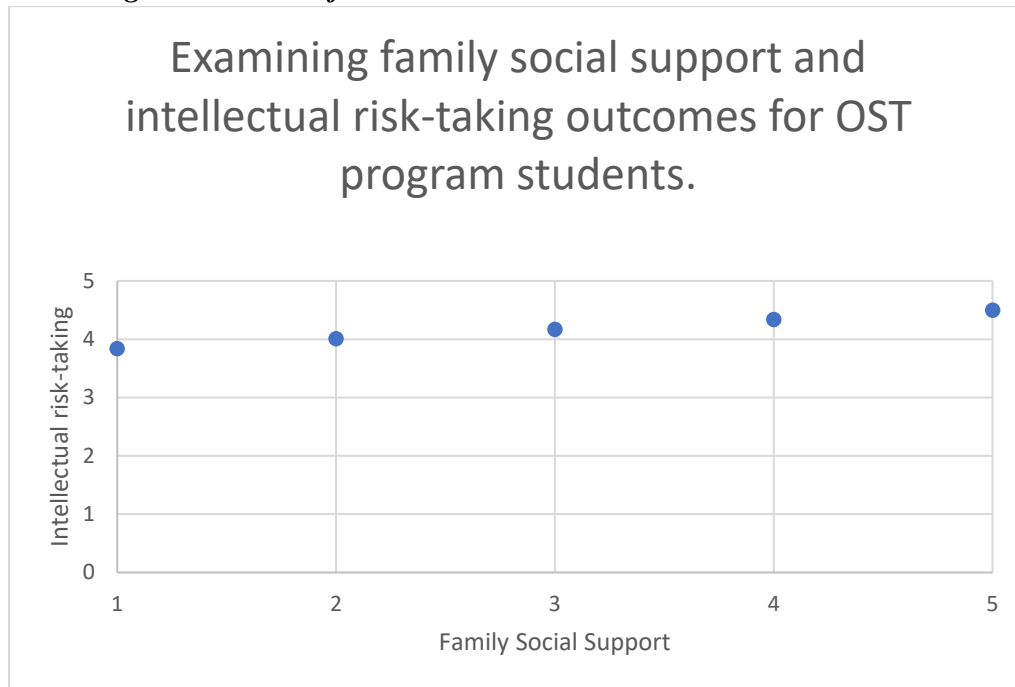


Figure 2. Predicting intellectual risk-taking scores along the friends' social support scale based on the regression model found in Table 7.

