

GENDER DIFFERENCES IN HOW HELP-SEEKING ATTITUDES MEDIATE THE
EFFECT OF ACADEMIC COMPETENCE ON LATINO YOUTH'S ACADEMIC
HELP-SEEKING

By

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ABSTRACT OF THE THESIS

Gender differences in how help-seeking attitudes mediate the effect of academic competence on Latino youth's academic help-seeking.

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Research has shown that perceived competence (academic and social), academic motivation and relationships with individuals in the school environment are important predictors of students' academic help-seeking behavior. Few studies have examined help-seeking attitudes as a mediator of these relationships and even fewer studies have examined gender as a moderator of these relationships among Latino youth. This study investigated whether perceiving the benefits of help-seeking mediated the relationships between perceived competence, intrinsic motivation, and sense of school belonging and help-seeking behaviors. Data came from 284 9th grade students (141 girls; 91% Latino/a) who participated in a larger, study designed to evaluate a program to promote adaptive transitions to an urban high school. The current study combined program and control groups because there was no difference between groups in the variables examined. Structural Equation Modeling (SEM) was used to examine whether high levels of perceived competence (academic and social), sense of school belonging and intrinsic

motivation would predict high levels of help-seeking and whether these relationships would be mediated by the perceived benefits of help-seeking. In addition, gender was analyzed as a moderator using multiple group SEM. Results showed that the more academically competent girls felt, the more likely they were to think help-seeking would be beneficial, and the more likely they were to, in turn, seek help. Although boys who felt academically competent were also more likely to think help-seeking would be beneficial, that was not related to their help-seeking. School belonging positively predicted students' degree of help-seeking, but no evidence was found to suggest that perceived benefits of help-seeking mediated its direct effects on students' degree of help-seeking. The final model explained 46% of the variance in help-seeking for girls, but only 3% for boys. The findings suggest that for girls, perceived benefits of help-seeking and perceived academic competence are viable targets for school-based interventions that aim to increase help-seeking. For boys targeting these variables with school-based interventions may not yield significant changes in help-seeking. For both genders, sense of school belonging is an important predictor of help-seeking and may also be targeted by interventions that intend to increase help-seeking.

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Introduction

Help-seeking encompasses an individual's attempts to obtain assistance when he or she cannot achieve an intended goal alone. Successful help-seekers are able to recognize their need for assistance, identify appropriate sources of help, communicate their problem clearly and accurately apply the help received (Nelson-LeGall, 1981; Newman, 2000). It is important to study adolescent help-seeking because adolescents who are able to identify sources of help for a variety of problems are at a lower risk for drug and alcohol related problems, school misconduct, anxiety, and depression (Nahulu, et al., 1996; Windle, Miller-Tutzauer, Barnes, & Welte, 1991). More specifically, in the academic context, students who seek help with coursework are better able to maintain involvement in difficult tasks, avoid the possibility of academic failure, and increase their chances for mastering the material (Corno, 1989; Kuhl, 1985; Skinner & Wellborn, 1994). Accordingly, seeking help contributes to better psychological adjustment, academic engagement, academic achievement and overall well being (DuBois, Felner, Sherman, & Bull, 1994; Stanton-Salazar, Chávez, & Tai, 2001).

Despite the demonstrated benefits of seeking help, researchers have found that many adolescents do not seek help when they are in need. In a study of over 1,000 adolescents, Boldero and Fallon (1995) found that only about half of the adolescents who indicated that they had a problem had sought help for that problem within the past six months. These findings hold true across multiple contexts; adolescents frequently fail to seek help for mental health problems, academic challenges and several other types of personal problems (R. Ames & Lau, 1982; Boldero & Fallon, 1995; Friedlander, 1980; Karabenick & Knapp, 1988; Knapp & Karabenick, 1988). Given that parents are the

primary gatekeepers to adolescent help-seeking in medical and mental health contexts, research regarding adolescent help-seeking behavior in the classroom is of particular importance because it is one of the few contexts where adolescents have the primary responsibility to seek help.

The present study will review what is known about the determinants of adolescent help-seeking in the general population, and then present a longitudinal study that examines whether these determinants also predict academic help-seeking among Latino high school students. The current study will examine help-seeking among Latino youth because, relative to other racial and ethnic groups, Latino youth have very high dropout and grade-retention rates (U.S. Department of Education, 2005). Hence, understanding their help-seeking might have implications for helping these students remain engaged in the school system.

Review of Literature

Researchers have used stage models to guide the investigation of help-seeking strategies. In their most basic form, these models consist of three stages: (a) problem recognition, (b) decision to seek help and (c) actually receiving help (Gross & McMullen, 1983). Regarding the problem recognition stage, research has shown that students are able to monitor their performance and identify problem areas while they are engaged in a task (Puustinen, 1998). It has also been found that as children develop, their ability to evaluate their performance accurately increases (Puustinen, 1998). Therefore it is less likely that adolescent failure to seek help is due to an inability to recognize the need for help. As such, the decision-making phase, rather than the problem recognition phase, may be one of the key stages in the help-seeking process. It is at this point that students

may choose to ask a teacher (or another student) for help or not. When students do not seek help in times of need, they may choose to disengage from the learning activity by guessing randomly or not completing the work at all. The latter responses have been labeled avoidance of help-seeking in the literature (A. M. Ryan & Pintrich, 1997; A. M. Ryan, Pintrich, & Midgely, 2001). *Avoidance of help-seeking* generally refers to these instances when adolescents do not seek help, even when they are aware of the need for help. Considering this model, the remainder of this paper will consider factors that influence a student's decision to seek help when he or she recognizes there is a problem.

It has been suggested that motivational factors may influence the student's decision to seek help (Newman, 1994; A. M. Ryan & Pintrich, 1997). Subsequently, research of help-seeking behavior has found that perceptions of competence, perceptions of relatedness and academic motivation are related to students' degree of help-seeking (Butler, 1998; Nelson-LeGall & Jones, 1990; Newman, 1990; A. M. Ryan, Hicks, & Midgely, 1997; A. M. Ryan & Pintrich, 1997). Research on the relationship between these variables and help-seeking has measured help-seeking in several different ways, including intentions to seek help, self-reported help-seeking behavior, observed help-seeking, attitudes about help-seeking and self-reported avoidance of help-seeking. All together, the empirical literature indicates that the relationships between help-seeking and these variables (perceptions of competence, perceptions of relatedness and academic motivation) are complex, with differential effects depending on academic ability, grade level and gender (Butler, 1998; Newman, 1990; Puustinen, 1998). Below I review our current knowledge about the influence of perceptions of competence, perceptions of relatedness and academic motivation on help-seeking behaviors.

Perceived Competence

Competence refers to the extent to which an individual can effect change in his or her environment. In the help-seeking literature, competence is often discussed in terms of perceived self-efficacy that refers to an individual's perceptions about his or her abilities to change his or her environment (Bandura, 1994). According to Bandura, self-efficacy beliefs influence an individual's feelings, thoughts, motivation, and actions. In theory, students with high self-efficacy would approach challenges rather than avoid them, continue toward the task despite failure, and attribute failure to lack of effort, knowledge or skill (which is acquirable). Conversely, students with low self-efficacy would feel threatened by difficult tasks, reduce their efforts and focus on their deficiencies when faced with failure. Because help-seeking is both an academic and social endeavor, it is very likely that perceptions of both academic and social competence impact the decision to seek help.

Perceived Academic Competence. Studies have related help-seeking behaviors to academic self-efficacy, i.e., an individual's perception of his or her ability to complete academic tasks. Findings from these studies appear to be inconsistent. Researchers have found that individuals with both high and low academic self-efficacy may be less likely to seek help in times of need (Butler, 1998; Kennedy, 1997; Nelson-LeGall & Jones, 1990; Newman, 1990). For example, in a cross-sectional study of 177 middle school students from a mostly Caucasian sample, Newman (1990) found that perceived academic competence was positively associated with intentions to seek help. Additionally, in a longitudinal study of 1600 middle school students from a predominantly Caucasian sample (95%), Marchand and Skinner (2007) found that

perceived academic competence was positively related to self reported help-seeking during times of need. That is, students who felt more competent in their academic abilities were more likely to seek help in times of need. Conversely, during an experimental task, Nelson-LeGall (1989) observed, in a study of 38 middle school students, that students who reported lower perceived academic competence were more likely to seek help in times of need than students who reported high perceived academic competence. Instances where individuals with low self-efficacy are less likely to seek help could be explained by the vulnerability hypothesis, which suggests that individuals with low self efficacy are unlikely to seek help because it threatens the impressions of competence they would like to maintain (Karabenick & Knapp, 1991). Instances where individuals with high academic self efficacy fail to seek help could be explained by the consistency hypothesis, which suggests that seeking help would be inconsistent with their self perception (Tessler & Schwartz, 1972). Other theorists have tried to address the inconsistencies in the literature by suggesting that the relationship between perceived competence and help-seeking is better represented by an inverse-U shape that incorporates both theories (Butler & Newman, 1995; Karabenick & Knapp, 1988). According to this view, students with moderate levels of academic self-efficacy would be most likely to seek help. However, since these studies have used different measures of help-seeking and many of their findings have not been replicated, it is unclear whether these mixed findings reflect student's actual help-seeking or differences due to measurement and research conditions.

When degree of help-seeking is measured by a preference to not seek help, a more consistent picture emerges. In two investigations of this relationship among a

predominantly White group of middle school students, Ryan and Pintrich (1997) and Ryan et al. (1998) found that the relationship between the degree of help-seeking and perceived academic competence was positive. There have been few other investigations of the relationship between degree of help-seeking and perceived academic competence. Since these studies were conducted with middle school students, it is also unclear whether these findings would be generalizable to high school students. Thus, these findings need to be tested among high school students.

It is also noteworthy that perceived academic competence seems to be more important to help-seeking than objective measures of competence. In a study of 113 middle school students from a mostly African-American sample, Nelson-Le Gall (1990) determined that self- assessment of performance on a multitrial verbal task was more predictive of help-seeking than actual performance.

Perceived Social Competence. Perceived social competence considers the individual's assessment of his or her ability to interact with others and may include factors such as the ability to make friends (Ryan & Pintrich, 1997). Social competence has been linked to several academic outcomes such as achievement and school adjustment (Alexander & Entwistle, 1988; Patrick, Yoon, & Murphy, 1995). Few studies, however, have investigated the relationship between perceived social competence and help-seeking. The little evidence that exists suggests that students who perceive themselves to be more socially competent are more likely to seek help. In a study of 203 predominantly White middle school students, Ryan and Pintrich (1997) found that greater perceived social competence was related to reduced reluctance to seek help. This is presumably because students who are high in perceived social competence have

knowledge of how to form relationships, thus creating opportunities to use individuals in their environment as resources in problem solving. As previously mentioned, researchers have supported the study of perceived social competence in addition to perceived academic competence because help-seeking is both a social and academic endeavor.

Summary. Although the relationship between perceived academic competence and other help-seeking constructs is often inconsistent, several previous studies have found that both perceived academic competence and perceived social competence are positively related to actual help-seeking behavior. The existing literature is limited because few studies have documented the relationship between perceived competence (academic and social) and degree of help-seeking (other measures have been used instead), and these relationships have mainly been demonstrated among middle school students from predominately White middle class communities.

Sense of School Belonging

Relatedness refers to the extent to which students feel connected to important individuals in their environment. Researchers have referred to this notion as school “identification,” (Finn, 1989), sense of “membership” (Gottfredson, 1986; Wehlage, 1989) or “sense of school belonging” (Goodenow, 1993). Rather than study these measures of relatedness to the school, some researchers have investigated the correlations between academic help-seeking and interactions with teachers and peers separately.

Ryan et al. (1998) suggested that students would be more comfortable seeking help in classrooms characterized as “caring, supportive, and friendly” and where students felt that others “know and related to them beyond their academic abilities.” They used these suggestions to hypothesize that teachers would affect help-seeking. Indeed, the

positive relationship between perceived academic competence and help-seeking was diminished when teachers reported that they should attend to the socio-emotional needs of their students. Moreover, in a longitudinal study of help-seeking among 1,600 Caucasian third and seventh grade students from a rural-suburb in upstate New York, Marchand and Skinner (2007) found that teachers who endorsed creating a classroom environment characterized by warmth, structure and support for autonomy increased the degree of help-seeking in their classroom over time. Both of these studies have measured teachers' belief that they should cultivate a sense of relatedness in their classroom. There is a need for research on how students' perceptions of their relationships with teachers (or other persons in the school environment) are related to their help-seeking.

It is also possible that peers might influence help-seeking in the school environment in the same way that teachers do. Gottlieb (1975) identified similarities between students' peer group's approaches to help-seeking and students' own approaches to help-seeking. More specifically, in a study of male high school seniors, Gottlieb found that students in the same peer group sought help for similar types of problems and from similar sources of help, suggesting that peers may play a role in reinforcing help-seeking behaviors among male adolescents.

Peer acceptance refers to both the degree to which an adolescent is liked and respected by their peers and the adolescents' ability to initiate/maintain suitable peer relationships (Asher & Dodge, 1996; Parker & Asher, 1987). The relationship between help-seeking and peer acceptance remains unclear, as research in this area has yielded conflicting results. Moore and Updegraff (1964) found a positive association between sociometrically measured peer status and help-seeking among 62 boys and girls attending

nursery school groups at the Institute of Child Behavior and Development. Whereas, Nelson-Le Gall and Gior-Scheib (1986), found no significant relationship between sociometrically measured peer acceptance and seeking help from the teacher among 74 mostly Black low middle class third and fifth grade students attending parochial school.

In summary, findings from these studies support the need to examine how connection to individuals in the school environment is related to help-seeking. Previous studies have linked the perceptions of the teacher to help-seeking (Marchand & Skinner, 2007; A. M. Ryan & Pintrich, 1998). Few studies, however, have explicitly measured students' perceptions of teacher support and how it is related to help-seeking. Research has also indicated that interactions with peers are related to help-seeking. Most studies of this relationship have looked at peer acceptance from a sociometric perspective, neglecting the student's perception of connectedness to peers. It is possible that inconsistencies in the findings regarding the relationship between peer acceptance and help-seeking may be addressed by considering the student's perspective. Additionally, it is unclear whether a global measure of relatedness that considers connection to adults in the school as well as connection to other students from the student's perspective would predict the decision to seek help in times of need.

Academic Motivation

Research on academic motivation is primarily concerned with the reasons why individuals engage in particular academic behaviors. Several conceptualizations of academic motivation exist (C. Ames, 1992; Deci, 1975; Deci & Ryan, 1985; Finn, 1989; Finn & Rock, 1997; R. M. Ryan & Deci, 2000). One of these conceptualizations emphasizes three main types of motivational orientation: intrinsic orientation, extrinsic

orientation and amotivation (Deci, 1975; Deci & Ryan, 1985; R. M. Ryan & Deci, 2000). Intrinsic motivation refers to instances where individuals participate in activities because of the enjoyment derived from the activity itself (Deci, 1975; Deci & Ryan, 1985; R. M. Ryan & Deci, 2000). Within this framework, students who are intrinsically motivated to participate in academic activities, such as writing reports, because the activity is pleasurable. In the classroom, intrinsic motivation may be evidenced by a preference for academic challenge, curiosity and interest in schoolwork and striving for independent mastery. Extrinsic motivation refers to instances where individuals participate in an activity in order to achieve another objective (Deci, 1975; Deci & Ryan, 1985; R. M. Ryan & Deci, 2000). The activity is seen as a means to an end and is not enjoyed for its own attributes. In the classroom, extrinsic motivation may be evidenced by students completing assignments because authoritative figures have required them to, because they have internalized pressure to meet external expectations or because it will help them attain other goals such as going to college. Amotivation refers to instances where an individual's actions are not related to any intention or initiation on the part of the individual (R. M. Ryan & Deci, 2000).

Previous studies have indicated that these reasons for engaging in academic endeavors are correlated to academic help-seeking. More specifically, research has shown that students with an intrinsic orientation towards learning are more likely to engage in adaptive help-seeking behaviors such as asking questions in class (Nelson-LeGall, 1981; Newman, 1990), whereas individuals who are more extrinsically oriented may be more likely to resort to forms of help-seeking which are less likely to promote learning such as cheating (Nelson-LeGall, 1981). Nelson-Le Gall and Jones (1990),

while performing a multi-trial verbal task with lower class Black third and fifth grade students, found that children with high intrinsic orientations toward independent academic mastery engaged in adaptive help-seeking behaviors more often than children with low intrinsic orientations toward mastery. Additionally, in a survey of ethnically diverse students within the same age group, Newman (1990) found that children's expressed likelihood for seeking help was explained by an intrinsic preference for challenge.

In summary, few studies have related motivation orientation to type of help-seeking and intentions to seek help. These studies have found that intrinsic orientation predicts more adaptive help-seeking and a higher likelihood of seeking help. There is a need for further research on how these reasons for engaging in academic endeavors are related to the decision to seek help.

Attitudes toward Help-Seeking

Previous studies have found that attitudes toward help-seeking predict degree of help-seeking and may mediate the relationship between other person-centered variables and help-seeking. Newman (1990) found that the positive relationship between intrinsic orientations toward mastery and intentions to seek help when needed was mediated by positive attitudes toward help-seeking. In a subsequent investigation of this relationship, Ryan and Pintrich (1997) found among a group of seventh and eighth graders that attitudes toward help-seeking (negative attitudes in particular) partially mediated the effects of academic motivation and perceived academic competence on degree of help-seeking. Although positive attitudes toward help-seeking mediated the effect of other motivational variables on help-seeking behavior, they did not mediate the effects of

perceived social competence or academic competence. These studies indicate that attitudes toward help-seeking are important determinants of help-seeking and may be a mechanism through which motivational orientation, and perceptions of competence have their effect on degree of help-seeking. There is a need for additional research on how attitudes toward help-seeking or perceiving the benefits of help-seeking may impact the relationship between help-seeking and a sense of relatedness.

Gender and Help-seeking

Previous studies have found that girls are more likely to seek help, more likely to seek adaptive forms of help when they seek help and more likely to perceive the benefits of help-seeking in comparison to boys. These findings are consistent among different racial groups (Black, Latino and White students) and across different grade levels (middle school and high schools students). For example, in a study of 300 primary grade school children from middle and lower socioeconomic backgrounds in Montreal, Salomon and Strobel (1997) found that girls looked for help more readily than boys. Nelson-LeGall (2006) also found that, in a study of 91 Black middle school students in a working class neighborhood, girls were more likely to seek help from their peers than boys. Additionally, in a study of Latino high school students, Stanton-Salazar et al. (2001) found that girls exhibited more desire for academic support and assistance from school personnel than boys. Also, in a study of 314 racially and socioeconomically diverse high school students from public and private schools, Cheong et al. (2004) found after controlling for motivation and computer science competence, girls were more likely to seek adaptive help and more likely to perceive the benefits of help-seeking than boys.

Thus, there is strong evidence to suggest that girls seek help more often for their academic work than boys. While previous studies have not examined whether gender moderated the link between attitudes toward help-seeking (e.g., perceiving the benefits of help-seeking) and help-seeking, it is possible that the relationship between having positive attitudes toward help-seeking and degree of help-seeking is stronger for girls than boys.

Summary

Overall, previous research has found that (a) perceptions of competence (academic and social) are positively related to degree of help-seeking, (b) teacher support (and other positive interactions with the teacher) as well as sociometrically measured peer status are positively related to help-seeking behaviors, (c) academic motivation predicts degree of help-seeking, (d) perceiving the benefits of help-seeking mediates the relationship between perceived academic competence and academic motivation and help-seeking behaviors and (e) girls are more likely to seek help than boys.

Still, much remains unknown and several of these findings need to be extended. Few studies have documented the relationship between perceptions of competence and degree of help-seeking. Studies that have investigated perceptions of competence have mostly been conducted among middle school students. Whether a global measure of relatedness, such as sense of school belonging, that measures both teacher support and peer acceptance from the student's perspective (rather than the teacher's perspective or sociometrically) would better predict degree of help-seeking than teacher support and peer acceptance separately remains unclear. There is a need for further research on how academic motivation is related to degree of help-seeking. Lastly, there is also a need for

research on how gender and attitudes toward help-seeking may moderate or mediate these relationships.

The Current Study

Academic help-seeking has been identified as an important self regulated learning strategy. Studies have found that perceptions of (academic and social) competence, teacher support, peer acceptance and academic motivation are related to help-seeking. An argument is made that perceptions of academic competence and academic motivation, when examined with a more global measure of relatedness such as sense of school belonging, may account for even more variance in the degree of help-seeking. Thus, drawing from a sample of Latino high school students in an urban community, this study used a longitudinal design to examine these relationships in a mediational model that included perceived benefits of help-seeking as a mediator and gender as a moderator. (See Figure 1 for the hypothesized model). The following hypotheses were developed:

- H1. The more students perceive themselves as academically (H1a) or socially competent (H1b), intrinsically motivated (H1c), and feel a sense of belonging to the school (H1d), the more likely they will seek help.
- H2. The more students perceive the benefits of help seeking, the more likely they will seek help.
- H3. Perceived benefits of help seeking will mediate the relationship between the independent variables (perceived academic competence, perceived social competence, intrinsic motivation and sense of school belonging, H3a – H3d respectively) and degree of help-seeking;

H4. Additionally, the possibility that gender may moderate the relationships in our hypothesized model will be explored. It is expected that the paths from perceived benefits of help-seeking (H4a) to degree of help-seeking will be stronger for girls than boys (i.e., the path coefficients for girls will be larger than the path coefficient for boys). No hypotheses were made for the impact of gender in moderating the paths from perceived academic competences and school belonging to the help-seeking variables (degree of help-seeking and perceived benefits of help-seeking). Likewise, no hypotheses were made for the impact of gender in moderating the paths from the paths related to perceived social competence and intrinsic motivation to the help-seeking variables.

Method

Participants

Participants were 284 ninth grade students (141 girls) from a low-income urban high school in New Jersey. In 2007, 94% of the students at this high school were eligible for free or reduced lunch. The participants were drawn from a larger study of a universal prevention program, Peer Group Connection (PGC). PGC is a manualized peer-led intervention that was developed to utilize the power of peer influence to help students transition to high school (Powell, 1993). Overall, the majority of the participants were Latino/Hispanic (91%), followed by “other” (3%), Caucasian (2%), Unknown (2%), Asian (1%) and African American (1%).

Design and Procedures

Overview. All of the entering ninth grade students were given paper and pencil surveys to complete during a large group administration (lasting 40 -90 minutes) at the beginning and the end of their 9th grade in September 2007 (Wave 1) and May 2008 (Wave 2), respectively. The participants were provided with both English and Spanish versions of the questionnaire. A passive parental consent procedure was used whereby letters were mailed to parents stating they should sign and mail the letter if they did not want their child to participate in the program. No parent/guardian objected to their child’s participation. Students were also told that they could discontinue their participation at any time. Prior to survey administration, the questionnaires were labeled only with an identification number and students were told not to write their name on the survey. Student data were stored separately from the students’ names to assure confidentiality. Students received juice boxes for their participation in the survey. The research protocol

was approved by the high school and by the university Institutional Review Board for research involving human subjects.

Students were randomized to either the prevention program ($n = 199$) or the control condition ($n = 85$). Those who were assigned to the prevention program met in groups with peer leaders approximately once a week from September to May for approximately 40 minutes. The weekly topics included: team building, stress and anger management, risk assessment, conflicts in relationships, normative beliefs about drug and alcohol use, refusal skills, decision making, and communication skills. Cross-cutting themes included problem-solving (the students' real life experiences were brought into the PGC session and the group discussed multiple approaches to solving a particular problems), goal setting, and communication. In addition to the weekly sessions, peer leaders coordinated a number of social events for their students to develop their social skills and positive peer relationships. Another important component involved family night, wherein the students and parents discussed skills taught by the curriculum and participated in discussions about issues important to the transition to high school. The groups participated in an end-of-the-year ritual to discuss changes and developments over the year.

When reassessed in May 2008 (Wave 2), 90% of the total sample completed the follow-up survey (88% for the control condition and 91% for the program condition; see the Results section for missing data). For this present study, the predictor variables were assessed using the data from the beginning of the year (Wave 1); whereas the mediator and dependent variables were assessed using data from the end of the year (Wave 2).

Measures

Demographics. The survey included items which asked for demographic information such as sex (1= *female* and 2= *male*) and race/ethnicity (1= *African American*, 2= *Caucasian*, 3= *Latino*, 4= *Asian*, and 5 = *other*).

Perceived academic competence. Perceived academic competence was measured using seven items from the “Self-efficacy for Self-Regulated Learning” subscale from the Children’s Multidimensional Scales of Perceived Self-efficacy (Zimmerman, Bandura, & Martinez-Pons, 1992). This scale asks students how well they can do a variety of academic activities such as “finish homework assignments on time” and “arrange a place to study without distractions.” Item scores ranged from 1= *not very well at all* to 4= *very well* (see Appendix A for the items of this scale). Of the seven items, the following three items were removed: “finish homework assignments on time”, “study when there are other things to do”, and “plan your school work” after measurement models (i.e., confirmatory factor analysis) were analyzed (see the Statistical Analysis section). The mean of the remaining items scores was used to create the scale score (see Table 1 for means, ranges, and standard deviations). For the remaining items, Cronbach’s alpha was 0.66 for this scale.

Perceived social competence. The four items of the Social and Life Skills scale (McNeal & Hansen, 1999) were used to assess perceived social competence. This scale includes items that ask students how well they can accomplish tasks on a four point-scale (1 = *not well* to 4 = *very well*). Sample items include: “It’s easy for me to make new friends” and “I know how to make friends with people of the opposite sex” (see Appendix A for the items of this scale). The mean of the item scores was used to create

the scale score (see Table 1 for means, ranges, and standard deviations). Cronbach's alpha was 0.73 for this scale.

Sense of school belonging. A modified version of the Psychological Sense of School Membership Scale (Goodenow, 1993) was used to assess sense of school belonging. This 13-item scale asks students about the extent to which they feel included, respected and encouraged at school. Sample items include: "Most teachers at this school are interested in me" and "I feel like a real part of this school." Responses ranged from 1 = *not at all true* to 5 = *completely true* (see Appendix A for the items of this scale). One item, "People here notice when I'm good at something" was removed for subsequent analysis (see the Statistical Analysis section). For the remaining items, the mean of the item scores was used to create the scale score (see Table 1). For this study, Cronbach's alpha was 0.80.

Academic motivation. The Intrinsic Motivation subscale of the Academic Motivation Scale-High School Version (Vallerand et al., 1992) was used to assess the participants' academic motivation. The four items from this scale were preceded by the phrase "why do you go to school?" An item consistent with an intrinsic orientation would be "for the pleasure I get when I accomplish something." Responses ranged from 1 = *disagree* to 4 = *agree* (see Appendix A for the items of this scale). One item, "because school is fun", was removed for analysis following confirmatory factor analysis (see the Statistical Analysis section). For the remaining items, the mean of the item scores was used to create a scale score (see Table 1). For this study, Cronbach's alpha was 0.73.

Degree of help-seeking and perceived benefits of help-seeking. Ten items from two scales (5 items each) of the Computer Science Help-Seeking Scales (Pajares &

Cheong, 2004) were used to assess degree of help-seeking and perceived benefits of help-seeking. The scales were modified such that “in computer science class” was replaced by “in class.” Sample items for the degree of help-seeking include, “I put down any answer instead of asking for help in class” and “I don’t ask for help in class, even if I don’t understand the lesson.” Sample items for the perceived benefits of help-seeking include, “I like to ask for help in class because it helps me understand better” and “My classes are more interesting when I ask questions.” Participants responded using a four point scale (1 = *disagree* and 4 = *agree*; see Appendix A for the items of these scales). One item from the perceived benefits of help-seeking scale, “I think asking questions in class helps me learn,” was removed from this scale. For both scales, the mean of the item scores was used to create a scale score (see Table 1). For this study, Cronbach’s alpha was 0.85 for degree of help seeking and 0.74 for perceived benefits of help-seeking.

Statistical Analyses

Preliminary analyses examined the data for outliers and missing values, using SPSS (Version 16; SPSS Inc, 2007). Correlations among the variables of interest were also examined. (see Tables 2 and 3 for correlations for boys and girls, respectively). Because the data were taken from a larger study of intervention effects, analysis of variance (ANOVA) was used to test for program effects on the two variables that were measured after program administration, degree of help-seeking and perceived benefits of help-seeking.

Structural Equation Modeling (SEM) was conducted using Mplus (Version 5.21; Muthén & Muthén, 2007a) to assess the fit of the proposed model (see Figure 1). It is generally recommended that a measurement model is tested using confirmatory factor

analysis (CFA) prior to testing the full structural model. Thus, CFA was conducted to examine the scales. Two separate measurement models were examined for all the exogenous variables (x-variables) and all the endogenous variables (y-variables). In the proposed measurement model for the exogenous latent variables, perceived academic competence had seven indicator items, perceived social competence had four indicator items, sense of school belonging had 13 indicator items, and intrinsic motivation had three indicator items. For the endogenous latent variables, both perceived benefits of help-seeking and degree of help-seeking had five indicator items. Factor loadings and the results of the CFA are shown in Table 4 and Table 5, respectively, for the final CFA for the independent variables and dependent variables. The process through which items were trimmed to create the final CFA model is discussed later in this chapter.

During preliminary examination of frequencies for the individual items, it was observed that boys and girls did not have the same range of scores for 15 items from several scales. These items used a Likert-type scale ranging from 1 to 4 but restricted responses were observed in one group but not the other group. For example, for one item on the sense of school belonging scale, “People at this school are friendly to me,” the range of potential responses included 1 = strongly disagree to 4 = strongly agree. No boys had responded “strongly disagree” (value = 1), whereas boys and girls had chosen the other possible responses (value = 2, 3, 4). Because the full structural model would be estimated across boys and girls at the measurement level, and the same response ranges were required across these groups. Thus, the range of values for the seven variables of interest was collapsed such that all “1” responses were grouped with all “2” responses,

thus resulting in three ordinal responses. This procedure is recommended by Muthén and Muthén (2007b). All subsequent analyses were conducted using this recoded data set.

Measurement models for boys and girls were tested first. Then measurement invariance models were tested across boys and girls using a multi-group SEM approach. Following the CFA models, the full structural model was tested. The proposed model hypothesized that four variables: (a) perceived academic competence, (b) perceived social competence, (c) sense of school belonging, and (d) intrinsic motivation would directly predict higher levels of help-seeking. Additionally, it was hypothesized that perceived benefits of help-seeking would be directly related to higher levels of help-seeking and serve as an intervening variable between perceived academic competence, perceived social competence, sense of school belonging, and intrinsic motivation and help-seeking.

Goodness of fit was assessed for both the measurement model and the structural model. Five goodness of fit indexes of model fit were examined. The first was the model chi-square (χ^2). A nonsignificant model chi-square ($p > .05$) is usually indicative of good fit. However, the chi-square value is well known to be sensitive to sample size and thus, the ratio of chi-square to degrees of freedom of less than two was used to indicate a good fit. The third and fourth indicators of goodness of fit were Bentler's comparative fit index (CFI; Bentler, 1988) and the non-normed fit index (NNFI; Bentler & Bonett, 1980). CFI and NNFI values of .95 or greater suggest a good fit and values of .90 or greater suggest acceptable fit. Lastly, a root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) of less than or equal to .05 indicate good fit and of less than .08 indicate acceptable fit.

During initial attempts to analyze this full structural model, it did not converge. Therefore, the measurement model was examined again and individual items were screened and then trimmed from the model.¹ The specific items that were removed are indicated in the Measures section. Once the issue with non-convergence was resolved, the mediation and moderation hypotheses were tested using the modified measurement models.

To examine the hypothesized partial mediation effects, a full mediation model was tested first (i.e., a model that did not include any direct effects from the independent variable to the dependent variable; see Figure 2). The full mediation model was tested first because it is more parsimonious than the partial mediation and this analytic strategy has been recommended in the literature (James, Mulaik, & Brett, 2006). After the full mediation model was tested, four other models were analyzed to test the partial mediation hypothesis. The additional models modified the full mediation model (Model 1) by adding a direct path from one of the independent variables to the dependent variable. Thus, Model 2 added a direct path from perceived academic competence to degree of help-seeking to Model 1. Model 3 added a direct path from sense of school belonging to degree of seeking to Model 1. Models 4 and 5 added direct paths from intrinsic motivation and perceived social competence, respectively, to degree of help-seeking.

¹ When the structural model was run, the model did not converge because the psi matrix was not positive definite, indicating that there might be some redundancy in the variables measured across the x-side and y-side indicator variables. Therefore, the individual items of each scale and their correlations with all other items were examined. Items were removed from the analysis based on (a) having similar wording as other items, (b) having a relatively higher correlation with other items, and (c) the fact that removing the item did not undermine internal consistency as examined by factor loadings and Cronbach's alpha. Additionally, with latent variable analysis, three to five indicator variables are typical.

The chi-square values for Models 2 through 5 were separately compared to the chi-square value for Model 1 because Model 1 was nested within Models 2 - 5. A significant chi-square difference test suggested that the tested models were significantly different from each other. If the change in chi-square was significant, the fit statistics were examined to determine if each added path improved the fit of Model 1 or if the fit was worsened. If adding a particular direct path to Model 1 improved model fit, this model was examined for significant indirect effects. A pattern of results whereby indirect effects are statistically significant, while direct effects are not statistically significant was evaluated as a demonstration of a full mediation effect (Kline, 2005). For example, if the direct effect of perceived academic competence on degree of help-seeking was not statistically significant, but the total indirect effect (including perceived benefits of help-seeking) was significant, this pattern of results was suggestive of full mediation. Partial mediation was inferred if the direct effect remained significant. It was determined that there was no evidence for mediation if the path coefficients did not change by adding the direct path and if a significant relationship was not found between the independent variable and mediator or the mediator and dependent variable.

Once the best fitting mediation model was determined, each path of that model was tested for moderation by gender. Using multiple-group SEM, four models that allowed parameter estimates to vary between boys and girls were analyzed. Model 6 allowed the path from perceived benefits of help-seeking to degree of help-seeking to vary between boys and girls. Models 7-10 allowed the paths from perceived academic competence, sense of school belonging, intrinsic motivation or perceived social

competence (respectively) to degree of help-seeking to vary between boys and girls. Chi-square difference tests were again used to determine which model best fit the data.

Results

Preliminary Analysis

Outliers. The data were examined for out of range values and outliers. The data for univariate and multivariate outliers for boys and girls were examined separately. There was no univariate outlier. Therefore, no further action was taken. One multivariate outlier was identified for girls. The data for this participant were retained because there was no difference in the results of the analysis with the participant or without the participant.

Missing data. Of the 284 participants initially enrolled in the study, 90% participated in the Wave 2 assessment. Data for the participants who had completed the Wave 2 assessment and those who had not completed the Wave 2 assessment were examined with *t*-tests to determine if there were mean differences on the independent variables (sense of school belonging, perceived academic competence, perceived social competence, and intrinsic motivation) and other potentially important variables (grades and attendance at Wave 1). Students with missing data at Wave 2 had significantly lower scores on school belonging at Wave 1 than students without missing data at Wave 2, $t(281) = 2.38, p = .02$. School belonging at Wave 1 was already proposed to be included in all subsequent analysis; therefore, no additional correction for this variable was made. Students with missing data at Wave 2 and students without missing data at Wave 2 did not differ on any other variables. Because this study used a longitudinal design, the two data points will reduce the possibility of missing data leading to biased estimates in the analysis, especially when the attrition rate is low. Therefore, it is likely that the missing data are missing at random (MAR) and ignorable (Schafer & Graham, 2002).

Examination of program effects on degree of help-seeking and perceived benefits of help-seeking. Because this data set came from a larger study of a school-based, universal prevention program, analysis of variance (ANOVA) was used to examine whether the program impacted the dependent variable, degree of help-seeking, and the hypothesized mediator, perceived benefits of help-seeking (since these two variables were measured at Wave 2). Results from this analysis indicated that participation in the prevention program was not a significant predictor of degree of help seeking (i.e., there was no group difference between the program and control conditions based on the students' degree of help-seeking), $F(1, 251) = .67, ns$. There was a trend toward significance for a gender difference in degree of help seeking, $F(1, 251) = 3.07, p=.08$, suggesting that girls were slightly more inclined to seek help than boys. There was also a trend toward significance for the gender by program participation interaction, $F(1, 251) = 3.23, p=.07$. Post hoc exploration of the interaction suggested that girls in the program condition were slightly more likely to seek help than boys in the program condition. The percentage of variance accounted for by the gender main effect and the program by gender interaction effect was small (.01 for the combined effects). Partial eta squares equal to .02, 0.13, and 0.26 are considered to indicate small, medium, and large effects, respectively (Cohen, 1988). Therefore, these effects were considered ignorable.

Participation in the prevention program was not a significant predictor of perceived benefits of help-seeking, $F(1, 251) = .48, ns$. (i.e., there was no group difference between the program and control condition based on students' perceived benefits of help-seeking). Gender was a significant predictor of perceived benefits of help-seeking, $F(1, 251) = 17.48, p<.001$ partial $\eta^2 = .07$. Girls were more likely to think help would be

beneficial than boys. The interaction term that included gender and participation in the program, however was not significant, $F(1,251) = .23, ns$. Based on these findings there was no need to adjust for the effects of the prevention program in the sample.

Descriptive statistics. Means and standard deviations for study variables are presented in Table 1 (see Appendix B for *t*-tests examining mean differences). Zero-order correlations are presented in Tables 2 and 3, for boys and girls respectively. For boys, degree of help-seeking was significantly and positively related to sense of school belonging. These findings provided preliminary support for H1d, only. Support for Hypothesis H1a, H1b, and H1c, which predicted a positive association between perceived academic competence, intrinsic motivation, and perceived social competence and degree of help-seeking, was not found among boys. Also, for boys, Hypothesis 2, which states that perceived benefits of help-seeking would be positively related to degree of help-seeking, was not supported.

For girls, degree of help-seeking was significantly and positively related to perceived academic competence, intrinsic motivation, and sense of school belonging. These findings provided preliminary support for Hypotheses H1a, H1c and H1d, respectively. Support for a positive association between perceived social competence and degree of help-seeking (H1b) was not found among girls. Also, for girls, Hypothesis 2, which states that perceived benefits of help-seeking would be positively related to degree of help-seeking, was supported.

In sum, although only perceived academic competence, and school belonging were significantly related to the dependent variable or hypothesized mediator in the correlation matrix for boys (see Table 2), all variables of interest showed significant

correlations (or trends) with either the dependent variable (degree of help seeking) or the hypothesized mediator (attitudes toward help seeking) in the correlation matrix for girls (see Table 3). Therefore, these variables were explored in subsequent analysis.

Hypothesis 3, which states that perceived benefits of help seeking mediates the relationship between the independent variables and degree of help-seeking, was tested below in a series of nested models.

Mediation Analysis

Confirmatory factor analysis of measurement models. The first step of the analysis examined the adequacy of the measurement models. One multi-group measurement model was fit for the latent independent variables (x-side, exogenous variables) and another multi-group measurement model was fit for the latent dependent variable and hypothesized latent mediator variable together (y-side, endogenous variables).

To examine measurement invariance among the latent independent variables and then separately for the latent dependent variables, a restrictive invariance model that constrained all thresholds and factor loadings to be equal across groups (boys and girls) was tested. Constraining these two sets of values across groups is indicative of measurement invariance for ordinal measurement data (Millsap, 2004). The model fit indices suggested that the sample data had acceptable fit to the combined measurement invariance model for both the independent variables ($\chi^2 = 209.34$, $df=118$, $p=.00$; $CFI = .91$; $TLI = .93$; $RMSEA = .07$) and dependent variables ($\chi^2 = 66.49$, $df=35$, $p=.00$; $CFI = .98$; $TLI = .98$; $RMSEA = .09$). Less restrictive models were not pursued further. Factor

loadings are shown in Tables 4 and 5 (see Appendix C for thresholds and Appendix D for correlations among latent variables).

Tests of the hypothesized structural model. Although a partial mediation model was hypothesized, a full mediation model (Model 1) was used as the baseline model because it is more parsimonious than a partial mediation model. In this model, there were paths from the independent variables (perceived academic competence, school belonging, intrinsic motivation and perceived social competence) to the hypothesized mediator (degree of help-seeking) and from the hypothesized mediator to the dependent variable (degree of help-seeking). This model did not have direct paths from the independent variables to the dependent variable and the estimated paths were not allowed to vary among boys and girls. As Table 6 shows, the fit indices for this model showed fair to good fit.

Four nested models were tested against Model 1, the baseline model. In Model 2, a direct path was added from perceived academic competence to degree of help-seeking. Model 3 added a direct path from sense of school belonging to degree of help-seeking to Model 1. For Model 4, a direct path was added to Model 1 from intrinsic motivation to degree of help-seeking. For Model 5, a direct path was added to Model 1 from perceived social competence to degree of help-seeking. Model 1 was therefore nested within Models 2, 3, 4, and 5.

As Table 6 shows, the differences between chi-squares were not significant when Model 1 was compared with Models 2, 4, or 5. Table 6 also shows that Model 3 (Model 1: Full mediation model + a direct path from school belonging to degree of help-seeking), did significantly improve model fit. With the aim of having the most parsimonious model

available, Models 2, 4, and 5 were rejected. Because Model 3 significantly improved model fit, it was retained as the best model of mediation (see Figure 7 for parameter estimates for boys and girls). For girls, Model 3 accounted for 27% of the variance in the perceived benefits of help-seeking and 40% of the variance in students' degree of help-seeking. Whereas for boys, Model 3 accounted for 37% of the variance in the perceived benefits of help-seeking and only 9% of the variance in students' degree of help-seeking.

From this model, it was concluded that school belonging directly and positively predicted students' degree of help-seeking, providing further support for Hypothesis H1d. It was also concluded that perceived benefits of help-seeking fully mediated the relationship between perceived academic competence and degree of help-seeking because the direct path from perceived academic competence to degree of help-seeking was not significant. The more academically competent students felt, the more likely they were to think help-seeking would be beneficial and the more likely they were, in turn, to seek help. This finding supported Hypothesis H2, which stated that perceived benefits of help-seeking would be positively related to degree of help-seeking. This finding also partially supported Hypothesis H3a because full mediation was found rather than the hypothesized partial mediation. Lastly, it was also concluded that perceived benefits of help-seeking did not mediate the effects of school belonging, intrinsic motivation and perceived social competence on students' degree of help-seeking. Thus, Hypotheses H3c-H3d, which predicted mediation of the effect of these variables by perceived benefits of help-seeking, were not supported. Below, Model 3 was used to examine moderation effects of gender on the variables of interest.

Examination of moderation effects. It was hypothesized that the paths from perceived benefits of help-seeking to degree of help-seeking would be moderated by gender such that the strength of relationship between these variables would be stronger for girls than boys (i.e., the path coefficients for girls will be larger than the path coefficient for boys; Hypothesis H4a). No moderation hypothesis was made for the paths from perceived academic competence and school belonging to the help-seeking variables (degree of help-seeking and perceived benefits of help-seeking). Similarly, no moderation hypothesis was made for the paths related to perceived social competence and intrinsic motivation.

Thus, Models 6-10 tested for moderation by gender among the paths of Model 3. Model 6 tested whether gender moderated the relationship between the path from perceived benefits of help-seeking to degree of help-seeking, by allowing the parameters from perceived benefits of help-seeking to degree of help-seeking to be different across boys and girls. Model 7 tested whether gender moderated the relationship between perceived academic competence and help-seeking, by allowing the parameters from perceived academic competence to perceived benefits of help-seeking to be different across boys and girls. Model 8 tested whether gender moderated the relationship between school belonging and help-seeking and the paths from school belonging to both help-seeking variables. Model 9 tested whether the path from intrinsic motivation to perceived benefits of help-seeking was moderated by gender. Therefore, in this model the paths from intrinsic motivation were allowed to vary between boys and girls. Model 10 similarly tested whether the path from perceived social competence to perceived benefits of help-seeking was moderated by gender. Models 6 through 10 were the same as Model

3 with the exception of one targeted path that was allowed to be different across boys and girls.

As Table 6 shows, only Model 6, the model that allowed the path from perceived benefits of help-seeking to degree of help-seeking to vary across boys and girls significantly improved model fit. As a result, Model 6 was chosen as the best fitting model and the final model. Path estimates for boys and girls are shown in Figure 13 (see Appendix C for thresholds and Appendix D for correlations among latent variables). For girls, Model 6 accounted for 29% of the variance in the perceived benefits of help-seeking and 46% of the variance in students' degree of help-seeking. Whereas for boys, Model 6 accounted for 28% of the variance in the perceived benefits of help-seeking and only 3% of the variance in students' degree of help-seeking. It was girls, but not boys, who were more likely to seek help if they thought it would be beneficial, supporting Hypothesis H4a. The more academically competent that boys and girls felt, the more likely they were to think help-seeking would be beneficial, which, in turn, led girls to seek help, but not boys. In addition, the paths from perceived academic competence and school belonging to perceived benefits of help-seeking were not moderated by gender. Furthermore, the paths from perceived social competence and intrinsic motivation to degree of help-seeking were not moderated by gender².

² These findings were similar when non-Latino students were removed from the analysis.

Discussion

The purpose of this study was to understand the factors that contribute to Latino students' academic help-seeking. The current study used an SEM approach to simultaneously (a) examine whether Latino high school students' academic help-seeking could be predicted by two forms of competence (academic and social), intrinsic motivation and sense of school belonging and (b) examine whether perceived benefits of help-seeking mediated the relationship between the previously mentioned variables and help-seeking. In addition, gender was examined as a potential moderator of the observed relationships.

The results of this study suggest that perceived benefits of help-seeking fully mediated the relationship between perceived academic competence and degree of help-seeking for girls. The more academically competent girls felt, the more likely they were to think help-seeking would be beneficial, and the more likely they were to, in turn, seek help. Although Latino boys who felt academically competent were also more likely to think help-seeking would be beneficial, that was not related to their help-seeking. The results of this study also suggest that school belonging directly and positively predicted Latino students' degree of help-seeking. Lastly, no evidence was found to suggest that perceived benefits of help-seeking mediated the direct effects of school belonging on Latino students' degree of help-seeking. The following sections present a discussion of these specific findings in greater detail and a discussion of study limitations and future directions.

Perceived Academic Competence

Results indicated that there was a positive relationship from perceived academic competence to perceived benefits of help seeking and that perceived benefits mediated the relationship between perceived academic competence and degree of help-seeking for girls but not for boys. That is, the more Latino boys and girls felt competent, the more likely they were to think help-seeking would be beneficial for their academic understanding. However, it was only girls, not boys who were, in turn, more likely to seek help. In our mediation model, there was not a significant direct relationship between perceived academic competence and degree of help-seeking, suggesting that the relationship between perceived academic competence and degree of help-seeking was fully mediated by perceived benefits of help-seeking. To our knowledge, no other study has found this moderated mediation effect and it is unclear why Latino boys would think help-seeking is beneficial, but not seek help. It is possible that other factors, not accounted for by the proposed model, might explain these gender differences.

If one views the relationship between perceived benefits of help-seeking and degree of help-seeking as the relationship between attitudes and related behaviors, there is a good deal of classic research that may help us understand what occurred in this study in regard to the male/female difference. Classically, the zero order correlation between attitudes (good/bad) and behavior (done/not done) is about .30 (Mischel, 1968). Given this amount of unexplained variance, it is not surprising that numerous researchers have examined variables that might promote or inhibit consistency between actions and attitudes (cf. Ajzen & Fishbein 1970; Kreitler & Kreitler, 1976).

In the current study, we are concerned with seeking help when one evaluates help-seeking positively. The Kreitlers developed ideas about what conditions must be in place

for attitudes to predict behavior at better than .30. Among these are a) having the resources (e.g., time energy, money) to perform the behavior, b) knowing how to perform the behavior, and c) having normative permission to perform the behavior. In the present study, one can assume that both resources and knowledge were similar for boys and girls. However, it seems quite possible that norms about help-seeking differ among 9th graders of differing genders. Specifically, males may be obeying norms about not displaying their ignorance and need for help. Also, perhaps boys are not supposed to care as much about getting their school work right, and so on. These norms may (or may not) be particularly strong in working class Latino culture. That is, for boys, it is possible that although they know help-seeking will be beneficial, perceptions that other students do not have favorable attitudes about males' help-seeking may prevent Latino boys from seeking help.

It should also be noted that previous studies of models that have included perceived benefits of help-seeking as a potential mediator of the relationship between perceived academic competence and degree of help-seeking have not found a significant relationship between perceived academic competence and perceived benefits of help-seeking (or similarly positive attitudes toward help-seeking), although in these studies a significant relationship between academic help-seeking and negative attitudes toward help-seeking has been observed (Newman, 1990; Ryan & Pintrich, 1997). Therefore, the current study contributes to the existing literature by showing that positive attitudes toward help-seeking can mediate the relationship between perceived academic competence and degree of help seeking. This finding suggests that interventions that aim to increase academic help-seeking via increasing perceived academic competence and

perceived benefits of help-seeking may be more likely to increase help-seeking among girls than boys.

Among the theories of how perceived academic competence is related to degree of help-seeking, the observed positive relationship between perceived academic competence and degree of help-seeking for girls is consistent with the vulnerability hypothesis, which suggests that those who are less academically competent are less likely to seek help because it will threaten impressions of competence they would like to maintain (Karabenick & Knapp, 1991). Thus, it is possible that those students who had lower perceived academic competence did not seek help because it threatened the competence impressions they were trying to maintain.

Perceived Social Competence

Zero-order correlations and the final model showed no evidence of a relationship between perceived social competence and degree of help-seeking, suggesting that feeling more socially competent did not necessarily lead these students to seek help. Thus, there was no support for the hypothesized mediation through perceived benefits of help-seeking. These results are not consistent with what has been found in previous research. Ryan and Pintrich (1997) found that having more perceived social competence contributed to lower reluctance to seek help when one was in need. Thus, among the youth they studied, lack of perceived social competence served as a barrier to seeking help. No such relationship was observed in this study.

Additionally, there was not a significant relationship between perceived social competence and perceived benefits of help-seeking. That is, knowing how to get along with others did not encourage the youth in this study to believe that seeking help would

yield a positive result. Although previous research has found that negative attitudes toward seeking help have mediated the relationship between perceived social competence and degree of help-seeking, there has been no such evidence that positive attitudes toward help-seeking mediate the relationship between perceived social competence and degree of help-seeking (Ryan & Pintrich, 1997). Thus, the lack of evidence in the current study of a relationship between perceived social competence and perceived benefits of help-seeking is consistent with previous research.

In this study the questions related to perceived social competence focused on interactions with friends and more generally on getting along with others, while the questions about help-seeking focused on seeking help in the classroom context (i.e., during instruction lecture). It is possible that students who felt more socially competent (i.e., reported being better able to interact with others socially) are less likely to seek help in the classroom because they are seeking help in other contexts. They may seek academic help in one-on-one interactions with teachers between classes and from friends during the lunch hour or from parents at home. The items regarding perceived social competence and degree of help-seeking did not differentiate between interactions with other students or interactions with adults. Future research may consider asking questions that have more specificity regarding from whom help is sought and where the help is received.

Sense of School Belonging

The current study found that, for Latino boys and girls, sense of school belonging significantly predicted degree of help-seeking. The more connected to the school students felt, the more likely they were to seek help. Previous research has examined

teacher support or peer acceptance separately. These studies have generally found a positive relationship between positive experiences with teachers or peers and actual help-seeking. The results from this study are consistent with the existing research and extend it to include the child's experience of the overall school environment as a predictor of degree of help-seeking. There was no support for the hypothesized mediation through perceived benefits of help-seeking, indicating that, for Latino boys and girls, belonging to the school may not lead one to believe that help-seeking will be beneficial. For this variable, there could be another mediator that the current study did not assess. Nevertheless, these findings suggest that increasing school belonging may be a viable avenue for increasing academic help-seeking.

Academic Motivation

The current study did not find a significant relationship between intrinsic motivation and degree of help-seeking when the other variables of interest were accounted for in the SEM analysis. Additionally, there was no support for the hypothesized mediation through perceived benefits of help-seeking. In a previous study, Newman (1990) found that positive attitudes toward help-seeking mediated the effects of intrinsic preference for challenge on academic help-seeking for youth in grades three and five, but not for youth in grade seven. Newman suggested that declines in motivation that occur from 3rd grade through 9th grade may account for their finding no relationship between intrinsic preference for challenge and positive attitudes toward help-seeking among older students (See Eccles & Midgley, 1990 for review). This developmental perspective may be useful for the interpretation of the findings for the current study. The youth in the current study were in 9th grade. As a result, the importance of intrinsic

motivation for predicting their involvement in academic help-seeking may have been diminished.

One question that remains concerns why the significant zero-order correlation between intrinsic motivation and both perceived benefits of help-seeking and degree of help-seeking would emerge for girls and not for boys. Although the transition to a new school system places most youth at risk for declines in important academic variables such as intrinsic motivation (Eccles & Midgley, 1990), it is possible that teachers and other students may differentially interact with girls and boys in ways that supported as association between intrinsic motivation and the help-seeking variables among girls but not boys. For example, it is possible that girls' social networks at school enhance girls' intrinsic pleasure from doing good schoolwork more so than do boys' social networks. It may be that girls' social networks allow for more opportunity to discuss their achievements with and to receive support from these networks. Boys' social networks, on the other hand, may not reinforce achievement as much as do girls' social networks.

Limitations and Future Research

This study has several limitations. First, all measures were assessed using self report questionnaires. Data based on multiple informants, however, might have improved the validity of the measures used in this study. In particular, direct observations of help-seeking might have captured students' help-seeking behavior more accurately. Second, the current study asked students about their help-seeking in the classroom, but did not differentiate between help-seeking for different academic subjects. Third, because the current study focused on help-seeking in the classroom, it was not possible to assess the academic help-seeking that might have taken place in other contexts. Obtaining data

about help-seeking in different subject areas and contexts other than the classroom might have revealed different patterns among the variables examined. Future research, therefore, may benefit from considering how the relationships observed varied by subject type and context.

In addition, this study was only predictive in nature, allowing for the possibility that the observed relationships are not causal relationships. Nevertheless, the final model suggests plausible causal pathways that may be tested via experimental manipulations. Furthermore, the perceived benefits of help-seeking (mediator) and degree of help-seeking (outcome) were assessed at the same time and thus the relationship between the two variables reflects a concurrent correlation. Moreover, with only two waves of data, where the independent variables but not the mediator and outcome variable were assessed at baseline, models that examine change such as autoregressive models or latent growth curve models could not be examined. Future research might confirm these findings through use of autoregressive models that include multiple repeated measures of the independent variables, mediator and dependent variables. In such a model, past levels of a variable could predict future levels of the same variable and account for the correlation among different variables at each time point. Thus, the use of an autoregressive model would help determine if the relationships observed in the current study do not simply represent the influence of help-seeking at Wave 1 on help-seeking at Wave 2 and its correlation with school-belonging at Wave 1 and Wave 2, respectively. Additionally, future research may establish a causal pattern by conducting experimental manipulations of the independent variables and the mediator of this study and observing their effect on help-seeking.

Another limitation of this study is that the sample size did not allow for the sample to be split, so that a portion of the data set could be used for model development and another portion could be used for model validation. Thus, before any conclusions can be drawn about help-seeking among Latino youth, the findings from this study should be replicated in another Latino population. Lastly, in the current study comparisons among other racial/ethnic groups could not be conducted and it is possible that there is no difference between the factors that contribute to help-seeking among these youth and the youth studied in previous investigations because no previous study has examined these relationships in the context of the same set of potential predictor variables. Future research should consider using a multiple group SEM that compares this model for Latino youth and youth from other racial/ethnic backgrounds.

Implications for Increasing Academic Help-seeking

Despite these limitations, this study contributes to the literature in a number of ways. It is one of the first studies to examine the role of each of these variables in predicting academic help-seeking among Latino youth. Relative to other racial and ethnic groups, Latino youth have very high dropout and grade-retention rates (U.S. Department of Education, 2005). As Latino youth begin to make up a larger percentage of the youth serviced by the United States public school system (U.S. Census Bureau, 2006), it will become increasingly important to understand the factors that contribute to their success in the classroom and identify potential targets for intervention. The current study extends the existing knowledge of such factors by focusing on an important self-regulated learning behavior, academic help-seeking.

The current study adds more understanding of factors associated with help-seeking in girls than boys. More specifically, the model was able to explain 46% of the variance in help-seeking for girls, but only 3% of the variance for boys. In particular, the findings from this study suggest that girls' perceptions of the benefits of help-seeking influence what girls do with regard to their help-seeking behavior. Therefore, interventions that can increase Latino students' perceived benefits of help-seeking are likely to increase girls' help-seeking behavior. There was no evidence that this would increase help-seeking in boys. Thus, there is a need for additional research on interventions that might increase the perceived benefits of help-seeking.

Additionally, the current study suggests that an alternate route to increasing help-seeking among girls would be to increase perceived academic competence, which might, in turn, increase the perceived benefits of help-seeking. The data from the current study did not suggest that such an approach would work for boys. Indeed, at least one study has shown that perceived academic competence is malleable and that school-based mentoring, in particular, can impact this variable (Herrera, Grossman, Kauh, Feldman, & McMaken, 2007).

There was also one variable, sense of school belonging, that had a direct effect on students' help-seeking for both Latino boys and girls. The direct path from school-belonging to degree of help-seeking suggests that interventions that can increase this variable might also have effects on students' help-seeking. Like perceived academic competence, there has been research that indicates that sense of school belonging may be increased by school-based mentoring (Holt, Bry, & Johnson, 2008). The fact that the variables that have been shown to influence degree of help-seeking are malleable bodes

well for the implementation of school-based programs that might increase students' help-seeking.

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Table 1

Means and Standard Deviations for Boys and Girls

	Boys			Girls			Combined sample			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	Range
Wave 1 variables										
Perceived academic competence	141	2.99	0.53	141	3.10	0.58	282	3.00	0.56	2-4
Perceived social competence	142	3.46	0.55	140	3.56	0.45	282	3.50	0.50	2-4
Intrinsic motivation	142	3.36	0.53	141	3.54	0.54	283	3.50	0.54	2-4
Sense of school belonging	142	3.30	0.40	141	3.34	0.41	283	3.30	0.40	2-4
Wave 2 variables										
Degree of help-seeking behavior	131	2.93	0.61	124	3.14	0.64	255	3.00	0.63	2-4
Perceived benefits help-seeking	131	2.79	0.56	124	3.10	0.58	255	2.90	0.59	2-4

Table 2

Correlations among Model Variables (Boys)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.256**	1.000			
Intrinsic motivation	0.241**	0.306**	1.000		
Sense of school belonging	0.498**	0.351**	0.438**	1.000	
Wave 2 variables					
Degree of help- seeking behavior	0.006	-0.080	0.014	0.200*	1.000
Perceived benefits help-seeking	0.435**	0.116	0.124	0.281**	0.039

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 3

Correlations among Model Variables (Girls)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.281**	1.000			
Intrinsic motivation	0.435**	0.134	1.000		
Sense of school belonging	0.475**	0.332**	0.371**	1.000	
Wave 2 variables					
Degree of help- seeking behavior	0.285**	0.122	0.181*	0.311**	1.000
Perceived benefits help-seeking	0.359**	0.134	0.251**	0.256**	0.493**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4

Factor Loadings and R-square from the Confirmatory Factor Analysis of the Independent Variable Measurement Model

	Boys			Girls	
	Unstandardized factor loading	Standardized factor loading	R-square	Standardized factor loading	R-square
Perceived academic competence					
focus on school subjects?	1.000	0.703	0.494	0.820	0.673
find a place to study without distractions?	0.933	0.376	0.141	0.765	0.585
motivate yourself to do school work?	0.940	0.695	0.483	0.771	0.595
join in class discussion?	0.526	0.510	0.261	0.431	0.186
Perceived social competence					
If I want my friends to go along with me, I know what to say.	1.000	0.718	0.515	0.548	0.300
I know how to make friends with the opposite sex.	1.160	0.779	0.606	0.636	0.404
It's very easy for me to make new friends.	1.506	0.872	0.760	0.825	0.680
It is easy for me to get along with others.	1.492	0.778	0.606	0.817	0.667
Intrinsic motivation					
For the good feeling I get when I achieve something	1.000	0.678	0.459	0.749	0.561
School gives me the chance to feel good about trying to do my best in my schoolwork.	1.258	0.809	0.654	0.942	0.888
For the happiness I get when I discover things I didn't know before.	1.012	0.729	0.531	0.758	0.574
All factor loadings were significant at p<.05.					

All factor loadings were significant at $p < .05$.

Table 4

	Boys		Girls	
	Unstandardized factor loading	Standardized factor loading	R-square	Standardized factor loading
Sense of school belonging				
Most teachers at school are interested in me.	1.000	0.396	0.156	0.369
People at this school are friendly to me.	1.826	0.651	0.423	0.674
The teachers here respect me.	2.003	0.551	0.304	0.740
People here know I can do good work.	1.939	0.697	0.486	0.716
I feel proud of belonging to this school.	2.007	0.691	0.477	0.741
There's at least one teacher or other adult in this school I can talk to if I have a problem.	1.660	0.531	0.282	0.613
Other students here like me the way I am.	1.955	0.699	0.489	0.722
I can really be myself at this school.	1.734	0.587	0.344	0.640
It is hard for someone like me to be accepted at this school.	1.160	0.387	0.150	0.428
Sometimes I feel as if I don't belong at this school.	1.744	0.624	0.389	0.644
I feel very different from most other students here.	1.115	0.274	0.075	0.412
Teachers here are not interested in people like me.	1.767	0.658	0.432	0.652
All factor loadings were significant at $p < .05$.				
				0.425

Table 5

Factor Loadings and R-square from the Confirmatory Factor Analysis of the Dependent Variable Measurement Model

	Boys		Girls	
	Unstandardized factor loading	Standardized factor loading	R-square	Standardized factor loading
<u>Degree of help seeking</u>				
I put down any answer instead of asking for help in class.	1.000	0.669	0.448	0.833
I don't ask for help in class, even if I don't understand the lesson.	1.107	0.892	0.796	0.923
If I don't understand something in class, I guess, instead of asking for help.	1.042	0.814	0.662	0.868
Even if the work is too hard to do on my own, I won't ask for help in class.	0.974	0.904	0.818	0.811
I would rather do worse on schoolwork than ask for help in class.	0.990	0.660	0.435	0.825
<u>Perceived Benefits of help-seeking</u>				
I like to ask for help in class because it helps me understand better.	1.000	0.549	0.301	0.806
I like to ask questions in class.	1.022	0.703	0.494	0.824
My classes are more interesting when I ask questions.	1.101	0.872	0.761	0.888
I enjoy my classes more when I ask questions.	0.965	0.804	0.647	0.778
All factor loadings were significant at $p < .05$.				
				0.605

Table 6

Goodness of Fit Statistics and Chi-square Difference Testing

	χ^2	<i>df</i>	<i>CFI</i>	<i>NNFI</i>	<i>RMSEA</i>	χ^2_{diff}	<i>df_{diff}</i>	<i>P</i>
Tests of mediation effects								
Model 1: full mediation	256.220	148	0.910	0.928	0.072			
Model 2: Model 1 + AC \rightarrow DH	256.092	149	0.910	0.929	0.072	3.414	1	0.065
Model 3: Model1 + SB \rightarrow DH	254.684	149	0.912	0.930	0.071	4.724	1	0.030
Model 4: Model 1 + IM \rightarrow DH	256.019	149	0.911	0.930	0.071	3.109	1	0.078
Model 5: Model1 + SC \rightarrow DH	261.166	150	0.908	0.927	0.073	0.241	1	0.623
Tests of moderation effects								
Model 6: Model 3 + freed PB	246.907	150	0.919	0.937	0.068	10.978	1	0.001
Model 7: Model 3 + freed AC	255.655	149	0.919	0.930	0.071	0.177	1	0.674
Model 8: Model 3 + freed SB \rightarrow DH and SB \rightarrow PB	257.829	151	0.911	0.931	0.071	3.587	2	0.166
Model 9: Model 3+ freed IM	255.462	149	0.911	0.930	0.071	0.357	1	0.550
Model 10: Model 3 + freed SC	255.838	149	0.911	0.930	0.071	0.170	1	0.680

Note. AC= perceived academic competence, DH = degree of help-seeking, SB = sense of school belonging, IM = intrinsic motivation,

SC= perceived social competence, and PB = perceived benefits of help-seeking.

CFI= comparative fit index, NNFI = non-normed fit index, RMSEA = root mean square error of approximation.

Chi-square difference values are not equal to the difference of the chi-square values shown because Mplus uses a different formula for the chi-square difference tests. See Mplus users guide (2007) for more details.

Figure Captions

Figure 1. The hypothesized structural relations among perceived academic competence, perceived social competence, intrinsic motivation, sense of school belonging, perceived benefits of help-seeking and degree of help-seeking are shown. Perceived academic competence, perceived social competence, intrinsic motivation, and sense of school belonging (all measured at Wave 1) are shown as predictors of perceived benefits of help-seeking and degree of help-seeking (measured at Wave 2). Perceived benefits of help-seeking is shown to partially mediate the direct effects of the other variables of interest on degree of help-seeking.

Figure 2. The full mediation model (Model 1) is shown. Perceived academic competence, perceived social competence, intrinsic motivation, and sense of school belonging (all measured at Wave 1) are shown as predictors of perceived benefits of help-seeking (measured at Wave 2) and perceived benefits of help-seeking predicts degree of help-seeking (also measured at Wave 2).

Figure 3. The structural model used to test partial mediation of the direct effects of perceived academic competence on degree of help-seeking by perceived benefits of help-seeking is shown (Model 2). To test this effect, a direct path from perceived academic competence to degree of help-seeking was added to the full mediation model depicted in Figure 2.

Figure 4. The structural model used to test partial mediation of the direct effects of sense of school belonging on degree of help-seeking by perceived benefits of help-seeking is shown (Model 3). To test this effect, a direct path from sense of school belonging to degree of help-seeking was added to the full mediation model depicted in Figure 2.

Figure 5. The structural model used to test partial mediation of the direct effects of intrinsic motivation on degree of help-seeking by perceived benefits of help-seeking is shown (Model 4). To test this effect, a direct path from intrinsic motivation to degree of help-seeking was added to the full mediation model depicted in Figure 2.

Figure 6. The structural model used to test partial mediation of the direct effects of perceived social competence on degree of help-seeking by perceived benefits of help-seeking is shown (Model 5). To test this effect, a direct path from perceived social competence to degree of help-seeking was added to the full mediation model depicted in Figure 2.

Figure 7. The unstandardized path coefficients and standard errors for Model 3, the best fitting mediation model, are shown. Significant path coefficients ($p < .05$) are shown in bold.

Figure 8. The structural model used to examine the moderating role of gender on the relationship between perceived benefits of help-seeking and degree of help-seeking is shown (Model 6). This model is the same as Model 3, except the path from perceived

benefits of help-seeking to degree of help-seeking is allowed to vary across boys and girls. The path that is allowed to vary is shown in bold.

Figure 9. The structural model used to examine the moderating role of gender on the relationship between perceived academic competence and perceived benefits of help-seeking is shown (Model 7). This model is the same as Model 3, except the path from perceived academic competence to perceived benefits of help-seeking is allowed to vary across boys and girls. The path that is allowed to vary is shown in bold.

Figure 10. The structural model used to examine the moderating role of gender on the relationship between sense of school belonging and both help-seeking variables (perceived benefits of help-seeking and degree of help-seeking) is shown (Model 8). This model is the same as Model 3, except the paths from sense of school belonging are allowed to vary across boys and girls. The paths that are allowed to vary is shown in bold.

Figure 11. The structural model used to examine the moderating role of gender on the relationship between intrinsic motivation and perceived benefits of help-seeking is shown (Model 9). This model is the same as Model 3, except the path from intrinsic motivation to perceived benefits of help-seeking is allowed to vary across boys and girls. The path that is allowed to vary is shown in bold.

Figure 12. The structural model used to examine the moderating role of gender on the relationship between perceived social competence and perceived benefits of help-seeking is shown (Model 9). This model is the same as Model 3, except the path from perceived social competence to perceived benefits of help-seeking is allowed to vary across boys and girls. The path that is allowed to vary is shown in bold.

Figure 13. The unstandardized path coefficients and standard errors for Model 6, the best fitting moderated mediation model, are shown. Significant path coefficients ($p < .05$) are shown in bold. The moderated path is shown in bold and has values for boys and girls labeled as such.

Figure 1. Hypothesized Structural Model

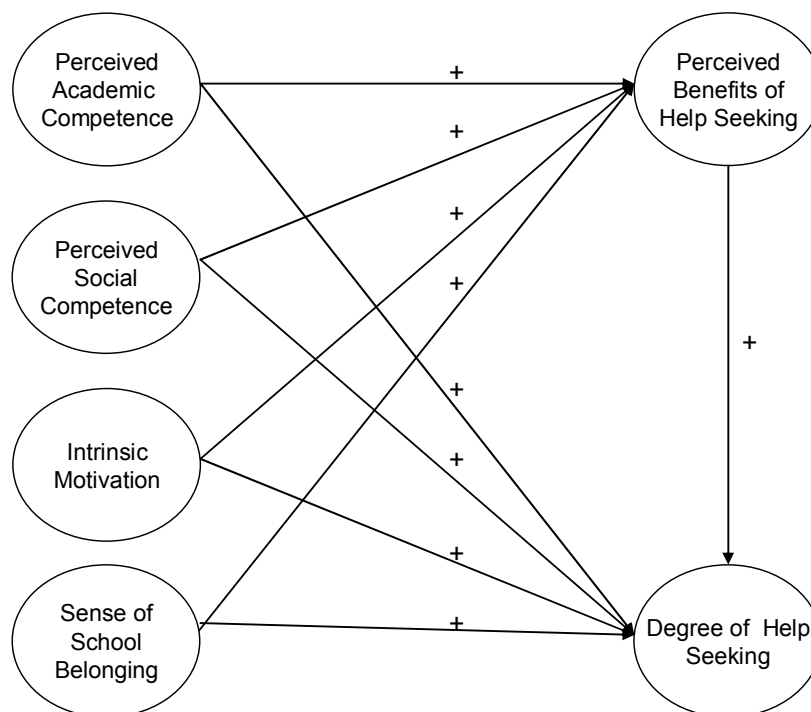
Wave 1: Fall of 9th GradeWave 2: Spring of 9th Grade

Figure 2. Full Mediation Model (Model 1)

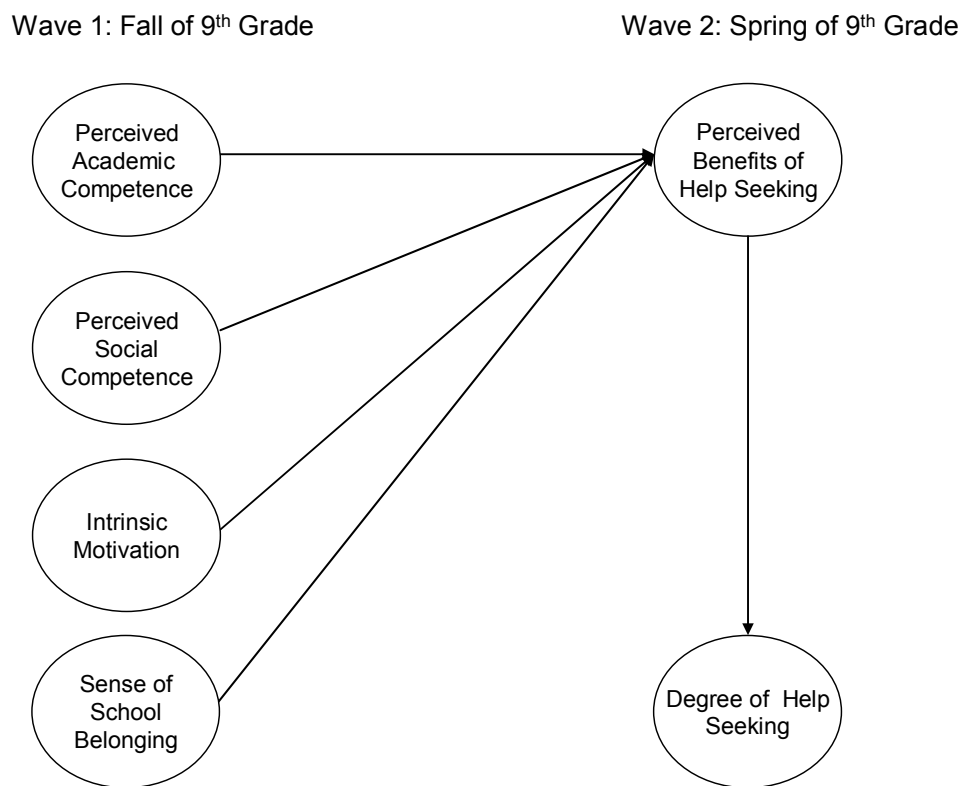


Figure 3. Structural Model Used to Test Partial Mediation of Perceived Academic Competence's Effect on Degree of Help-Seeking via Perceived Benefits of Help-Seeking (Model 2)

Wave 1: Fall of 9th Grade

Wave 2: Spring of 9th Grade

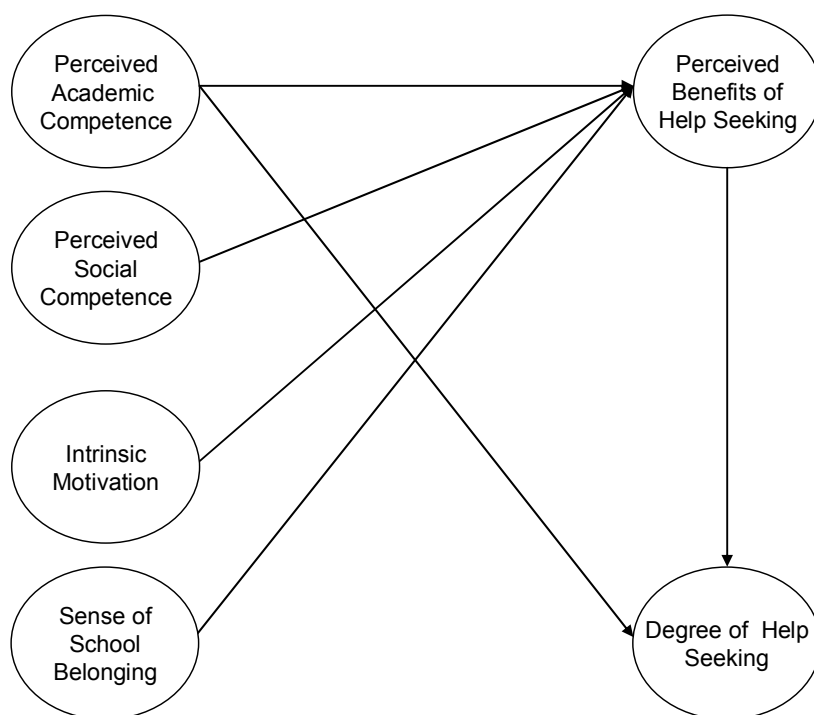


Figure 4. Structural Model used to Test Partial Mediation of School Belonging's Effect on Degree of Help-Seeking via Perceived Benefits of Help-Seeking (Model 3)

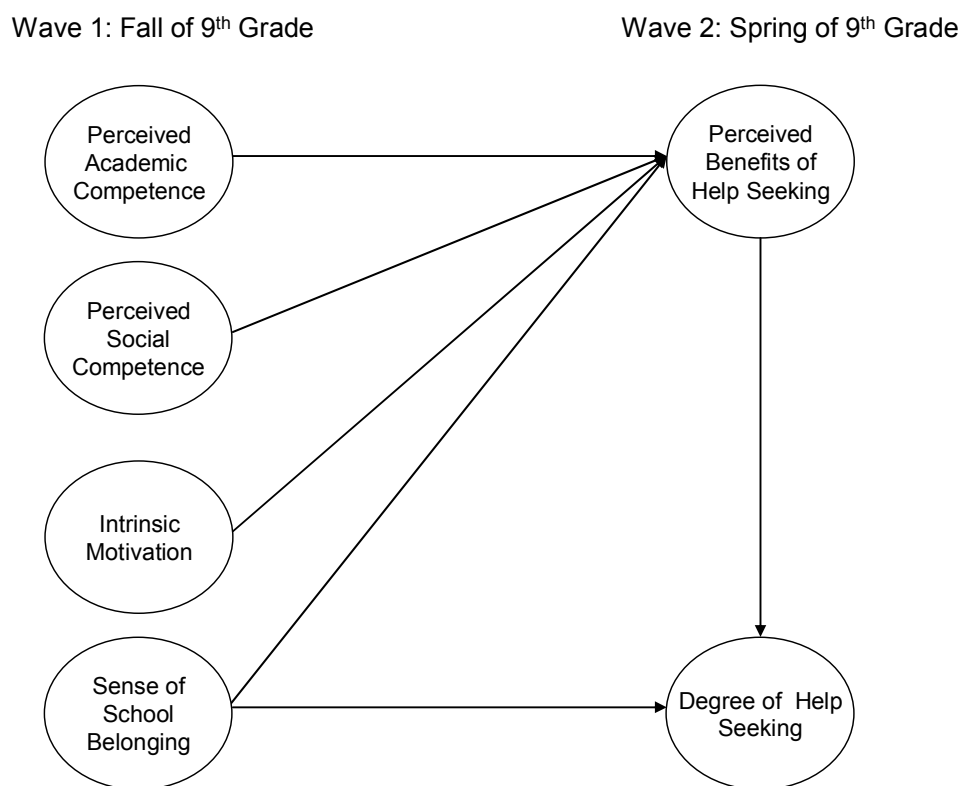


Figure 5. Structural Model Used to Test Partial Mediation of Intrinsic Motivation's Effect on Degree of Help-Seeking via Perceived Benefits of Help-Seeking (Model 4)

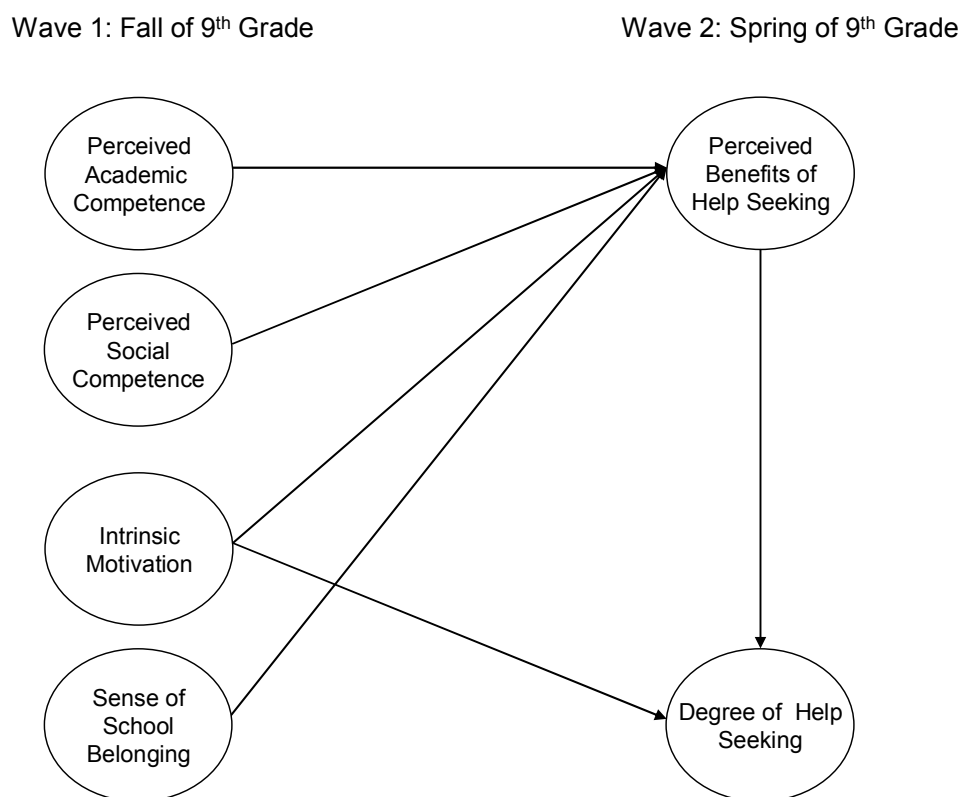


Figure 6. Structural Model Used to Test Partial Mediation of Perceived Social Competence's Effect on Degree of Help-Seeking via Perceived Benefits of Help-Seeking (Model 5)

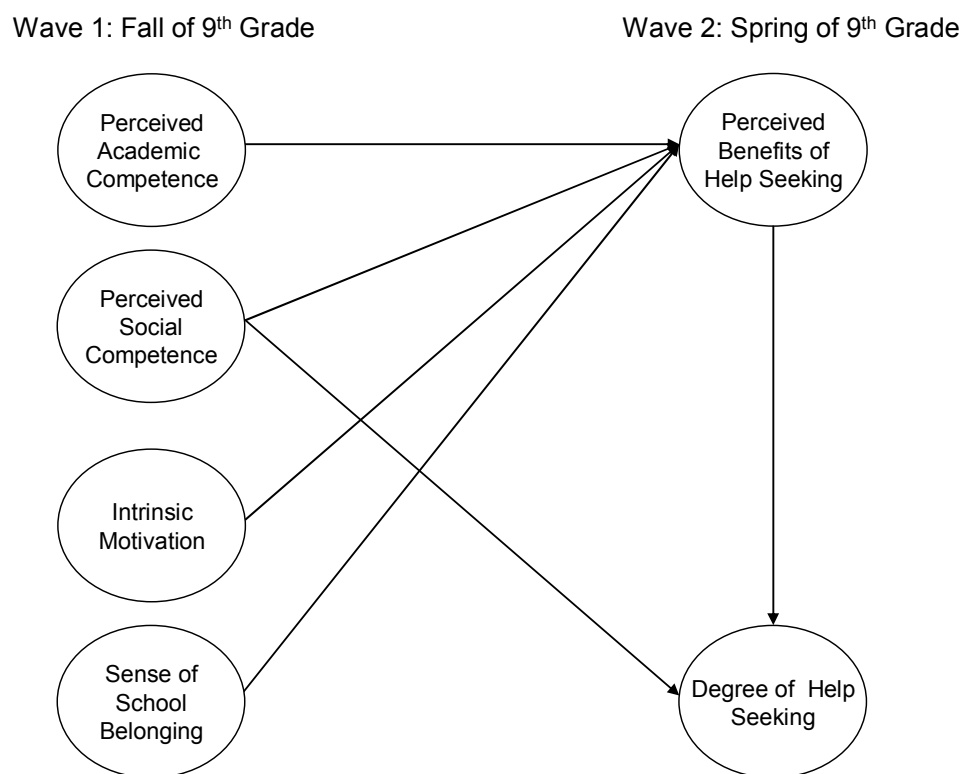


Figure 7. Unstandardized Parameter Estimates and Standard Errors for the Best Fitting Mediation Model (Model 3)

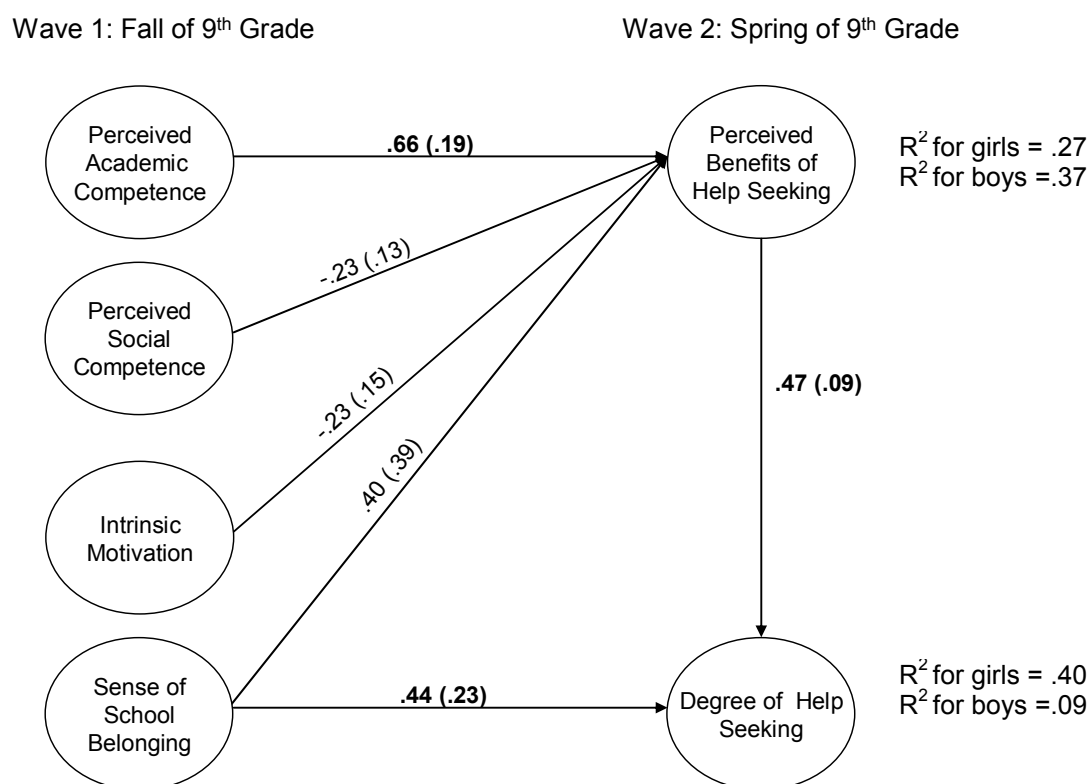


Figure 8. Structural Model Used to Test the Path from Perceived Benefits of Help-Seeking to Degree of Help-Seeking for Moderation by Gender (Model 6)

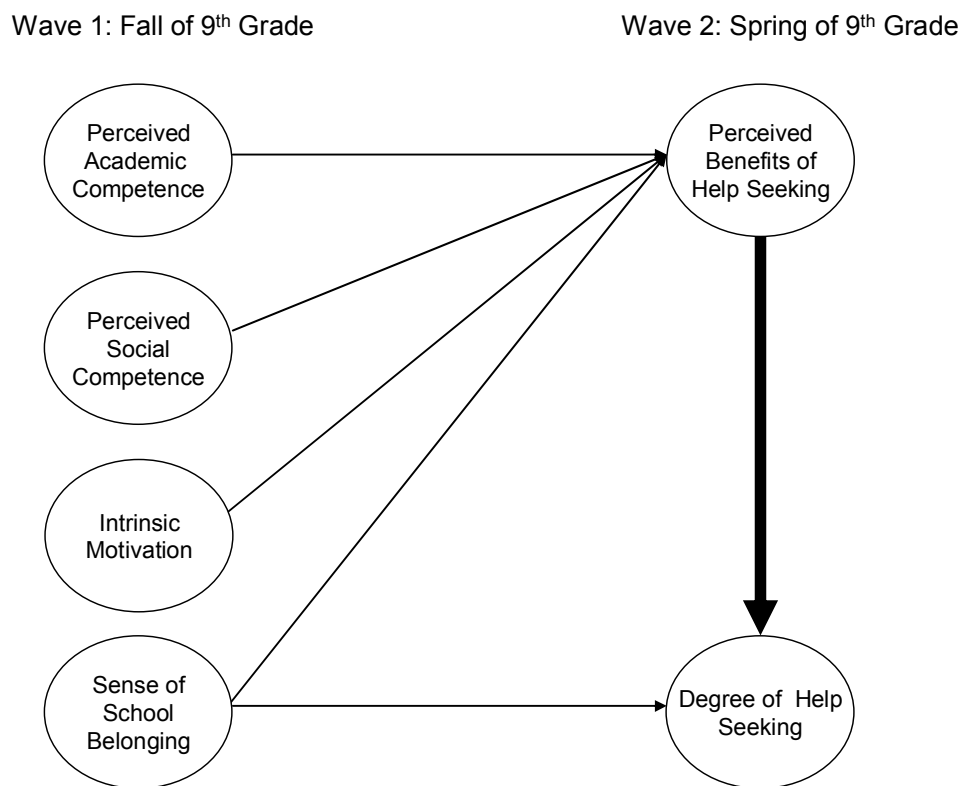


Figure 9. Structural Model Used to Test the Path from Perceived Academic Competence to Perceived Benefits of Help-Seeking for Moderation by Gender (Model 7)

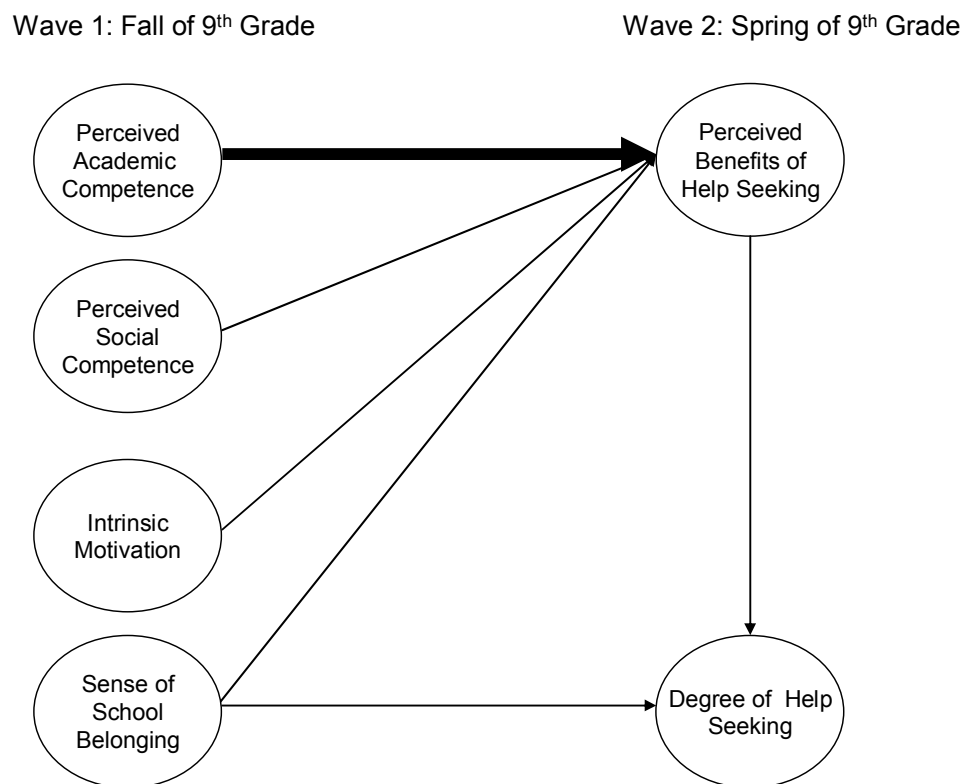


Figure 10. Structural Model Used to Test the Paths from Sense of School Belonging to Perceived Benefits of Help-Seeking and Degree of Help-Seeking for Moderation by Gender (Model 8)

Wave 1: Fall of 9th Grade

Wave 2: Spring of 9th Grade

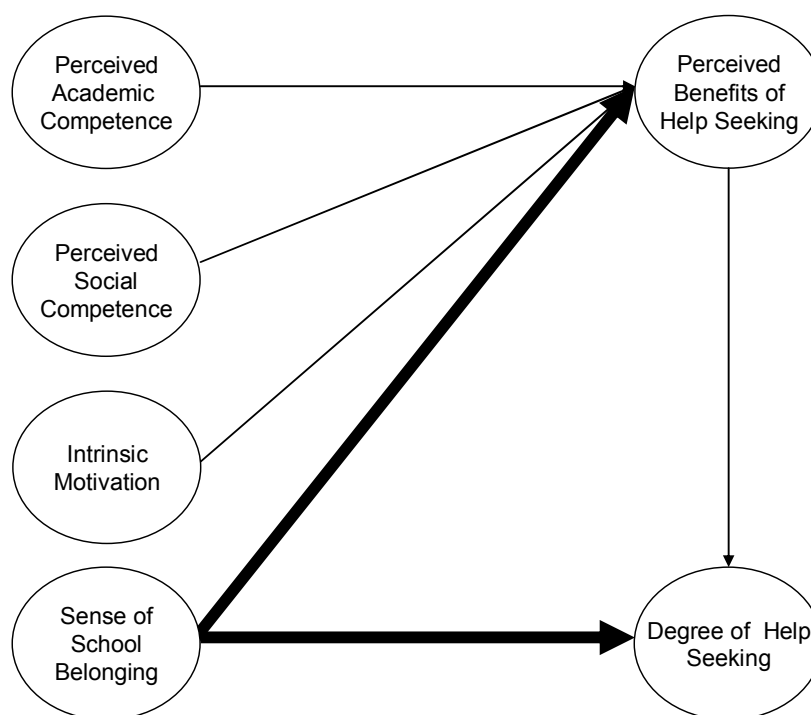


Figure 11. Structural Model Used to Test the Path from Intrinsic Motivation to Perceived Benefits of Help-Seeking for Moderation by Gender (Model 9)

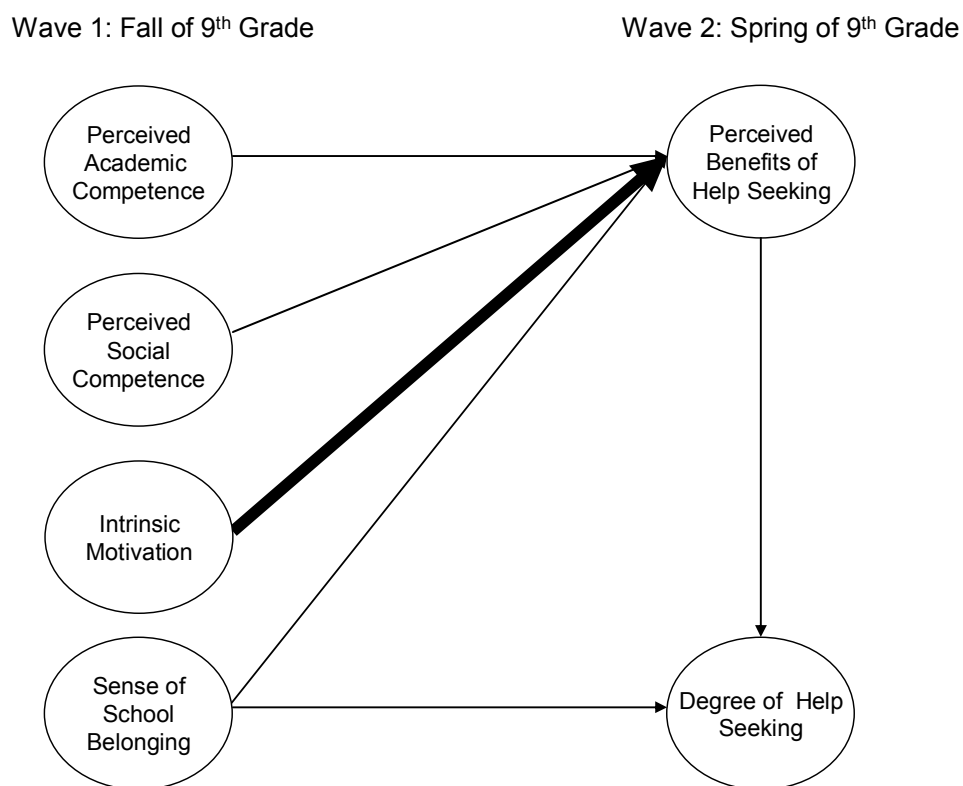


Figure 12. Structural Model Used to Test the Path from Perceived Social Competence to Perceived Benefits of Help-Seeking for Moderation by Gender (Model 10)

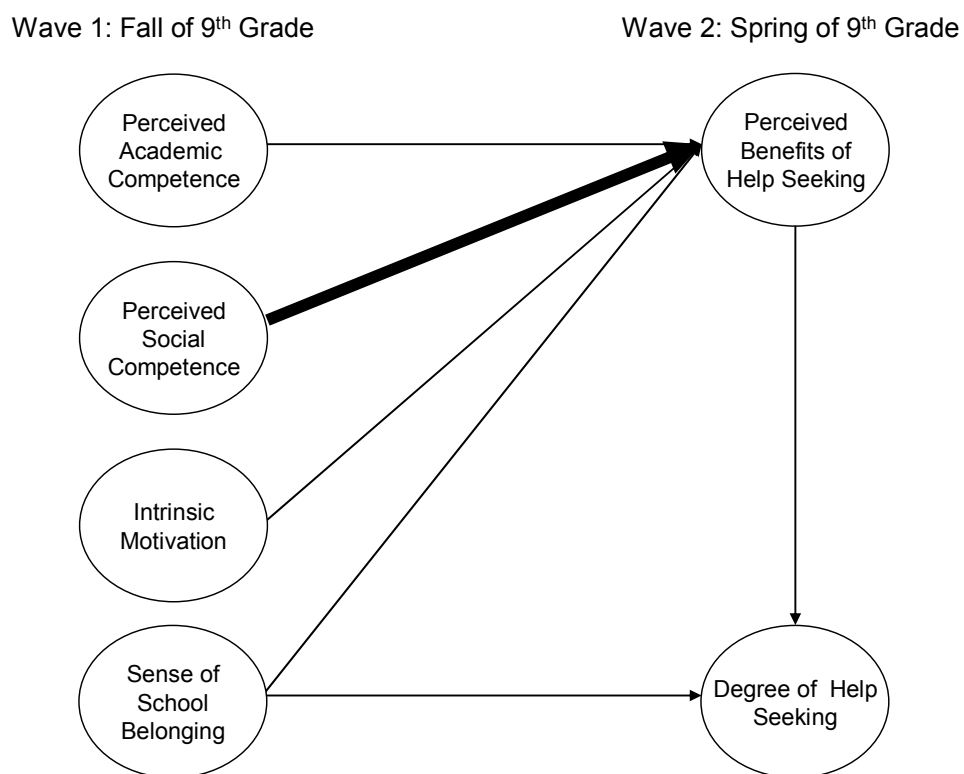
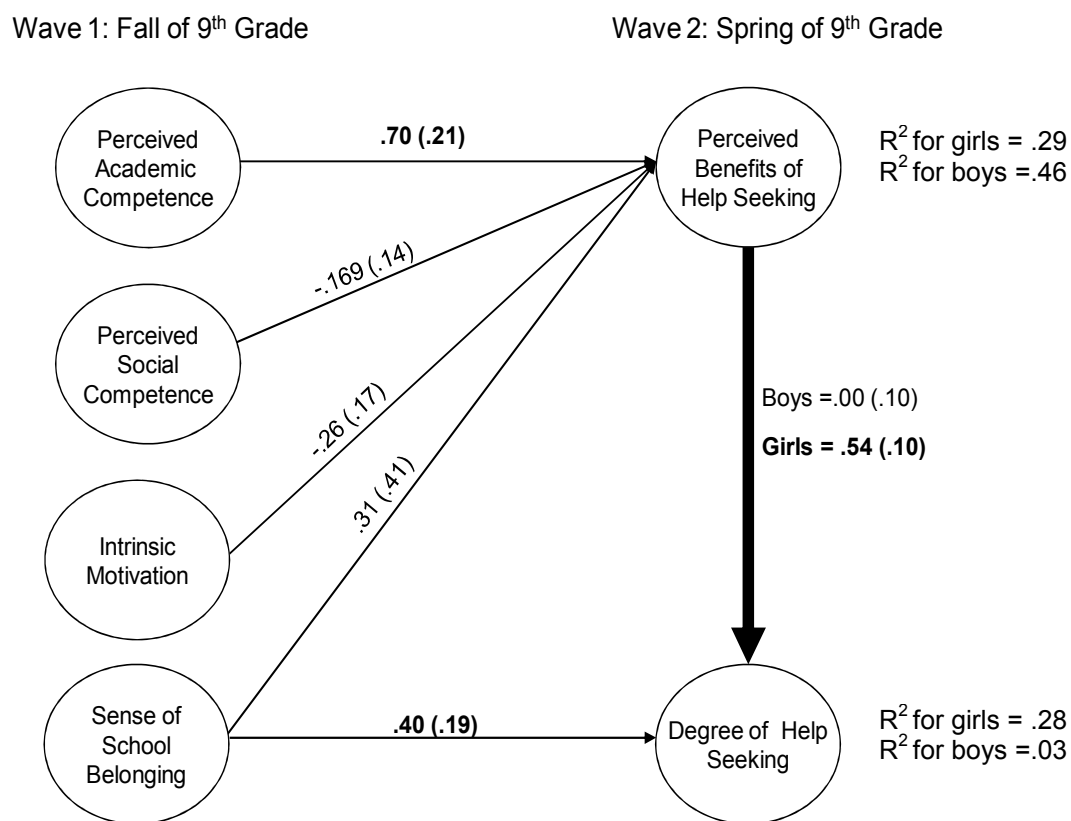


Figure 13. Unstandardized Parameter Estimates and Standard Errors for the Best Fitting Moderated Mediation Model (Model 6)



Appendix A

Perceived Academic Competence

Please circle one answer to indicate how well you can do the following things.

<i>How well can you...</i>	Not Very Well at All	Somewhat Well	Mostly Well	Very Well
1. finish homework assignments on time?	1	2	3	4
2. study when there are other things to do?	1	2	3	4
3. focus on school subjects?	1	2	3	4
4. plan your school work?	1	2	3	4
5. find a place to study without distractions?	1	2	3	4
6. motivate yourself to do school work?	1	2	3	4
7. join in class discussion?	1	2	3	4

Perceived Social Competence

Please circle one answer about how much you AGREE or DISAGREE with the following statements.

	Disagree	Slightly Disagree	Slightly Agree	Agree
1. If I want my friends to go along with me, I know what to say.	1	2	3	4
2. I know how to make friends with the opposite sex.	1	2	3	4
3. It's very easy for me to make new friends.	1	2	3	4
4. It is easy for me to get along with others.	1	2	3	4

School Belonging

Please circle one answer indicating how much each statement is true for you.

	Really False	Somewhat False	Somewhat True	Really True
1. It is hard for someone like me to be accepted at this school.	1	2	3	4
2. Most teachers at school are interested in me.	1	2	3	4
3. Sometimes I feel as if I don't belong at this school.	1	2	3	4
4. People at this school are friendly to me.	1	2	3	4
5. I feel very different from most other students here.	1	2	3	4
6. The teachers here respect me.	1	2	3	4
7. People here know I can do good work.	1	2	3	4
8. I feel proud of belonging to this school.	1	2	3	4
9. There's at least one teacher or other adult in this school I can talk to if I have a problem.	1	2	3	4
10. Teachers here are not interested in people like me.	1	2	3	4
11. People here notice when I'm good at something.	1	2	3	4
12. Other students here like me the way I am.	1	2	3	4
13. I can really be myself at this school.	1	2	3	4

Academic Motivation – Intrinsic Motivation

Please circle one answer indicating how much you agree or disagree with each statement about the reasons why you go to school.

<i>Why do you go to school?</i>	Disagree	Slightly Disagree	Slightly Agree	Agree
1. For the good feeling I get when I achieve something	1	2	3	4
2. School gives me the chance to feel good about trying to do my best in my schoolwork	1	2	3	4
3. For the happiness I get when I discover things I didn't know before	1	2	3	4
4. Because school is fun	1	2	3	4

Degree of Help Seeking

Circle the one answer that tells how true each statement is for you.

	Really False	Somewhat False	Somewhat True	Really True
1. I put down any answer instead of asking for help in class.	1	2	3	4
2. I don't ask for help in class, even if I don't understand the lesson.	1	2	3	4
3. I like to ask questions in class.	1	2	3	4
4. Even if the work is too hard to do on my own, I won't ask for help in class.	1	2	3	4
5. I would rather do worse on schoolwork than ask for help in class.	1	2	3	4

Perceived Benefits of Help Seeking

Please circle one answer indicating how much you agree or disagree with each statement about the reasons why you go to school.

	Really False	Somewhat False	Somewhat True	Really True
1. I like to ask for help in class because it helps me understand better.	1	2	3	4
2. If I don't understand something in class, I guess, instead of asking for help.	1	2	3	4
3. My classes are more interesting when I ask questions.	1	2	3	4
4. I think asking questions in class helps me learn.	1	2	3	4
5. I enjoy my classes more when I ask questions.	1	2	3	4

Appendix B

Independent Samples T-test Comparing Boys and Girls on Wave 1 and Wave 2 Variables

	<i>t</i>	<i>df</i>
Wave 1 variables		
Perceived academic competence	1.678	280
Perceived social competence	1.720	280
Intrinsic motivation	2.721**	281
Sense of school belonging	0.857	281
Wave 2 variables		
Degree of help-seeking behavior	4.447***	252
Perceived benefits help-seeking	2.549*	250

*. Value is significant at the .05 level.

**. Value is significant at the .01 level.

***. Value is significant at the .001 level.

Appendix C

Table C1

Thresholds for the Final Confirmatory Factor Analysis Model with the Independent Variables

Scale and Items	Category Values (Range = 2–4)	Threshold Value
Perceived academic competence		
focus on school subjects?	Category 4 vs.	-0.930
find a place to study without distractions?	Category 3	0.195
	Category 2	-0.496
motivate yourself to do school work?	Category 3	0.359
	Category 2	-0.754
join in class discussion?	Category 3	0.232
	Category 2	-0.206
	Category 3	0.339
Perceived social competence		
If I want my friends to go along with me, I know what to say.	Category 4 vs.	-1.237
I know how to make friends with the opposite sex.	Category 3	-0.261
It's very easy for me to make new friends.	Category 2	-1.414
	Category 3	-0.531
It is easy for me to get along with others.	Category 2	-1.301
	Category 3	-0.279
	Category 2	-1.654
	Category 3	-0.410
Intrinsic motivation		
For the good feeling I get when I achieve something	Category 4 vs.	-1.441
School gives me the chance to feel good about trying to do my best in my schoolwork	Category 3	-0.352
For the happiness I get when I discover things I didn't know before	Category 2	-1.379
	Category 3	-0.364
	Category 2	-1.238
	Category 3	-0.240

Table C1

Thresholds for the Final Confirmatory Factor Analysis Model with the Independent Variables (Continued)

Scale and Items	Category Values (Range = 2-4)	Threshold Value
<u>Sense of school belonging</u>		
Most teachers at school are interested in me.	Category 4 vs.	-0.326
	Category 3	0.905
People at this school are friendly to me.	Category 4 vs.	-1.182
	Category 3	0.278
The teachers here respect me.	Category 4 vs.	-1.661
	Category 3	-0.408
People here know I can do good work.	Category 4 vs.	-1.217
	Category 3	-0.094
I feel proud of belonging to this school.	Category 4 vs.	-1.132
	Category 3	-0.263
There's at least one teacher or other adult in this school I can talk to if I have a problem.	Category 4 vs.	-0.765
	Category 3	-0.167
Other students here like me the way I am.	Category 4 vs.	-1.214
	Category 3	-0.040
I can really be myself at this school.	Category 4 vs.	-1.056
	Category 3	-0.106
It is hard for someone like me to be accepted at this school.	Category 4 vs.	-1.063
	Category 3	-0.390
Sometimes I feel as if I don't belong at this school.	Category 4 vs.	-0.917
	Category 3	-0.273
I feel very different from most other students here.	Category 4 vs.	-0.305
	Category 3	0.485
Teachers here are not interested in people like me.	Category 4 vs.	-1.089
	Category 3	-0.408

Table C2

Thresholds for the Final Confirmatory Factor Analysis Model with the Dependent Variables

Scale and Items	Category Values (Range = 2-4)	Threshold Value
<u>Perceived benefits of help-seeking</u>		
I like to ask for help in class because it helps me understand better.	Category 4 vs. Category 2	-1.141
I like to ask questions in class.	Category 4 vs. Category 3	0.334
My classes are more interesting when I ask questions.	Category 4 vs. Category 2	-0.678
I enjoy my classes even more when I ask questions	Category 4 vs. Category 3	0.604
	Category 4 vs. Category 2	-0.714
	Category 4 vs. Category 3	0.441
	Category 4 vs. Category 2	-0.590
	Category 4 vs. Category 3	0.419
<u>Degree of help-seeking</u>		
I put down any answer instead of asking for help in class.	Category 4 vs. Category 2	-0.476
I don't ask for help in class, even if I don't understand the lesson.	Category 4 vs. Category 3	0.528
If I don't understand something in class, I guess, instead of asking for help.	Category 4 vs. Category 2	-0.638
Even if the work is too hard to do on my own, I won't ask for help in class.	Category 4 vs. Category 3	0.162
I would rather do worse on schoolwork than ask for help in class.	Category 4 vs. Category 2	-0.408
	Category 4 vs. Category 3	0.454
	Category 4 vs. Category 2	-0.443
	Category 4 vs. Category 3	0.250
	Category 4 vs. Category 2	-1.185
	Category 4 vs. Category 3	-0.356

Table C3

Thresholds for Final Structural Model

Scale and Items	Category Values (Range = 2-4)	Threshold Value
Perceived academic competence		
focus on school subjects?	Category 4 vs.	-0.969
	Category 3	0.209
find a place to study without distractions?	Category 4 vs.	-0.495
	Category 3	0.367
motivate yourself to do school work?	Category 4 vs.	-0.753
	Category 3	0.239
join in class discussion?	Category 4 vs.	-0.212
	Category 3	0.355
Perceived social competence		
If I want my friends to go along with me, I know what to say.	Category 4 vs.	-1.263
	Category 3	-0.269
I know how to make friends with the opposite sex.	Category 4 vs.	-1.392
	Category 3	-0.526
It's very easy for me to make new friends.	Category 4 vs.	-1.303
	Category 3	-0.282
It is easy for me to get along with others.	Category 4 vs.	-1.644
	Category 3	-0.412
Intrinsic motivation		
For the good feeling I get when I achieve something	Category 4 vs.	-1.446
	Category 3	-0.353
School gives me the chance to feel good about trying to do my best in my schoolwork	Category 4 vs.	-1.366
	Category 3	-0.361
For the happiness I get when I discover things I didn't know before	Category 4 vs.	-1.253
	Category 3	-0.243

Table C3

Thresholds for Final Structural Model (Continued)

Scale and Items	Category Values (Range = 2-4)	Threshold Value
Sense of school belonging		
Most teachers at school are interested in me.	Category 4 vs. Category 2	-0.320
People at this school are friendly to me.	Category 4 vs. Category 3	0.892
The teachers here respect me.	Category 4 vs. Category 2	-1.152
People here know I can do good work.	Category 4 vs. Category 3	0.269
I feel proud of belonging to this school.	Category 4 vs. Category 2	-1.661
There's at least one teacher or other adult in this school I can talk to if I have a problem.	Category 4 vs. Category 3	-0.411
Other students here like me the way I am.	Category 4 vs. Category 2	-1.205
I can really be myself at this school.	Category 4 vs. Category 3	-0.094
It is hard for someone like me to be accepted at this school.	Category 4 vs. Category 2	-1.142
Sometimes I feel as if I don't belong at this school.	Category 4 vs. Category 3	-0.266
I feel very different from most other students here.	Category 4 vs. Category 2	-0.766
Teachers here are not interested in people like me.	Category 4 vs. Category 3	-0.168
	Category 4 vs. Category 2	-1.198
	Category 4 vs. Category 3	-0.039
	Category 4 vs. Category 2	-1.079
	Category 4 vs. Category 3	-0.110
	Category 4 vs. Category 2	-1.033
	Category 4 vs. Category 3	-0.377
	Category 4 vs. Category 2	-0.912
	Category 4 vs. Category 3	-0.273
	Category 4 vs. Category 2	-0.306
	Category 4 vs. Category 3	0.486
	Category 4 vs. Category 2	-1.082
	Category 4 vs. Category 3	-0.407

Table C3

Thresholds for Final Structural Model (Continued)

Scale and Items	Category Values (Range = 2-4)	Threshold Value
<u>Perceived benefits of help-seeking</u>		
I like to ask for help in class because it helps me understand better.	Category 4 vs. Category 2	-1.170
I like to ask questions in class.	Category 4 vs. Category 2	0.285
My classes are more interesting when I ask questions.	Category 4 vs. Category 2	-0.678
	Category 4 vs. Category 2	0.531
	Category 4 vs. Category 2	-0.679
	Category 4 vs. Category 2	0.503
<u>Degree of help-seeking</u>		
I put down any answer instead of asking for help in class.	Category 4 vs. Category 2	-0.483
I don't ask for help in class, even if I don't understand the lesson.	Category 4 vs. Category 2	0.560
If I don't understand something in class, I guess, instead of asking for help.	Category 4 vs. Category 2	-0.654
Even if the work is too hard to do on my own, I won't ask for help in class.	Category 4 vs. Category 2	0.167
I would rather do worse on schoolwork than ask for help in class.	Category 4 vs. Category 2	-0.418
	Category 4 vs. Category 2	0.469
	Category 4 vs. Category 2	-0.453
	Category 4 vs. Category 2	0.262
	Category 4 vs. Category 2	-1.198
	Category 4 vs. Category 2	-0.361

Appendix D

Table D1

Estimated Correlation Matrix for Latent Variables for the Final Confirmatory Factor Analysis Model (Girls)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.407	1.000			
Intrinsic motivation	0.668	0.241	1.000		
Sense of school belonging	0.661	0.530	0.576	1.000	
Wave 2 variables					
Degree of help- seeking behavior	-	-	-	-	1.000
Perceived benefits help-seeking	-	-	-	-	0.614

Table D2

Estimated Correlation Matrix for Latent Variables for the Final Confirmatory Factor Analysis Model (Boys)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.448	1.000			
Intrinsic motivation	0.436	0.436	1.000		
Sense of school belonging	0.785	0.497	0.669	1.000	
Wave 2 variables					
Degree of help- seeking behavior	-	-	-	-	1.000
Perceived benefits help-seeking	-	-	-	-	0.037

Table D3

Estimated Correlation Matrix for Latent Variables for the Final Structural Model (Girls)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.421	1.000			
Intrinsic motivation	0.705	0.241	1.000		
Sense of school belonging	0.674	0.527	0.577	1.000	
Wave 2 variables					
Degree of help- seeking behavior	0.423	0.193	0.263	0.387	1.000
Perceived benefits help-seeking	0.515	0.174	0.277	0.366	0.663

Table D4

Estimated Correlation Matrix for Latent Variables for the Final Structural Model (Boys)

	Perceived academic competence	Perceived social competence	Intrinsic motivation	Sense of school belonging	Degree of help- seeking behavior
Wave 1 variables					
Perceived academic competence	1.000				
Perceived social competence	0.432	1.000			
Intrinsic motivation	0.435	0.435	1.000		
Sense of school belonging	0.734	0.497	0.652	1.000	
Wave 2 variables					
Degree of help- seeking behavior	0.124	0.083	0.109	0.168	1.000
Perceived benefits help-seeking	0.494	0.085	0.088	0.336	0.060