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Symbolic self-completion theory : the impact of a threat to undergraduate students' academic competence beliefs

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ABSTRACT

SYMBOLIC SELF-COMPLETION THEORY: THE IMPACT OF A THREAT TO UNDERGRADUATE STUDENTS' ACADEMIC COMPETENCE BELIEFS

Matthew David Lange, PhD
Department of Leadership, Educational Psychology, and Foundations
Northern Illinois University, 2015
Stephen M. Tonks, Director

The purpose of this dissertation was to investigate the influence that a threat to university students' academic competence had on their reported competence, self-efficacy, and the avoidance of help seeking in academics. This dissertation was conceptualized based on symbolic self-completion theory which maintains that when individuals are actively committed to pursuing certain self-definitions, they define themselves as complete (e.g., competent or possessing a desired quality) through the use of symbols of attainment. These symbols can consist of any behavior or material possession that is accepted by others as proof that the individual possesses the desired self-definition. In the present study, the desired quality is being a competent university student, and potential symbols of attainment are measures of perceived competence, self-efficacy, and the avoidance of help seeking in academics. Providing written advice to future undergraduate students was also examined as an additional symbol of attainment.

A pre/posttest design was used to gather measures surrounding an academic threat to current undergraduate students (n=203). Results of this dissertation support that being an undergraduate student does represent a self-defining goal and suggest that some students are invested in establishing and maintaining competence within this desired self-definition. This dissertation found that following an academic threat the experimental group did exaggerate (i.e., increase) responses to some of the measures. In addition, both academic commitment and self-

esteem were important in determining the extent to which a student engaged in the symbolic self-completion process using measures that focus on competence, self-efficacy, and the avoidance of help seeking in academics.

NORTHERN ILLINOIS UNIVERSITY
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SYMBOLIC SELF-COMPLETION THEORY: THE IMPACT OF A THREAT TO
UNDERGRADUATE STUDENTS' ACADEMIC COMPETENCE BELIEFS.

BY

MATTHEW DAVID LANGE
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A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
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Doctoral Director:
Stephen M. Tonks

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CHAPTER ONE

INTRODUCTION TO THE STUDY

The ability to seek academic help when needed is often considered to be an important self-regulated learning strategy (Karabenick, 2011). Research largely supports that students who engage in this and other self-regulatory strategies are more academically successful (Karabenick & Dembo, 2011). As a result, numerous studies have focused on identifying various factors which correlate to students' academic help seeking behaviors, often with the goal to design interventions that encourage academic help seeking by struggling students. Two factors that have received considerable attention for their influence are perceived academic competence and academic self-efficacy. However, while it is generally accepted that students of higher perceived competence and self-efficacy in academics will be more likely to seek help when needed (Karabenick, 2011), studies examining this relationship have not always proven consistent (Butler, 1998; Gore, 2006; Parjares, Cheong, & Oberman, 2004).

One explanation for this inconsistency is that researchers examining factors related to academic help seeking often view academics as consisting of objective rather than self-defining goals. An objective goal is viewed as a single task to be accomplished (e.g., completing an exam), while a self-defining goal can be described as a commitment to establishing and maintaining competence in a certain self-definition (e.g., being a competent undergraduate student; Brunstein, 2000). This is an important consideration in the study of academic help seeking, as it has been demonstrated that people respond differently to failures within a self-

defining pursuit (Brunstein & Gollwitzer, 1996). Symbolic self-completion theory (SSCT; Wicklund & Gollwitzer, 1982) offers one theoretical explanation for these differences by suggesting individuals often respond to threats by trying to symbolically rebuild competence in their desired self-definitions if they are committed to those self-definitions. Based on SSCT, it is then possible that when a desired self-definition is threatened an individual might appear competent even though an actual deficiency may exist.

The purpose of this study was to extend SSCT to examine the self-defining goal (i.e., desired self-definition) of being an undergraduate student. Regarding this self-defining goal, SSCT suggests that undergraduate students likely engage in symbolic behaviors intended to establish competence in this desired self-definition. As a result, when an undergraduate student experiences a threat to this desired self-definition (e.g., a failed exam) he or she should become more likely to engage in symbolic behaviors that can be seen as bolstering the desired self-definition while avoiding those things that may signal further weakness.

Therefore, this study examined the influence of a threat to academic competence beliefs on undergraduate students' reported competence, self-efficacy, and avoidance of help seeking in academics. It was expected that undergraduate students would respond to an academic threat by exaggerating (i.e., increasing) self-report measures of perceived competence and self-efficacy in academics using each to re-establish competence in the desired self-definition. However, despite these apparent increases, it was also expected that students would become more likely to avoid seeking academic help as this would acknowledge a weakness. Based on SSCT, these responses were expected to be strongest in those students most committed to the desired self-definition of being an undergraduate student, which could help to explain the inconsistencies of some prior

academic help seeking research. Therefore, SSCT could offer a plausible explanation for why some undergraduate students may avoid seeking needed academic help.

Symbolic Self-Completion Theory

Symbolic self-completion theory (Wicklund & Gollwitzer, 1982) maintains that when an individual is actively committed to pursuing a certain self-definition, whether as an athlete, artist, or undergraduate student, he or she will define him or herself as complete (e.g., competent, possessing the desired quality) through the use of symbols of attainment. These symbols consist of any behavior or material possession which signals to others that the individual possesses the desired self-definition. It is then through symbols of attainment, and the subsequent feedback that they produce, that individuals not only establish but also maintain these desired self-definitions over time.

In the event that the individual feels threatened (i.e., incompetent) within his or her desired self-definition, SSCT also suggests that an increased motivation will exist to re-establish competence through the use of more or alternate symbols of attainment (Gollwitzer, Wicklund, & Hilton, 1982). Therefore, symbols of attainment can be seen as not only establishing competence in support of a desired self-definition but also as a way of masking shortcomings within the desired self-definition. Based on SSCT, it is then possible that when the desired self-definition is threatened individuals may use symbols of attainment to once again appear competent even though an actual deficiency may exist. This process, examining self-symbolizing behaviors following a threat to a desired self-definition, is the basis of the majority of research

concerning SSCT and was also the focus of the current study in which SSCT was extended to examine the desired self-definition of being an undergraduate student.

It is important to note that SSCT only makes predictions concerning self-defining goals, which are defined as a commitment to establishing a desired self-definition (Brunstein, 2000). While self-defining goals will be further distinguished from objective goals in Chapter Two, they consist of goals that serve to demonstrate not that individuals have accomplished something but that they possess a certain quality (Wicklund & Gollwitzer, 1982). Therefore, a self-defining goal is never truly accomplished, as the desired self-definition must be continually maintained. Symbols of attainment then become the evidence by which our desired self-definitions are established and maintained (Wicklund & Gollwitzer, 1982).

Symbols of Attainment

Symbols of attainment are considered “the building blocks of the self-definition” (Wicklund & Gollwitzer, 1982, p. 33). Symbols of attainment can be as simple as direct statements of possessing the desired self-definition. For example, an individual actively committed to being an undergraduate student may simply tell others, “I am a student.” However, it often takes other symbolic behaviors to provide sufficient feedback for an individual to confirm that he or she does possess a certain quality.

Therefore, symbols of attainment can consist of a wide variety of words or behaviors that work to symbolically communicate to others that one’s desired self-definition is complete (Gollwitzer, 1986). Symbols of attainment essentially help move a desired self-definition from a private thought to a social reality, confirming through the feedback received that the individual

does possess the quality in question (Wicklund & Gollwitzer, 1982). Therefore, symbols of attainment include any behavior or material possession which is thought to convey a sense of completion (i.e., competence) within any given desired self-definition.

A core component of SSCT is that these various symbols of attainment are substitutable (Wicklund & Gollwitzer, 1981), which is to say they work interchangeably, although not necessarily to the same degree, in the construction and maintenance of a desired self-definition. For example, an individual committed to the desired self-definition of being a university professor may employ a wide variety of symbols of attainment to establish his or her competence, but that certain behaviors (e.g., publishing an academic article) may act as stronger symbols of attainment than others (e.g., wearing professional clothes). While there is no set formula for determining the impact of any given symbol of attainment, the degree to which a symbol supports a given self-definition increases the more the individual perceives that the symbol is publicly acknowledged and widely accepted as proof (Gollwitzer, 1986).

Given that any desired self-definition can be established and supported through multiple symbols of attainment, SSCT has also found that these symbols operate in a “hydraulic fashion” (Wicklund & Gollwitzer, 1982). This suggests that as various symbols of attainment are used, which is to say it becomes more well known that an individual possesses the desired self-definition, the need for further self-symbolizing behaviors is reduced. For example, if one is already widely recognized as a professional artist, the need for further self-symbolizing behaviors would diminish. On the other hand, amateur artists still need to employ a great number of symbols of attainment if they too are to feel complete (i.e., competent) in this desired self-definition. Similarly, the more well known it is that an individual is a competent professor or

undergraduate student, the less he or she will need to accumulate further evidence through additional symbols of attainment.

This process of symbol substitution can be seen in a study by Harmon-Jones, Schmeichel, and Harmon-Jones (2009) in connection to academia. It was found that faculty members in departments receiving higher rankings from the National Research Council (NRC) were less likely to display professional titles on their department webpage than faculty members whose department had received a lower ranking. Therefore one public symbol of competence (NRC ranking) worked as a substitute for another (the use of professional titles). This was also seen on an individual level where faculty members with lower rates of publications and citations were more likely to include professional titles (e.g., Ph.D., Professor, etc.) in their email signature files, which suggests that one symbol of attainment substituted for another in establishing competence within the desired self-definition.

Threats to a Desired Self-Definition

The primary prediction of SSCT, and focus of the majority of research concerning SSCT, is that following a threat to a self-defining goal, an increased motivation will exist to re-establish competence in the desired self-definition. A threat is considered to be anything that potentially signals that the desired self-definition is incomplete, which is to say that the individual feels incompetent within the specific area. As a result a tension develops to repair the damage, to re-establish competence in the desired self-definition through the use of more or alternate symbols of attainment (Gollwitzer et al., 1982). However, symbols of attainment are not used strategically (Wicklund & Gollwitzer, 1982), and therefore following a threat, individuals will most often use

the quickest and most easily accessible symbol of attainment to re-establish competence in the desired self-definition.

This is demonstrated in a study by Brunstein and Gollwitzer (1996) in which some subjects experienced a threat to their desired self-definition of becoming a physician. These individuals were more likely to perform better on a subsequent mental concentration task, so long as the task was presented as being relevant to work as a physician. The authors' explanation was that when experiencing a sense of incompleteness (i.e., incompetence), these subjects worked harder when they believed the following task could be used as an alternate symbol of attainment. Therefore, following a threat they were motivated to re-establish competence in their desired self-definition using what was the first and most easily accessible symbol of attainment.

Furthermore, a study by Gollwitzer, Marquardt, Scherer, and Fujita (2013) demonstrated this process within a group of law students. This study provided some subjects with a threat to their desired self-definition, followed by an opportunity to re-establish competence. However, this study also included an assessment of commitment to the desired self-definition of being a lawyer. Results showed that if highly committed to becoming a lawyer, subjects were more likely to engage in specific self-symbolizing behaviors following the threat in order to re-establish competence.

Symbolic Self-Completion in Undergraduates

While many studies of SSCT have utilized undergraduate populations, this dissertation study was the first study to use the status of being an undergraduate student as the desired self-definition. Based on SSCT, undergraduate students committed to this particular self-definition

likely employ numerous symbols of attainment as they work to establish and maintain their academic competence. However, although applying to and actively attending a university could be viewed as signaling a commitment to this desired self-definition, it is possible that a student may attend a university for reasons beyond his or her own intentions (e.g., pressure from his or her parents). Therefore, this study utilized a measure of goal commitment. It was expected that students most committed to this self-definition would experience the strongest motivation toward self-completion.

Based on SSCT, when an undergraduate student experiences a threat to his or her academic competence an increased motivation should exist to re-establish the desired self-definition through available symbols of attainment. As a result, when an undergraduate student experiences a threat to this desired self-definition (e.g., a failed exam) he or she would become more likely to engage in symbolic behaviors that can be seen as bolstering the desired self-definition while avoiding those things that may signal further weakness. However, in response to a threat, the use of symbols of attainment is not strategic and individuals will often utilize the most readily available opportunity to re-establish competence (Wicklund & Gollwitzer, 1982). Therefore, this study provided students with several separate self-assessments (described below) which were examined as potential symbols of attainment in connection to the desired self-definition of being an undergraduate student.

Symbols of Attainment in Undergraduate Students

Symbols of attainment can consist of a wide variety of words or behaviors that work to symbolically communicate that one's desired self-definition is complete (Gollwitzer, 1986).

Therefore, symbols of attainment in connection to the undergraduate student self-definition would include any behavior or material possession that is thought to convey academic competence. However, as with any potential symbol of attainment, it only matters if the individual believes that others will recognize the symbol as proof of possessing the desired self-definition (Gollwitzer, 1986). This suggests that numerous symbols of attainment in support of the desired self-definition of being an undergraduate student likely exist.

Potential symbols of being an undergraduate student could include participating in class discussions, joining academic clubs, or even deciding where to sit in class. However, the use of symbols of attainment is not strategic and individuals will often utilize the most readily available opportunity to establish competence (Wicklund & Gollwitzer, 1982). Therefore following an academic threat, providing students with self-assessments of perceived competence, self-efficacy, and avoidance of help seeking in academics should provide a readily available opportunity to re-establish competence in the desired self-definition.

I chose measures of perceived competence, self-efficacy, and the avoidance of help seeking in academics to investigate as potential symbols of attainment because each closely resembles two common outcomes that students encounter in facing real academic challenges. First, when confronted with a real academic threat (e.g., failing an exam) instructors often informally assess the student's ability to prepare for the next exam, essentially assessing what could be labeled either perceived competence or self-efficacy. Second, it is typically only when experiencing an academic threat that instructors offer or encourage students to seek additional assistance. Thus, whether students choose to seek or accept that help becomes another potential symbol in re-establishing competence as an undergraduate student.

While self-assessments of perceived competence, self-efficacy, and the avoidance of help seeking in academics were expected to act as symbols of attainment in support of the desired self-definition of being an undergraduate student, it was expected that they would operate with a different relationship. Following an academic threat, I expected students would exaggerate (i.e., increase) self-report measures of both perceived academic competence and academic self-efficacy as each of these assesses students' positive qualities related to student ability (e.g., Overall, I believe I am a good student). In contrast I expected that students would be more likely to avoid seeking academic help as this would only acknowledge a deficiency in the desired self-definition. Therefore, undergraduate students would associate themselves to those qualities seen as positive yet distance themselves from anything that would further threaten the desired self-definition, including seeking academic help.

It is important to note that this study focused on each self-assessment itself as a potential symbol of attainment. It is not being suggested that constructs such as perceived competence or self-efficacy in academics would actually change following an academic threat, but rather that students would exaggerate their responses in order to symbolically appear more competent. The assessment itself is viewed as a form of communication (i.e., a symbol of attainment) and therefore does not necessarily relate to the actual construct (e.g., self-efficacy) being measured. As all symbols of attainment are only effective insofar as they are perceived to have been accepted by others as proof of possessing the desired self-definition (Gollwitzer, 1986; Wicklund & Gollwitzer, 1982), the assessments only act as potential symbols of attainment if students believe others will accept them as proof of academic competence. In order to encourage students to see the self-assessments as potential symbols of attainment, students were informed that their responses may be used to help other undergraduate students.

Threats to the Desired Self-Definition of Undergraduate Students

Based on SSCT it was expected that following an academic threat (i.e., when students are made to feel incompetent) an increased motivation would exist to re-establish the desired self-definition through the use of symbols of attainment. Therefore, following an academic threat I expected that students would exaggerate their self-assessed perceived competence and self-efficacy in academics. However, where higher levels of perceived competence and self-efficacy in academics are usually associated with a greater use of self-regulated learning strategies, including seeking academic help when needed (Karabenick, 2011), I expected that students would also become more likely to avoid seeking academic help. According to SSCT, seeking help would acknowledge that a weakness does exist within the desired self-definition.

The academic threat used in the current study replicated a method by Wagner, Wicklund, and Shaigan (1990) in which undergraduate psychology students were asked to answer questions to which average undergraduate students would have no response (e.g., What special honors have you received for your work in your major area of study?). The inability to provide a response to these questions is thought to act as a temporary threat to the desired self-definition of being a competent undergraduate student. Therefore, this threat should increase the use of self-symbolizing behaviors as students attempt to re-establish competence. Subsequently, it was expected that students most committed to the desired self-definition of being an undergraduate student would be most likely to use the self-assessments of perceived competence, self-efficacy, and the avoidance of help seeking in academics in order to symbolically re-establish competence in the desired self-definition.

Purpose and Design of the Present Study

The purpose of the present study was to examine SSCT as a theoretical explanation for why some students may avoid seeking needed academic help. It was based on the specific prediction from SSCT that following a threat to a desired self-definition, an increased motivation will exist to re-establish competence through available symbols of attainment while also avoiding anything that would symbolically demonstrate further weakness. Therefore, following an academic threat, it was expected that current undergraduate students would exaggerate their self-assessed perceived competence and self-efficacy in academics but decrease their willingness to seek academic help. However, because SSCT only makes predictions concerning self-defining goals, a measure of academic goal commitment was also collected. It was expected that the degree to which students self-symbolize following an academic threat would be greatest in those most committed to this desired self-definition.

This study gathered measures in an experimental design in which some undergraduate students received a threat to their academic competence. This method remedied one common methodological flaw of many previous studies of academic help seeking that either do not measure academic threats or do so in a way far removed from the actual experience. Because only students experiencing an academic threat (e.g., failing an exam) would typically be seeking academic help, it was crucial to examine their response directly following a threat. Also, because SSCT suggests that after a threat an increased motivation will exist to re-establish the desired self-definition, surveying students about academic help seeking behaviors long after they have experienced an academic threat means they have likely already employed other alternate symbols

of attainment. Therefore, this study surveyed students immediately following a threat to their academic competence.

All students were given identical measures, including a measure of perceived competence (Losier, Vallerand, & Blais, 1993), self-efficacy (Solberg, O'Brien, Villareal, Kennel, & Davis, 1993), and avoidance of help seeking (Pajares, Cheong, & Oberman, 2004) in academics, at two times during the same semester. However, for some subjects the second survey began with a threat to academic competence creating an experimental group and a control group. It was expected that following the academic threat that those students would significantly increase in their perceived competence and self-efficacy in academics but would also be more likely to avoid seeking academic help. This result runs counter to the generally accepted belief that higher levels of perceived competence and self-efficacy in academics are positively related to students' use of self-regulated learning strategies, including seeking needed help (Karabenick, 2011). However, as suggested by SSCT, the motivation to self-symbolize should be strongest in those most committed to the desired self-definition of being an undergraduate student. Therefore, commitment to this desired self-definition was assessed using a five-item goal commitment scale (Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001).

In summary, the present study extended SSCT by examining the self-completion process in current undergraduate students by viewing their active involvement in academics to be a self-defining goal (i.e., a desired self-definition). As a self-defining goal, this suggests that students engage in the use of symbols of attainment as they establish and maintain competence in this desired self-definition, with the motivation toward self-completion being strongest in those most committed to this specific self-definition. This is the first study to investigate the role of being an undergraduate student as a desired self-definition and also to examine the influence of symbolic

self-completion on the avoidance of help seeking in academics. The results of this study, and specifically the theoretical framework of SSCT, can help explain previous studies concerning undergraduate academic help seeking behaviors. It is believed that through this framework improved interventions can be designed and a greater number of students in need of academic help can be reached.

Research Questions

This study was guided by the following research questions:

Research Question 1: Following a threat to academic competence, will current undergraduate students increase in their reported academic competence?

Research Question 2: Following a threat to academic competence, will current undergraduate students increase in their reported academic self-efficacy?

Research Question 3: Following a threat to their academic competence, will current undergraduate students increase in their avoidance of academic help seeking?

Research Question 4: Following a threat to their academic competence, will current undergraduate students provide more advice to future undergraduates regarding how to be a successful student?

Research Question 5: Will changes in reported academic competence, academic self-efficacy, avoidance of help seeking, or the advice provided following an academic threat be different for those students most committed to their academic studies?

Definitions of Terms

The following list contains operational definitions of terms used in this study.

1. **Symbolic Self-Completion Theory:** A theory grounded in symbolic interactionism that suggests when an individual is actively committed to pursuing a certain self-definition that he or she will define him or herself as complete (e.g., competent, possessing a desired quality) through the use of symbols of attainment (Wicklund & Gollwitzer, 1982).
2. **Self-Defining Goal:** A goal that serves to demonstrate not that an individual has accomplished something but that he or she possesses a certain quality (i.e., a desired self-definition). Therefore, the self-defining goal has no single indicator of attainment but is pursued through the use of symbols of attainment which work to establish and maintain the desired self-definition (Wicklund & Gollwitzer, 1982).
3. **Desired Self-Definition:** A self-definition refers to an individual's sense of possessing a relatively permanent quality (Wicklund & Gollwitzer, 1982). Referring to a self-definition as desired suggests an active commitment in which a person will use symbols of attainment to establish and maintain competence within his or her desired self-definition. Therefore, once an individual desires a self-definition, it can also be referred to as a self-defining goal. In the present study the desired self-definition of interest was being an undergraduate student. Commitment to this desired self-definition was measured using the Hollenbeck, Williams, Klein Goal Commitment Scale (HWK; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001; see Appendix A).

4. **Symbol of Attainment:** Any behavior or material possession which the individual perceives to symbolically communicate completion (i.e., competence) within the desired self-definition (Gollwitzer, 1986; Wicklund & Gollwitzer, 1982). This study investigated measures of competence, self-efficacy, and avoidance of help seeking in academics as potential symbols of attainment in support of the desired self-definition of being an undergraduate student.
5. **Academic Competence:** A general feeling of being adept at academic tasks (Anderman & Anderman, 2010). In this study, academic competence was measured using the Perception of Competence in Life Domains Scale — Academic Competence (PCLDS; Losier, Vallerand, & Blais, 1993; see Appendix B).
6. **Academic Self-Efficacy:** An individual's belief that he or she is capable of reaching a desired academic outcome (Bandura, 1977). It is the individual's belief that he or she can perform at a certain level in completing academic tasks (Schunk, 2008). In this study academic self-efficacy was assessed using the College Self-efficacy Inventory – Course Subscale (CSEI; Solberg, O'Brien, Villareal, Kennel, & Davis, 1993; see Appendix C), which asks students to rate their confidence in completing certain academic tasks (e.g., research a term paper).
7. **Avoidance of Academic Help Seeking:** This term refers to those times when a student recognizes the need for assistance but then chooses not to seek it (Pajares et al., 2004). In this study the avoidance of academic help seeking was primarily assessed by the Avoidance of Help-Seeking Scale (AHS; Pajares, Cheong, & Oberman, 2004; see Appendix D).

8. Self-Esteem: This term refers to a global evaluation of self-worth. In this study self-esteem was assessed using a single-item measure of global self-esteem (SISE; Robins, Hendin, & Trzesniewski, 2001; see Appendix G). Although the item included does not specifically reference academics, its inclusion in a survey focused on academic abilities may have caused students to view this item in relation to their status as an undergraduate student. In addition, Tafarodi and Milne (2002) suggest that self-esteem is comprised of not only self-liking (i.e., self-worth) but also self-competence. Therefore, the SISE is also examined as an indicator of self-competence in the self-completion process.

CHAPTER TWO

REVIEW OF LITERATURE

The following literature review is divided into two sections. The first section provides a review of symbolic self-completion theory (SSCT; Wicklund & Gollwitzer, 1982), including its origins and current applications. The second section reviews SSCT specifically in connection to current undergraduate students by viewing their academic involvement as a self-defining goal (i.e., desired self-definition). The section also introduces academic competence, academic self-efficacy, and the avoidance of academic help seeking, which act as the potential symbols of attainment in the present study.

Symbolic Self-Completion Theory

Symbolic self-completion theory (Wicklund & Gollwitzer, 1982) maintains that when an individual is actively committed to pursuing a certain self-definition, whether as an athlete, artist, or undergraduate student, he or she will define him or herself as complete (e.g., competent, possessing the desired quality) through the use of symbols of attainment. These symbols consist of any behavior or material possession that signals to others that the individual does possess the desired quality. It is through these symbols of attainment, and the subsequent feedback that they produce, that individuals not only establish but also maintain their desired self-definitions over time.

In the event that the individual feels threatened (i.e., incompetent) within his or her desired self-definition, SSCT also suggests that an increased motivation will exist to re-establish competence through the use of more or alternate symbols of attainment (Gollwitzer, Wicklund, & Hilton, 1982). Therefore, symbols of attainment can be seen as not only establishing competence in support of a desired self-definition but also as a way of masking shortcomings within the desired self-definition. Based on SSCT, it is then possible that when the desired self-definition is threatened, individuals may use symbols of attainment to once again appear competent even though an actual deficiency may exist. This process, examining self-symbolizing behaviors following a threat to a desired self-definition, is the basis of the majority of research concerning SSCT and was also the focus of the current study in which SSCT was extended to examine a threat to the desired self-definition of being an undergraduate student.

Origins of Symbolic Self-Completion Theory

Symbolic self-completion theory (Wicklund & Gollwitzer, 1982) is grounded in the theoretical perspective of symbolic interactionism in which the self (i.e., identity) is considered to be a social structure (Mead, 1934). This perspective suggests that the individual, including his or her identity, can only be understood as a product of social experience. Therefore, identity is not innate or inherent to the individual but rather is constructed through social interaction. It is then through interaction and the feedback this produces that an individual is able to establish and maintain a particular identity. Symbolic self-completion theory also focuses on the individual as a product of social experience, but rather than identity, SSCT makes predictions related to an individual's desired self-definitions, which will be discussed further below.

Although broadly grounded in the perspective of symbolic interactionism, Gollwitzer et al. (1982) specifically describe SSCT as an extension of Lewinian theory. Lewin (1926/1951) maintained that all goals employ a tension system which motivates behavior toward completion. This internal tension system serves to motivate behavior and is only relieved by either accomplishing or abandoning the original goal. However, this applies not only to goals developed as the result of biological needs (e.g., hunger) but also to goals developed solely as a result of our intentions, or what Lewin (1926/1951) termed quasi-needs. Quasi-needs (see below) are thought to arise solely through intentions to act (Wicklund & Gollwitzer, 1982) and so can include not only an individual's intention to complete a specific task (e.g., read a book) but also his or her intention to attain a particular self-definition (e.g., to be an athlete, student, etc.). Within SSCT this specific quasi-need, the intention or commitment to attain a particular self-definition, is referred to as a self-defining goal (Brunstein, 2000).

While self-defining goals will be further distinguished from objective goals below, they consist of goals that serve to demonstrate not that individuals have accomplished something but that they possess a certain quality (Wicklund & Gollwitzer, 1982). Therefore, a self-defining goal is never truly accomplished, as the quality must be continually maintained. Symbolic interactionism then suggests it is through the acknowledgement of others that an individual develops a sense of completion (i.e., competence) within the desired self-definition (Gollwitzer & Wicklund, 1985). It is through communication and feedback that the desired self-definition is established and maintained.

Symbolic self-completion theory labels any form of communication that signals competence within the self-defining goal to be a symbol of attainment. These symbols consist of any behavior or material possession that is believed to signal to others that the individual does

possess the desired self-definition (Wicklund & Gollwitzer, 1982). This means that even the clothing an individual wears or the possessions he or she purchases can be seen as potential symbols of attainment in support of a desired self-definition. This is a belief rooted in symbolic interactionism where even inanimate objects are thought to be a form of communication insofar as they are believed to convey meaning in our social interactions (Mead, 1934).

While symbolic interactionism and specifically the theory of Lewin (1926/1951) provide a foundation for SSCT, Lewin's (1926/1951) theory was further demonstrated and extended by three of his colleagues, each adding what becomes an important component of the self-completion process. First, the work of Ovsiankina (1928/1976) demonstrated that when subjects are interrupted from completing a given task the underlying tension system will remain. Ovsiankina's experiments involved asking subjects to complete various tasks, creating interruptions to their progress, and examining the likelihood that they would choose to resume working on the original task. It was found that following these interruptions, some of which lasted as long as 50 minutes, the majority of subjects not only resumed working on the original task but did so quickly and spontaneously. This was thought to demonstrate that once a subject was committed to a particular goal, the underlying tension remains despite interruption (Wicklund & Gollwitzer, 1982).

As described by Lewin (1926/1951), being asked to complete a task resulted in an internal tension system that remains intact even after lengthy interruptions, and once the tension system is developed, subjects had a motivation to see the task through to completion. The experiments by Ovsiankina (1928/1976) support this belief by suggesting when interrupted, subjects were left with a feeling of incompleteness and despite lengthy interruptions were motivated to resume working on the original goal (Wicklund & Gollwitzer, 1982). Within SSCT

this is extended to self-defining goals in which the underlying tension system would always remain, as the desired self-definition must be continually maintained. Therefore, once committed to a self-defining goal, or what Lewin (1926/1951) would describe as a quasi-need, an internal tension system will develop and motivate behavior towards maintaining a sense of completion (i.e., competence) in the desired self-definition. Within SSCT this sense of completion is then established and maintained through the use of symbols of attainment.

Lewin's (1926/1951) theory is further extended by two more of his colleagues, Mahler and Lissner. As described by Lewin (1935), the work of Mahler and Lissner demonstrated that following an interruption subjects are likely to resume working on the original goal, but the resulting tension system can be relieved through the use of substitute tasks. These tasks, although not identical to the original, were thought to be similar enough as to relieve the tension brought out by the initial goal. Thus, with the tension system being reduced by the similar substitute, subjects were less likely to resume the original task. For example, if interrupted from building a house out of toy blocks, and then given the substitute task of drawing a house, subjects would be less likely to return to the original goal of building a house.

However, Wicklund and Gollwitzer (1982) discussed that a substitute task only works to reduce the tension of the original goal if that substitute task focuses on the subject's "inner goal". This suggests that when an individual undertakes a task, at least part of the underlying tension system may be related to a goal broader than just the task at hand. Therefore, if given the task of building a house out of toy blocks, the tension system may not be related to solely constructing a house of toy blocks, or even producing a house of any variety. Rather the task may be associated with an inner goal such as being seen as creative or artistic. Therefore, any substitute task will only be effective insofar as it allows for an expression of this inner goal (Lewin, 1935).

In these experiments it was also noted that subjects were more likely to resume working on the original goal when that goal was viewed as signaling individual competence (Wicklund & Gollwitzer, 1982). This was also seen in the experiments by Ovsiankina (1928/1976) in which following an interruption subjects were more likely to resume working on a goal if they had reported a strong inner devotion to the task at hand. Therefore, it is not believed that individuals engage in self-symbolizing behaviors simply to appear competent in any area, but rather their efforts will be focused on establishing and maintaining the inner goal (i.e., their desired self-definition). Similar to the study by Ovsiankina (1928/1976), the more devoted (i.e., committed) an individual becomes to a self-defining goal, the greater the effort will be to establish and maintain competence in the desired self-definition through the use of symbols of attainment.

In summary, SSCT is based on symbolic interactionism which maintains that individuals actively construct their identity through interaction with others (Mead, 1934). Symbolic self-completion theory (Wicklund & Gollwitzer, 1982) suggests that once committed to attaining a desired self-definition, an underlying tension system will develop and motivate behavior toward completion (i.e., a self-defining goal). A sense of completion (i.e., competence) is then developed through the use of symbols of attainment. However, because a commitment to attaining a desired self-definition is believed to represent a self-defining goal, the desired self-definition is never truly completed, as it must be continually maintained. However, different symbols of attainment may be used or substituted to establish and maintain competence in the desired self-definition.

An example of this process would be an individual who, through his or her own intentions, wishes to become an athlete. Desiring this self-definition would be thought to create a self-defining goal that can be described as a commitment to attaining the self-definition of being

an athlete (Brunstein, 2000). As a result, an internal tension system would develop that motivates completion of the desired self-definition through the use of symbols of attainment. The more committed the individual is to this inner goal of being an athlete, the greater the motivation will be to establish and maintain competence in this desired self-definition.

However, just as a biological need such as hunger can be satisfied in numerous ways (e.g., eating pizza or a cheeseburger, etc.), the desired self-definition of being an athlete could be satisfied through numerous substitutable symbols of attainment (Gollwitzer, 1993). These symbols could include participating in athletic events, being seen exercising, or through wearing athletic clothing. Each of these potential symbols of attainment can be seen as communicating the desired self-definition of being an athlete. It is then through these symbols of attainment that a sense of completion (i.e., competence) will develop so long as it is believed that others have accepted the symbols of attainment as sufficient evidence of the desired self-definition.

In the present study SSCT was extended to the desired self-definition of being an undergraduate student. Through the act of applying to and attending a university, current undergraduate students are believed to be demonstrating a quasi-need, an intention to follow through toward the goal of graduation. However, while graduation may act as one strong symbol of attainment that establishes competence as a student, a tension system should exist throughout a student's education as he or she works toward this ultimate goal. Thus it is likely that all students employ other symbolic substitutes to establish their competence en route to graduation. The more committed a student is to this particular desired self-definition, the more likely the student is to engage in symbolic self-completion. Therefore this study included a measure of goal commitment on which predictions of SSCT can be tested.

Core Conditions of Symbolic Self-Completion Theory

While symbolic interactionism provides a foundation for SSCT, there are several specific core conditions that must be considered before predictions can be made. First among these is that SSCT only attempts to make predictions related to self-defining goals which will be distinguished from objective goals. Second, symbols of attainment that are used in support of a self-defining goal (i.e., desired self-definition) are considered to be substitutable. Last, these conditions will be used to define what exactly constitutes a symbol of attainment. Each of these conditions will be discussed further before examining the predictions that can be generated using SSCT.

Self-Defining Goals

One important distinction in the application of SSCT is that this process only occurs within self-defining goals, which Wicklund and Gollwitzer (1982) describe as the pursuit of a self-definition. A self-definition can then be described as an identity-related goal (e.g., to be intellectual, athletic, etc.) to which a person becomes committed (Gollwitzer, Sheeran, Michalski, & Seifert, 2009). Once committed, an internal tension system develops and motivates behavior toward completion (Lewin, 1926/1951), with a sense of completion being established through the use of symbols of attainment (Wicklund & Gollwitzer, 1982). Therefore, a self-defining goal can be summarized as a commitment to establishing and maintaining a desired self-definition (Brunstein, 2000).

However, having a commitment to a desired self-definition is not meant to imply that the individual desires only one self-definition. Rather, it is possible to desire numerous self-definitions with varying levels of commitment (Wicklund & Gollwitzer, 1982). For example, an individual who desires to be an athlete may also desire other self-definitions such as being a parent or being viewed as socially popular. While each of these desired self-definitions represents a self-defining goal, it is possible to be more strongly committed to one self-definition (e.g., being a parent) than another (e.g., being popular). It is then expected that the more an individual desires a particular self-definition the stronger the motivation will be to complete the self-definition through the use of symbols of attainment.

While a self-defining goal can be summarized as a commitment to a desired self-definition, it may also be further understood through a comparison to an objective goal. An objective goal is a task that is accomplished with all related behaviors simply acting as a means to an end. Although objective goals are also thought to create an internal tension system which motivates behavior toward completion (Lewin, 1926/1951), once the objective goal is accomplished the tension is relieved and has no further impact over behavior. For example, an objective goal may be to read one book. With this goal a tension develops until the book is completed, after which the tension would dissipate and have no further impact over behavior. The goal of reading one book is simply viewed as accomplished.

Therefore, while both self-defining and objective goals are considered to employ a tension system that motivates behavior toward completion (Lewin, 1926/1951), in the case of an objective goal, the goal and related tension only remain until the particular task is completed. In contrast, a self-defining goal is considered a constructive process where the individual is demonstrating not that they have accomplished something but that they possess a certain quality

(Wicklund & Gollwitzer, 1982). The goal and related tension is considered persistent, as the individual is trying to establish and maintain a certain reputation. For example, rather than an objective goal of reading one book, a related self-defining goal may be to be viewed as intellectual. Therefore it is not about the single accomplishment of reading but rather the ongoing construction of a particular image that is important. Reading may exist as part of this goal, but these objective goals are still better understood as serving a larger self-defining purpose (Wicklund & Gollwitzer, 1982).

In addition, not only are self-defining goals more persistent than objective goals, but they are also uniquely derived from public feedback. However, it is not the public acknowledgement that a goal was accomplished that is important (e.g., I know you read one book) but rather the acknowledgement that you actually possess a particular quality (e.g., I think you are intellectual) (Gollwitzer, 1986). Thus public acknowledgement is essential to knowing that the desired self-definition has been established, but even with public acknowledgement the self-defining goal will persist as the desired self-definition must be continually maintained.

A final distinction between objective and self-defining goals is that the tension underlying an objective goal can only be satisfied in one way; you must complete the task at hand. Here again, if the objective goal is to read one book, the tension will continue to exist until the book has actually been read. On the other hand, the tension underlying self-defining goals can be relieved in numerous ways. For example, if the self-defining goal is to be viewed as intellectual, numerous behaviors could work to symbolically establish this desired self-definition and reduce the associated tension (e.g., enrolling in a class, wearing glasses, etc.). In other words, it may not be necessary to actually be intelligent so long as symbolic behaviors can be used to communicate to others competence in the desired self-definition.

In the present study the self-defining goal (i.e., desired self-definition) of interest was that of being a current undergraduate student. Through applying to and attending a university students are demonstrating at least some level of a quasi-need, a commitment to complete this desired self-definition. Considering status as an undergraduate student to be a desired self-definition is in contrast to the majority of research concerning undergraduate academics that focus solely on objective goals encountered in education (e.g., taking an exam, completing a course paper, etc.). Rather than viewing academics as consisting of a series of objective goals, it is believed that these individual tasks are better understood as serving a larger self-defining purpose. This is consistent with Lewin's (1926/1951) theory by suggesting students are not invested in completing a series of unrelated objective tasks, but that each of these tasks likely relates to an inner goal (i.e., a desired self-definition) of being a competent undergraduate student.

Symbol Substitutions

Since numerous behaviors can work to symbolically establish competence in a desired self-definition, this presents the possibility that one symbol can substitute for another. Earlier research on task resumption (Lewin, 1926/1951) sheds light on how this process of symbol substitution takes place. Specifically, described by Lewin (1935), the work of Mahler and Lissner established that completing a similar task reduces the likelihood that subjects will resume working toward an original interrupted goal. The presumption is that the similarity of the substitute task worked to reduce the same tension developed from the original goal, therefore eliminating the need for subjects to return to the original task. Thus there exist numerous ways to

eliminate the tension developed from a single goal. It is this basic presumption that will also apply within SSCT where numerous symbols of attainment can work to establish and maintain competence in a specific self-definition.

However, described by Wicklund and Gollwitzer (1982) as a criticism of task resumption experiments is that subjects may have just grown bored or tired with the original goal, leading to lower resumption rates following the substitute task. This criticism was addressed by Lewin (1935) using experiments conducted by his colleague Lissner. In these experiments subjects were interrupted from completing a task, allowed to complete a substitute task, and examined for their likelihood of resuming the original task. However, in addition to presenting subjects with a similar task, the degree of difficulty of the substitute task was also manipulated. For example, following an interruption to molding a dog from clay, subjects were presented with a comparatively simple substitute task of molding a snake. It could be expected that this should decrease the tension associated with the original task (i.e., molding an animal), therefore eliminating the need to resume working on the original goal. However, in this case the results showed that the substitute task had no impact over behavior with all subjects resuming work toward the original goal as if no substitute task had been offered (Lewin, 1935).

One explanation for this result is that subjects were not being solely driven by the objective goal of molding an animal but that a tension toward a larger self-defining goal (e.g., being seen as creative, artistic, etc.) must also exist (Wicklund & Gollwitzer, 1982). Thus even though the substitute task was similar and allowed subjects to complete the objective goal, its ease did nothing to reduce the tension of the self-defining goal. In other words subjects were still left with something to prove; they were still invested in proving themselves as creative or talented.

According to Wicklund and Gollwitzer (1982), it is not the similarity of the substitute task that is important, but it is the degree to which the substitute task signals attainment of the desired self-definition. For example, it could be imagined that in the experiment in which subjects were interrupted from molding a dog from clay, if subjects were offered the substitute task of painting a picture of a dog that this would reduce the likelihood of resuming the original goal. Painting would allow for some degree of artistic creativity or talent to be expressed, therefore reducing the tension related to the self-defining goal. The list could then continue with numerous other substitute tasks that could reduce resumption rates in this case so long as the substitute task works to symbolically support the desired self-definition. Therefore, because subjects are reducing tension related to a self-defining goal, and not simply completing the task at hand, numerous symbols of attainment could be used in support of any specific desired self-definition.

A more recent study by Harmon-Jones, Schmeichel, and Harmon-Jones (2009) demonstrated this process within academia. It was found that faculty members in departments receiving higher rankings from the National Research Council (NRC) were less likely to display professional titles on their department webpage than faculty members whose departments had received a lower ranking. Therefore one public symbol of competence (NRC ranking) worked as a substitute for another (the use of professional titles). This was also seen on an individual level where faculty members with lower rates of publications and citations were more likely to include professional titles (e.g., Ph.D., Professor, etc.) in their email signature files. This suggests that one symbol of attainment substituted for another in establishing competence within a desired self-definition.

In the present study the desired self-definition of interest was that of being a current undergraduate student. While graduation may provide one widely accepted symbol of attainment, this goal takes considerable time and effort. Therefore, undergraduate students likely employ a wide range of substitute symbols as they establish and maintain the desired self-definition of being a competent student throughout their undergraduate studies.

Symbols of Attainment

A final distinction in SSCT is what exactly constitutes a symbol of attainment. Symbols of attainment are considered “the building blocks of the self-definition” (Wicklund & Gollwitzer, 1982, p. 33). Symbols of attainment can be as simple as a direct statement of possessing the desired self-definition. For example, an individual actively committed to being an undergraduate student may simply tell others, “I am a student”. However, it often takes other symbolic behaviors to provide sufficient feedback for an individual to confirm that he or she does possess a certain quality.

Therefore, symbols of attainment can consist of a wide variety of words or behaviors that work to symbolically communicate that one’s desired self-definition is complete (Gollwitzer, 1986). Symbols of attainment essentially help move a desired self-definition from a private thought to a social reality, confirming in the process that the individual does possess the quality in question (Wicklund & Gollwitzer, 1982). As described by Lewin (1935), a substitute task will only reduce the tension of the original goal if the substitute task carries with it a sense of social reality, that the task allows for some form of public acknowledgement (Wicklund & Gollwitzer, 1981).

The necessity of an audience is a belief rooted in the perspective of symbolic interactionism in which an individual's identity is viewed as a product of social interaction (Mead, 1934). Therefore, an individual who desires the self-definition of being an athlete may privately desire this quality, but without communication and feedback a sense of completion could never be developed. Thus a symbol of attainment is considered to be a public display, and how individuals perceive these symbols to have been accepted or rejected by others allows them to establish and maintain a sense of completion (i.e., competence) in the desired self-definition.

Although the majority of SSCT research concerns the influence of a threat to a desired self-definition, there are numerous other areas of research confirming that individuals often rely on public symbols to bolster and confirm desired self-definitions. For example, research has found that college students are more likely to wear school-identifying clothing following a team victory rather than team loss (Cialdini et al., 1976). The explanation provided was that these students were "basking in the reflected glory," associating themselves to a positive event, even though they had no direct impact on the game's outcome. This was also seen in the students' use of language following either a team win or loss. Subjects were randomly asked to discuss an important team victory or loss that had occurred at their school. In their responses it was found that subjects are most likely to use "we" when discussing a victory (e.g., We are number one!), and non-we language for a loss (e.g., They didn't play well). In another study Cialdini and Richardson (1980) found that following a personal failure, specifically being told they had done poorly on a creativity test, caused students to subsequently increase their opinion of their own university while rating that of a rival school more poorly.

In each of these studies subjects are thought to be either associating or distancing themselves as a method of image management. However, based on SSCT it can be argued that

each study demonstrates the use of a symbol of attainment in support of a desired self-definition. For example, in the study by Cialdini et al. (1976), one potential desired self-definition may be viewed as a student's association or sense of belonging to a particular university. Students then use school clothing as a symbol of attainment to signal completion in this desired self-definition. However, only following a team victory does this association signal competence. In contrast, the study by Cialdini and Richardson (1980) demonstrates that following a threat to a desired self-definition students increase their opinion of their own university, again using this as symbol of attainment to re-establish competence in a desired self-definition.

While Cialdini and Richardson (1980) acknowledge that some motivation for this behavior may rest in a desire to increase self-regard, they conclude it is more likely subjects are responding to the positive regard received through their social interactions. Their explanation suggests, however, that subjects would be unlikely to self-symbolize if it were believed others may disapprove of the behavior. A study by Gollwitzer and Wicklund (1985) addresses this point and helps to distinguish SSCT from other similar theories.

In their study, Gollwitzer and Wicklund (1985) recruited male subjects who were actively committed to a variety of self-definitions. Each student was given a personality test and later told that this test revealed that their personality was either ideal or not for being successful in their chosen area. Additionally subjects were told that part of the experiment would be having a conversation with an attractive female that either preferred a self-aggrandizing or self-effacing man. Results showed that subjects told that their personality was not ideal for their desired self-definition, and therefore experiencing a sense of incompleteness, were unlikely to be self-effacing, even if informed that an attractive female prefers this style. This demonstrates that subjects were focused on re-establishing competence in their desired self-definition, even when

they knew this would be met with disapproval. This helps to distinguish SSCT from other theories of image management and self-presentation. While each theory suggests that subjects were symbolically building a certain image, SSCT is specific to appearing competent in the desired self-definition, not simply appearing competent no matter the context.

A study by Wagner, Wicklund, and Shaigan (1990) demonstrates this process in undergraduate students using associations to their fellow students as a potential symbol of attainment. In this study subjects were assessed for their commitment to psychology and then asked to think of a fellow student who was either competent or incompetent in his or her psychology studies. Results showed that following a threat to their own desired self-definition, students increased their association to fellow competent students even rating these students as more likable. Students also distanced themselves further from those thought of as incompetent. However, these results were only found in those students committed to the desired self-definition in psychology. Therefore only students both committed to this desired self-definition and also experiencing a sense of incompleteness (i.e., incompetence) were motivated to engage in specific self-symbolizing behaviors in support of the desired self-definition.

Similarly this was also seen in an experiment asking subjects to place a monetary value on a building. The results showed that a higher value was placed on the building when it was thought to be associated with the individual's university (Ledgerwood, Liviatan, & Carnevale, 2007). In this study the building became a symbolic representation of a particular desired self-definition (e.g., a sense of belonging to that university) causing subjects to increase its value. In addition this study also included a threat to subjects' sense of belonging, and as predicted by SSCT this manipulation did increase the value subjects placed on the associated building. This relationship was strongest in those most committed to their university and extends SSCT to

suggest that beyond striving for individual self-definitions we may also self-symbolize in establishing an association to a particular group (Ledgerwood & Liviatan, 2010; Ledgerwood et al., 2007).

Numerous other studies have demonstrated the use of symbols of attainment in establishing a particular image. For example, a study by Dittmar, Beattie, and Friese (1996) found that subjects who were rated as both materialistic and experiencing a high level of self-discrepancy were more likely to be impulsive shoppers. However, subjects high in self-discrepancy but low in materialism did not show this same relationship. This suggests that only for highly materialistic subjects does an impulsive purchase act as a potential symbol of attainment. Consistent with SSCT, other research has also supported that material possessions are often used to bolster status (Carr & Vignoles, 2011), that clothing is used in establishing an ethnic identity (Crane, Hamilton, & Wilson, 2004), and that when we see others who conform to our desired self-definitions endorse certain luxury items, our desire for those same items increases (Mandel, Petrova, & Cialdini, 2006).

Therefore, returning specifically to SSCT and the desired self-definition of being a competent undergraduate student, a wide variety of symbols of attainment could be utilized to help develop this perception among others. For example, the symbol could be as simplistic as a statement to others that “I am an undergraduate student.” However it is unlikely that it would be perceived that others have acknowledged competence in this area by this statement alone. Therefore, students must rely on a wide range of other symbols of attainment to help establish and maintain competence in this desired self-definition. For example, the student’s clothing, vocabulary, and friendships may all act as potential symbols of attainment so long as the student perceives that the symbol has conveyed the desired self-definition. Thus any symbol of

attainment is only effective insofar as it is perceived to have been accepted and acknowledged by others as proof of possessing the desired self-definition (Gollwitzer, 1986; Wicklund & Gollwitzer, 1982).

Moving Toward Self-Completion

Since numerous potential symbols of attainment can be used, or substituted, in establishing and maintaining a specific self-definition, SSCT suggests that we will often take the most direct and simple route toward displaying competence (Wicklund & Gollwitzer, 1982). For example, the individual with the desired self-definition of being an athlete may have no realistic chance of ever being drafted by a professional team or competing for Olympic gold. Although either of these examples would surely signify without question that the individual is an athlete, actually attaining either of these symbols would take rigorous workouts and intense dedication. On the other hand, purchasing a gym membership and sporting the latest workout gear are also potential symbols of attainment for the desired self-definition of athlete and in this case are a far faster, more accessible, and more likely route toward self-completion.

Similarly, for those who desire the self-definition of undergraduate instructor one potential symbol of attainment may be the number of publications produced. However, publications take a good deal of time and effort, and therefore instructors without many publications will likely look for a faster more accessible symbol of attainment. This was demonstrated in an experiment by Harmon-Jones et al. (2009) showing that instructors with few publications were more likely to display their professional titles in their email signature files. Relatedly, Wicklund and Gollwitzer (1982) showed that in choosing which symbol of attainment

to employ, people are often somewhat lazy and impatient. Therefore, instructors with few symbols of attainment and experiencing a sense of incompleteness (i.e., a sense of incompetence) do not patiently wait to produce more publications, rather they take the far faster and more convenient route of displaying their professional titles as an opportunity to establish competence in the desired self-definition. In contrast, instructors having multiple publications no longer need to put as much effort into other self-symbolizing behaviors and therefore become less likely to display their professional titles (Harmon-Jones et al., 2009). These instructors already have a well-accepted symbol of attainment and do not need to waste further effort on establishing competence in the desired self-definition.

The study by Harmon-Jones et al. (2009) also demonstrates that symbols of attainment are thought to operate in a “hydraulic fashion” (Wicklund & Gollwitzer, 1982). As one symbol of attainment becomes more prevalent, the less other symbols will be needed. This is again dependent on the degree to which the individual perceives that the symbols of attainment have been accepted and acknowledged by others. This aspect of SSCT, that if one symbol of attainment is lacking another will be employed, will be discussed further in the predictions that can be generated using SSCT.

Furthermore, SSCT also suggests that when the opportunity to complete a particular desired self-definition is interrupted, the tension remains, motivating the individual to resume efforts toward self-completion. For example, in a study by Gollwitzer et al. (1982), subjects were asked to write a positive self-descriptive essay related to a current desired self-definition, with some of the subjects being interrupted from completing the task. Later subjects were asked to generate a list of mistakes they had made in the desired self-definition, and it was found that subjects who were originally interrupted reported fewer mistakes. The suggestion is that writing

a positive self-descriptive essay was a potential symbol of attainment in establishing competence in the desired self-definition. When interrupted a tension remained to prove oneself as complete, and thus the willingness to later admit mistakes was lowered. The interrupted subjects were still focused on the tension created from the original task and were therefore feeling incompetent in their desired self-definitions.

The study by Gollwitzer et al. (1982) is similar to the present study in which current undergraduate students can be seen as establishing themselves as competent in a desired self-definition. Therefore, experiences such as a failed exam may act as an interruption toward establishing competence. However, of interest in the present study was not solely an aspect of interruption to the self-completion process but what occurs when the self-definition comes under a direct threat.

Threats to the Self-Defining Goal

The primary prediction and focus of the majority of research concerning SSCT is that, following a threat to a self-defining goal, an increased motivation will exist to re-establish competence in the desired self-definition. A threat is considered to be anything that potentially signals that the desired self-definition is incomplete, which is to say that the individual feels incompetent within the specific area. As a result, a tension develops to repair the damage, to re-establish competence in the desired self-definition through the use of more or alternate symbols of attainment (Gollwitzer et al., 1982). However, symbols of attainment are not used strategically (Wicklund & Gollwitzer, 1982), and therefore following a threat, individuals will most often use

the quickest and most easily accessible symbol of attainment to re-establish competence in the desired self-definition.

This phenomenon can be seen in a study by Gao, Wheeler, and Shiv (2009) in which subjects were asked to write depictions of themselves as intelligent. Some subjects were asked to write with their non-dominant hand, and although this should have no bearing on their actual intelligence, it is believed to create some level of self-doubt. In a seemingly unrelated task these subjects were later told their names would be entered into a lottery in which they could choose among various prizes, with some of those prizes being related to intelligence (e.g., bookstore gift certificate, a Mozart CD, etc.) and some being unrelated to intelligence (e.g., movie theater gift certificate). The results showed that subjects writing about their intelligence with their non-dominant hand were more likely to choose products related to intelligence for the lottery. One interpretation is that they used the lottery choice as a symbol of attainment. The lottery was a quick and easily accessible opportunity for subjects to re-establish competence after having their intelligence drawn into some doubt.

A study by Levav and Zhu (2009) had a similar finding in the effects of a confining space on the choices people make. In part of this study subjects were asked to walk down an aisle that was either wide or narrow and choose three candy bars from a variety of different types that had been left on a table. It was found that those walking in the narrow aisle were more likely to choose a variety of different candy bars from the table. It is believed that subjects walking down the narrow aisle felt confined and were symbolically re-establishing a sense of personal freedom through the choices they made. In another study subjects made to feel powerless were more likely to desire status-related products (e.g., cuff links; Rucker & Galinsky, 2008), and in general it has been found that people often seek products that support their desired self-definitions, even

using their purchases proactively to cover for anticipated threats (Kim & Rucker, 2012).

However, while these and many similar studies demonstrate the basic process of self-completion following a threat, they do so without measuring the subject's commitment to the desired self-definition. Therefore, in the study by Gao et al. (2009) it could be expected that the more one is committed to the desired self-definition of being intelligent, the more likely one would be to choose products related to intelligence as the lottery prize.

One study based on SSCT which addresses the aspect of commitment to a desired self-definition was conducted by Schiffmann and Nelkenbrecher (1994), which examined subjects who self-identified as feminist. This is common to many studies of SSCT in which commitment is defined by asking subjects to self-identify an area of active involvement. In this study subjects were first given a survey of their feminist attitudes. After this survey some subjects were provided with self-discrepant feedback (i.e., told that the survey had revealed that they were not actually feminist). Immediately following this feedback, all subjects were provided with an opportunity to subscribe to a feminist journal. Results demonstrated that those subjects who received self-discrepant feedback were more likely to subscribe to the publication. The suggestion is that participants provided with the self-discrepant feedback felt that their desired self-definition was threatened and were therefore more likely to use the journal subscription as a symbol of attainment, helping to re-establish that they are in fact feminist.

In addition, a study by Brunstein and Gollwitzer (1996) demonstrated a combination of both a direct threat followed by an opportunity to re-establish competence. In the experiment subjects with an active goal of becoming a physician were given a social competence task. Half of the subjects were told this task was relevant to their desired self-definition, with the remaining half told that it was irrelevant. Following the task, subjects were given either no feedback or

were told that they had failed the task. Thus the first part of this experiment set up a direct threat to some of the participants' desired self-definitions. In this case the threat only exists if it was believed the social competence task was relevant to the self-definition of becoming a physician and the subject was also told he or she had failed.

Following the potential threat, Brunstein and Gollwitzer (1996) then presented subjects with a second mental concentration task where they again told some subjects that it was relevant to the self-definition of being a physician and some that it was irrelevant. Their results confirmed that the subjects who had their desired self-definition threatened in the first task were more likely to perform better on the subsequent task, but only if they were told that the second task was also relevant to their desired self-definition. Thus the suggestion is that following a threat, subjects will expend more effort on a subsequent opportunity to re-establish competence, but only when they believe that task could also serve as a relevant symbol of attainment.

Within the study by Brunstein and Gollwitzer (1996) all components of the symbolic self-completion process can be seen. First, results only apply within self-defining goals to which a person is actively committed, in this case becoming a physician. Second, the two tasks only impact behavior when it is believed that they are relevant symbols of attainment for the desired self-definition. Third, one symbol of attainment (the mental concentration task) can be seen as substituting for another (the failed social competence task). Finally, subjects also utilized the most readily available symbol of attainment to re-establish their competence, with a stronger motivation to repair their desired self-definition following a threat.

With an understanding that SSCT only applies to self-defining goals, it can be predicted that whenever an individual is made to feel incomplete (i.e., incompetent) within his or her desired self-definition, an increased motivation will exist to re-establish the desired self-

definition through the most readily available symbol of attainment. Based on this prediction, the present study examined the impact of a threat to undergraduate students' academic competence on self-report measures of perceived competence, self-efficacy, and the avoidance of help seeking in academics. It was expected that taking each of these measures would act as a readily available symbol of attainment to re-establish competence following an academic threat.

Symbolic Self-Completion Theory in Undergraduate Students

Symbolic self-completion theory maintains that when an individual is actively committed to pursuing a certain self-definition, he or she will define him or herself as complete (e.g., competent, possessing the desired quality) through the use of symbols of attainment (Wicklund & Gollwitzer, 1982). Symbols of attainment can consist of any behavior or material possession that is believed to signal competence in the desired self-definition. Research has demonstrated the self-completion process using varied symbols of attainment, including the associations individuals keep (Wagner et al., 1990), the willingness to admit mistakes (Gollwitzer et al., 1982), and even the products individuals purchase (Carr & Vignoles, 2011; Dittmar et al., 1996). In each example it is through symbols of attainment, and the subsequent feedback they produce, that an individual establishes and maintains competence in a desired self-definition. This study extended SSCT to examine this process in current undergraduate students.

While many studies of SSCT have utilized undergraduate populations, this dissertation study was the first study to use the status of being an undergraduate student as the desired self-definition. Based on SSCT, undergraduate students committed to this particular self-definition likely employ symbols of attainment as they work to establish and maintain competence.

However, although applying to and actively attending a university could be viewed as signaling a commitment to this desired self-definition, it is possible that a student may attend a university for reasons beyond his or her own intentions (e.g., pressure from his or her parents). Therefore, this study utilized a measure of goal commitment. It was believed that students most committed to this desired self-definition would experience the strongest motivation toward symbolic self-completion.

Based on SSCT, when an undergraduate student experiences a threat to his or her academic competence an increased motivation should exist to re-establish the desired self-definition through available symbols of attainment. As a result, following an academic threat (e.g., a failed exam), students should become more likely to engage in symbolic behaviors which can be seen as bolstering the desired self-definition while avoiding those things which may signal further weakness. However, in response to a threat, the use of symbols of attainment is not strategic and individuals will often utilize the most readily available opportunity to re-establish competence (Wicklund & Gollwitzer, 1982). Therefore, this study provided students with three separate self-assessments, which are examined as potential symbols of attainment in connection to the desired self-definition of being an undergraduate student.

Although numerous potential symbols of attainment may exist in relationship to the desired self-definition of being an undergraduate student, this study primarily focused on self-report measures of perceived competence, self-efficacy, and avoidance of help seeking in academics. Self-report measures of competence and self-efficacy in academics were chosen as each is thought to be positively correlated with the use of self-regulated learning strategies including seeking help when needed (Karabenick, 2011). Items assessing each are also consistent with qualities that can be seen as being a “good” student (e.g., Overall, I believe I am a good

student). Therefore, following an academic threat it was expected undergraduate students would increase in their reported competence and self-efficacy in academics using the act of taking each survey as a symbol of attainment to re-establish competence.

However, while higher levels of perceived competence and self-efficacy in academics are thought to be positively correlated with academic help seeking (Karabenick, 2011), it was expected that undergraduate students will actually be more likely to avoid academic help following the threat to the desired self-definition. This was expected because seeking or accepting academic help would only acknowledge that a weakness does exist. Therefore, undergraduate students would become more likely to avoid seeking help as they work to re-establish competence in the desired self-definition.

It is important to note that it is not the student's actual level of perceived competence, self-efficacy, or avoidance of help seeking in academics that was under investigation. Rather this study investigated whether the student used each self-assessment itself as a way to symbolically appear competent in this desired self-definition. However, because it is often accepted that self-assessments represent an accurate reflection of feelings or intended behavior, the results of this study may have important implications for not only assessing students following an academic threat but also on how to best encourage the use of academic help.

For example, academic self-efficacy has been found to be positively related to effort, persistence, and overall achievement in academics (Multon, Brown, & Lent, 1991; Pajares, 1996). Symbolic self-completion theory does not dispute this relationship; rather, it adds that in self-defining areas of active commitment the act of taking a survey may also act as a symbol of attainment. Therefore, a student's responses may become influenced by a motivation to appear competent in the desired self-definition of being an undergraduate student. The motivation to

appear competent can be predicted to be strongest when the student is made to feel incompetent in this desired self-definition. Therefore, a student's responses will likely become exaggerated as he or she uses the available surveys as a symbol of attainment to re-establish competence in the desired self-definition.

Although the process of symbolic self-completion is not unique to any specific desired self-definition, the following sections will discuss two components of SSCT in relation to current undergraduate students. The first section will discuss the status of being an undergraduate student as a self-defining goal, including how it is assessed. The second section will discuss symbols of attainment in relation to undergraduate students. This section will also introduce the specific self-assessments of perceived competence, self-efficacy, and the avoidance of help seeking in academics which operate as the potential symbols of attainment in the current study. The final section of this chapter will discuss the threat to the desired self-definition of being an undergraduate student which was applied in the current study.

Undergraduate Student as a Self-Defining Goal

It is important to remember that SSCT only attempts to make predictions concerning self-defining goals which can be described as a commitment to attaining a desired self-definition (Brunstein, 2000). In comparison to an objective goal, a self-defining goal is considered a constructive process where the individual is demonstrating not that they have accomplished something, but that they possess a certain quality (Wicklund & Gollwitzer, 1982). Therefore the goal is considered ongoing, as the individual is trying to establish and maintain a certain reputation.

Viewing status as an undergraduate student to be a self-defining goal suggests that the student is not completing a series of unrelated objective goals (e.g., taking an exam, completing a course paper, etc.), but that the student is invested in establishing and maintaining the desired self-definition of being a competent student. Therefore, rather than viewing exams or assignments as isolated objective tasks, they can be viewed as serving the larger self-defining purpose. How students respond in relation to these assignments (e.g., their perceived competence) then becomes a potential symbol of attainment in establishing a sense of completion (i.e., competence) in the desired self-definition.

While numerous potential symbols of attainment may exist in connection to the desired self-definition of being an undergraduate student, the present study investigated the influence of an academic threat on self-report measures of perceived competence, self-efficacy, and avoidance of help seeking in academics. Although the majority of previous research concerning these constructs view academics as consisting of objective goals (e.g., taking an exam, completing a course paper, etc.), it is believed that each of these may also be viewed as a potential symbol of attainment within the desired self-definition of being an undergraduate student. However, it is not the specific construct being measured that is important, but rather whether students will exaggerate their responses on each measure, using the act of taking and submitting the assessment as a potential symbol of attainment. Based on SSCT it can then be predicted that how students utilize these potential symbols of attainment depends on the degree to which they are committed to the desired self-definition of being an undergraduate student.

Measuring Commitment to the Undergraduate Student Identity

In previous studies of SSCT, commitment to a self-defining goal has been assessed in a number of ways. For example, in a study by Gollwitzer, Marquardt, Scherer, and Fujita (2013) that examined SSCT in relationship to current law students, commitment to their career goal was assessed by a three-item questionnaire (e.g., How happy could you be pursuing a career not related to law?). However, more commonly subjects are simply asked to name an area in which they have a particular interest (e.g., athletics, academics, etc.), with the researchers then confirming that the subjects have been actively involved in that area (Gollwitzer et al., 1982). In each case, once committed it is believed that subjects will be motivated to establish competence in their desired self-definitions through the use of available symbols of attainment.

Based on this conceptualization of commitment to a self-defining goal it could be argued that all undergraduate students, through the act of applying to and attending a university, are showing some level of commitment. However, it is possible that students may attend a university for a variety of other reasons beyond their own intentions (e.g., pressure from their parents). Thus, it is believed that commitment to this self-defining goal must be assessed in a manner beyond actively attending classes.

Therefore, in this study commitment to the self-defining goal was assessed using a five-item goal commitment scale (HWK; Klein et al., 2001). This scale is focused on the specific construct of goal commitment which is defined by determination to reach a particular outcome. The five-item scale was found to capture this specific aspect of goal commitment and was also found to be consistent across varying levels of task complexity, contexts, and time. This is an

important aspect of SSCT, and it is believed that this was the first study to measure commitment to a desired self-definition through the use of a specific measure of goal commitment.

Symbols of Attainment in Undergraduate Students

Considering being an undergraduate student to be a desired self-definition suggests that students engage in the use of various symbols of attainment to establish and maintain their competence. Symbols of attainment can be as simple as a direct statement of possessing the desired self-definition. For example, an individual actively committed to being an undergraduate student may simply tell others, "I am a student." However, it often takes other symbolic behaviors to provide sufficient feedback to confirm that we do possess a certain quality.

Symbols of attainment can consist of a wide variety of words or behaviors that work to symbolically communicate that one's desired self-definition is complete (Gollwitzer, 1986). Symbols of attainment in this desired self-definition would include any behavior or material possession which is thought to convey academic competence. However, as with any potential symbol of attainment it only matters if it is believed that others will recognize the symbol as proof of possessing the desired self-definition (Gollwitzer, 1986). Therefore, numerous potential symbols of attainment in support of the desired self-definition of being an undergraduate student likely exist.

Potential symbols in the desired self-definition of being an undergraduate student could include participating in class discussions, joining academic clubs, or even deciding where to sit in class. However, as discussed, the use of symbols of attainment is not strategic and individuals will often utilize the most readily available opportunity to establish competence (Wicklund &

Gollwitzer, 1982). Therefore, following an academic threat, providing students with self-assessments of perceived competence, self-efficacy, and avoidance of help seeking in academics should provide a readily available opportunity to re-establish competence in the desired self-definition.

I chose measures of perceived competence, self-efficacy, and the avoidance of help seeking in academics to investigate as potential symbols of attainment because each closely resembles two common outcomes that students encounter in facing real academic challenges. First, when confronted with a real academic threat (e.g., failing an exam) instructors often informally assess the student's ability to prepare for the next exam, essentially assessing what could be labeled either academic competence or self-efficacy. Second, it is typically only when experiencing an academic threat that instructors offer or encourage students to seek additional assistance. Thus, whether students choose to seek or avoid that help becomes another potential symbol in re-establishing competence as an undergraduate student.

While it is believed that self-assessments of perceived competence, self-efficacy, and the avoidance of help seeking in academics will act as symbols of attainment in support of the desired self-definition of being an undergraduate student, it is believed that they will operate with a different relationship. Following an academic threat, it was expected that students will exaggerate self-report measures of both perceived academic competence and academic self-efficacy as each of these assesses students on positive qualities related to student ability (e.g., Overall, I believe I am a good student). In contrast it is expected that students will be more likely to avoid seeking academic help as this would only acknowledge a deficiency in the desired self-definition. Therefore, undergraduate students would associate themselves to those qualities seen

as positive yet distance themselves from anything that would further threaten the desired self-definition, including seeking academic help.

It is important to note that students will use the self-assessment itself as a symbol of attainment. It is not being suggested that perceived competence or self-efficacy in academics are actually changing immediately following an academic threat, but rather that the student is exaggerating (i.e., increasing) the response in order to symbolically appear more competent. The assessment itself is viewed as a form of communication (i.e., a symbol of attainment) and therefore does not necessarily relate to the actual construct (e.g., self-efficacy) being measured. As all symbols of attainment are only effective insofar as they are perceived to have been accepted by others as proof of possessing the desired self-definition (Gollwitzer, 1986; Wicklund & Gollwitzer, 1982), the assessments will only act as potential symbols of attainment if students believe others will accept them as proof of competence. In order to encourage students to see the self-assessments as potential symbols of attainment, students were informed that their responses may be used to help other undergraduate students. Therefore, students were more likely to view the assessments as a form of communication, and consistent with symbolic interactionism the assessments act as a potential source of feedback in re-establishing the desired self-definition.

Avoidance of Academic Help Seeking as a Symbol of Attainment

The ability to seek academic help when needed is often considered to be an important self-regulated learning strategy (Karabenick, 2011), with research largely supporting that students who engage in this and other self-regulatory strategies are more academically successful (Karabenick & Dembo, 2011). However, the focus of this study was on the avoidance of

academic help seeking which specifically refers to those times when a student recognizes the need for assistance but then chooses not to seek it (Pajares, Cheong, & Oberman, 2004). As an important aspect of self-regulated learning, and with clear ties to student success, numerous studies have focused on identifying those factors which make students likely to avoid seeking needed help.

Research concerning the avoidance of academic help seeking covers a diverse range of influences, including aspects such as conformity to masculine norms (Wimer & Levant, 2011), perceived faculty helpfulness (Payakachat et al., 2013), as well as the stigma associated with academic help seeking behaviors (Hartman-Hall & Haaga, 2002). However, two factors that have received consistent attention for their influence over the decision to seek or avoid academic help are perceived academic competence and academic self-efficacy.

However, while it is generally accepted that students higher in each of these concepts will be more likely to seek academic help (Karabenick, 2011), the results have not always been consistent (Butler, 1998; Gore, 2006; Pajares et al., 2004). One explanation for this inconsistency is that there may be a moderating factor between perceived competence, self-efficacy, and the avoidance of help seeking in academics and it is believed SSCT can provide a useful theoretical explanation by viewing status as an undergraduate student to be a self-defining goal.

Perceived academic competence and academic self-efficacy are two closely related concepts with the terms “competence” and “self-efficacy” often being used interchangeably in academic help seeking literature. Each term will be distinguished below and discussed for its relationship to the decision to seek or avoid academic help in undergraduate students. However, in this study the focus was not on whether perceived competence or self-efficacy in academics actually predicts the avoidance of help seeking, but rather if students would use self-report

measures of each in an attempt to symbolically re-establish the desired self-definition following an academic threat.

Perceived competence and self-efficacy in academics were also focused on in this study as each assesses students with statements likely to be perceived as qualities of a competent student (e.g., Overall, I believe I am a very good student). Therefore, based on predictions from SSCT, following an academic threat, students may exaggerate both their perceived academic competence and academic self-efficacy, using the self-report measures as an opportunity for self-completion. Also, as suggested by SSCT, this exaggeration should be strongest for those most committed to the self-defining goal of being an undergraduate student. However, despite these apparent increases students will also become less willing to seek academic help as this would only acknowledge a weakness in the desired self-definition.

Academic Competence as a Symbol of Attainment

The term “academic competence” has been defined inconsistently in research. For example, Reason, Terenzini, and Domingo (2006) define academic competence by how students perceive their college education to have improved their abilities as a student in specific areas such as writing or critical thinking. In contrast Ferla, Valcke, and Schuyten (2010) measured perceived academic competence through the use of 12 separate assessments including abilities such as understanding course material, but also including measures of academic self-efficacy. Thus in research the terms “academic competence” and “academic self-efficacy” are often seen as overlapping, with academic self-efficacy sometimes being included as part of academic competence.

This study conceptualized perceived academic competence to be a global evaluation of current ability as a student. This is in contrast to specifically assessing academic self-efficacy, which is a belief about one's capabilities to reach a future goal. In this study academic competence was measured by the Perception of Competence in Life Domains Scale (PCLDS; Losier, Vallerand, & Blais, 1993), which consists of four items assessing perceived academic competence (e.g., I have developed very good abilities as a student). This scale was developed based on the theoretical foundation of self-determination theory (SDT) where individuals are thought to strive for three basic needs including competence (Ryan & Deci, 2000). In SDT perceived academic competence can then be viewed as a general feeling of being adept at academic tasks (Anderman & Anderman, 2010).

This conceptualization of academic competence was specifically included for its direct relevance to SSCT. Within SSCT individuals are thought to complete a desired self-definition through symbols of attainment. These symbols work to establish and maintain a sense of completion (i.e., competence) within the desired self-definition. Therefore, this measure of perceived academic competence directly relates to the self-completion process in which students are establishing and maintaining competence in a desired self-definition.

Academic Self-Efficacy as a Symbol of Attainment

In general, self-efficacy refers to an individual's belief that he or she is capable of reaching a desired outcome (Bandura, 1977). While similar, and often used interchangeably with the term "perceived competence", self-efficacy refers specifically to an individual's belief that he or she can perform at a certain level and is importantly distinguished from outcome expectations

(Schunk, 2008). Where outcome expectations refer to believing that a certain behavior will produce a certain outcome (e.g., I know that studying longer will improve my exam score), self-efficacy is the belief about one's capability to perform that behavior. Therefore, a student may believe that studying will improve grades but still doubt that he or she has the ability to study successfully.

Self-efficacy can be further distinguished from perceived competence in that its focus is perceived capability, not a judgment of self-worth (Bandura, 2006). According to Bandura (2006), self-efficacy focuses specifically on an individual's belief of what he or she can do. Subsequently, it is suggested that self-efficacy scales should assess those behaviors over which individuals have control and which account for success within a certain domain. In the present study the focus is that of academic self-efficacy in undergraduate students which was assessed using the Course subscale of the College Self-Efficacy Inventory (CSEI; Solberg, O'Brien, Villareal, Kennel, & Davis, 1993). This scale was chosen because it measures academic self-efficacy at the general college level for those skills necessary to be successful in any discipline.

In general, academic self-efficacy has been linked to many aspects of college success. For example, a meta-analysis by Robbins et al. (2004) found that academic self-efficacy was positively correlated with academic performance and college retention. However, Gore (2006) found that this relationship is not always consistent and may depend on both when and how academic self-efficacy is assessed. For example, it was found that academic self-efficacy is a predictor of academic performance, but not for incoming freshman students. According to Gore (2006), academic self-efficacy is developed through feedback, and incoming freshmen have yet to receive sufficient feedback to develop an accurate assessment of their own academic self-efficacy.

However, examined through SSCT it could be suggested that incoming freshman students are more likely to be experiencing a sense of incompleteness (i.e., incompetence) in the desired self-definition of being an undergraduate student. As a result, incoming freshmen are more likely to exaggerate assessments of self-efficacy using the assessment itself as a symbol of attainment which in turn renders self-efficacy an unreliable predictor of college retention or performance for this group. However, as a student gains experience and likely uses numerous other symbols of attainment to establish competence in the desired self-definition, the need to exaggerate academic self-efficacy as a symbol of attainment would diminish. This suggests that assessing academic self-efficacy in upper level college students may yield a more accurate reflection of actual self-efficacy in this domain. However, in the present study all students were given a threat to their academic competence, and therefore students of all class levels should have experienced a heightened sense of incompleteness.

Although many studies focus on the relationship of academic self-efficacy in connection with traditional outcomes such as college GPA, far fewer have focused on its relationship specifically to seeking academic help in undergraduate students. Encompassing students of all ages it is generally accepted that those higher in academic self-efficacy will be more likely to engage in self-regulated learning strategies including seeking academic help when needed (Karabenick, 2011; Zimmerman, Bandura, & Martinez-Pons, 1992). However, this relationship has not always been proven consistent (Butler, 1998; Gore, 2006; Pajares et al., 2004). While some research has suggested it is students of high academic self-efficacy that will be most likely to avoid seeking help (Butler, 1998; Nelson-Le Gall & Jones, 1990), other research supports the opposite (Kennedy, 1997; Ryan & Pintrich, 1997). The explanation of each focuses on how that

result is thought to influence perceptions of academic competence, making this an appropriate topic to investigate through the theoretical framework of SSCT.

Written Advice as a Symbol of Attainment

In addition to the measures of competence, self-efficacy, and the avoidance of help seeking in academics, an additional item asked students to provide written advice to future undergraduate students on how to be successful in college. This item is based on a study concerning SSCT in relation to aspiring clinical psychologists (Brunstein, 2000). In that study, subjects committed to the goal of becoming a clinical psychologist and experiencing a sense of incompleteness were more likely to provide a longer essay when asked to respond to a clinical case. The explanation provided by the author suggests that subjects were using the essay as a symbol of attainment. Therefore, if committed to the desired self-definition and experiencing a sense of incompleteness, subjects were motivated to provide a detailed response to the clinical case. This is similar to the current study where students committed to the self-definition of being an undergraduate and also receiving the threat to academic competence are expected to provide longer essays, as assessed by the number of words written, regarding advice to other students. This would also be consistent with other research concerning SSCT which suggest that a desire to influence others can be used as a symbol of attainment (Wicklund & Gollwitzer, 1981).

Threats to the Desired Self-Definition of Undergraduate Students

Based on SSCT it can be predicted that following an academic threat (i.e., when students are made to feel incompetent) an increased motivation will exist to re-establish the desired self-definition. Therefore following an academic threat, students will likely exaggerate their self-assessed competence and self-efficacy in academics. However, where higher levels of perceived competence and self-efficacy in academics are usually associated with a greater use of self-regulated learning strategies, including seeking academic help when needed (Karabenick, 2011), it was expected that students would also become more likely to avoid seeking academic help. According to SSCT seeking help would acknowledge that a weakness does exist within the desired self-definition.

The motivation to re-establish competence in a desired self-definition following a threat is partially illustrated in a qualitative study by Schouten (1991). This study found when experiencing a role transition (e.g., a change of career) individuals may experience a disruption in their self-concept that can prompt the decision to seek cosmetic surgery. In this case cosmetic surgery is acting as a potential symbol of attainment helping individuals to rebuild the desired self-definition that was damaged during the role transition. In a similar way it could be argued that the student self-definition goes through a period of role transition as students move from high school to college. This likely creates a feeling of incompleteness as freshmen must now establish competence in a new environment.

However, of interest was how students will respond following a specific academic threat. Therefore, this study gathered measures using an experimental design in which undergraduate students received a threat to their academic competence. This method remedied one common

methodological flaw of many previous studies of academic help seeking that either do not measure academic threats or do so in a way far removed from the actual experience. Because only students experiencing an academic threat (e.g., failing an exam) are typically referred to or would be seeking academic help, it was crucial to examine their responses directly following a threat. Also, because SSCT suggests that following a threat an increased motivation will exist to re-establish the desired self-definition, surveying students about academic help seeking behaviors long after they have experienced a threat means they would have likely already employed other alternate symbols of attainment. Therefore, this study surveyed students immediately following a threat to their academic competence.

The academic threat replicated a method by Wagner et al. (1990) in which undergraduate psychology students were asked to answer questions to which the average undergraduate would have no response (e.g., What special honors have you received for your work in your major area of study?). The inability to provide a response to these questions is thought to act as a temporary threat to the academic competence of students. This threat to academic competence should increase the use of self-symbolizing behaviors as students attempt to re-establish competence. Subsequently, students most committed to the desired self-definition of being an undergraduate student should be most likely to use the self-assessments of perceived competence, self-efficacy, and the avoidance of help seeking in academics as readily available symbols of attainment to re-establish competence in the desired self-definition.

Summary of the Current Study

Symbolic self-completion theory maintains that when an individual is actively committed to pursuing a certain self-definition, he or she will define him or herself as complete (e.g., competent, possessing the desired quality) through the use of symbols of attainment (Wicklund & Gollwitzer, 1982). This study was based on the belief that being an undergraduate student is a self-defining goal. As a result students likely engage in the use symbols of attainment as they establish and maintain a sense of completion (i.e., competence) within this desired self-definition. While numerous symbols of attainment can be used throughout a student's education, an increased motivation should exist whenever the desired self-definition is threatened, which is to say the student is made to feel incompetent. Therefore, this study included a direct threat to academic competence followed by self-report measures of competence, self-efficacy, and avoidance of help seeking in academics that act as readily available symbols of attainment to re-establish competence.

While this study could investigate numerous potential symbols of attainment, these assessments were chosen not only for their relationship to each other but also for their connection to student success. Students who seek academic help when needed, as well as engage in other self-regulated learning strategies, tend to be more successful (Karabenick & Dembo, 2011). It is then generally accepted that students of higher perceived competence and self-efficacy in academics will be more likely to seek help when needed (Karabenick, 2011). However, studies of this relationship have not always proven consistent (Butler, 1998; Gore, 2006; Pajares et al., 2004).

It is believed that SSCT can provide a theoretical explanation for this inconsistency by suggesting that students committed to the desired self-definition of being an undergraduate student may be likely to exaggerate qualities thought to signal competence as a student while also avoiding anything that may potentially signal weakness. This would hold particularly true following a threat and suggests students may avoid needed academic help as they are focused on symbolically rebuilding competence in their desired self-definitions. Similar to the study by Wagner et al. (1990) in which students most committed to their psychology studies were more likely to associate themselves to other competent students, it was expected that students will exaggerate self-assessed perceived competence and self-efficacy in academics as a way of associating themselves to positive qualities of the desired self-definition. Likewise, just as students committed to their psychology studies also distanced themselves further from incompetent students (Wagner et al., 1990), it was expected that students most committed to the desired self-definition of being an undergraduate student will avoid seeking academic help, therefore distancing him or herself from something that would only acknowledge weakness.

However, it is important to note that it is not the student's actual level of perceived competence, self-efficacy, or willingness to seek help that was under investigation. Rather the focus was on whether the student will use the self-assessment itself as a way to symbolically appear competent in the desired self-definition of being an undergraduate student. However, because it is often accepted that self-assessments represent an accurate reflection of feelings or intended behavior, the results of this study may have important implications for not only assessing students following an academic threat but also on how to best encourage the use of academic help.

Therefore, the present study extended SSCT to examine the self-completion process in current undergraduate students by viewing their status as undergraduate students to be a self-defining goal. As a self-defining goal this suggests that students engage in the use of symbols of attainment as they establish and maintain competence in this desired self-definition. The motivation toward self-completion should then be strongest in those most committed to this desired self-definition. It is believed this was the first study to investigate the role of being an undergraduate student as a desired self-definition and also to examine the influence of symbolic self-completion on an aspect of the learning process itself (avoidance of help seeking). The results of this study, and specifically the theoretical framework of SSCT, can be used to help explain many previous studies concerning undergraduate academic help seeking behaviors. It is believed that through this framework improved interventions can be designed, and a greater number of students in need of academic help can be reached.

CHAPTER THREE

METHOD

This study considered being an undergraduate student to be a self-defining goal. As a result, symbolic self-completion theory (SSCT; Wicklund & Gollwitzer, 1982) suggests that undergraduate students likely engage in the use of symbols of attainment as they establish and maintain competence within this desired self-definition. In addition, following an academic threat (e.g., a failed exam) undergraduate students likely experience an increased motivation to re-establish competence through the use of symbols of attainment. While numerous symbols of attainment may be used throughout an undergraduate student's education, this study included a direct threat to academic competence followed by self-report measures of competence, self-efficacy, and avoidance of help seeking in academics. It was expected that students will use these three measures as available symbols of attainment to re-establish competence in their desired self-definition of being an undergraduate student.

It is important to note that the self-assessments of competence, self-efficacy, and the avoidance of help seeking in academics were investigated as potential symbols of attainment in the desired self-definition of being an undergraduate student. It is not the specific construct being measured that is of central importance, but rather whether students will exaggerate their responses on each measure, using the act of taking and submitting the assessment as a symbol of attainment. Based on SSCT it can then be predicted that how students utilize these potential

symbols of attainment depends on the degree to which they are committed to the desired self-definition of being an undergraduate student.

Research Questions

This study was guided by the following research questions:

Research Question 1: Following a threat to academic competence, will current undergraduate students increase in their reported academic competence?

Research Question 2: Following a threat to academic competence, will current undergraduate students increase in their reported academic self-efficacy?

Research Question 3: Following a threat to their academic competence, will current undergraduate students increase in their avoidance of academic help seeking?

Research Question 4: Following a threat to their academic competence, will current undergraduate students provide more advice to future undergraduates regarding how to be a successful student?

Research Question 5: Will changes in reported academic competence, academic self-efficacy, avoidance of help seeking, or the advice provided following an academic threat be different for those students most committed to their academic studies?

Participants

This study surveyed current undergraduate students at a private midwestern university that enrolls approximately 6,600 students in a variety of undergraduate and graduate programs.

The focus of this study was on traditional undergraduate students, ages 18-25, studying a variety of academic disciplines. However, because graduation may act as one significant symbol of attainment that establishes competence in the desired self-definition of being an undergraduate student, only current freshman, sophomore, and junior students were included in the final sample. Based on SSCT, senior undergraduate students would be less likely to feel incomplete (i.e., incompetent) even following the academic threat, as they have likely established numerous alternate symbols of attainment and are likely more confident they will successfully complete their academic goals, including that of graduation.

The final sample included students surveyed from 12 different undergraduate classes. Table 1 displays a breakdown of the final sample composed of 203 undergraduate students. All students included were between the ages of 18 and 25 years and came from a variety of academic majors. Nine students responded that they were currently undecided in their major and therefore were not included in the final sample. These nine students were excluded because the items comprising the academic threat would only apply to students committed to a particular area of study.

Table 1

Breakdown of Final Sample

Year in School	Male	Female	Total
Freshman	27	93	129
Sophomore	11	25	36
Junior	12	35	47
Total	50	153	203

Measures and Variables

Subjects completed surveys consisting of the following measures and variables listed below at two times, occurring approximately one month apart during the same semester. Each measure included assessed undergraduate students on commitment or abilities related to being an undergraduate student without regard to any academic discipline or specific class.

Academic Goal Commitment

Commitment to the self-defining goal of being an undergraduate student was assessed using the Hollenbeck, Williams, Klein Goal Commitment Scale (HWK; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001; see Appendix A). This measure consists of five items assessing goal commitment (e.g., I am strongly committed to pursuing this goal) with items being presented in reference to undergraduate academics. Students answered items on a five-point Likert-type scale from Strongly Disagree (1) to Strongly Agree (5). This scale focuses on the specific construct of goal commitment which is defined by determination to reach a particular outcome (Klein et al., 2001). The HWK was found to capture the specific construct of goal commitment and was also found to be consistent across varying levels of task complexity, contexts, and time. Klein et al. (2001) reported that the total five-item scale produced an alpha reliability of .74.

Although the desired self-definition of being an undergraduate student may include areas beyond academics (e.g., social activities), the focus of this study is on the symbolic self-completion process following an academic threat. Therefore, the HWK was chosen for its

specific ability to assess commitment to an undergraduate student's academic goals. Based on SSCT, the more an undergraduate student is committed to academics (i.e., the desired self-definition) the more likely that student should use each of the measures below as a potential symbol of attainment.

Academic Competence

Academic competence was assessed using the Perception of Competence in Life Domains Scale – Academic Competence (PCLDS; Losier, Vallerand, & Blais, 1993, see Appendix B) which consists of four items assessing perceived academic competence (e.g., I have developed very good abilities as a student). Students answered items on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7). The PCLDS was developed based on the theoretical foundation of self-determination theory (SDT) in which individuals are thought to strive for three basic needs, including competence (Ryan & Deci, 2000). In SDT perceived academic competence is viewed as a general feeling of being adept at academic tasks (Anderman & Anderman, 2010). Past studies report an alpha reliability of .72 for this measure (Guay, Ratelle, Larose, Vallerand, & Vitaro, 2013; Losier et al., 1993).

Academic Self-Efficacy

Academic self-efficacy was assessed using the College Self-efficacy Inventory – Course Subscale (CSEI; Solberg, O'Brien, Villareal, Kennel, & Davis, 1993; see Appendix C), which asks subjects to rank their confidence in being able to successfully complete seven different

academic tasks (e.g., research a term paper). Students rated their confidence in each task on a ten-point scale from Not at All Confident (1) to Extremely Confident (10). The focus of the CSEI Course subscale is on academic ability regardless of academic major and has been found to have predictive validity for both two-year college retention as well as measures of academic performance. In addition the CSEI Course subscale is also positively correlated with students' expectations about engaging in academic activities such as interacting with their instructors or using campus resources (Gore, Leuwerke, & Turley, 2006). Solberg et al. (1993) reported an alpha reliability of .88 for the CSEI Course subscale.

Avoidance of Academic Help Seeking

Avoidance of academic help seeking was primarily assessed by the Avoidance of Help-Seeking Scale (AHS; Pajares, Cheong, & Oberman, 2004; see Appendix D), which includes nine items adapted from other scales to assess avoidance of academic help seeking (e.g., I would rather do worse on an assignment I couldn't finish than ask for help in this class.). Students answered items on an eight-point Likert-type scale from Definitely False (1) to Definitely True (8). Items were originally worded to assess avoidance of help seeking in relation to a computer science course; however, Pajares et al. (2004) suggested that the items can be rewritten to assess other domains. Therefore, all items were written to assess avoidance of help seeking without narrowing to any specific course or area of study. The nine-item measure examined by Pajares et al. (2004) showed an alpha reliability of .86.

In addition to the AHS, two other measures that focus on academic help seeking were also included. The first was the Help Seeking subscale from the Motivated Learning Strategies

Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991; see Appendix E), which includes four items assessing academic help seeking (e.g., Even if I have trouble learning the material in a class, I try to do the work on my own, without help from anyone). Each question was presented without reference to a specific class. Pintrich, Smith, Garcia, and McKeachie (1993) report an alpha reliability of .52 for the MSLQ Help Seeking scale. The second scale included were two questions assessing academic help seeking developed by Karabenick and Knapp (1991; see Appendix F). These questions were reported to have an alpha reliability of .74 (Karabenick & Knapp, 1991) and were also presented without reference to any specific class. Both the MSLQ Help Seeking scale and the questions from Karabenick and Knapp (1991) asked students to respond on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7).

Additional Measures

Although this study primarily focused on the constructs listed above, two other measures were also included that are relevant to the symbolic self-completion process. The first is a single-item measure of global self-esteem (SISE; Robins, Hendin, & Trzesniewski, 2001, see Appendix G). Using a method of estimation the mean reliability of this item was predicted to be .75 (Robins, Hendin, & Trzesniewski, 2001). Students were asked to respond to the SISE on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7). Rather than a specific focus on perceived academic competence, this item was included to investigate the impact of a threat to academic competence on a global evaluation of self-esteem.

A final measure asked students to provide written advice to future undergraduate students concerning how to be successful in college (see Appendix H). This was the last question provided to all students during the second classroom visit, and the question included one page of blank space in which to provide a response. There was no time limit given to providing a response. Research has demonstrated that the desire to influence others has been used as a symbol of attainment (Wicklund & Gollwitzer, 1981). Therefore, in order to encourage students to view this question as a potential symbol of attainment, students were verbally informed that their responses may be used to help future undergraduate students. In addition, the question also includes a statement that responses may be used to help future students.

Compared to the measures above, writing also provides a more personal form of communication and thus conforms more closely to the definition of being a symbol of attainment. Therefore it was expected that students receiving the academic threat would be motivated to provide a greater amount of written advice to future undergraduates as assessed by the number of words written. It was also expected that the written advice may provide opportunities for further qualitative analysis of the responses provided.

Demographic Variables

In addition to the measures above, each survey also asked students to respond to a number of demographic variables. These variables included aspects such as current year in school, gender, whether the student is a first-generation college student, and the educational background of each parent. These variables were collected to investigate their potential influence in the self-completion process. For a full listing of demographic data collected, see Appendix I.

Design

This study used an experimental design in which students within 12 classrooms were surveyed on two separate occasions occurring approximately one month apart. The study included an experimental group and a control group, with the experimental group receiving a threat to their academic competence during the second classroom visit. The academic threat will be discussed further below. All measures were counterbalanced and distributed randomly within each classroom visited.

Procedure

Following approval from the institutional review boards of both Northern Illinois University and the data collection site, I sought permission from individual instructors to visit their classrooms on two separate occasions. After gaining permission to visit a classroom for the first time, I informed students that I was conducting a survey of academic motivation. While students were debriefed as to the true purpose of the study following the second classroom visit, the provided intention of the study was vague so as to not influence student responses, particularly in relationship to the academic threat.

It was stressed that participation was voluntary and that students may leave any question or information blank should they not wish to participate. All students were then asked to sign a consent form before participating. Students were informed that for this study they would be asked to complete two questionnaires during two different class visits dealing with their academic motivation as a university student. Students were asked to sign their names at the top

of each questionnaire so that the two surveys could be paired together, after which all names would be removed. The first survey was completed during the first class visit and took students approximately ten minutes of class time to complete. I then returned to the same class approximately one month later at the discretion of the instructor to administer the second survey, which also took approximately ten minutes to complete.

During the first visit students completed a survey which consisted of demographic information as well as all measures listed above. Following completion all surveys were collected. Approximately one month later, during the second classroom visit, students completed a second survey consisting of additional demographic information as well as identical measures to that of the first survey. Although the measures were identical, the second survey was formatted using a different font size and type to encourage students to view each survey as unique. In addition to all of the measures listed above, the second survey also ended with the question that asked students to provide written advice to future undergraduate students.

However, during the second classroom visit each survey provided also began with three written questions. The experimental group received a survey which began with three written questions that constituted the threat to students' academic competence (see Appendix J). This threat was similar to one reported by Wagner, Wicklund, and Shaigan (1990) where students were asked to answer questions to which average undergraduate students provide no responses. The act of not answering is thought to operate as a temporary threat by causing feelings of being incomplete (i.e., incompetent). The current study asked students to respond to three written questions such as, "What research internships have you completed in connection with your academic studies? List approximate dates of each internship, as well as any relevant publications developed from your work." Importantly, students were informed that their responses may be

used as examples for future undergraduate students, and this was also indicated on the survey itself. While no responses would actually be used, an important aspect of SSCT is the belief that one's actions or responses will be recognized by others. Therefore, informing students that their responses may be used encouraged students to view these questions as a threat to the self-definition of being an undergraduate student. In comparison, the control group received three written questions asking general opinions about their college experiences (e.g., What days of the week and at what time would you prefer to take most classes; see Appendix K).

Following completion, all surveys were collected. All students were then debriefed as to the true purpose of the study. I then paired together each student's surveys from the first and second classroom visits. After this, all names that had been signed at the top of each survey were removed. Therefore, no personally identifiable information remained.

CHAPTER FOUR

RESULTS

This study used an experimental design to investigate the influence of a threat to undergraduate students' academic competence on measures of competence, self-efficacy, and the avoidance of help seeking in academics. A total of 12 undergraduate courses were surveyed at two times during the same semester, with each class receiving the second survey approximately one month after the first. This resulted in a final sample of 203 undergraduate students. All subjects included were current freshman, sophomore, or junior undergraduate students between the ages of 18 and 25 representing a variety of academic disciplines.

While all subjects completed identical measures during each classroom visit (see Chapter Three), for some subjects the second classroom visit also included three written questions that constituted the threat to academic competence. This process created an experimental group consisting of 98 undergraduate students and a control group consisting of 105 undergraduate students, referred to below as *groups*. First, an overview of the data collected during the first classroom visit will be presented. Following that, analyses of the data collected will proceed in order of the research questions.

Participants: Time One

During the first classroom visit all subjects received identical measures of competence, self-efficacy, and the avoidance of help seeking in academics. Descriptive statistics for the full sample, including reliability of each measure, are provided in Table 2. A one-way analysis of variance (ANOVA) was conducted to examine potential differences based on both gender and year in school. The one-way ANOVA results as well as descriptive statistics by gender and year in school are presented in Table 3. These differences are included below where relevant to the provided research questions. Also, 160 (79%) subjects responded that they were at least somewhat satisfied with their GPA, 147 (72%) subjects responded that the majority of their friends are in college, and 80 (39%) subjects identified as being a first-generation student. However, these variables showed no significant results in relation to the analyses discussed below.

Table 2

Descriptive Statistics: Time One

Measure	n	<i>M</i> (<i>SD</i>)	α	Items
Academic Competence (PCLDS)	203	5.51 (1.07)	0.72	4
Academic Self-Efficacy (CSEI)	203	7.69 (1.30)	0.88	7
Avoidance of Help Seeking (AHS)	203	2.82 (1.34)	0.86	9
Motivated Strategies Learning Questionnaire (MSLQ)	203	3.52 (1.00)	0.52	4
Karabenick & Knapp (K&K)	203	3.66 (1.59)	0.74	2
Academic Commitment (HWK)	203	4.62 (.53)	0.74	5
Self-Esteem (SISE)	203	4.46 (1.69)	0.75	1

Table 3

Descriptive Statistics by Gender and Year: Time One

Measure	Male (n = 50)	Female (n = 153)	Freshmen (n = 120)	Sophomore (n = 36)	Junior (n = 47)
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Academic Competence (PCLDS)	5.38 (1.03)	5.55 (1.08)	5.51 (1.10)	5.28 (1.09)	5.69 (.95)
Academic Self-Efficacy (CSEI)	7.48 (1.36)	7.76 (1.27)	7.63 (1.33)	7.52 (1.35)	7.95 (1.13)
Avoidance of Help Seeking (AHS)	3.21 (1.31)	2.69 (1.33)*	2.30 (1.23) _a	3.28 (1.27) _b	3.02 (1.56) _{ab} *
Motivated Strategies Learning Questionnaire (MSLQ)	3.71 (1.09)	3.46 (.96)	3.38 (.94) _a	3.87 (.94) _b	3.61 (1.11) _{ab} *
Karabenick & Knapp (K&K)	3.76 (1.45)	3.64 (1.64)	3.78 (1.71)	3.39 (1.33)	3.60 (1.46)
Academic Commitment (HWK)	4.42 (.59)	4.68 (.49)**	4.64 (.54) _a	4.38 (.55) _b	4.75 (.40) _a **
Self-Esteem (SISE)	4.88 (1.83)	4.32 (1.62)*	4.38 (1.70)	4.11 (1.56)	4.94 (1.67)

Note: Differences between gender and year in school were tested using a one-way ANOVA; post hoc comparisons using a Tukey HSD test were conducted for year in school with results presented in subscript. Means with differing subscripts within a row are significantly different at the $p < .05$ level.

* $p < .05$, ** $p < .01$

Research Question One: Academic Competence

Research Question 1 asked whether current undergraduate students would increase in their reported academic competence following an academic threat. Academic competence beliefs were assessed using the Perception of Competence in Life Domains Scale – Academic Competence (PCLDS; Losier, Vallerand, & Blais, 1993; see Appendix B). Students answered items on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7), with higher scores indicating higher academic competence beliefs. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' scores on the PCLDS across the two classroom visits. There was no significant interaction between groups and time on the PCLDS, Wilks' lambda = 1.00, $F(1, 201) = .16$, $p = .69$. There was also no significant main effect for time, Wilks' lambda = 1.00, $F(1, 201) = .003$, $p = .95$. In addition, the main effect comparing the experimental and control groups was not significant, $F(1, 201) = 3.00$, $p = .085$. These results suggest that there were no changes in academic competence beliefs based on either time or group. Descriptive statistics for the PCLDS are presented in Table 4.

Table 4

Descriptive Statistics for the PCLDS: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	5.40	1.10	98	5.63	1.03
Time 2	105	5.38	1.17	98	5.65	1.04

Research Question Two: Academic Self-Efficacy

Research Question 2 asked whether current undergraduate students would increase in their reported academic self-efficacy following an academic threat. Academic self-efficacy was assessed using the College Self-efficacy Inventory – Course Subscale (CSEI; Solberg, O’Brien, Villareal, Kennel, & Davis, 1993; see Appendix C). Students rated their confidence in completing academic tasks on a ten-point scale from Not at All Confident (1) to Extremely Confident (10), with higher scores indicating higher levels of academic self-efficacy. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects’ scores on the CSEI across the two classroom visits. There was no significant interaction between groups and time on the CSEI, Wilks’ lambda = .99, $F(1, 201) = 1.29$, $p = .26$. There was also no significant main effect for time, Wilks’ lambda = .99, $F(1, 201) = .215$, $p = .14$. In addition the main effect comparing the experimental and control groups was not significant, $F(1, 201) = .75$, $p = .39$. These results suggest that there were no changes in academic self-efficacy based on either time or group. Descriptive statistics for the CSEI are presented in Table 5.

Table 5

Descriptive Statistics for the CSEI: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	7.65	1.33	98	7.73	1.28
Time 2	105	7.67	1.34	98	7.89	1.25

Research Question Three: Avoidance of Help Seeking

Research Question 3 asked whether current undergraduate students would increase in their avoidance of academic help seeking following an academic threat. Avoidance of academic help seeking was primarily assessed by the Avoidance of Help-Seeking Scale (AHS; Pajares, Cheong, & Oberman, 2004; see Appendix D). Students answered items on an eight-point Likert-type scale from Definitely False (1) to Definitely True (8), with higher scores indicating an increased avoidance of academic help seeking. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' scores on the AHS across the two classroom visits. There was no significant interaction between groups and time on the AHS, Wilks' lambda = 1.00, $F(1, 201) = .24$, $p = .63$. There was also no significant main effect for time, Wilks' lambda = 1.00, $F(1, 201) = .02$, $p = .89$. The main effect comparing the experimental and control groups was also not significant, $F(1, 201) = 2.13$, $p = .15$. These results suggest that there were no changes in the AHS based on either time or group. Descriptive statistics for the AHS are presented in Table 6.

Table 6

Descriptive Statistics for the AHS: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	2.96	1.32	98	2.67	1.36
Time 2	105	2.94	1.41	98	2.71	1.31

While the results of the previous mixed between-/within-subjects ANOVA were non-significant, a one-way ANOVA did find statistically significant differences for the AHS based on both gender and year in school during Time One (see Table 3). Although the effect sizes for gender ($\eta^2 = .04$) and year in school ($\eta^2 = .03$) were small according to the guidelines provided by Cohen (1988), a mixed between-/within-subjects ANOVA was conducted incorporating both gender and year in school as between-subjects factors. However, no significant interaction or main effects were found when examining changes across the two time periods.

In addition to the AHS, two other measures that focus on academic help seeking were also used. The first was the Help Seeking subscale from the Motivated Learning Strategies Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991; see Appendix E). Students responded on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7), with higher scores indicating an increased avoidance of academic help seeking. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' scores on the MSLQ across the two classroom visits. There was no significant interaction between groups and time on the MSLQ, Wilks' lambda = 1.00, $F(1, 201) = .75, p = .39$. There was also no significant main effect for time, Wilks' lambda = 1.00, $F(1, 201) = .97, p = .35$. In addition the main effect comparing the experimental and control groups was not significant, $F(1, 201) = 2.87, p = .09$. These results suggest that there were no changes in the MSLQ based on either time or group. Descriptive statistics for the MSLQ are presented in Table 7. In addition, while a one-way between-groups ANOVA did find the MSLQ to be statistically significant in relationship to year in school (see Table 3), a mixed between-/within-subjects ANOVA found no significant interaction or main effects with year in school incorporated as a between-subjects factor.

Table 7

Descriptive Statistics for the MSLQ: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	3.64	1.01	98	3.38	.97
Time 2	105	3.53	1.00	98	3.37	1.02

The second scale used that focused on academic help seeking were two questions developed by Karabenick and Knapp (1991; see Appendix F). These questions asked students if they needed help with either their coursework or general study skills during the semester. Rather than asking if students would avoid academic help, these questions represent an acknowledgement that academic help was used during the semester. Students responded on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7), with higher scores indicating an increased use of academic help. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' combined scores on the questions from Karabenick and Knapp (1991) across the two classroom visits. There was no significant interaction between groups and time on the K&K, Wilks' lambda = 1.00, $F(1, 201) = .37, p = .54$. There was also no significant main effect for time, Wilks' lambda = .99, $F(1, 201) = 2.20, p = .14$. In addition the main effect comparing the experimental and control groups was not significant, $F(1, 201) = .01, p = .90$. These results suggest that there were no changes in the questions from Karabenick and Knapp (1991) based on either time or group. Descriptive statistics for the K&K are presented in Table 8.

Table 8

Descriptive Statistics for the K&K: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	3.63	1.68	98	3.71	1.49
Time 2	105	3.82	1.68	98	3.79	1.50

Research Question Four: Written Advice

Research Question 4 asked whether current undergraduate students would provide more advice to future undergraduates regarding how to be a successful student following an academic threat. This was the final question on each survey presented during the second classroom visit. All subjects were provided with one page of space in which to provide a written response (see Appendix H) and were given no time limit. While the question itself states that responses may be used to help future undergraduates, this was also verbally stated to each class at the beginning of the second classroom visit. This was done to encourage subjects to see this question as a potential symbol of attainment.

An independent-samples *t*-test was conducted to compare the experimental and control groups on the amount of advice provided to future undergraduates, as assessed by the number of words written. Levene's test for equality of variances was found to be violated, $F(1, 201) = 13.27, p < .001$, and therefore equal variances were not assumed. The *t*-test results showed a statistically significant difference in the amount of advice provided between the experimental group ($M = 32.22, SD = 23.00$) and the control group ($M = 23.75, SD = 14.77; t(163.45) = 3.10, p = .002$, two-tailed). Based on the guidelines proposed by Cohen (1988), the eta squared statistic

($\eta^2 = .05$) suggests a small to moderate effect size. Using a one-way between-groups ANOVA, no statistically significant results were found on the number of words written in either the experimental or control group based on gender or year in school.

While the written advice provided by students was analyzed through the number of words written, it was also thought this item may be analyzed by examining the type of advice suggested. However, it was found that all subjects provided very similar academic advice. For example, of the 195 participants who provided at least some written advice, 96 students included the specific advice to study. The difference between the experimental and control groups was that the experimental group elaborated on aspects such as how to study or where to study on campus. Other common themes that appeared in both the experimental and control groups were the importance of time management and avoiding procrastination. These themes appeared in both groups, with the difference again being that the experimental group tended to elaborate on this advice. For example, one student in the experimental group stated the importance of time management and discussed how this skill can be improved through purchasing a daily planner. In contrast, the control group was more likely to provide short statements such as “study” or “learn to manage your time,” but without further elaboration.

In addition, responses were also examined to compare whether students provided academic or non-academic (e.g., social) advice. However, the advice provided was largely academic, with very few students providing suggestions unrelated to academics (e.g., make sure to have fun). With the similarity in the responses provided by both the experimental and control groups, only the amount of advice provided as assessed by the number of words written is examined further below.

Research Question Five: Academic Commitment

Research Question 5 focused on the influence of academic commitment. Commitment to the self-defining goal of being an undergraduate student was assessed using the Hollenbeck, Williams, Klein Goal Commitment Scale (HWK; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001; see Appendix A). Students answered items on a five-point Likert-type scale from Strongly Disagree (1) to Strongly Agree (5), with higher scores indicating an increased level of commitment. The HWK was assessed during each class visit and therefore was first investigated as a potential symbol of attainment itself. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' scores on the HWK across the two classroom visits. There was no significant interaction between groups and time on the HWK, Wilks' lambda = 1.00, $F(1, 201) = .13$, $p = .72$. There was also no significant main effect for time, Wilks' lambda = 1.00, $F(1, 201) = .69$, $p = .41$. In addition, the main effect comparing the experimental and control groups was also not significant, $F(1, 201) = 1.76$, $p = .19$. These results suggest that there were no changes in the HWK based on either time or group. Descriptive statistics for the HWK are presented in Table 9.

Table 9

Descriptive Statistics for the HWK: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	4.57	0.56	98	4.67	0.49
Time 2	105	4.60	0.56	98	4.68	0.55

Research Question 5 specifically focused on whether any changes found in Research Questions 1 through 4 would be different for students most committed to their academic studies. Only the written advice for future undergraduate students showed a significant difference between the experimental and control groups, and therefore a two-way between-groups ANOVA was conducted to explore the influence of academic commitment and groups on the amount of advice provided to future undergraduate students. Responses to the HWK during the first classroom visit were used to create two groups of academic commitment. Only two groups were created as results were largely skewed toward high levels of commitment ($M = 4.65$, $SD = .03$). Therefore one group labeled as *high commitment* included all subjects who responded to the HWK with the highest possible score ($n = 95$). The second group, labeled *low commitment*, included the remainder of the sample ($n = 105$). Three cases of extremely low commitment were identified as outliers and removed from this analysis.

Results of the two-way between-groups ANOVA found that the interaction between groups and commitment was not statistically significant, $F(1, 196) = .73$, $p = .39$. However, the main effect for groups was significant, $F(1, 196) = 10.32$, $p = .002$ ($\eta^2 = .047$). The main effect for commitment was also significant, $F(1, 196) = 10.44$, $p = .001$ ($\eta^2 = .048$). According to the guidelines by Cohen (1988), this suggests a small to moderate effect for both groups and commitment. These results suggest that students with higher academic commitment did provide more advice, but the influence of being in the experimental group also caused a significant increase.

Because the responses to the HWK were a significant influence on the amount of advice provided by students, all previous analyses discussed in Research Questions 1, 2, and 3 were also

conducted using only the high commitment group. However, all mixed between-/within-subjects ANOVAs produced no statistically significant results.

Additional Measure: Self-Esteem

In addition to the measures above, all subjects were surveyed on a single-item measure of global self-esteem (SISE; Robins, Hendin, & Trzesniewski, 2001; see Appendix G) during each classroom visit. Students were asked to respond to the SISE on a seven-point Likert-type scale from Do Not Agree at All (1) to Very Strongly Agree (7), with higher scores indicating higher self-esteem. A mixed between-/within-subjects ANOVA was conducted to assess the impact of a threat to academic competence on subjects' scores on the SISE across the two classroom visits. There was no significant interaction between groups and time on the SISE, Wilks' lambda = .99, $F(1, 201) = 2.78, p = .097$. There was also no significant main effect for time, Wilks' lambda = .99, $F(1, 201) = 2.78, p = .097$. In addition the main effect comparing the experimental and control groups was not significant, $F(1, 201) = .09, p = .77$. These results suggest that there were no changes in the SISE based on either time or group. Descriptive statistics for the SISE are presented in Table 10.

Table 10

Descriptive Statistics for the SISE: Two Time Periods

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	105	4.49	1.71	98	4.43	1.67
Time 2	105	4.49	1.69	98	4.67	1.56

Although the mixed between-/within-subjects ANOVA was non-significant, the experimental group did increase in self-esteem across the two time periods. This increase was examined using a paired-samples t -test using only subjects in the experimental group ($n = 98$). Based on this analysis, there was a significant increase in self-esteem across the two classroom visits for the experimental group, $t(97) = -2.16, p = .03$ (two-tailed). Using the guidelines from Cohen (1988), the eta squared statistic ($\eta^2 = .05$) suggests a small to moderate effect. In comparison, a paired-samples t -test using only the control group ($n = 105$) showed no significant change in self-esteem across the two time periods, $t(104) = 0.00, p = 1.00$.

Self-esteem as assessed by the SISE during the first classroom visit was also investigated as a potential influence to the written advice provided by students, which was discussed in Research Question 4. First, a linear regression was conducted to examine whether self-esteem would be a significant predictor of the amount of advice provided for either the experimental or control group. The SISE was not a significant predictor of the amount of advice provided for the control group, $F(1, 103) = .25, p = .62$. However, the SISE was a significant predictor of the amount of advice provided within the experimental group, explaining approximately 6% of the variance in the number of words written, $F(1, 96) = 5.91, p = .017$ ($\eta^2 = .057$).

Second, an independent-samples t -test was conducted to compare the experimental and control groups on the amount of advice provided to future undergraduates, as assessed by the number of words written using only those subjects with SISE scores above the group mean of 4.46. This resulted in a reduced sample of 105 subjects (experimental group $n = 48$, control group $n = 57$). Using this reduced sample, Levene's test for equality of variances was found to be violated ($F(1, 103) = 9.78, p = .002$), and therefore equal variances were not assumed. The t -test showed a statistically significant difference in the amount of advice provided between the

experimental group ($M = 39.04$, $SD = 25.90$) and the control group ($M = 23.96$, $SD = 15.01$; $t(72.51) = 3.56$, $p = .001$, two-tailed). Based on the guidelines proposed by Cohen (1988), the eta squared statistic ($\eta^2 = .15$) suggests a large effect.

Because the reduced sample including only those students of higher self-esteem produced a larger effect size ($\eta^2 = .15$) as compared to the full sample ($\eta^2 = .05$; see Research Question 4), all previous analyses discussed in Research Questions 1, 2, and 3 were also conducted using only those students scoring above the mean on the SISE. However, all mixed between-/within-subjects ANOVAs produced no statistically significant results.

Additional Analysis: Academic Commitment and Self-Esteem

A final analysis was conducted by focusing on those subjects who were both committed to the self-definition of being an undergraduate student and high in self-esteem. Only those subjects scoring above the mean during the first classroom visit for both the HWK measure of commitment ($M = 4.65$, $SD = .46$) and the SISE measure of self-esteem ($M = 4.46$, $SD = 1.69$) were included. This resulted in a total sample of 76 students (experimental group $n = 39$, control group $n = 37$).

First, all previous mixed between-/within-subjects ANOVAs discussed in Research Questions 1-3 were conducted again using this reduced sample. The measure of academic self-efficacy now produced statistically significant results. The results of the mixed between-/within-subjects ANOVA examining the impact of a threat to academic competence on subjects' scores on the CSEI across the two classroom visits showed a significant interaction between groups and time, Wilks' lambda = .88, $F(1, 74) = 9.80$, $p = .003$. However, there was no significant main

effect for time, Wilks' lambda = .99, $F(1,74) = .81$, $p = .37$. In addition, the main effect comparing the experimental and control groups was also not significant, $F(1, 74) = .41$, $p = .52$. The effect size of the interaction ($\eta^2 = .12$) suggests a moderate effect according to the guidelines from Cohen (1988). These results suggest that the experimental group did significantly increase in academic self-efficacy as measured by the CSEI following the academic threat compared to the control group. Descriptive statistics for the CSEI using only the reduced sample are included in Table 11. No other variable showed statistically significant results using this reduced sample.

Table 11

Reduced Sample of High Commitment and High Self-Esteem: Descriptive Statistics for the CSEI

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
Time 1	37	8.38	1.15	39	8.28	0.86
Time 2	37	8.21	1.04	39	8.58	0.86

Second, Research Question 4, concerning the amount of written advice provided by students, was also examined again using this reduced sample. An independent-samples *t*-test was conducted to compare the experimental and control groups on the amount of advice provided to future undergraduates, as assessed by the number of words written. Using this reduced sample, Levene's test for equality of variances was violated, $F(1, 74) = 4.84$, $p = .031$, and therefore equal variances were not assumed. The *t*-test showed a statistically significant difference in the amount of advice provided between the experimental group ($M = 39.21$, $SD = 26.09$) and the control group ($M = 26.46$, $SD = 15.47$; $t(62.35) = 2.61$, $p = .011$, two-tailed). Based on the

guidelines proposed by Cohen (1988), the eta squared statistic ($\eta^2 = .10$) suggests a moderate effect.

Finally, while using this reduced sample the variable of academic competence (PCLDS) showed no significant interaction effect between groups and time, Wilks' lambda = .96, $F(1, 74) = 2.98$, $p = .088$. However, one item on this scale was of particular interest. The final item of the PCLDS asks students to respond to the item, "Overall, I believe I am a good student." This individual item was examined using the reduced sample. A mixed between-/within-subjects ANOVA was conducted and produced a statistically significant interaction between groups and time on the single item of the PCLDS, Wilks' lambda = .94, $F(1, 74) = 4.57$, $p = .036$. There was no significant main effect for time, Wilks' lambda = 1.00, $F(1, 74) = 0.26$, $p = .612$, or between groups, $F(1, 74) = 3.068$, $p = .084$, on this individual item. The effect size of the interaction ($\eta^2 = .35$) suggests a substantial effect according to the guidelines from Cohen (1988). These results suggest that the experimental group did significantly increase in their response to this single item from the PCLDS as compared to the control group. Descriptive statistics for both the full PCLDS as well as the single item using the reduced sample are provided in Table 12.

Table 12

Reduced Sample of High Commitment and High Self-Esteem: Descriptive Statistics for the PCLDS

	Control Group			Experimental Group		
	n	<i>M</i>	<i>SD</i>	n	<i>M</i>	<i>SD</i>
PCLDS: Full Measure (4 items)						
Time 1	37	6.01	0.77	39	6.03	0.76
Time 2	37	5.87	0.9	39	6.16	0.71
PCLDS: Single Item						
Time 1	37	6.03	1.04	39	6.13	1.23
Time 2	37	5.84	1.01	39	6.44	0.68

CHAPTER FIVE

DISCUSSION

Symbolic self-completion theory (SSCT; Wicklund & Gollwitzer, 1982) maintains that when an individual is actively committed to pursuing a certain self-definition, whether as an athlete, artist, or undergraduate student, he or she will define him or herself as complete (e.g., competent, possessing the desired quality) through the use of symbols of attainment. These symbols consist of any behavior or material possession that signals to others that the individual does possess the desired quality. It is through these symbols of attainment, and the subsequent feedback that they cause, that individuals not only establish but also maintain their desired self-definitions over time.

One goal of this study was to extend SSCT to examine the self-defining goal (i.e., desired self-definition) of being an undergraduate student. As a self-defining goal, SSCT suggests that undergraduate students likely engage in symbolic behaviors intended to establish competence in this desired self-definition. As a result, when an undergraduate student experiences a threat to this desired self-definition (e.g., a failed exam) he or she should become more likely to engage in symbolic behaviors that can be seen as bolstering the desired self-definition while avoiding those things that may signal further weakness.

A second goal of this study was to examine measures of competence, self-efficacy, and the avoidance of help seeking in academics as potential symbols of attainment in support of the undergraduate student self-definition. It was expected that following an academic threat,

undergraduate students would exaggerate (i.e., increase) their responses to each measure in order to symbolically re-establish competence within this desired self-definition. This response was expected to be stronger in those students most committed to the self-definition of being an undergraduate student. Each of these goals will be discussed further below.

Results of this study support that being an undergraduate student does represent a self-defining goal and suggest that some students are invested in establishing and maintaining competence within this desired self-definition. This study found that following an academic threat the experimental group did exaggerate (i.e., increase) responses to some of the provided measures. However, both academic commitment and self-esteem seemed important in determining the extent to which a student engaged in the symbolic self-completion process using measures that focus on competence, self-efficacy, and the avoidance of help seeking in academics.

Although it is generally accepted that students of higher perceived competence and self-efficacy in academics will be more likely to seek help when needed (Karabenick, 2011), studies examining this relationship have not always proven consistent (Butler, 1998; Gore, 2006; Parjares, Cheong, & Oberman, 2004). The results of this study support the predictions of SSCT and help explain this inconsistency by viewing being an undergraduate student as a desired self-definition. This is an important consideration in the study of academic help seeking, as it has been demonstrated that people respond differently to failures within a self-defining pursuit (Brunstein & Gollwitzer, 1996). Therefore, SSCT (Wicklund & Gollwitzer, 1982) provides a useful theoretical explanation for these differences by suggesting individuals often respond to threats by trying to symbolically rebuild competence in their desired self-definitions if they are committed to those self-definitions.

However, it is important to remember that it is not the student's actual level of perceived competence, self-efficacy, or avoidance of help seeking in academics that was under investigation. Rather this study investigated whether the student used each self-assessment itself as a way to symbolically appear competent in this desired self-definition. While it is often accepted that self-assessments represent an accurate reflection of feelings or intended behavior, the results of this study have important implications for not only assessing students following an academic threat but also on how to best encourage the use of academic help.

The Undergraduate Student Self-Definition

This is the first study to examine the status of being an undergraduate student as a self-defining goal (i.e., a desired self-definition). As a self-defining goal, SSCT maintains that an undergraduate student committed to this particular desired self-definition likely uses symbols of attainment to establish and maintain his or her academic competence. Thus the strength of commitment to the desired self-definition is important not only in determining a goal to be self-defining but also in predicting how students will respond when this self-definition is threatened.

Commitment to the Desired Self-Definition

Previous studies concerning SSCT often defined commitment to a particular self-definition through a subject's involvement in a related activity. For example, Gollwitzer, Wicklund, and Hilton (1982) asked subjects to name an area in which they felt competent, with commitment to this self-definition being assessed by some form of active involvement in that

area within the previous two weeks. Although the authors suggest that other methods of assessing commitment may be used, commitment is defined by a subject's continuous involvement in pursuing the desired self-definition.

Based on this conceptualization of commitment to a self-definition, it could be argued that all undergraduate students, through the act of applying to and attending a university, are demonstrating at least some level of commitment to being an undergraduate student. In this study all undergraduate students were surveyed at two different times within the same class. Therefore, all subjects were actively involved in attending classes and based on the criteria from Gollwitzer, Wicklund, and Hilton (1982) could be viewed as committed to this particular self-definition. However, students may attend a university for reasons beyond their own choice (e.g., pressure from one's parents). Therefore, while a student may be actively involved in his or her academic studies, this may not represent a self-defining goal. For this reason a specific measure of goal commitment was included in the current study.

In this study a student's commitment to the desired self-definition of being an undergraduate student was assessed using the HWK (Klein et al., 2001). Specifically, it assessed a subject's commitment to his or her academic goals without reference to any specific academic discipline. This measure was chosen because it focuses on the strength of commitment to pursuing a student's academic goals rather than on active involvement in academics. However, it was unexpected that responses to this measure would be largely skewed toward high levels of academic commitment. Many subjects within the experimental and control groups responded with the highest level of academic commitment during both classroom visits. While a high level of commitment is essential in determining a goal to be self-defining, the largely uniform nature

of responses on this measure did make further analysis based on level of commitment to be difficult.

Therefore, future studies should include students of a broader range of academic commitment or consider the use of alternate methods of assessing commitment to the undergraduate student self-definition. One method suggested by Gollwitzer, Wicklund, and Hilton (1982) may be to incorporate an assessment focused on ego involvement. It is possible that some students responded as highly committed to their academic goals without viewing themselves to be defined as a student. Therefore, while the majority of all subjects were highly committed and actively involved in their academic studies, a measure of ego involvement may help better capture the intensity of the self-defining goal. However, regardless of strength of commitment, the active involvement of students who were surveyed at two times during the same semester does support that being an undergraduate student represents a self-defining goal as commonly defined within SSCT.

Threats to the Desired Self-Definition

In this study the threat to academic competence received by the experimental group replicates a method by Wagner, Wicklund, and Shaigan (1990) in which students responded to three questions to which the average undergraduate student would likely have no response. It is believed that being unable to answer these questions creates a feeling of incompleteness (i.e., incompetence) in the desired self-definition. Symbolic self-completion theory (Wicklund & Gollwitzer, 1982) suggests that this feeling of being incomplete in a desired self-definition

should create an increased motivation to re-establish competence in the desired self-definition through the use of symbols of attainment.

The threat to academic competence was included during the second classroom visit. All subjects were verbally informed during this visit that they may leave any question blank should they not have a response. In addition each of the three questions that constitute the academic threat included a written statement that students may choose to leave the space blank. Despite this, it is interesting to note that some students within the experimental group provided irrelevant responses. For example, one student listed his current part-time employment, which was unrelated to his academic major, in response to the question asking what professional organizations had been joined in connection to his academic studies. In addition, rather than leaving the space blank many students wrote “N/A” (not applicable) within each of the three response boxes. This supports that the threat was effective in that many students in the experimental group seemed motivated to provide some response rather than leave the space completely blank.

Applying the academic threat in this manner did remedy one methodological flaw of many previous studies concerning academic help seeking that often survey students long after academic threats have been experienced. However, while this study did capture responses immediately following an academic threat, it is difficult to determine the extent to which each subject's competence was threatened by the included questions. It is possible that some subjects may have viewed the questions as irrelevant to their competence as undergraduate students. It is also possible that some students may have been able to diminish the threat to their self-definition by indicating that a question was not applicable or by providing irrelevant responses.

This method could be improved by examining students before and after an actual exam or graded assignment within a course. Doing that would allow the commitment to the specific course subject to be assessed, with the grade acting as the potential academic threat. This would help to eliminate the limitation of the current study that student's current grades were unknown. Also, while each classroom visit was coordinated with instructors to avoid occurring at the same time as major exams or assignments, it is unknown what other academic threats a student may have been experiencing during each of the two classroom visits. Despite this, it is interesting to note that the majority of subjects were not only highly committed to their academic goals but also responded that they were largely satisfied with their current grades.

In summary, future studies of SSCT related to the undergraduate student self-definition would benefit from an alternative measure of commitment as well as from surveying responses following a genuine academic threat. Despite these limitations the current study does support a successful threat to academic competence in relationship to the symbols of attainment discussed below.

Symbols of Attainment

The second goal of this study was to examine measures of competence, self-efficacy, and avoidance of help seeking in academics as potential symbols of attainment in support of the undergraduate student self-definition. It was believed that following an academic threat students would experience an increased motivation to re-establish competence through the provided measures. In addition to the provided measures all students were asked to provide written advice to future undergraduates on how to be a successful student. It was expected that those students

experiencing the threat would provide more advice, using it as an additional symbol of attainment.

Measures

Research Questions 1, 2, and 3 focused on whether those students who experienced the academic threat would exaggerate (i.e., increase) their responses to each of the provided measures. Using the full sample of students, group means were not different between the experimental and control groups. This suggests that no changes occurred on any of the included measures as a result of the threat to academic competence. However, although not reaching statistical significance, both the SISE and the CSEI did move in the anticipated direction. Students in the experimental group did report a slight increase in academic self-efficacy and self-esteem during the second classroom visit.

Although the results using the full sample were non-significant, Research Question 5 specifically addressed whether a student's academic commitment would influence responses on any of the measures discussed in Research Questions 1, 2, and 3. This Research Question was based on SSCT, which maintains that commitment is an important component of self-defining goals and that those most committed to a self-definition should experience the strongest motivation toward symbolic self-completion (Wicklund & Gollwitzer, 1982). Consequently, the non-significant findings could be the result of including subjects who were less committed to this particular self-definition.

Therefore all analyses conducted in Research Questions 1, 2, and 3 were conducted again using only those students with the highest possible academic commitment based on responses to

the HWK during the first classroom visit. Although commitment showed a relationship to the amount of advice provided (discussed below), results of all other analyses remained non-significant. Therefore, while commitment to a self-definition is an important consideration in SSCT, future studies may benefit from also including a measure focused on a student's ego involvement with the undergraduate student self-definition. I believe that using a measure of ego involvement may better identify those students committed to the undergraduate student self-definition.

However, based on how commitment is typically defined within SSCT, the majority of participants demonstrated a commitment to the undergraduate student self-definition through their responses to the HWK and through being in class during the two surveys. Therefore, when threatened (i.e., made to feel incompetent) within the desired self-definition, each student should have experienced a motivation to re-establish competence through the use of more or alternate symbols of attainment (Wicklund & Gollwitzer, 1982). Although students did use the opportunity to provide written advice as a symbol of attainment, no changes were found for the provided measures when using the full sample. I believe there are two explanations for the non-significant findings in relation to the measures of competence, self-efficacy, and avoidance of help seeking in academics while using the full sample.

First, students may not have viewed the measures as relevant or strong-enough symbols of attainment in relationship to the undergraduate student self-definition. While there is no set formula or process for determining the success of any given symbol of attainment, the degree to which a symbol supports a given self-definition increases the more the individual perceives that the symbol is publicly acknowledged and widely accepted as proof (Gollwitzer, 1986). Future studies of this topic should examine alternate symbols of attainment, focused on the ways in

which students define academic competence. In addition, symbols of attainment are only successful if they are publicly acknowledged (Wicklund & Gollwitzer, 1981). Although students did write their names on the top of each survey, the survey method may have caused students to feel that the information was anonymous, which would render each measure an ineffective symbol of attainment. This could also explain why students were more likely to use the written advice as a symbol of attainment because it is a more personal expression and the directions included a statement that the advice may be used to help other undergraduate students.

Second, while the academic threat seemed effective at challenging individuals' competence, this method presumes that students were not already questioning their abilities. Numerous factors may influence academic competence (e.g., interactions with professors, graded assignments, etc.). Based on SSCT, if a student was already feeling incompetent during the first classroom visit he or she would have used the first survey as a symbol of attainment. Although the academic threat applied in the current study may have increased this feeling of incompetence, its impact would be minimal compared to the other real-world threats.

Written Advice

While all tests of group means were non-significant for the variables of competence, self-efficacy, and the avoidance of help seeking while using the full sample, a difference was found on the item asking students to provide advice to future undergraduates. This item was assessed by comparing the number of words written between the experimental group and control group. The results support that the experimental group did provide more advice and that this effect only becomes stronger when using the reduced sample discussed below.

This finding supports the notion that students used the opportunity to provide written advice to future undergraduate students as a symbol of attainment. While the content of the written advice was very similar between the experimental and control groups, the experimental group did provide more in-depth responses. Therefore, where many students provided the advice to study, the experimental group elaborated on this suggestion to include aspects such as where to study on campus or how long to study. This finding is consistent with previous research on SSCT which suggests that influencing others can be used as a symbol of attainment (Wicklund & Gollwitzer, 1981).

In this study providing written advice to future undergraduates represented an opportunity to influence other students and also acted as a reflection of the individual student's ability. In comparison to the measures discussed above, participants may have viewed the written advice as a more relevant symbol of attainment in supporting the undergraduate student self-definition. It allowed students to express those aspects they felt were academically important and likely also carried a greater degree of social reality. The prompt included a statement that responses may be used to help future undergraduates and as a result more closely conformed to symbols of attainment as defined by SSCT. Therefore, while the measures may have felt anonymous, the written advice was likely perceived as a more personal expression and one that was also likely to be viewed by others. Based on SSCT, this is an important consideration because it is through the acknowledgement of others that an individual develops a sense of completion (i.e., competence) within the desired self-definition (Gollwitzer & Wicklund, 1985).

The results concerning the written advice suggest that students committed to the self-definition of being an undergraduate student were motivated to use their written advice as a symbol of attainment. The experimental group was experiencing a heightened sense of

incompetence within academics and consequently used this item to re-establish the desired self-definition. One interpretation is that the written advice carried a greater degree of social reality and as a result was viewed as a more relevant symbol of attainment than the other provided measures. Symbols of attainment help move a desired self-definition from a private thought to a social reality, confirming in the process that the individual does possess the quality in question (Wicklund & Gollwitzer, 1982). As a result, while no differences were found between the experimental and control groups on the measures of the avoidance of help seeking in academics, actually following students' use of academic support services (e.g., writing centers, tutors, etc.) may better demonstrate the process of symbolic self-completion. Based on SSCT, this public behavior would be better recognized by students as supporting or undermining the desired self-definition.

I also conducted an additional analysis on the amount of written advice provided and found that self-esteem during the first classroom visit was a significant predictor of the amount of advice provided, but only for the experimental group. Students with high self-esteem during the first classroom visit provided the most written advice following the academic threat during the second classroom visit. In contrast, self-esteem was not a significant predictor for the control group. These results suggest that providing written advice did act as a symbol of attainment for the experimental group, but it was students of high self-esteem who subsequently experienced the academic threat that had the greatest motivation toward self-completion. This idea is discussed further below.

Self-Esteem and Academic Commitment

Based on the analyses above it seemed that only providing written advice operated as a symbol of attainment following the academic threat. However, because self-esteem was demonstrated to be a significant predictor for the amount of advice provided within the experimental group, this suggests that not only do students need to experience an academic threat but that they may also need to begin with a higher level of self-worth. In other words, to demonstrate an increased motivation toward self-completion, students must not only be committed to the desired self-definition but must also begin from a state of higher self-esteem. Higher self-esteem may allow the three questions provided to the experimental group to truly act as a threat with a large-enough impact to motivate a noticeable increase in the use of symbols of attainment. Therefore, all analyses conducted in Research Questions 1 through 4 were conducted again using a sample both high in academic commitment and self-esteem as measured during the first classroom visit.

In addition to high academic commitment, self-esteem was focused on as it is possible that students of low self-esteem during the first class visit may have already been experiencing a sense of incompleteness in relation to the undergraduate student self-definition. Although self-esteem can be viewed as self-liking, some research has suggested that self-esteem also includes a feeling of self-competence (Tafarodi & Milne, 2002). Viewed in this way, self-esteem as measured by the SISE may be capturing not only a general feeling of goodness but also of competence. It is also important to note that this item was included among many items that focused specifically on a student's academic abilities. I believe it is likely this caused the item to be viewed as related to academic abilities.

The SISE also correlates with perceived academic ability and perceived intelligence even though it was found to be unrelated to actual academic outcomes (e.g., grades; Robins, Hendin, & Trzesniewski, 2001). Thus students reporting higher levels of self-esteem on the SISE likely think more positively of their academic abilities. Therefore, this measure is an important consideration in the current study as students reporting lower levels of self-esteem during the first classroom visit may have been more likely to already be doubting their academic abilities. Therefore, while the academic threat introduced to the experimental group may have added to this doubt for those of low self-esteem, its impact may have been insufficient to motivate increased effort toward self-completion.

Therefore, all analyses in Research Questions 1 through 4 were again conducted using a sample that was not only highly committed to their academic goals but also reported a high level of self-esteem during the first classroom visit. This excluded those subjects who may have already been potentially experiencing a sense of incompleteness in relation to the undergraduate student self-definition during the first classroom visit. This is not to suggest that students of lower self-esteem were not motivated toward self-completion, but rather that it is possible they used the measures on the first survey as symbols of attainment. Thus, those of low self-esteem as assessed during the first classroom visit likely exaggerated (i.e., increased) on all measures and would continue to do so following the academic threat provided during the second classroom visit.

When using this reduced sample including only students high in academic commitment and self-esteem, the experimental group did increase significantly in academic self-efficacy as a result of the academic threat. This result supports the predictions of SSCT that this measure was used as a symbol of attainment. This may also be true of the full sample, but those of lower self-

esteem may have felt their desired self-definition was already threatened, causing those students to use the initial survey as a symbol of attainment during the first classroom visit. Consequently this would dilute the potential change in response to each measure when using the full sample. I believe this offers one explanation for why academic self-efficacy did increase slightly for the experimental group when using the full sample but only reaches statistical significance when reduced to those of high commitment and self-esteem as measured during the first classroom visit.

In addition, one item from the PCLDS that focuses on academic competence also showed a similar relationship to that of the CSEI when using the reduced sample. The final item of the PCLDS asks students to respond to the item, "Overall, I believe I am a good student." While all tests using the full measure were non-significant for both the full and reduced samples, the group means difference between the experimental and control groups for the single item did reach statistical significance for the reduced sample with a substantial effect size. I focused on this single item because it was clearly worded and focused on general abilities as a student. Also, the first three items may have been confusing for students as items one and three were reverse coded. Based on student responses it seems many students may have responded too quickly, missing that item three in particular was reversed. This caused many students to respond that they have developed good abilities as students yet also that they are highly inefficient. The responses to this single item of the PCLDS again support the predictions of SSCT in that students of high commitment and self-esteem used the available item as a symbol of attainment. Future studies should consider using a reworded version of the PCLDS to eliminate this potential error. In doing so I believe that the PCLDS would likely show similar results to that of the SISE where only students of higher academic competence as assessed during the first classroom visit

would demonstrate an increased motivation toward self-completion following the subsequent academic threat.

Summary and Future Directions

Although the results using the full sample may seem to indicate that students did not engage in self-symbolizing behavior as anticipated as shown through the provided measures, they did use the written advice to future undergraduate students as a symbol of attainment. I believe that this is because providing written advice was a more relevant symbol of attainment in connection to the undergraduate self-definition, and it was also more likely to be viewed as a public indication of academic competence. Consistent with SSCT, this would make the written advice a stronger symbol of attainment in that subjects were more likely to believe that other students would see their advice (Wicklund & Gollwitzer, 1982).

However, additional differences were found when the sample was reduced to only subjects of both high commitment and high self-esteem. It was only in combination that both high commitment and self-esteem resulted in a significant difference between the experimental and control groups on the CSEI and the single item from the PCLDS. These results suggest that when examining SSCT in relation to the undergraduate student self-definition it may be important to consider not only students' commitment to their academic goals but also their self-esteem. All students who were committed to this self-definition seemed to engage in self-symbolizing behavior. However, only those subjects who began with high self-esteem during the first classroom visit experienced a noticeable increase in motivation toward self-completion following the academic threat. Other students of lower self-esteem may have used the first

survey as a symbol of attainment. Even students of low self-esteem within the control group would be using each survey as a symbol of attainment, but without an additional significant threat to their academic competence all students would appear to remain constant across the two classroom visits.

While the reduced sample suggests that subjects increased in their reported academic self-efficacy and competence, all included measures concerning the avoidance of academic help seeking remained non-significant regardless of the sample used. I had expected those students experiencing the academic threat to become more likely to avoid seeking help as this would only work to acknowledge weakness. I believe that no significant changes occurred on the avoidance of help seeking measures because students did not view the items to be a relevant symbol of attainment in connection with the undergraduate student self-definition. It is also possible that while some students may view help seeking as a sign of weakness, others may view the ability to seek help as a positive quality of being a successful student. Therefore, while higher academic self-efficacy is very clearly associated with being a successful student, the avoidance of help seeking may be ambiguous.

One solution to this limitation may be to examine students' actual use of academic help services (e.g., tutors). Actually making an appointment with a tutor carries a great degree of social reality and therefore should act as a much stronger symbol of attainment. However, it would still be unknown whether the individual student views help seeking as a sign of strength or weakness. Understanding how students view academic help seeking would be an important area of future study. In addition to the limitations discussed above, there are also several other areas that when addressed could help improve the current study and guide future studies focused on the undergraduate student self-definition.

First, SSCT only attempts to make predictions in relation to self-defining goals. At the broadest level, students' active involvement in their academic studies supports that being an undergraduate student is a self-defining goal. However, it is possible that students' self-definitions may become closely linked with their academic majors. Therefore students may be more likely to self-symbolize when threatened within their specific academic discipline. In the current study the academic threat and all other measures were provided without reference to any specific academic major.

Second, the threat applied may have been too general to prompt a strong motivation to self-symbolize. The threat was written to apply to all students, but as a result may have been easy to minimize or dismiss. Here again it may also be that a threat to academic competence within the student's major area of study would create a stronger motivation toward symbolic self-completion. Future studies could improve upon the current design by measuring commitment to a specific academic discipline and subsequently threatening competence within that discipline.

Third, although the surveys were not specific to any particular course, responses may have been influenced by the course in which the survey was given. Therefore, students who were surveyed within an elective course may have been able to more easily minimize any threat experienced in the study. Also, students struggling within the class in which the survey was given may have already been experiencing a feeling of incompetence. Therefore, while focusing on specific disciplines and courses is important, it may also be beneficial to survey students outside of a classroom environment.

Overall the results of the study support the predictions of SSCT. Students did use the measures of academic self-efficacy, competence, and the opportunity to provide written advice as symbols of attainment. The results extend SSCT to the undergraduate self-definition and

suggest that students may be likely to self-symbolize following an academic threat. However, unique to the undergraduate self-definition is that a student may doubt his or her ability but remain highly committed to the goal of graduation. This is in contrast to other areas studied within SSCT such as being an athlete or artist, as these self-defining goals would likely be abandoned if an individual consistently doubted his or her abilities. However, for a variety of reasons even students who are of lower ability or who doubt their academic ability may continue with their education.

As was found in the current study, both commitment and self-esteem seemed to be important considerations in the process of symbolic self-completion. Students already experiencing a high level of self-doubt may have already found other ways to either minimize this threat or have found alternate symbols of attainment to support their desired self-definition. However, based on the current study, students who experience an academic threat (e.g., a failed exam) may exaggerate their academic self-efficacy in an attempt to mask shortcomings and re-establish their academic competence.

Therefore, similar to other studies concerning SSCT, this study supports that individuals do respond differently when confronted with failures within a self-defining pursuit (Brunstein & Gollwitzer, 1996). Students who experience a threat to their academic competence may actually respond by reporting higher levels of academic self-efficacy and academic competence. Even though it is generally accepted that students with higher levels of perceived competence and self-efficacy in academics will be more likely to seek help when needed (Karabenick, 2011), the results of this study provide one explanation as to why this relationship has not always been found to be consistent (Butler, 1998; Gore, 2006; Parjares, Cheong, & Oberman, 2004).

Although this study found no change concerning any measure of the avoidance of academic help

seeking, I believe this inconsistency would become more evident when focused on actual academic help seeking behaviors. The results of this study support SSCT and suggest that future studies should continue to examine the role of being an undergraduate student as a self-defining goal.

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APPENDIX A

ITEMS ON HWK GOAL COMMITMENT MEASURE

Directions: Thinking about your academic goals at this university, respond to the following statements. Circle your responses using the following 5 point scale.

Strongly Disagree _____ Strongly Agree
 1 2 3 4 5

1. It's hard to take this goal seriously
2. Quite frankly, I don't care if I achieve this goal or not.
3. I am strongly committed to pursuing this goal.
4. It wouldn't take much to make me abandon this goal.
5. I think this is a good goal to shoot for.

Klein, Wesson, Hollenbeck, Wright, & DeShon (2001)

APPENDIX B

ITEMS ON PCLDS ACADEMIC COMPETENCE MEASURE

Directions: Thinking about yourself as a college student, respond to the following statements.

Circle your responses using the following 7 point scale.

1: Do not agree at all, 2: Very slightly agree, 3: Slightly agree, 4: Moderately agree, 5: Mostly agree, 6: Strongly agree, 7: Very strongly agree

1. In general, I have difficulty doing my schoolwork well.
2. I have developed very good abilities as a student.
3. I don't believe I am a very efficient student.
4. Overall, I believe I am a good student.

Losier, Vallerand, & Blais (1993).

APPENDIX C
ITEMS ON CSEI COURSE SUBSCALE

Directions: Using the following scale, how confident are you that you could successfully complete each of the tasks listed below? Circle your response.

<u>Not at all confident</u>					<u>Extremely Confident</u>				
1	2	3	4	5	6	7	8	9	10

1. Research a term paper.
2. Write course papers.
3. Do well on your exams.
4. Take good class notes.
5. Keep up to date with your schoolwork.
6. Manage time effectively.
7. Understand your textbooks.

Solberg, O'Brien, Villareal, Kennel, & Davis (1993).

APPENDIX D

ITEMS ON AVOIDANCE OF ACADEMIC HELP SEEKING MEASURE

Please use the following scale to answer the statements below. Circle the number that best describes how true or false each statement is for you.

<u>Definitely False</u>				<u>Definitely True</u>			
1	2	3	4	5	6	7	8

1. I don't ask for help even when the work is too hard to solve on my own.
2. If I need help to do a problem, I prefer to skip it rather than ask for help.
3. I don't ask for help in my classes even if I don't understand the lesson.
4. If I didn't understand something, I would guess rather than ask someone for help.
5. I would rather do worse on an assignment I couldn't finish than ask for help.
6. Even if the work was too hard to do on my own, I wouldn't ask for help.
7. I would put down any answer rather than ask for help.
8. I don't ask questions in class even if I don't understand the lesson.
9. If work in class is too hard, I don't do it rather than ask for help.

Notes. The question items on this scale were originally worded to apply to a specific computer science course. The items have been reworded to apply to all classes.

Pajares, Cheong, & Oberman (2004).

APPENDIX E

ITEMS ON THE MOTIVATED LEARNING STRATEGIES QUESTIONNAIRE

Directions: Thinking about yourself as a college student, respond to the following statements.

Circle your responses using the following 7 point scale.

1: Do not agree at all, 2: Very slightly agree, 3: Slightly agree, 4: Moderately agree, 5: Mostly agree, 6: Strongly agree, 7: Very strongly agree

1. Even if I have trouble learning the material in a class, I try to do the work on my own, without help from anyone.
2. I ask my instructors to clarify concepts I don't understand well.
3. When I can't understand the material in a course, I ask another student for help.
4. I try to identify students whom I can ask for help if necessary.

Notes. The items on this scale were originally worded to refer to a specific class. All items have been reworded to apply to all classes in general.

Pintrich, Smith, Garcia, & McKeachie, (1991).

APPENDIX F

ITEMS FROM KARABENICK AND KNAPP (1991)

Directions: Thinking about yourself as a college student, respond to the following statements.

Circle your responses using the following 7 point scale.

1: Do not agree at all, 2: Very slightly agree, 3: Slightly agree, 4: Moderately agree, 5: Mostly agree, 6: Strongly agree, 7: Very strongly agree

1. I needed help with my coursework during the term.
2. I needed help with my general study skills during the term.

Karabenick and Knapp, (1991).

APPENDIX G

SINGLE-ITEM SELF-ESTEEM SCALE

Directions: Thinking about yourself as a college student, respond to the following statements.

Circle your responses using the following 7 point scale.

1: Do not agree at all, 2: Very slightly agree, 3: Slightly agree, 4: Moderately agree, 5: Mostly agree, 6: Strongly agree, 7: Very strongly agree

1. I have high self-esteem

Robins, Hendin, & Trzesniewski, (2001).

APPENDIX H

WRITTEN RESPONSE: ACADEMIC ADVICE

Part 7: What advice would you give future undergraduates to help them become successful college students? List your suggestions below. Your responses may be used to help future students.

(If none, leave this space blank)

Use back of survey if more space is needed.

APPENDIX I
DEMOGRAPHIC VARIABLES

1. I am:
 - a. Male
 - b. Female

2. I am currently:
 - a. 17 or younger
 - b. 18-24
 - c. 25 or older

3. My current year in school is:
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior

4. My major is:
 - a. Currently undecided
 - b. Decided: Please specify your major: _____

5. In thinking of my current Grade Point Average (GPA), I am:
 - a. Extremely Satisfied
 - b. Somewhat Satisfied
 - c. Somewhat Unsatisfied
 - d. Completely Unsatisfied

6. I am a first generation college student.
 - a. True
 - b. False

7. Which of the following is true?
 - a. Almost all of my friends from high school are in college
 - b. Some of my friends from high school are in college
 - c. Very few of my friends from high school are in college
 - d. None of my friends from high school are in college

8. What is the highest degree or level of school completed by your father?
 - a. No schooling completed
 - b. High school graduate, diploma or the equivalent (for example: GED)
 - c. Some college credit, no degree
 - d. Trade/technical/vocational training
 - e. Associate degree
 - f. Bachelor's degree
 - g. Master's degree
 - h. Doctorate degree
 - i. Unsure/ Don't know

9. What is the highest degree or level of school completed by your Mother?
- a. No schooling completed
 - b. High school graduate, diploma or the equivalent (for example: GED)
 - c. Some college credit, no degree
 - d. Trade/technical/vocational training
 - e. Associate degree
 - f. Bachelor's degree
 - g. Master's degree
 - h. Doctorate degree
 - i. Unsure/ Don't know

Notes. Questions one through seven were provided on the first survey. Questions eight and nine were provided on the second survey.

APPENDIX J

EXPERIMENTAL GROUP: THREE QUESTIONS

Write your responses to the following three questions in the areas provided. Your responses may be used to help future students.

1. What specific academic honors have you received for your work outside of the university? Do not include scholarships. List specific honors (e.g., award title) as well as dates received.
2. What research internships have you completed in connection with your academic studies in college? List approximate dates of each internship, as well as any relevant publications developed from your work.
3. What professional organizations (outside of the university) have you joined in connection with your academic studies? Do not include school sponsored clubs/activities. List organizations and approximate dates of membership below.

Notes. Below each question students were provided with a box in which to provide a response.

The box was formatted to provide approximately half of one page in which to provide a response. Each box also included a statement that students may leave the space blank should they not have a response, or that they may use the back of the survey if additional space is needed.

APPENDIX K

CONTROL GROUP: THREE QUESTIONS

Write your responses to the following three questions in the areas provided. Your responses may be used to help future students.

1. On course assignments do you prefer to work individually or in groups? Why?
2. Do you prefer classes that meet online or face-to-face? Why?
3. What days of the week and at what times would you prefer to take most classes?

Notes. These questions were formatted in an identical fashion to those provided to the experimental group with a box provided below each question in which to provide a response.

The box was formatted to provide approximately half of one page in which to provide a response. Each box also included a statement that students may leave the space blank should they not have a response, or that they may use the back of the survey if additional space is needed.