

2015

Non-Cognitive Factors Affecting Undergraduate Student Success in Core Composition Courses

Samantha J. Spitak
Wright State University

Follow this and additional works at: https://corescholar.libraries.wright.edu/etd_all



Part of the [Educational Leadership Commons](#)

Repository Citation

Spitak, Samantha J., "Non-Cognitive Factors Affecting Undergraduate Student Success in Core Composition Courses" (2015). *Browse all Theses and Dissertations*. 1320.

https://corescholar.libraries.wright.edu/etd_all/1320

This Thesis is brought to you for free and open access by the Theses and Dissertations at CORE Scholar. It has been accepted for inclusion in Browse all Theses and Dissertations by an authorized administrator of CORE Scholar. For more information, please contact corescholar@www.libraries.wright.edu, library-corescholar@wright.edu.

NON-COGNITIVE FACTORS AFFECTING UNDERGRADUATE STUDENT SUCCESS IN
CORE COMPOSITION COURSES

A thesis submitted in partial fulfillment of the
requirements for the degree of
Master of Arts

By

SAMANTHA J. SPITAK
B.S., Wright State University, 2013

2015
Wright State University

WRIGHT STATE UNIVERSITY
GRADUATE SCHOOL

August 21, 2015

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER
MY SUPERVISION BY Samantha J. Spitak ENTITLED Non-cognitive Factors Affecting
Undergraduate Student Success in Core Composition Courses BE ACCEPTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts.

Dr. Suzanne Franco, Ed.D.
Thesis Director

Jill Lindsey, Ph.D.
Chair, Department of Leadership Studies
of Education and Organizations

Committee on
Final Examination

Dr. Carol Logan Patitu, Ph.D., Chair

Dr. Suzanne Franco, Ed.D., Member

Tim Littell, M.S.Ed., Member

Dr. Robert E. W. Fyffe, Ph.D., Vice President for Research & Dean of the Graduate School

Abstract

Spitak, Samantha J., M.A. Department of Leadership Studies in Education and Organizations, Wright State University, 2015. Non-cognitive Factors Affecting Undergraduate Student Success in Core Composition Courses.

The intention of this study was to determine what, if any, non-cognitive factors affect student performance in core composition courses. “Non-cognitive factor” is a term referring to non-academic and non-intellectual characteristics of a student’s experience. These factors may be emotional, environmental, psychosocial, etc. Some prior research has been conducted on non-cognitive factors relating to admission of minority populations, but this research is likely to be outdated. Six potential non-cognitive factors were proposed for this study: Confidence, Motivation, Socioeconomic Class, Emotional Support, Campus Climate, and Living Situation. The results of this study indicated that non-cognitive factors do influence student performance in composition courses, although the data were limited based upon the respondent population’s characteristics. Respondents reported both positive and negative forms of impact from non-cognitive factors. Each of the factors did have some level of impact for the majority of respondents, with the exception of Socioeconomic Class, for which a negative effect was reported by some respondents but was considered to have no effect for the majority.

Table of Contents

List of Tables	vi
Chapter 1 – Introduction	1
Purpose of the Study	2
Statement of the Problem	4
Definition of Terms	6
Research Questions	8
Scope	9
Significance of the Study	10
Chapter 2 – Literature Review	11
Developmental Education	11
Placement Indicators	12
Non-Cognitive Factors	16
Diversity in Higher Education.....	19
Gaps in the Literature	22
Conclusion.....	23
Conceptual Framework	24
Chapter 3 - Methods	27
Participants	27
Measures.....	28
Procedures	28
Research Design	29
Analysis.....	29
Summary	29
Chapter 4 - Results.....	31
Proposed Non-cognitive Factors	31
Chapter 5 – Summary, Conclusions and Recommendations.....	37
Research Questions	37
Conceptual Framework	40

Implications for Organizations.....	40
Limitations	41
Recommendations for Future Research	41
Summary	42
Appendix A – Survey Questions	50
Appendix B: Informed Consent/Cover Letter	53

List of Tables

Table 1: Core Composition Series at the University of Study.....	7
Table 2: Type of Effect Reported for Proposed Non-Cognitive Factors.....	36

Acknowledgements

I would like to acknowledge and thank all of my committee members. First, Dr. Patitu, my advisor and chair. Her support, encouragement, and positive attitude made this entire project possible. To the other members of my committee, I want to thank you for your professional insight and enthusiasm for this study.

Chapter 1 – Introduction

Eighty-five percent of students entering the higher education system intend to complete a bachelor's degree at the minimum (Cox, 2009). This is expected; a degree is the ultimate end product of a college education. However, many incoming students will not persist to a degree of any type (Cox, 2009; Moore, 2009; Roderick, Nagaoka, & Coca, 2009). This has been described as the "Aspirations-Attainment Gap" by researchers Roderick, Nagaoka, and Coca (2009). Since 1980, the number of tenth-grade students with intentions to pursue - and ultimately obtain - a bachelor's degree has been continuously increasing, from about 40 percent of tenth-grade students in 1980 to nearly 80 percent from this same population in 2002 (Roderick, Nagaoka, & Coca, 2009). However, the Aspirations-Attainment Gap is even more apparent for students in minority groups or lower socioeconomic classes and includes not only the discrepancy between aspiration and attainment but also the level of college readiness and success. In 2005, Caucasian students achieved an estimated college completion rate of 52.7 percent, while African American students had a completion rate of 35.4 percent and Latino students a rate of 32.6 percent (Roderick, Nagaoka, & Coca, 2009). Furthermore, over 60 percent of both African American and Latino student groups placed at the developmental level in terms of college course readiness, which is nearly thirty percent higher than the same statistic for Caucasian students (Roderick, Nagaoka, & Coca, 2009). These percentages indicate that a gap exists both for college readiness and degree attainment between different racial groups. Such a gap is detrimental to the students with aspirations for higher education as well as for institutions who hope to retain those students and help them achieve those aspirations.

Student readiness for college is vital to their success. The admissions process, in theory, is a readiness assessment because students must meet minimum standards to be admitted.

Generally, admission standards are based on academic criteria such as GPA or standardized test scores, although some institutions do consider non-academic factors in their admissions process (Sedlacek, 1996). Even so, meeting minimum admission standards does not guarantee that the student has the necessary academic competency and other success skills, which can be deduced simply from the fact that not every student admitted to an institution will persist between terms or to a degree. This is likely to be more apparent at community colleges or four-year institutions with moderately selective or open access admission criteria.

In addition to the admissions process, most institutions assess incoming students' academic readiness in specific subjects – typically mathematics, reading, and writing since these skills are fundamental to success in all college courses. Based on this assessment, students are placed into the class for which they are deemed most ready. This placement assessment occurs through a variety of mechanisms depending on the institution, but the most common method of determining placement is through ACT/SAT scores or a form of entrance exam, either designed and evaluated by the institution or purchased from an outside company. If students are not deemed “college ready” in a specific subject area, they are placed into developmental courses which they must pass in order to progress into college-level courses (Bettinger & Long, 2006; Calcagno & Long, 2008). Accurate placement can positively affect student success in first-year courses as well as student retention (James, 2006). However, most documented placement methods measure cognitive factors and do not consider student development or other non-cognitive factors.

Purpose of the Study

The purpose of this study was to identify what non-cognitive factors affect undergraduate student success in core composition courses. Knowledge of non-cognitive factors can help

universities to more accurately evaluate students' readiness for particular college courses because such an assessment considers all aspects of a student's experience and readiness, rather than focusing solely on academic factors. Information gathered from this study could therefore be used to inform placement mechanisms and university support services.

Research has been conducted on non-cognitive factors for over thirty years, using other terms such as "non-cognitive variables" or "non-academic factors" (Fuentes, Sedlacek, & Liu, 1994; Sedlacek, 1996; & Thomas, Kuncel, & Crede, 2007). However, the existing research tends to focus on the use of non-cognitive factors in the admissions process, in developing retention strategies, or in predicting student academic characteristics (Fuentes, Sedlacek, & Liu, 1994; Le, Casillas, Robbins, & Langley, 2005; Lotkowski, Robbins, & Noeth, 2004; Sedlacek, 1996; Sommerfeld, 2011; & Thomas, Kuncel, & Crede, 2007). The problem with focusing solely on the predictive abilities of non-cognitive factors is that no solutions are proposed. Whether or not non-cognitive factors can help to predict academic outcomes is useful information, but only if that information is used to inform and improve practice rather than existing as purely interesting information on probable student academic performance.

Absent from the literature is research on the subject of non-cognitive factors as used to inform course placement, course content, or academic support strategies. In addition, the seminal studies conducted by Tracey and Sedlacek (1985) on non-cognitive factors focused primarily on the admissions process for minority student groups. More recent studies regarding Sedlacek's work also suggested that the instrument he developed for use in his research is not valid on a large scale (Thomas, Kuncel, & Crede, 2007). The aim of the present study is to identify what non-cognitive factors affect current students from any demographic with the

intention to inform course placement and academic support services, which will add to the body of literature and enable future study on this topic.

Statement of the Problem

Most incoming students at colleges and universities are required to take some form of placement assessment to determine which first-year courses they should begin with. Placement assessments are typically conducted for math, reading, and writing courses because student ability and preparation will differ between individuals. These courses in particular provide foundational knowledge for other courses in all disciplines. The goal of placement is for students to begin their college career at a level that allows for the greatest opportunity for success.

If students place below what the institution considers “college-ready,” they are placed into developmental courses. These courses typically do not count toward a major, degree credit, or GPA. They do, however, count for credit toward full-time status and financial aid. This can present a problem because students in these courses may feel they are not good enough to be in college and their belief that the class does not count is unlikely to send a positive message (Adams, Gearhart, Miller, & Roberts, 2009).

Describing the challenges students face with developmental classes is not meant to be an argument against developmental education; since student ability and past academic preparation will vary, it is expected that some students will need additional coursework before being prepared for certain first-year core courses. Since first-year core courses are often highly foundational, it is important that students start in a course that matches their readiness level so they can be prepared for success in future courses.

The problem is that current placement assessments tend to focus solely on students' academic ability. The exact assessment mechanism varies by institution, but generally involves a combination of ACT/SAT test scores and placement test scores with other similar measures sometimes considered. While these are important academic indicators, they fail to account for the "whole student," meaning that they focus primarily on academic and intellectual evaluations without accounting for the student's emotional, psychosocial, or environmental experiences. Student success is not necessarily based exclusively upon cognitive factors, but also on non-cognitive factors. The literature addresses non-cognitive factors, stating that "college knowledge" or even fear has an impact on student success in addition to other personality or behavioral traits (Cox, 2009; Le, Casillas, Robbins, & Langley, 2005; Lotkowski, Robbins, & Noeth, 2004; Sedlacek, 1996; & Thomas, Kuncel, & Crede, 2007). However, this literature focuses on admission criteria or outcome prediction while non-cognitive factors are not generally considered in placement assessments. Furthermore, the research on specific non-cognitive factors may no longer be accurate to the characteristics and experience of the current student population.

In order to more accurately assess overall college readiness, it is important to consider the whole student, both cognitively and non-cognitively, from admission, placement, and course enrollment throughout students' careers. This study provides a modern determination of the non-cognitive factors that affect student success specifically in first year courses. First year courses are typically the most foundational and are the focus of placement assessments. Continuation of past research is necessary in order to fully modernize the understanding of non-cognitive factors as they relate to the current student population. Such a modernization is important because information regarding non-cognitive factors can be used for the general student population as

well as specific groups of students, such as minority populations. Specifically, non-cognitive factors may help universities to understand why minority students place into developmental courses at higher rates and can therefore allow for the development of improved support programs. Next, it will be necessary to determine how to assess these non-cognitive factors to use for placement while also adapting first-year courses and overall support to accommodate for those factors. Finally, information about how non-cognitive factors evolve throughout a student's college career could provide enlightening information about the overall student experience. The hope is that considering the whole student will provide a greater chance for student success and retention because the institution can work to provide more tailored support to the student population.

Definition of Terms

Core composition series. At the research university, all students must complete a first- and second-year composition course for graduation, regardless of major. Multiple course options exist to complete this requirement and the specific courses taken depend on a student's placement level and major. Certain composition courses are offered for international students, but this student group was not included in this study so the courses do not require definition. The course options and descriptions are outlined in Table 1: *Core Composition Series at the University of Study* (p. 7).

The first-year composition course, ENG1100, is generally taken Fall semester of the freshman year, while ENG2100 is generally taken Spring semester of the second year. If students are not prepared for ENG1100 when entering the university, they will be placed into ENG1140, ENG1120/1130, or DEV0920.

Prior to Fall 2013, the only placement options for first year writing courses were DEV0920 and ENG1100. DEV0920 is a developmental course. Success in DEV0920 is determined on a pass/unsatisfactory basis and therefore does not apply to the GPA. DEV0920 also does not apply toward graduation requirements.

In an effort to allow more students to take credit-bearing courses that apply to their degree while still placing them in courses where they will learn the appropriate foundational writing skills, two other course options were created. ENG1140 is an “intensive” version of ENG1100. ENG1140 is worth an additional credit hour which is spent in additional meeting time with a teaching assistant, allowing for more time in class and more support. ENG1120/1130 is the “stretch” version of ENG1100. It is the same course material, but spread across two semesters as opposed to one. Completion of either ENG1140 or ENG1130 is equivalent to the ENG1100 credit, and each of these courses does apply to the GPA and degree requirements.

Table 1

Core Composition Series at the University of Study

<u>Course Number</u>	<u>Course Title</u>	<u>Description</u>
DEV0920	Foundations of College Reading and Writing	Developmental course; graded as pass/unsatisfactory; does not count toward degree credit or GPA
ENG1100	Academic Writing and Reading	First-year composition course
ENG2100	Research Writing and Argumentation	Second-year composition course
ENG1120	Academic Writing and Reading Workshop	First course in the “stretch” option; same course content as ENG1100 but takes places over two semesters in two courses.

ENG1130	Academic Writing and Reading	Second course in the “stretch” option; completion of ENG1130 replaces the ENG1100 credit
ENG1140	Intensive Academic Writing and Reading	Replaces ENG1100; same course content but includes additional classroom time with a teaching assistant
EGR3350	Technical Communications for Engineers and Computer Scientists	Second-year composition course required for engineering and computer science majors; Replaces ENG2100

Student success. For the purposes of this study, the researcher has defined student success as course completion, which would theoretically result in future persistence and retention. Student success ultimately refers to degree attainment, but the participants in this study were current students who had not yet obtained a degree. The focus of this study was on performance in composition courses; therefore, defining success as course completion is most pertinent to this study. The researcher also recognizes that students may have their own definitions of success. The term was left intentionally vague to allow for individual interpretations of the meaning of success.

Cognitive Factors. Cognitive factors involve students’ prior academic preparation and current abilities for coursework (Sommerfeld, 2011). They are intellectual and academically-related factors. Cognitive factors do not include emotions or psychosocial factors.

Non-cognitive Factors. Non-cognitive factors include any factors that affect students’ ability to succeed in a course with the exception of cognitive factors. These are the emotional, psychosocial, or personal factors that affect students in college (Sedlacek, 1996 & Sommerfeld, 2011).

Research Questions

The following research questions guided the goals and methodology of this study:

1. What are the non-cognitive factors that contribute to student success in courses in the core composition series?
2. What is the impact of non-cognitive factors on student success in core composition courses?
3. What type of support (internal and external) contributes to students' success in core composition courses?

Scope

The scope of this study was limited to undergraduate students who had enrolled in or completed at least one of the courses in the core composition series at the main campus of a public, four-year university in the Midwest. A total of 4,647 participants were invited to the study. This number included current undergraduates at the university because in 2013, the institution changed its placement mechanisms and broadened the number of first-year composition courses to account for a wider variety of preparedness levels and course styles. Therefore, responses from multiple classes provided valuable information. Of those invited, 333 completed the full survey, which equated to a seven percent response rate.

International students were excluded from this study because of the unique qualities of this student population. The international student experience inherently differs from the experience of an American student. Therefore, their responses might have skewed the results of this study since this purpose of this study was to provide an initial, general understanding of non-cognitive factors.

Assumptions

This researcher assumed that the data provided by the Office of Institutional Research determining which students would receive the survey was correct. This researcher also assumed that the responses provided by the participants were accurate to their actual experience.

Significance of the Study

This study sought to determine what non-cognitive factors affect student success in core composition courses. Knowledge of these factors may influence the in-class experience, but the hope is that this study will provide institutions with further knowledge to develop or promote appropriate support services. Once a pattern of common non-cognitive factors is determined, future studies can be conducted on the placement of students based on non-cognitive factors in addition to traditional academic measures.

Chapter 2 – Literature Review

Developmental Education

If students' placement assessment determines that they are unprepared for college-level courses in the subject area being assessed, they must take developmental courses, which are also referred to as remedial courses (Attewell, Lavin, Domina, & Levey, 2006). Remedial coursework is generally offered for reading, writing, and mathematics since these skills are fundamental to success in all college-level courses, regardless of program of study.

Developmental courses typically do not apply to a student's major, credits for graduation, or their GPA (Deil-Amen, 2011). Students are still required to pay tuition for remedial courses; and while they are able to apply for financial aid (Deil-Amen, 2011), there is still additional cost to students to take these courses, especially if they take multiple remedial courses or must repeat a remedial course (Calcagno & Long, 2008). In Florida, for example, students pay approximately \$500 for a remedial course, which may or may not be worthwhile for the student (Calcagno & Long, 2008).

Students who place into remedial or developmental courses are typically considered "at-risk" because they lack academic preparation and, often, academic behavior skills that are required for college success (Adams, Gearhart, Miller, & Roberts, 2009; Bettinger & Long, 2005; Callahan & Chumney, 2009; & Moore, 2009). Some discrepancies exist regarding the number of students who enroll in developmental education, though the numbers are not encouraging overall. Callahan & Chumney (2009) reported that at public four-year institutions, approximately twenty percent of incoming students enroll in developmental courses while approximately forty-two percent of incoming students require developmental courses at public two-year colleges. Moore (2009) reported an even greater statistic, stating that fifty to seventy

percent of incoming college freshman enroll in developmental classes. Deil-Amen (2011) focused on community college students specifically and reported that sixty percent of incoming students at community colleges were placed into developmental courses. Each of these statistics report a national average; the percentages will vary based on region and institutional selectivity. Placement into developmental courses does not imply that the students are unprepared by their own choice, lack of effort, or lack of ability. Variations in preparation for certain courses or readiness for higher education in general is impacted by the extreme variation in curriculum and teaching across school districts (Bettinger & Long, 2005 & Ramineni, 2012).

Students in developmental education are marginalized in the campus environment because they are paying tuition, are able to use financial aid, and are considered university students, yet they must take courses that do not apply toward GPA or degree completion (Deil-Amen, 2011). However, if this same student population enrolls in mainstream courses, they are unlikely to succeed and are less likely to persist because they lack the necessary readiness (Deil-Amen, 2011).

Placement Indicators

Secolsky, Krishnan, and Judd (2013) pointed out the importance of placement testing, calling the practice “high-stakes” since these tests determine whether or not students are eligible to take college-level courses. As a result, Secolsky et al. (2013) also emphasized the importance of these tests being able to accurately predict a student’s true ability and level of preparation. Placement assessments may also provide clues about the level of additional support a student may need to be successful in a particular course (Ramineni, 2012). If a student is not properly placed, he or she is less likely to be successful in the course. This is true whether students are

placed in a course that is too challenging or not challenging enough. Improper placement, therefore, becomes a detriment to retention (Secolsky, Krishnan, & Judd, 2013).

One issue with placement assessments is their predictive accuracy and validity. When the placement assessment method is both accurate and valid, and when students enroll in the courses suggested by the results of that assessment, course completion rates are higher (Rueda & Sokolowski, 2004). Even so, placement tests can only be relied upon to place students in developmental or college-level courses if they are able to predict the success a student will have in a course (James, 2006). For example, the Accuplacer Online placement test was evaluated for its predictive ability, resulting in the conclusion that the test successfully predicted student success in mathematics courses but not in English reading and writing courses (James, 2006).

When the placement exam is electronic, like Accuplacer, some institutions do not require proctored exams, meaning the student may take the placement assessment from any location without supervision. The benefit to this method is that it takes less staff members and space on campus. For proctored assessments, staff are required to organize, schedule, instruct, and proctor. One study in particular, however, noted that the unproctored method was significantly less accurate, although an explanation as for why this was the case was not provided (Drake, 2011). A study on multiple placement measures and their ability to predict student grades at Bowling Green State University revealed multiple unsuccessful models, although most models were accurate within one letter grade (Barrow, 2009). Barrow (2009) found that high school GPA was most closely correlated to grades in college, while the math and science sections of the ACT were less correlated.

Scores on the ACT and SAT are common placement indicators, but it has been shown that such standardized scores are inaccurate and incapable of predicting a student's chances for

success (Barrow, 2009; Donnelly, 2010; & Moore, 2009). Generally, multiple measures used in combination have the highest level of accuracy and predictability of student success (Drake, 2011). Therefore, ACT/SAT scores in combination with high school GPA, placement test scores, high school rank, participation in Advanced Placement (AP) curriculum, and other related academic factors tend to have decent predictive value (Donnelly, 2010; Drake, 2011; & Preston, 2009).

Writing placement tests have variable predictability depending on the method of assessment used. Multiple choice writing placement indicators are rarely indicative of a student's true writing skill, so proper writing placement generally depends upon the evaluation of student writing samples (Ramineni, 2012). This evaluation can be conducted by faculty raters or by automated electronic scoring. The challenge with individual raters is a potential lack of consistency, whereas automated systems are questioned for their ability to accurately assess writing skill.

Several studies have compared traditional placement assessments and Directed Self Placement (DSP) (Balay & Nelson, 2012; Pritchett, 2010; & Ramineni, 2012). DSP is a less common method of writing placement and is conducted differently depending on the institution. Essentially, students are given an opportunity to respond to certain writing prompts and to then compare their writing with sample responses. Based on how their writing compares, their perceived readiness, and their confidence level, they are able to choose their own placement. Other universities use a similar method but it is based on a portfolio of past writing projects. DSP is generally less common, however, because it lacks reliability and is not generally a successful placement mechanism (Balay & Nelson, 2012; Pritchett, 2010; & Ramineni, 2012). The difference is when DSP is coupled with appropriate support mechanisms. Pritchett (2010)

described a method where students were placed by DSP, and regardless of the course they enrolled in, they were given assignments that they were not yet ready for. Instructor feedback was designed to provide the support required to push students while still enabling their development, resulting in statistically significant improvements in student success in first-year writing courses at the particular university being studied (Pritchett, 2010).

A similar “mainstreaming” of students who place into developmental courses was attempted at the Community College of Baltimore County. Peter Adams (2009) sought to improve success in developmental courses, finding that it was crucial to look at student success over an entire series of courses rather than just one particular course (generally, the developmental course). He and his colleagues discovered that the “basic writing course was a path to success for only one-third of the students enrolled; for the other two-thirds, it appears to have been a locked gate” (Adams, Gearhart, Miller, & Roberts, 2009, p. 52). The solution Adams et.al. (2010) proposed was for students placing into developmental writing courses to enroll in both the mainstream first-year writing course and the developmental course simultaneously. This approach is now known as the Accelerated Learning Program (ALP), which has doubled student success rates (Adams, Gearhart, Miller, & Roberts, 2009). The program also took into account non-cognitive college readiness with “conscious and deliberate attention to behavioral issues,” meaning an emphasis on teaching students skills for success, while reducing the stigma students in developmental courses tend to feel (Adams, Gearhart, Miller, & Roberts, 2009). Similar mainstreaming of students has been done at the State University of New York, City College of New York, and Arizona State University (Adams, Gearhart, Miller, & Roberts, 2009).

To universalize placement criteria, certain states are putting cut-off scores in place that will make the distinction between developmental and non-developmental placement indicators equal at each university, allowing for better transfer processes and equality of access across institutions. Ohio is one example of a state with established standards for placement. However, those standards are not applied consistently across the state (Bettinger & Long, 2005).

Secolsky, Krishnan, and Judd (2013) used logistic regression to determine the cutoff scores using the Accuplacer mathematics placement test, the WritePlacer test at a specific college, and SAT scores. Although Secolsky, Krishnan, and Judd (2013) were able to successfully predict student success in the courses they were placed in, the placement indicators that were tested are limited. Accuplacer is one of several placement tests, and WritePlacer was college-specific. The technique used in Secolsky, Krishnan, and Judd's (2013) study would be useful, but the specifics of their study do not give a generalizable placement indicator. This lack of generalizable results is the weakness with most studies on placement tests; they depend entirely on the types of tests the institution uses as well as the student body and mission of that particular institution.

Non-Cognitive Factors

Typical placement indicators only evaluate cognitive readiness based on academic background and test scores. However, these assessments do not account for non-cognitive readiness. Minimal research exists on non-cognitive readiness factors used for course placement. Other studies discussed non-cognitive factors but did so circuitously and did not provide methods for measuring non-cognitive readiness (Cox, 2009 & Roderick, Nagaoka, & Coca, 2009). Some studies did identify specific non-cognitive factors, although it is possible that the details are no longer relevant to the present student population. Lack of relevancy is likely,

especially given the demographic shift in college students nationally. Tracey and Sedlacek (1985) proposed seven non-cognitive factors: positive self-concept, realistic self-appraisal, understands and deals with racism, availability of a strong support person, leadership experience, demonstrated community service, and knowledge acquired in a field. The weakness of these factors, in addition to the possibility that they are outdated, is that they were developed primarily for minority student populations with the goal of increasing the admission of minority populations (Fuertes, Sedlacek, & Liu, 1994; Sedlacek, 1996; & Tracey & Sedlacek, 1985). Focusing on racial minorities may be appropriately limiting in certain instances, but non-cognitive factors can affect all students regardless of race. Differences are likely to exist between races or other characteristics such as gender or age, but before identifying these characteristics, a tool must be developed that can measure the impact of non-cognitive factors in general.

One possible measurement of non-cognitive factors is the Non-Cognitive Questionnaire (NCQ), developed by Tracey and Sedlacek (1985) based on the seven non-cognitive factors they proposed. However, an extensive meta-analysis indicated that the NCQ lacked predictive validity on a large scale (Thomas, Kuncel, & Crede, 2007). Furthermore, the NCQ was developed approximately thirty years ago and may no longer include the non-cognitive factors that are most relevant to the current student population. Finally, the NCQ was developed primarily as a tool for admissions with the goal of increasing the admission of minority races, therefore making this method a potentially less accurate method for measuring non-cognitive factors for all student types.

A new mechanism for determining and measuring non-cognitive factors is required. Measuring non-cognitive readiness could have valuable implications on first-year student course

placement. Coupled with the cognitive assessments that are commonly used, this additional dimension of readiness allows the whole student to be considered in placement processes.

Roderick, Nagaoka, and Coca (2009) determined four aspects of college readiness as “content knowledge and basic skills, core academic skills, non-cognitive skills and norms of performance, and ‘college knowledge.’” Non-cognitive skills and “college knowledge” are two factors unrelated to academic preparedness and are therefore not measured at most institutions. Failure to measure non-cognitive factors is a gap at a multitude of institutions, likely because non-cognitive readiness is difficult to measure. Roderick, Nagaoka, and Coca (2009) argued that grades can measure non-cognitive skills because a high GPA indicates a solid work ethic and study skills that would equip students with the appropriate readiness to obtain a degree. However, this was stated as a logical conclusion by the authors without evidence to corroborate the conclusion. As a result, grades should not presently be relied upon as an accurate determinant of non-cognitive readiness.

A common indicator of a lack of non-cognitive readiness is, essentially, the fear of failure. Sanford (1968, 1960) described the impact of innate defense mechanisms when students are faced with a challenge they fear they cannot handle, stating that those defense mechanisms “can block learning whenever they prevent a person from having a given experience or when inhibiting mechanisms offer themselves so readily that new adaptive responses have no chance to be tried” (Sanford, 1968, p. 863). In other words, if students avoid the challenge and do not attempt to adapt, they will not develop and are less likely to be successful in college. An example of an avoidance of challenge is a student who drops a course before turning in any assignments because she fears being assessed and judged.

New college students are beginning a significant life transition and are at the same time grappling with a new identity of being a “college student.” Cox (2009) discovered that a first time college student’s fear of failure and the defense mechanisms they employed was more likely to result in actual failure than the student’s cognitive ability would have suggested. However, if the students were able to overcome the instinct to avoid the challenges they were facing, they were highly successful. The difference Cox (2009) observed was the level of support provided by the instructor and the institution. Once the students received a certain level of validation, they gained confidence that allowed them to feel more comfortable in the “college student” identity. Overall, this resulted in higher levels of success and persistence (Cox, 2009).

A study by Attewell, Lavin, Domina, and Levey (2006) demonstrated that students who are placed into remedial courses are not necessarily the least academically prepared or least academically able students. Attewell, Lavin, Domina, and Levey (2006) tested a representative group of high school seniors to determine their ability in math and reading, then noted which of these students placed into developmental courses when entering college. The researchers discovered that over one-fourth of students who ranked in the top two quartiles of academic ability enrolled in developmental classes (Attewell, Lavin, Domina, & Levey, 2006). Their discovery indicated a non-cognitive factor influencing student placement, though the authors do not point out this perspective nor do they provide a reason for the discrepancy.

Diversity in Higher Education

Increased enrollment of students from minority racial, ethnic, and socioeconomic groups results in unique challenges in higher education, including a student population that may be considered more unprepared academically (Baum, Kurose, & McPherson, 2013; Moore, 2009; & Roderick, Nagaoka, & Coca, 2009;). These groups enroll in developmental coursework at

increasing rates and have been described as “overrepresented” in developmental classes. (Attewell, Lavin, Domina, & Levey, 2006). For example, in terms of socioeconomic status specifically, students from lower socioeconomic levels placed into developmental courses at a rate of 52 percent compared to the 24 percent from the highest socioeconomic level (Attewell, Lavin, Domina, & Levey, 2006). While this statistic demonstrated that placement into remedial courses was not limited to minority status or a lower socioeconomic level, there was still a discrepancy in the rates of placement into developmental classes by students from various socioeconomic levels. Students from lower socioeconomic levels are also less likely to obtain a bachelor’s degree than students of higher social classes (Goldrick-Rab, 2006). Students’ high school preparation has an impact on placement into development courses (Bettinger & Long, 2005) with a further reaching relation to overall student retention and degree completion (Goldrick-Rab-2006).

The student body at higher education institutions nationally is becoming more diverse, yet instructors do not always adapt their courses and pedagogical strategies to more effectively teach this diverse population (Moore, 2009). The implications of this information is that higher education may not be adapting sufficiently to meet the needs of its diversifying student body. More research is required to determine why such students are placing into developmental courses more frequently than the majority populations. Potentially more importantly, colleges and universities must work to determine strategies for supporting these students.

Student Success and the “College Student” Identity

Students who must take developmental courses are considered at-risk due to their lack of academic preparation. Students in developmental courses typically have lower retention rates (Bettinger & Long, 2005). This fact remains true for all students who enroll in developmental

courses due to the number of students who drop the course, stop attending the institution, or do not complete the work required to pass the course. For example, within the Ohio community college system, only two-thirds of students who enroll in developmental courses end up completing those courses (Bettinger & Long, 2005). When students who completed the course requirements are considered exclusively, their retention rates and degree attainment numbers are either higher than or comparable with the rates for students with similar competency levels who did not enroll in a developmental course (Bettinger & Long, 2005; Callahan & Chumney, 2009; & Pinkerton, 2010). Student success that has been attributed to placement may be due to group membership as opposed to the course itself. Pinkerton (2010) described a study that indicated that students with statistically similar ability had different success rates and persistence rates based on whether or not they were placed into a developmental course. The results indicated that completion of the developmental course increased the possibility for overall success throughout the remainder of that student's college career.

Pinkerton's (2010) study is important because the results directly affect students who are considered "on the margin," meaning students who just barely place out of or into developmental courses. In other words, two students could have nearly identical abilities overall, but achieve scores near the cutoff point but on opposite sides. As a result, these two students are placed in different classes. Pinkerton's discovery suggests that the student who just barely places out of a developmental course and therefore takes the college-level course is less likely to succeed in that particular class or persist to a degree overall (2010). A study by Calcagno and Long (2008), however, found that developmental coursework did not have an effect on persistence to degree for borderline students, although they did determine that participation in developmental coursework was related to persistence to the second year.

Sanford's (1968) theory included the requirement of support to appropriately respond to a challenge. In line with this, it has been documented that students in developmental courses who receive consistent one-on-one academic support from a tutor are more likely to succeed in the course than students who did not participate in tutoring (Callahan & Chumney, 2009). This support could not be matched by the instructor. If the instructor also takes on the role of a tutor, students become overly dependent on the instructor (Callahan & Chumney, 2009). This is an example of too much support, removing a portion of the challenge. In this case, the students may be successful in their developmental course but they have not acquired the skills that are necessary to independently navigate future courses.

While seeking assistance from a tutor has shown to have a positive impact on students' academic experience, students may fear admitting their perceived failure and avoid asking for help. Deil-Amen (2011) described that seventy-five percent of students interviewed in her study admitted that they "experienced a serious academic challenge upon enrollment," but that twenty-five percent of these students did not attempt to find help "because they feared that they were too incompetent to belong in college or that others would perceive them to be incompetent as college students" (p. 65). In struggling with their new identity as college students, some students believe that asking for help is admitting they do not deserve this identity.

Gaps in the Literature

One main gap in the literature appears to be a lack of information about placement based upon non-cognitive factors. More research should be conducted to determine the extent of the impact non-cognitive factors have on college readiness, as well as how students' non-cognitive readiness can be increased or how assessments regarding non-cognitive factors can be used to inform academic support both in and out of the classroom.

Accurate measurements of non-cognitive readiness also still need to be determined. Thomas, Kuncel, and Crede (2007) demonstrated the lack of validity of the NCQ and the literature does not discuss proven or even popular alternative measurements of non-cognitive factors. The statement by Roderick, Nagaoka, and Coca (2009) that GPA measures non-cognitive readiness is speculative. These authors did not provide evidence to support this conclusion and studies on this specific subject were not found in a search for “measuring non-cognitive readiness,” “grades and student readiness,” and “GPA and student readiness.” While on the surface the conclusion that a high GPA is indicative of a strong work ethic and effective study strategies, this cannot be guaranteed. A student may not have been challenged by their high school curriculum, or may have had a high level of support throughout high school that is missing in college. College courses are different than those in high school, and even well-prepared students can face academic challenges in college (Conley, 2007). Not only are academic challenges present, but other factors surrounding the transition to college and embracing the “college student” identity affect the student’s ability to succeed. As such, it can be argued that GPA is an indicator of the potential for success but is likely a weak indicator of non-cognitive readiness. Research must be conducted to support or reject this theory.

Conclusion

Higher education institutions must develop mechanisms for determining student readiness in an accurate and valid manner. Most institutions are relatively successful at measuring students’ cognitive readiness, but do not measure non-cognitive readiness. It is necessary to consider the transition college students are going through. Understanding the fact that students are essentially learning how to manage a new “college student” identity is crucial to assessing their readiness and supporting them throughout their college careers.

Placement is the first step. Taking non-cognitive readiness into account during a placement assessment can have valuable results. There are minimal, if any, studies that demonstrate a successful method for placement based on non-cognitive factors. However, the research that has been conducted demonstrates the need for such a consideration. Students are not persisting at high rates even though enrollment and aspirations are at a relatively high level. This indicates a gap that should be addressed.

While assessing non-cognitive readiness accurately may be a present challenge, it will be useful to begin by addressing the specific characteristics of students who place into developmental courses. Adapting the curriculum to meet students' needs may be necessary, as with the first year writing course design at the Community College of Baltimore County. Instructors of first-year courses must also be aware that not every student excelled on their placement exam and that there will be students on the margin in both mainstream and developmental courses.

Conceptual Framework

Sanford (1960, 1968) published a theory that individuals are unable to develop and grow without facing and responding to various challenges. This theory is referred to as the theory of Challenge and Support. Since college students are in an environment that requires adaptation due to the unique academic and social structures, Sanford applied his theory of development through challenge to higher education. He described two important elements that enable individuals to respond positively to challenges: support and readiness (Sanford 1960, 1968). Using Sanford's theory as a foundation will help demonstrate the importance of course placement as well as the potential influence of non-cognitive factors.

Using the terms of Sanford's theory, the course itself is a challenge. Adjusting to the expectations of the college environment is another challenge that students face. Readiness is a key component of Sanford's theory because a student's level of readiness (both cognitive and non-cognitive) determines what level of challenge students can handle successfully as well as the amount of support that would be required for students to meet particular challenges.

Placement assessments are currently employed to determine students' cognitive readiness and academic preparation, therefore indicating which course the student will be most successful in. However, this current method is an incomplete evaluation of student readiness because it does not account for non-cognitive readiness or non-cognitive challenges students may face. Sanford's Theory of Challenge and Support does not limit challenges or readiness to cognitive factors. Therefore, use of Sanford's theory should include both cognitive and non-cognitive factors. This raises an important question: how can students' non-cognitive readiness be assessed and used as a determinant of placement?

Generally, if a student is enrolled in a particular course, instructors are likely to assume that student is ready for the course. However, not every student in the course is necessarily "ready" and may not be successful. Assuming the placement mechanisms accurately evaluate cognitive readiness and academic capability, it must also be assumed that non-cognitive factors are the reasons students may not succeed in that course.

Determining what non-cognitive factors affect student success will allow institutions to assess students based on each aspect of Sanford's theory, expanding upon current placement mechanisms. Knowledge of the full spectrum of student readiness could impact course placement as well as adaptations in the classroom based on an awareness of these non-cognitive

factors. In addition, institutions will be able to focus support services on the true needs of the student population.

Chapter 3 - Methods

This researcher has a particular interest in the relationship between Academic Affairs and Student Affairs, particularly regarding the application of student development theory to traditionally academic services. The concept of non-cognitive factors and their effect on academic success was explored in this study, representing an application of student development theory to the academic realm.

This chapter includes the research questions guiding the study; a description of the participants; a description of the instrument; and a description of the methodology, including data collection and data analysis. The researcher obtained approval from the Institutional Review Board (IRB) prior to the commencement of the study.

Participants

Participants in this study were current undergraduate students who had enrolled in or completed at least one course in the core composition series (DEV0920, ENG1100, ENG1120, ENG1130, ENG1140, ENG2100, or EGR3350) at the institution where the study was conducted. A total of 4,647 students were invited by email to participate in this study through collaboration with the Office of Institutional Research. Of those 4,647 invitations, 423 responses were received. A portion of the received responses were incomplete and did not provide usable data. Usable data were obtained from the 333 complete responses that were received, which equated to a seven percent response rate. All percentages or other analysis was based upon the 333 complete responses.

The majority (97%) of participants reportedly passed the composition courses taken with a grade of “C” or higher. Only 18 respondents reported to have taken DEV0920, and all of these respondents also reported to have passed the DEV0920 course.

Measures

A survey (Appendix A) was developed based upon the categories of non-cognitive factors that were generated by the researcher prior to implementation. This survey asked respondents to provide information on which composition courses they completed, their final grade in each of those courses, and their age and class level. Respondents were also asked to indicate whether a particular factor had a positive effect, negative effect, or no effect on their performance in their composition courses. Respondents were provided with space to explain their response. An open-ended question also allowed respondents to describe other factors that they believed influenced their course performance.

The survey was created in Qualtrics, an online survey tool. Prior to distribution, the survey was piloted in Qualtrics to a small number of students at the university of focus as well as faculty and staff with expertise regarding the study.

Procedures

Both quantitative and qualitative data were collected, though the emphasis was on qualitative data. A survey (Appendix A) was designed through Qualtrics, an online survey tool, and was distributed to qualifying participants by email. Email addresses of eligible participants were obtained from the Office of Institutional Research. The survey was active for three weeks. Reminder emails were sent out at the beginning of each week following the original invitation and a final reminder email was sent in the middle of the final week, for a total of three reminder emails following the original distribution.

Informed consent was obtained through the use of a cover sheet on the survey (Appendix B). Submission of the survey indicated consent. No signature was required for informed consent to ensure increased confidentiality. In addition, participants were able to take the survey

in any location of their choosing and, had they chosen to deny or withdraw their consent, they simply could have neglected to submit their survey responses. All participants in this study were ensured confidentiality by maintaining anonymity for all submitted surveys, which had no identifying information attached to responses.

Research Design

The researcher employed a form of grounded theory for this study and proposed several possible non-cognitive factors as a starting point but revised this list based upon the data gathered. Specific non-cognitive factors were generated by the researcher and were grouped into three categories: 1) personal, 2) social, and 3) environmental factors. These categories were determined based upon patterns that emerged as the researcher developed potential non-cognitive factors.

Analysis

Qualitative data were analyzed based on codes that were determined throughout the study as patterns emerged. Data were analyzed primarily based on the six proposed non-cognitive factors and whether each response indicated a positive or negative effect from that factor. Additional codes that emerged included Belonging, Financial Need, Instructor Influence, Interest in Subject, Health, and Safety.

The researcher coded the responses based upon Sanford's Theory of Challenge and Support, but this theory applied mainly to the responses regarding the Emotional Support factor. Responses for other factors did not commonly mention support or perception of challenge.

Summary

A grounded theory research design was used for this study. Beginning with particular themes and remaining open to the emergence of new themes throughout the study allowed for

information to be gathered on non-cognitive factors from the perspective of the students who participated.

Participants were those students who had experience in the core compositions series at the university where the study was conducted. A response rate of approximately seven percent was achieved. While this percentage appears low, the number is sufficient for certain conclusions to be drawn. However, the sample is not fully representative of the entire student population, so conclusions cannot be drawn for particular groups of students.

The majority of the data collected was qualitative and analysis was guided by the research questions as well as the conceptual framework for this study, Sanford's Theory of Challenge and Support. Sanford's theory inspired the non-cognitive factors proposed by the researcher as well as the initial codes used for data analysis.

Chapter 4 - Results

The intention of this study was to identify non-cognitive factors that influence student performance in core composition courses while examining the extent of that influence. Furthermore, the researcher sought to discover what support systems contribute to student performance in composition courses. Knowledge of each of these aspects and how they are linked gives insight into the total student experience in integral core courses. The researcher proposed six non-cognitive factors falling into three categories that may influence student success in composition courses and surveyed students about these factors specifically. Personal factors included Confidence and Motivation; Social factors included Socioeconomic class and Emotional Support; Environmental factors included Campus Climate and Living Situation. Analysis of student perception regarding the six proposed non-cognitive factors and other factors that emerged provides answers to the research questions of focus for this study.

Proposed Non-cognitive Factors

The researcher proposed six non-cognitive factors that were included in the survey. The factors were organized into the three categories of personal factors, social factors, and environmental factors. Personal factors include Confidence (refers to both academic confidence and personal confidence) and Motivation (meaning the determination to succeed, or to make the effort to succeed). Social factors refer to Socioeconomic Class (this may include personal finances, social class, employment, etc.) and Emotional Support (from peers, friends, or family members). Environmental factors refer to Campus Climate (sense of belonging, support systems, etc.) and students' Living Situation (location, roommates, safety, etc.). Respondents indicated whether each factor had a positive effect, negative effect, or no effect on their performance in composition courses. Respondents were then able to comment further on why

they responded as they did. The results for each factor are listed in Table 2: *Type of Effect Reported for Proposed Non-Cognitive Factors* (p. 36).

Confidence. Approximately 64 percent of respondents reported that confidence had a positive effect on their performance in composition courses, with 15 percent citing a negative effect and 20 percent citing no effect.

Qualitative responses regarding confidence were mainly analyzed by the self-reported presence or lack of confidence, including both academic confidence and personal self-confidence. The majority of respondents did feel confident in their course. Those who did not feel confident were more likely to be referring to self-confidence, while those respondents who did feel confident generally referenced academic confidence. For example, one respondent explained a high level of academic confidence and how such confidence influenced academic success by stating, “I was confident in my abilities and that helped me stay positive when I got frustrated with the assignment.” Another respondent similarly stated, “Confidence is what assures me that I can push through the class.” However, respondents who experienced a negative effect from a lack of confidence made statements regarding low self-esteem and feelings of intimidation and inferiority.

Motivation. Motivation was the non-cognitive factor that received the highest percentage of respondents reporting a positive effect. Approximately 66 percent of respondents reported a positive effect, 18 percent reported a negative effect, and 16 percent reported no effect.

Qualitative responses regarding Motivation were analyzed based upon reports of high motivation or low motivation. The majority of respondents who commented specifically about their levels of motivation reported that they were motivated to do well in their composition

courses. One respondent stated, “My motivation kept me working through frustrating projects and helped keep my grades up.” Others discussed being motivated in order to maintain a certain GPA or because of goals to attend graduate school. Another student specifically addressed how motivation affected the quality of his or her work, stating “When I’m motivated, I am more focused and creative in my writing.” A different respondent described the opposite experience and wrote, “My lack of motivation has kept me from receiving marks as high as I am capable of learning.”

Six percent of respondents stated that their level of interest in the subject and course influenced their level of motivation, although low levels of interest did not necessarily relate to a lack of success in composition courses. This result could be due to the type of students who responded to the survey. The majority of respondents successfully completed their composition courses with an “A” or a “B” and many commented on their academic skill or confidence. Students possessing higher academic success skills are logically more likely to succeed in a course even with low interest or motivation levels.

Socioeconomic Class. The majority of respondents (63%) reported that socioeconomic class did not affect their performance in composition courses. Twenty-three percent reported a positive effect and 12 percent reported a negative effect.

Qualitative responses regarding Socioeconomic Class revolved around a perception of financial need and the need to work while attending the university. Eight percent of respondents cited financial concerns and needing to work, while seven percent did not feel financially constrained while taking classes. Multiple respondents who reported a negative effect from their financial concerns stated that working and worrying about having enough money to live and pay for school took time and attention away from coursework. For some respondents, earning money

was their top priority. One respondent expressed this sentiment by stating, “I feel that putting forth effort into making sure my financial situation is secure...takes away from time and energy that could be spent improving my schoolwork.” Another respondent specifically stated that he or she was “always worried about paying rent and buying food.” Several respondents reported earning lower grades than they believed they were capable of as a result of the distraction of working.

Emotional Support. Most respondents cited Emotional Support as having either a positive effect or no effect on their experience in composition courses, with 52 percent reporting a positive effect and 41 percent reporting no effect. Only seven percent of respondents reported a negative effect.

Qualitative responses regarding emotional support cited support from family, friends, and peers as being influential. One percent of respondents reported feeling emotionally supported by their composition course instructors in a positive way. One respondent specifically linked Emotional Support and Socioeconomic Class, stating, “Emotional support helped any problems in regards to the socioeconomic aspect of my life.”

Campus Climate. Many respondents did not believe campus climate affected their experience in composition courses. Still, 41 percent cited a positive effect and 11 percent cited a negative effect, with the remainder citing no effect.

Qualitative responses related to Campus Climate were evaluated based upon the respondents’ sense of belonging at the university and in composition courses as well as overall campus life. Ten percent of respondents did feel they belonged, while seven percent did not. Some of the reasons the respondents gave for not feeling as though they belonged included homesickness, shyness that influenced socializing, inability to identify with specific groups on

campus, and a lack of “school spirit” or overall campus pride from other students. Several respondents described how feeling comfortable at the university allowed for greater focus on coursework, while other respondents illustrated how feeling a lack of belonging is a distraction and even a demotivating factor.

Living Situation. Most respondents did not report a connection between their living situation and their performance in composition courses. Thirty-five percent reported a positive effect and 15 percent reported a negative effect, with the remaining respondents citing no effect.

Qualitative responses included further insight into the respondents’ living situations. There was a mix between students who lived at home with their parents, students who lived independently but commuted to campus, and students living in campus residence halls. Additionally, five percent of students cited roommates as having an influence on their academics, with two percent reporting a positive influence and three percent reporting a negative influence. Finally, approximately three percent of respondents believed that feelings of safety in their home environment contributed to their academic performance.

Table 2

Type of Effect Reported for Proposed Non-cognitive Factors

<u>Category</u>	<u>Factor</u>	<u>Positive Effect</u>		<u>Negative Effect</u>		<u>No Effect</u>	
		<u>Number</u>	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>
Personal	Confidence	213	63.96%	51	15.32%	68	20.42%
	Motivation	219	65.77%	59	17.72%	52	15.62%
Social	Socioeconomic Class	78	23.42%	40	12.01%	211	63.36%
	Emotional Support	172	51.65%	24	7.21%	135	40.54%
Environmental	Campus Climate	138	41.44%	36	10.81%	156	46.85%
	Living Situation	118	35.44%	49	14.71%	163	48.95%

Chapter 5 – Summary, Conclusions and Recommendations

This study sought to determine non-cognitive factors that impact student performance in core composition courses. The researcher proposed six non-cognitive factors: Confidence, Motivation, Socioeconomic Class, Emotional Support, Campus Climate, and Living Situation. Students who previously completed or who were currently enrolled in at least one composition course were asked to complete a survey about these non-cognitive factors. The majority of respondents indicated that each factor except Socioeconomic Class had some form of effect, either positive or negative, on their performance in composition courses.

A possible explanation for the result for Socioeconomic Class may be that students who do not feel an effect from their socioeconomic class and financial situation may not be conscious of the benefits from their class or income level. On the opposite side, students of lower socioeconomic class or those who have greater financial struggles are more likely to realize the negative impact.

Motivation and Confidence had the highest levels of effect, and interest in the subject and the influence of the instructor both affected student motivation and confidence.

Research Questions

What are the non-cognitive factors that contribute to student success in courses in the core writing series? For each proposed non-cognitive factor, respondents indicated whether that factor had a positive effect, negative effect, or no effect on their performance in composition courses. Noting either a positive or a negative effect means the respondent did believe that a factor was influential to his or her academic performance. Using this logic, 79.28 percent of respondents thought Confidence affected academic performance; 83.49 percent cited Motivation as a factor; 35.43 percent considered Socioeconomic Class to be a factor; 58.86 percent believed

Emotional Support was a factor; 52.25 percent of respondents cited Campus Climate as a factor; and 50.15 percent considered Living Situation to be a factor.

The majority of respondents considered all except Socioeconomic Class as having some level of impact upon their academic performance. Motivation and Confidence had the greatest number of respondents citing an effect, at approximately 84 percent and 79 percent, respectively. Most respondents also believed these factors held a positive effect, as demonstrated in Table 2: *Type of Effect Reported for Proposed Non-Cognitive Factors* (p. 36).

Respondents were able to comment on additional non-cognitive factors they felt affected their experience in composition courses. Approximately 20 percent discussed Instructor Influence as a factor, although minimal detail was provided. From what information the respondents did share, the instructor's level of encouragement or overall enthusiasm was reported to have influenced the performance of the respondents.

What is the impact of non-cognitive factors on student success in core composition courses? The majority of respondents reported passing grades in their composition courses, with under three percent reporting a grade of D or lower and slightly over three percent reporting a grade of C. This means that approximately 97 percent of respondents reported a passing grade and 94 percent reporting a grade of "A" or "B." Therefore, with this information it is not possible to conclusively link the exact impact of non-cognitive factors on grades in composition courses. However, the majority of respondents who cited an effect for a given factor did indicate a positive effect, as shown in Table 2: *Type of Effect Reported for Proposed Non-Cognitive Factors* (p. 36). These data demonstrate that respondents had an overall positive experience. Furthermore, the data indicate that some respondents who did experience negative effects from

certain factors were able to overcome those negative effects and still be successful since negative effects were reported even though 97 percent of students passed their composition courses.

The impact of each factor is likely to depend upon other non-cognitive factors. For example, some respondents indicated a high level of confidence because of the support provided by their family. Another respondent commented on how other factors within his or her life affected motivation levels, stating, “I often feel unmotivated...for a variety of reasons such as boring subjects or just exhaustion from being busy in life and lack of proper sleep.” Several similar responses were received, which points to the importance of studying links between factors. In this particular case, performance was influenced by the student’s motivation, but that motivation was influenced by other factors. As this was an initial study, analysis was not conducted to attempt to demonstrate conclusive relationships between each factor. Further study is required to determine which factors are linked and to what extent.

What type of support (internal and external) contributes to students’ success in core composition courses?

Respondents did not mention university support systems, with the exception being the influence of course instructors. The types of support that respondents did discuss included family and friends. For example, one respondent stated, “Peers, friends, and family are available for help on assignments and can keep me focused on my studies.” Another explained an even stronger influence, reporting that emotional support “was, and is, a big motivator for me. I have a great support group who encourages me to thrive in school and it is a great pick-me-up for when I am stressed out and feel overwhelmed.” One respondent who reported a negative effect from a lack of support specifically described feeling ashamed by a lack of academic success because of the pressure and lack of support placed upon him or her to be successful.

The lack of discussion regarding university support systems was somewhat expected, although it does not help universities understand what support services should be offered to students. However, students may not have discussed university support systems because the survey questions were more related to students' personal life and personal perception rather than about university support. This result could also indicate that the university should improve support systems available or improve education about what services are already offered.

Conceptual Framework

The data were analyzed with regard to Sanford's Theory of Challenge and Support. The survey did not ask specific questions about this theory and the majority of the responses did not apply to this theory, at least superficially.

The connection can be drawn, however, to certain non-cognitive factors and certain aspects of Sanford's theory. For example, environmental non-cognitive factors might determine the level of support a student feels or the amount of challenge he or she must overcome. In addition, the factors are likely to affect how much support is required for a student to successfully overcome a given challenge. For example, a student with low confidence might need more support.

Implications for Organizations

The first step for institutions is to ensure that the placement assessments that are used are accurate and valid in terms of assessing students' cognitive readiness and academic preparedness. The next step is to determine a method for assessing students' non-cognitive readiness. This will likely vary depending on institutional type, selectivity, and the overall student body. Discovering a universal "formula" for non-cognitive student readiness will therefore be challenging. Varying institutional types will have different priorities and different

readiness factors to focus upon based on the student population of a particular institution. As such, institutions will have to adapt their support capabilities based on the readiness measures for their unique student body.

It is equally essential that faculty are able to provide the necessary support based on the courses they are teaching. Faculty teaching developmental courses specifically must be aware of the particular needs of the students they are teaching, especially since student populations are continuously becoming increasingly diverse. Being able to balance appropriate levels of challenge and support for their students is vital to student course completion and retention.

In addition, the institution must be able to provide out-of-classroom support. Effective tutoring resources, supplemental academic resources, and non-cognitive student support are extremely important.

Limitations

The following limitations were identified in this study:

1. Participants were limited to those who enrolled in or completed a composition course.
2. Most respondents passed their composition course or courses, with less than three percent of individuals reporting a grade of D or lower, so the results are not representative of all students.
3. Grades were self-reported by respondents, which may lower the accuracy of the data.
4. The results are not generalizable to all institutional types or student types because data were only gathered at a medium sized, public, four-year Midwestern university.

Recommendations for Future Research

The results of this study reveal a need for further research. The following areas of research are encouraged:

1. Replication of this study with a larger, more representative student population at a variety of institutional types.
2. Replication of this study with specific student populations (i.e., international students, minority populations, students from various socioeconomic classes, nontraditional students, etc.)
3. Replication of this study with a different course of focus, rather than limiting the scope to composition courses.
4. Research of the linkages between and among non-cognitive factors.
5. Research regarding course placement of students based upon non-cognitive factors.
6. Research on the evolution of non-cognitive factors throughout a student's college career.

Summary

This study indicates that non-cognitive factors do affect student performance in core composition courses. Five out of the six proposed factors did have an effect for the majority of respondents. Socioeconomic Class was the only one that was perceived to have no effect, but this may be because the positive effect is not recognized while a negative effect is.

The six proposed non-cognitive factors likely affect student readiness for a particular course or the amount and type of support required to increase students' potential for success in a course.

Confidence and motivation were the two most highly ranked non-cognitive factors in terms of whether or not students recognized these factors as affecting their course performance. These terms are relatively vague and could encompass multiple different meanings. Confidence includes both personal self-confidence as well as academic confidence, and each individual is likely to possess a different level of each. Motivation is likely to differ based on the specific situations the student is faced with. Further research is required to fully understand the impact of

non-cognitive factors and the relationship between various factors as well as how students understand the terms.

The data is insufficient to link the non-cognitive factors directly to course outcomes because 97 percent of respondents passed their course, which is not fully representative of the entire spectrum of academic performance. The respondents were mainly those students who likely already possessed relatively strong success skills that may mitigate the negative effects of non-cognitive factors.

Traditionally, incoming students are evaluated based upon academic, or cognitive, factors. Students enroll in first-year courses based on placement test scores, standardized test scores, or a similar cognitive measure. The intent is to place students into courses they are most academically prepared for. Beginning at the appropriate level allows students to gain the knowledge necessary to continue through their college coursework.

Students who place into developmental courses face additional challenges. If students take multiple developmental courses, they may effectively have to delay their intended graduation. This is a financial burden (Bettinger & Long, 2006) but is also a psychosocial challenge since developmental courses are often stigmatized, viewed as the courses for students who are not good enough to be “college-level” (Adams, Gearhart, Miller, & Roberts, 2009).

Developmental courses have their value. If a student is not prepared for college-level coursework, they are unlikely to be successful in a college-level course. Therefore, it is valuable to offer developmental courses to prepare the student for mainstream courses. Unless the developmental course is a prerequisite for other classes, the student is still able to make progress toward a degree while completing the developmental requirement. They are still college students, even if the class itself is not considered college level. However, given the challenges

faced by students in developmental courses, only students who truly need these courses should be placed into them. Similarly, if students lack the non-cognitive readiness required for success in college-level courses, they should be placed in a course that will allow them to acquire the necessary skills and readiness. Measuring non-cognitive readiness for the purposes of course placement is absent from the literature, however.

Pinkerton's (2010) discovery about the effect of group membership on student success and persistence to degree is crucial because it implies that some students who place into college-level courses do not possess the required readiness. However, instructors do not know this when they begin teaching their course; they will naturally assume that the students in their class all have the ability to succeed. It is very possible that these marginal students can succeed in the course, but they will likely require a greater amount of support. Another study indicated the impact of one-on-one tutoring, which can serve as support for students with lower readiness levels (Callahan & Chumney, 2009). Students who just surpassed the cutoff for college level courses should be encouraged, or even required, to seek additional academic support. The information regarding non-cognitive factors uncovered throughout the present study can help to improve course strategies and tutoring strategies.

While measuring academic preparedness is extremely important to students' success in their courses, it provides only a partial picture. Generally, non-cognitive factors such as fear of failure, uncertainty about the college environment, or other personal characteristics are not evaluated when determining course placement. Non-cognitive factors likely play a role in student readiness for college and for particular classes. For example, a student may score high enough on a placement test to enroll in the highest level first-year writing course, yet that student may still end up failing the course for non-academic reasons.

Even with the potential interference of non-cognitive factors, institutions rarely evaluate this aspect of student readiness. One of the reasons may be a lack of evidence as to what the non-cognitive factors actually are. The few studies that do mention types of non-cognitive readiness focus on the in-class experience, admissions criteria, or predictive possibilities but do not offer concrete solutions. Nonexistent in the literature is discussion about placement based on non-cognitive factors as a measure of college readiness.

Although this study is relatively preliminary, the results allow for the conclusion that non-cognitive factors are an area that should be researched further. Increased understanding can inform university support services, placement mechanisms, or course strategies. Student understanding of non-cognitive factors may also influence their view of their own academic abilities and potential.

References

- Adams, P., Gearhart, S., Miller, R., & Roberts, A. (2009). The accelerated learning program: Throwing open the gates. *Journal of Basic Writing, 28*(2), 50-69.
- Attewell, P., Lavin, D., Domina, T., & Levey, T. (2006). New evidence on college remediation. *Journal of Higher Education, 77*(5), 886-924.
- Balay, A., & Nelson, K. (2012). Placing students in writing classes: One university's experience with a modified version of directed self placement. *Composition Forum, 25*
- Barrow, J. H. (2009). Revising the BGSU mathematics placement system. Bowling Green State University. http://rave.ohiolink.edu/etdc/view?acc_num=bgsu1245699733.
- Baum, S., Kurose, C., & McPherson, M. (2013). An overview of American higher education. *The Future of Children, (23)*1, 17-39. <http://www.jstor.org/stable/23409487>.
- Bettinger, E., & Long, B.T. Remediation at the community college: Student participation and outcomes. In C.A. Kozeracki (Ed.), *Responding to the challenges of developmental education. New Directions for Community Colleges, 129*. San Francisco, CA: Jossey-Bass, 2005.
- Calcagno, J.C., & Long, B.T. (2008). The impact of postsecondary remediation using a regression discontinuity approach: Addressing endogenous sorting and noncompliance. New York, NY: National Center for Postsecondary Research.
- Callahan, M., & Chumney, D. (2009). Write like college: How remedial writing courses at a community college and a research university position "at-risk" students in the field of higher education. *Teachers College Record, 111*(7), 1619-1664.
- Conley, D.T. (2007). The challenge of college readiness. *Association for Supervision and Curriculum Development*.

- Cox, R.D. It was just that I was afraid: Promoting success by addressing students' fear of failure. *Community College Review*, 37(10), 52-80, 2009.
- Deil-Amen, R. (2011). Beyond remedial dichotomies: Are 'underprepared' college students a marginalized majority? *New Directions for Community Colleges*, 155, 59-71.
doi:10.1002/cc.458.
- Donnelly, P. (2010). *Examining pre-college academic variables: Investigating future college success*. University of Cincinnati.
http://rave.ohiolink.edu/etdc/view?acc_num=ucin1267557465.
- Drake, S. (2011). Placement into first college mathematics course: A comparison of the results of the Michigan State University proctored mathematics placement examination and the unproctored mathematics placement examination. ProQuest Information & Learning. Dissertation Abstracts International Section A: Humanities and Social Sciences, 72(2).
- Fuertes, J. N., Sedlacek, W. E., & Liu, W. M. (1994). Using the SAT and noncognitive variables to predict the grades and retention of Asian American university students. *Measurement And Evaluation In Counseling And Development*, 27(2), 74-84.
- Goldrick-Rab, S. (2006). Following their every move: An investigation of social-class differences in college pathways. *Sociology of Education*, 79(1), 61-79.
- Habley, W. R., Bloom, J. L., & Robbins, S. B. (2012). *Increasing persistence: Research-based strategies for college student success*. San Francisco: Jossey-Bass.
- Higbee, J. & Dwinell, P. (1997). *Developmental education: Enhancing student retention*. Cold Stream, IL: National Association for Developmental Education.
- Higbee, J., Lundell, D. & Duranczyk, I. (2002). *Developmental education: Policy and practice*. Auburn, CA : National Association for Developmental Education.

- Jacobson, E. (2006). Higher placement standards increase course success but reduce program completions. *The Journal of General Education*, 55(2), 138-159.
- James, C. (2006). Accuplacer OnLine: Accurate placement tool for developmental programs? *Journal of Developmental Education*, 30(2), 2-8.
- Le, H., Casillas, A., Robbins, S.B., & Langley, R. (2005). Motivational and skills, social, and self-management predictors of college outcomes: Constructing the student readiness inventory. *Educational and Psychological Measurement*, 65(3), 482-508.
Doi:10.1177/0013164404272493.
- Lotkowski, V.A., Robbins, S.B., & Noeth, R.J. (2004). The role of academic and non-academic factors in improving college retention: ACT policy report. ACT, Inc.
- Moore, R.A. (2009). Ready or not? *New Directions for Community Colleges*, 145., 59-66. doi: 10.1002/cc.355.
- Pinkerton, K. (2010). College persistence of readers on the margin: A population overlooked. *Research & Teaching in Developmental Education*, 27(1), 20-31.
- Preston, S. M. (2009). The completion of advanced placement courses as an indicator of academic success in first-year college students. ProQuest Information & Learning. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(2).
- Pritchett, G. (2010). First-year writing: A student-centered paradigm. *International Journal of the Humanities*, 8(8), 65-69.
- Ramineni, C. (2013). Validating automated essay scoring for online writing placement. *Assessing Writing*, 18(1), 40-61. <http://dx.doi.org/10.1016/j.asw.2012.10.005>
- Roderick, M., Nagaoka, J., & Coca, V. (2009). College readiness for all: The challenge for urban high schools. *Future of Children*, 19(1), 185-210.

- Rueda, N. & Sokolowski, C. (2004). Mathematics placement test: Helping students succeed. *Mathematics Educator*, 14(2), 27-33.
- Sanford, N. (1960). Theories of higher education and the experimental college. *The Review of Economics and Statistics*, 42(3), 152-155. <http://www.jstor.org/stable/1926161>.
- Sanford, N. (1968). Education for individual development. *American Journal of Orthopsychiatry*, 38(5), 858-868.
- Secolsky, C., Krishnan, S., & Judd, T. (2013). Using logistic regression for validating or invalidating initial statewide cut-off scores on basic skills placement tests at the community college level. *Research in Higher Education Journal*, 19(1).
- Sedlacek, W. E. (1996). Employing noncognitive variables in admitting students of color. *New Directions For Student Services*, Vol: 74, (pp 79-91).
- Sommerfeld, A. (2011). Recasting non-cognitive factors in college readiness as what they truly are: Non-academic factors. *Journal of College Admission*, 18-22.
- Sturtz, A. J. & McCarroll, J. (1993). Placement testing and student success: The first intervening variable. https://archive.org/details/ERIC_ED360018.
- Swing, R. & Skipper, T. (2007). *Achieving student success in the first year of college*. (pp. 369-391). San Francisco, CA: Jossey-Bass.
- Thomas, L.L., Kuncel, N.R., & Crede, M. (2007). Noncognitive variables in college admissions: The case of the non-cognitive questionnaire. *Educational and Psychological Measurement*, 67(4), 635-657.
- Upcraft, M., Gardner, J. & Barefoot, B. (2004). Challenging and supporting the first-year student: A handbook for improving the first year of college. Jossey-Bass. <http://www.wiley.com/WileyCDA/WileyTitle/productCd-0787959685.html>.

Appendix A – Survey Questions

1. Please note which composition courses you are currently enrolled in or have previously completed.

	Enrolled	Completed	Neither
DEV 0920 – Foundations of College Reading and Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG 1100 – Academic Writing and Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG 1120 – Academic Writing and Reading Workshop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG 1130 – Academic Writing and Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG 1140 – Intensive Academic Writing and Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ENG 2100 – Research Writing and Argumentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EGR 3350 – Technical Communications for Engineers and Computer Scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Indicate which grade you received in the composition courses you completed.

	Pass		Fail		I did not complete this course
DEV 0920 – Foundations of College Reading and Writing	<input type="checkbox"/>				

	A	B	C	D	F	I did not complete this course.
ENG 1100 – Academic Writing and Reading	<input type="checkbox"/>					
ENG 1120 – Academic Writing and Reading Workshop	<input type="checkbox"/>					
ENG 1130 – Academic Writing and Reading	<input type="checkbox"/>					
ENG 1140 – Intensive Academic Writing and Reading	<input type="checkbox"/>					
ENG 2100 – Research Writing and Argumentation	<input type="checkbox"/>					
EGR 3350 – Technical Communications for Engineers and Computer Scientists	<input type="checkbox"/>					

3. What is your class standing?

- Freshman (1.0 – 29.9 semester hours)
- Sophomore (30.0 – 59.9 semester hours)
- Junior (60.0 – 89.9 semester hours)
- Senior (90.0 or more semester hours)

4. What is your age?

- 17 – 22
- 23 – 29
- 30 – 49
- 50+

5. How many years have you attended Wright State?

- One semester
- 1
- 2
- 3
- 4
- 5
- 6+

6. Rate whether each of the following had a positive effect, negative effect, or no effect on your experience in your composition courses. Explain your response.

	Positive Effect	Negative Effect	No Effect	Why?
Confidence/lack of confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Motivation/lack of motivation (determination to succeed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Socioeconomic class (personal finances, social class, employment, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Emotional support (peers, friends, family members, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Campus climate (sense of belonging, feeling welcome at Wright State)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Living situation (location, roommates, safety, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

7. What factors not listed above affected your experience in composition courses, either positively or negatively? Explain how these other factors influenced your experience.

Appendix B: Informed Consent/Cover Letter

Project Title: Non-cognitive factors affecting student success in core composition courses

Introduction to the study: This document confirms your participation in a graduate research project that seeks to identify non-cognitive factors that influence students' success during their first year at Wright State University. This research will lead to a thesis which will be completed by April 2015. Non-cognitive factors include anything non-academic or non-intellectual that influences how students perform academically.

Purposes of the Study: Non-cognitive factors have not been specifically documented as they relate to first-year student success, so one of the main purposes of this study is to determine what the factors actually are. Some non-cognitive factors have been suggested by the researcher and include: confidence, motivation, socioeconomic class, emotional support, campus climate, and living situation. Your participation is requested because you are enrolled in or have completed at least one of Wright State's core writing courses. These courses are the focus of this study because of how they translate to other courses across the curriculum.

Methods Used: The data will be collected through a questionnaire that you will receive through your Wright State email address.

Rights as a Participant: Submission of the questionnaire indicates your consent to participate. Participation is voluntary. No risks or benefit will result from participation. Refusal to participate will involve no penalty or loss of benefits.

All data will be kept confidential in password protected computer files throughout the study and will be destroyed upon completion of the study and the thesis. No identifying information will be collected. You may terminate your participation and withdraw from the study at any time and without prejudice or penalty.

Contact Information: If you have additional questions regarding this study, please contact the principal investigator, Samantha Spidak (937-775-2296, spidak.2@wright.edu) or Carol Patitu, Ph.D., Committee Chair and Advisor (937-775-4148). If you have questions regarding your rights as a research subject, you may contact the Wright State University Institutional Review Board (937-775-4462).