

FINDING THE PATH: A MIXED METHOD MULTISITE CASE STUDY  
OF UNDECIDED STUDENT EXPERIENCES

---

A Dissertation  
presented to  
the Faculty of the Graduate School  
at the University of Missouri-Columbia

---

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

---

by  
RACHAEL ORR  
Dr. Casandra Harper Morris, Dissertation Supervisor

MAY 2020

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

FINDING THE PATH: A MIXED METHOD MULTISITE CASE STUDY  
OF UNDECIDED STUDENT EXPERIENCES

presented by Rachael Orr,

a candidate for the degree of doctor of philosophy,

and hereby certify that, in their opinion, it is worthy of acceptance.

---

Professor Bradley Curs

---

Professor Casandra Harper Morris

---

Professor Jeni Hart

---

Professor Jim Spain

## ACKNOWLEDGEMENTS

There are so many who have supported and helped me through this journey that it is difficult to put all of my thoughts and emotions into words. I cannot express the depth of my gratitude and appreciation for my friends, family, and colleagues who believed in me and encouraged me to keep going throughout this long, long journey.

*God.* I must first give thanks and honor to God because it is through him that I have been successful. I feel so very thankful for the opportunities and blessings in my life and I am humbled by the support and love that I have around me. Everything happens according to his plan and is preparing me for the next steps.

*B.* My partner, coach, cheerleader, friend, inspirer, supporter, chef, comedian, . . . and so much more. This would not be possible without your encouragement and significant amounts of patience. When I started this journey, I had no idea what our life had in store and the difficult times that would come. But this, like the other things, we work through in a way that we draw on our complementary strengths to get through it . . . and emerge better for it. Always WI4.

*Family.* My family has been a great source of unconditional support and encouragement. I am thankful for all of the love and grace they have all shown me. My parents, Ken and Ruth Cobb, you have constantly believed in me and supported this dream. My extended family has shown more love and support than I could ever imagine or hope for, and I am truly thankful for your patience and thoughtfulness.

*Friends.* There are several friends who walked with me and encouraged me on this challenging and exciting journey. Cassandra, my beautiful friend, I truly do not have the words to express my deep thanks for your support, encouragement, and friendship

through this process. And, I am also very thankful for your keen eyes, knowledge, and insight that helped edit and prepare the final version for my committee. This would not be complete without you for many reasons. Craig, we started the program together and we will finish together. Our conversations, plotting, and dreaming inspired this work and will continue to inspire my work in the future. Susan, Niki, and Adrienne, I am thankful for our friendship, high-fives, and cheers along the journey.

*Mentors.* DeAngela, I thank you for your honesty, encouragement, and mentoring through this process. You inspire me daily to dream and go after big goals. Dr. Ted Tarkow, I thank you for your support as I started this journey and ongoing, “get it done” encouragement. I am grateful for the opportunities you provided for me to learn and grow as a professional and scholar.

*My Chair & Committee.* I so much appreciate the encouragement and guidance my chair, Dr. Casandra Harper Morris, provided throughout this process. My ideas were big and all over the place, and you helped me shape them into something that I never thought I was capable of. Dr. Jeni Hart, your support with my methodology was greatly appreciated. I learned a tremendous amount from you throughout my journey in ELPA that has shaped my work as a practitioner and educator and will continue to do so. Dr. Bradley Curs, I appreciate your willingness to serve on my committee and guide my research experience. Your support from my coursework and comprehensive exam through to my defense means a great deal to me. Dr. Jim Spain, I am immensely grateful for the opportunity to work with you and learn from you. I appreciate your willingness to serve on my committee and support this important work to improve the student experience. I am thankful for your continued encouragement and thoughtful

consideration and support of my professional aspirations. Your boundless passion for students and energy inspires me every day.

*Colleagues.* I am privileged to have worked with many great colleagues along this journey who supported my academic and professional goals. You informed my research and energized me to keep going through our conversations about continuous improvement of services for undecided students. As a student and full-time staff member, your support and encouragement were invaluable.

*Study participants.* I appreciate each and every survey respondent, institutional contact, and student who contributed to this study. I especially appreciate the student interview participants who took time to share their story with me.

*My students.* I am so very thankful for and humbled by the opportunity to work with so many students over the years who are exploring, dreaming, learning, and growing. Thank you for sharing your story with me. You have been and always will be my inspiration.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ..... ii

LIST OF TABLES ..... xiii

LIST OF FIGURES ..... xiv

ABSTRACT ..... xv

Chapter 1: Introduction ..... 1

    Undecided Students ..... 3

    Purpose of the Study ..... 6

    Theoretical Framework ..... 8

    Research Questions ..... 9

    Significance of the Study ..... 9

    Organization of the Study ..... 11

Chapter 2: Review of Literature ..... 12

    Who are Undecided Students? ..... 13

        Definition of Undecided ..... 15

        Undecided Characteristics ..... 16

    Major Selection and Career Decision-Making ..... 20

        Reasons for Indecision ..... 21

        Individual Sources of Influence in Selection of College Major ..... 25

Institutional Sources of Influence in Selection of College Major.....	30
Theoretical Foundation .....	36
Bioecological Model of Human Development .....	38
Conclusion .....	41
Chapter 3: Research Methods .....	42
Review of Statement of the Problem .....	42
Review of Research Questions .....	43
Research Design.....	44
Reliability and validity.....	47
Quantitative Methods.....	48
Recruitment and Participants .....	49
Survey instrument .....	51
Procedures.....	52
Confidentiality and Data Security.....	52
Quantitative Data Analysis .....	53
Validity and Reliability.....	53
Limitations .....	54
Summary .....	55
Qualitative Methods.....	55

Case Study Research.....	56
Research Locations .....	57
Recruitment and Participants .....	59
Data Collection .....	62
Interview Protocol.....	65
Confidentiality and Data Security.....	66
Qualitative Data Analysis .....	66
Trustworthiness.....	69
Limitations .....	71
Researcher as Instrument .....	72
Summary .....	75
Conclusion .....	75
Chapter 4: Quantitative Results .....	77
Survey Participants .....	77
Results.....	79
Lack of Clarity .....	79
Terms for Undecided Students.....	80
Institutional Policies.....	83
Student Requirements .....	84

Advisor Perceptions .....	86
Summary .....	87
Chapter 5: Participant and Institution Profiles .....	88
Midwest State University .....	88
Carli .....	90
Ruth .....	92
Holly .....	93
Amy .....	97
Renee .....	99
Mia .....	103
Dan .....	106
Karen .....	110
Urban Public University .....	112
Kendra .....	114
Heather .....	116
Julia .....	118
Simon .....	121
Tia .....	125
Max .....	128

Callie.....	131
University of Central State.....	135
Colin.....	136
Megan .....	138
Bianca .....	142
Kira .....	146
Maya .....	150
Cassandra .....	153
Allison.....	156
Samuel.....	160
Chapter 6: Study Findings and Analysis.....	162
Navigating Uncertainty: Approaches and Anxieties.....	163
Approach to Undecidedness .....	163
Anxiety and Stress Associated with Undecidedness .....	170
Reflecting on the Process.....	180
Relationships and Community .....	187
Supportive Relationships .....	188
Community as an Undecided Student.....	193
Finding Community in Selected Major.....	195

Navigating the Institution .....	197
Institutional Policy or Process .....	198
Institutional Support Resources .....	205
Decisions, Decisions, Decisions .....	216
Decision-Making Ideas and Strategies.....	217
Process of Elimination .....	218
Proximal Influences on Decision-Making .....	221
Influence of Experiential Learning .....	234
External influences.....	239
Major vs. Career.....	244
Other Findings .....	250
Conclusion .....	252
Chapter 7: Conclusion.....	254
Findings and Relationship to the Literature.....	255
Navigating Uncertainty.....	256
Relationships and Community .....	258
Navigating the Institution .....	260
Decisions, Decisions, Decisions .....	266
Implications for Theory .....	269

Implications for Research .....	279
Institutional Policies.....	280
Financial Concerns.....	282
Interventions .....	283
Implications for Policy and Practice .....	284
Students.....	285
Advisors and Advising Leadership.....	286
Academic Administrators .....	290
Conclusion .....	294
Appendix A.....	297
Appendix B .....	305
Appendix C .....	307
Appendix D.....	309
Appendix E .....	310
Appendix F.....	311
Appendix G.....	314
Appendix H.....	316
Appendix I .....	317
Appendix J .....	319

References.....	320
VITA.....	342

## LIST OF TABLES

Table 1. Role and institutional affiliation of participants .....	49
Table 2. Research site and institutional characteristics .....	59
Table 3. Recruitment communication and participation.....	61
Table 4. Overview of student participant characteristics.....	61
Table 5. Interview settings .....	64
Table 6. Respondent work roles and experience in advising.....	78
Table 7. Official term used for undecided students .....	80
Table 8. Majors available to entering first-year students at the time of admission .....	82
Table 9. Respondent opinion of term used for undecided students .....	82
Table 10. Policy change related to undecided students or major declaration in the last 3 years .....	83
Table 11. Required timeline to officially declare a major .....	84
Table 12. Required interventions for undecided students.....	85
Table 13. Respondents' opinions of desirable interventions for undecided students .....	85
Table 14. Respondent opinion about long-term undecided student success.....	86
Table 15. Respondent perception of student connections on campus .....	87

## LIST OF FIGURES

Figure 1. Diagram of qualitatively-driven sequential mixed methods design data collection and analysis. ....	47
Figure 2. Bioecological model applied to undecided students .....	271
Figure 3. Revised bioecological model for undecided students .....	278

FINDING THE PATH: A MIXED METHOD MULTISITE CASE STUDY OF  
UNDECIDED STUDENT EXPERIENCES

Rachael Orr

Dr. Casandra Harper Morris, Dissertation Supervisor

**ABSTRACT**

Selecting a college major is a big decision for college students and research suggests the majority of first-year students are unsure of their career and major plans (Foote, 1980; Kramer, Higley, & Olsen, 1994; Theophilides, Terenzini, & Lorang, 1984; Titley & Titley, 1980). Although the research is dated, studies suggest that the majority of college students struggle with deciding on a college major and may need time to explore majors and careers in order to make a selection. Students who select undecided as their major indicate an interest in learning more about majors and careers before making an official selection. Though few students select undecided as a major, research on undecided students informs policies and interventions that are relevant to many more students. This research study identifies institutional resources, policies, and practices (collectively referred to as institutional factors) can significantly and positively impact students' major selection and decision-making process. Understanding the student experience and employing techniques to support and facilitate the major selection process create a context in which all students, undecided and declared, explore major and career options and confirm goals that enable them to persist and complete their degree in four years.

The purpose of this study is to understand how the relationship between undecided student experiences and institutional factors, including policies and advising interventions, come together to inform students' selection of a college major. This sequential qualitatively-driven mixed methods multisite case study employed a number of methodological approaches but was particularly informed by the bioecological model of human development. The bioecological model recognizes the role of an individual's immediate setting as well as indirect influences on development. The bioecological human development model provides a framework that elucidates the interplay between the myriad factors that influence the major selection process. The quantitative portion of the study uses survey methods to identify research sites and learn about the student context from an academic advising perspective. The study draws primarily on the qualitative interviews of 23 students from three different research sites, who started college with an undecided major, to capture narrative descriptions of their experiences navigating the process of major selection.

This research study illustrates that understanding the undecided student major selection process and the reasons for their choices, provides institutions the opportunity to develop policies and practices that better serve students transition into higher education and during their first year of college. This study offers an updated in-depth examination of undecided students and contributes to the literature that highlights the critical relationship between undecided student experiences and influences on the major selection process and institutional factors.

## Chapter 1: Introduction

“What’s your major?” is a common question asked of undergraduate college students and many students struggle to answer that question with certainty. Though a small number self-identify by selecting *undecided* as their initial major, research suggests the majority of students are unsure of their career and major plans (Foote, 1980; Kramer et al., 1994; Theophilides et al., 1984; Titley & Titley, 1980). Although dated, research suggests that the majority of college students struggle with deciding on a college major and may need time to explore majors and careers in order to make a selection. Student uncertainty about academic and career goals is not a new issue given research in this area has been ongoing for 90 years (Gordon & Steele, 2015).

Selecting a college major is a big decision for many college students and has significant implications. College major choice determines what courses students will take, and subsequently determines interactions with faculty and peers (Chuang, Walker, & Caine-Bish, 2009; Porter & Umbach, 2006). Major selection also impacts college outcomes including retention, timeframe for degree completion, and academic opportunities (Arcidiacono, 2004; Thomas & Zhang, 2005). Undecided students are sometimes identified as an at-risk population because of concerns related to persistence and retention (Cuseo, 2005). This is likely the case because students with commitments to specified educational goals and the institution are more likely to be retained (Allen & Robbins, 2008). In addition, students’ early selection of a college major may help avoid extending their time to complete their degree, may allow for connection with academic opportunities, and create relationships with faculty (Beggs, Bantham, & Taylor, 2008;

Cuseo, 2005; Straumsheim, 2016; Theophilides et al., 1984). Only one study compared the persistence of undecided and decided students and found that undecided students had lower academic performance and lower rates of persistence (Leppel, 2001). Yet, some students are not ready or do not have enough information at the time they enter college to make a decision about their major.

The research is mixed, however, about initial college major and academic performance. Lewallen (1995) found in a national study that undecided students were more likely to have higher GPAs. Anderson, Creamer, and Cross (1989) found that decided students earned significantly higher grades than undecided students. However, undecided students, having intentionally explored interests and options, make fewer major changes than students who started in a declared major (Kramer et al., 1994). Conversely, students who show commitment to a specific academic major were less likely to complete their degree than students who indicate institutional commitment or commitment to an general educational goal (Graunke, Woosley, & Helms, 2006). More recently, Spight (2019) found that students who were initially undecided were more likely to graduate when compared to declared students within a 6-year graduation window.

This study is focused on undecided students and the experiences and factors that shape the selection of their major. Undecided students self-identify the need for exploration and guidance to decide on a college major. The selection also identifies undecided students to the institution as students who need additional support. Intentional and timely exploration may help students better navigate the college experience and

complete their degree; however, the research suffers from gaps in that it does not holistically consider all of the pertinent factors that influence the decision-making process or consider student's interpretations/narratives of their experiences.

### **Undecided Students**

As previously mentioned, a relatively small population of students select undecided as their initial major. According to the annual first-year survey conducted by the Cooperative Institutional Research Program (CIRP), 8.9% of entering first-year students selected undecided as their initial college major (Eagan et al., 2016). However, not all institutions offer an undecided major and 36% of institutions do not allow first-year students to declare any major (Upcraft, Gardner, & Barefoot, 2004). Although the literature is dated, the research indicates that many students are uncertain of their declared major selection (Foote, 1980; Kramer et al., 1994; Theophilides et al., 1984; Titley & Titley, 1980). The majority of data available on undecided students was collected during the 1980's and since that time much about higher education institutions and the student population has changed to include more diverse students, more adult students, and an increased focus on institutional accountability (Cohen, 1998; Lipka, 2012). Further study of undecided students is needed to update the literature and ensure our understanding is based on the current population of students in higher education, as well as to better understand the role of various influences on the undecided student experience.

There are many reasons for student indecision and a variety of influences on the selection of a college major. Students are undecided for a variety of reasons and may be

at differing levels of indecision (Gordon & Steele, 2015). Indecision may be caused by career information needs, choice anxiety, internal and external barriers, and dysfunctional career thoughts (Gordon & Steele, 2015). In addition, there is a rich field of literature about the influences on vocational decision making and major selection, including: family background, race/ethnicity, gender, socioeconomic status, peer, motivational factors, and identity development (Duffy & Dik, 2009; Gordon & Steele, 2015; Ma, 2009; Mullen, 2014; Porter & Umbach, 2006). While these factors may influence students, student experiences and institutional factors are missing components of the research landscape.

Research supports the importance of academic direction and goals, but not without exploration and confirmation (Allen & Robbins, 2008). Exploration of educational and career options is important so that the major selected is a good fit and does not require a late change of plans that extends the time needed to complete a degree (Beggs et al., 2008; Cuseo, 2005; Straumsheim, 2016; Theophilides et al., 1984). Early exploration and academic/career advising are critical elements that could contribute to retention and graduation goals, especially for undecided students.

Retention and graduation rates have become increasingly important for institutions due to public concerns about institutional performance, expanding a skilled workforce, and adoption of performance funding (Alexander, 2000; Conner & Rabovsky, 2011). Performance funding models link higher education funding to improving performance metrics such as retention and graduation rates (Conner & Rabovsky, 2011). Public stakeholders and government have concerns about low degree completion rates,

the extended time required to complete a degree, as well as the increasing cost of higher education (Bailey, Jaggars, & Jenkins, 2015; Conner & Rabovsky, 2011). As a result of these concerns, institutions are focusing on the improvement of retention and graduation rates.

In order to improve these metrics, there has been an increased focus on ways to help students stay on track to complete their degree in a timely fashion, such as campaigns like, “15 to Finish” and guided pathways supported by privately funded foundations like College Complete America (2017). Strategies like, “15 to finish” encourage students to take 15 credit hours each semester (or 30 credit hours each year) to maintain progress to complete their degree in 4-years (Jones, 2015). Guided pathways strategies reduce the number of curricular choices students have to make to complete their degree (Bailey et al., 2015). Students who are not sure of their educational or career goals start with courses associated with broad categories, such as education and social services, to help focus their exploration with the field (Bailey et al., 2015). However, this increased focus on degree pathways and staying on track with requirements assumes that students are confident about their selection of college major. Practices, like guided pathways, create pressure for students to know their major and career goals early in their academic career. The pressure to declare a major reinforces the idea that there is something inherently wrong with being undecided (Cuseo, 2005).

Institutional support, policies, and practices surrounding major declaration vary across institutions and can impact the student experience and decision-making processes. Some institutions require students to declare a major when they are admitted, while

others do not allow first-year students to declare an official major (Upcraft et al., 2004). Some institutions have dedicated service units and professional advisors for undecided students, while students at other institutions are dispersed to departments throughout campus to work with faculty (Gordon & Steele, 2015; Habley & Morales, 1998). Policies regarding the timing of major declaration and availability of support resources can also shape the process and experience for undecided students.

Undecided students are an important population to study because they represent a subsection of a larger population of students who are uncertain about their academic and career goals. Further, increased focus on retention and graduation rates creates the need (or perceived need) for clear goals early in the students' academic career. Additional research that incorporates the voices of undecided students and evaluates all of the primary factors that influence major selection, is needed. This study seeks to expand the literature surrounding these issues as well as provide concrete suggestions regarding steps institutions can enact to effectively support undecided students.

### **Purpose of the Study**

While research has explored a variety of factors influencing student major selection, research has not explored undecided students' experiences and influences on their major selection from a holistic perspective that incorporates multiple elements of the student environment. The purpose of this study is to understand how students' experiences as an undecided student and influences from the student environment come together to inform their selection of a major. In addition, existing research includes few qualitative studies about undecided student experiences and few studies that focus on the

student environment using a bioecological framework. This sequential qualitatively-focused mixed method multisite case study contributes to the literature about college student major selection and aspires to influence higher education practice to better support undecided students. This study draws on the bioecological model of human development as a framework to incorporate the student context and various influences on the major selection process.

Understanding undecided student timing of major selection and reasons for those changes allow for institutional policies and practices that better serve this population, as well as provide support services to better support this unique group. There are several issues and limitations with the existing research about this population of students, including inconsistent, contradictory, and primarily quantitative research. Much of the inconsistency is due to the varied definitions used to define the population. The varied definitions and primarily single institution studies have created a mixed picture of undecided students' success in terms of retention and degree completion. Research shows that students with clear educational goals are more likely to complete their degree and be retained (Allen & Robbins, 2008; Leppel, 2001); however, research also supports that being an undecided student was not significantly associated with lack of persistence and these students are more likely to complete their degree (Lewallen, 1993; Spight, 2019). The inconsistencies and complexities of undecided students and career indecision have created a murky description of undecided students. The research also lacks the undecided student voice about their experiences.

In addition, there is limited research about the policies, practices, and attitudes that impact undecided students and major selection. Research cites the need to explore policies, practices, and attitudes to better understand student experience, expectations, needs, and best practices related to student major and career indecision (Cuseo, 2005; Kramer et al., 1994; Lewallen, 1994). This study fills a gap in the literature regarding undecided student experiences and selecting a college major within the context of institutional policies and practices.

### **Theoretical Framework**

This study draws on the bioecological model of human development to explore factors in the student environment that impact the undecided student experience and major selection (Bronfenbrenner, 1979, 1999). The bioecological framework emphasizes the role of an individuals' environment on human development (Bronfenbrenner, 1979, 1999). The unique feature of the bioecological framework that supports this study is the recognition of influences on human development that exist in an individuals' immediate setting, as well as interactions between settings and larger social and cultural contexts (Bronfenbrenner, 1979, 1999; Bronfenbrenner & Morris, 2006). Using the bioecological model to explore undecided student experiences acknowledges influences in the students' immediate setting and incorporates indirect influences on their experience, such as financial aid policies and cultural ideas about work (Renn & Arnold, 2003; Young, 1983). In this study, the bioecological framework primarily guided the development of interview questions and analysis of the qualitative data.

## **Research Questions**

This qualitatively driven sequential mixed methods study used multiple case study and survey methods to explore the research questions. The qualitative portion drew on interview data from 23 student cases across three research sites to explore undecided student experiences through to the selection of an academic major. The quantitative data for this study used descriptive statistics to analyze data collected through a survey of academic advisors about undecided student policies and practices. The quantitative data were also used to identify research sites and support the findings from the qualitative portion of the study.

The overarching questions guiding the study are:

1. How do undecided students describe their experience being undecided through to the selection of an academic major?
2. What factors do undecided students identify as being influential in the selection of an academic major?
3. What policies and interventions related to undecidedness are in place on different campuses?
  - a. How are students' experiences of being an undecided student shaped by these policies and interventions?

## **Significance of the Study**

Though there is an extensive history of research about undecided students, major selection, and career indecision, this study contributes a new and updated perspective to the literature (Gordon & Steele, 2015; Miller & Rottinghaus, 2014). Much of the

literature about undecided students is dated (e.g., Baird, 1969; Foote, 1980; Titley & Titley, 1980), and few studies capture the lived experiences of the current student population (Ellis, 2014; Hagstrom, Skovholt, & Rivers, 1997). The research on undecided students is primarily 15-20 years old and significant changes in student characteristics and institutional pressures have occurred (Cohen, 1998; Lipka, 2012). Some data points have remained consistent, but the reasons for the uncertainty may have changed. For example, research that indicates 75% to 85% of students enter college unsure of their major is decades old (Foote, 1980; Kramer et al., 1994; Titley & Titley, 1980). Capturing an updated student perspective on the factors that influence major selection contributes to the current understanding of the college going population.

In addition, the majority of research about undecided students and vocational decision making is quantitative in nature and focused on characteristics (Anderson et al., 1989; Baird, 1969; Brown & Strange, 1981; Gordon, 1998; Gordon & Steele, 2003; Orndorff & Herr, 1996), retention and persistence (Allen & Robbins, 2008; Foote, 1980; Graunke et al., 2006; Lewallen, 1993; Titley & Titley, 1980), and influential factors in decision making (Beggs et al., 2008; Malgwi, Howe, & Burnaby, 2005; Porter & Umbach, 2006; Theophilides et al., 1984). I identified only two qualitative studies on undecidedness, which focused on decision making processes and experiences of advanced undecided students who had not yet selected a major (Carduner, Padak, & Reynolds, 2011; Hagstrom et al., 1997). Several studies used a mixed methods research designs but were constructed to quantify and measure experiences and perceptions (Beggs et al., 2008; Bubany, Krieshok, Black, & McKay, 2008). Existing research has a

noticeable gap in that the lived experiences of undecided students within the student context is not captured.

There are few qualitative studies about undecided students and even fewer studies that explore institutional factors, including policies and resources, related to major selection and advising. Research is needed to better understand the influences and experiences that impact undecided student major selection in order to inform policies, practices, and support resources that encourage and enable thorough exploration of degree options in a timely fashion.

### **Organization of the Study**

In the next chapter, I provide an overview of the literature about undecided students, major and career decision-making, and influences on major selection. Chapter 2 also includes an overview of the theoretical framework that guided this study. In chapter 3, I describe the mixed methods research design, as well as the qualitative and quantitative data collection and analysis procedures. Chapter 4 describes the findings from the quantitative portion of the study. In chapter 5, institutional and student profiles from the qualitative portion of the study are presented. Chapter 6 includes the findings from the qualitative portion of the study. Finally, chapter 7 presents the combined discussion of qualitative and quantitative findings, as well as implications for theory, practice, and future research.

## Chapter 2: Review of Literature

Selecting a major is a big decision for many college students and many students struggle to identify a major and career goals (Allen & Robbins, 2010; Gati et al., 2011; Hannah & Robinson, 1990; Porter & Umbach, 2006). Research spanning over 90 years has examined student indecision about college major, resulting in the conclusion that “undecided students comprise a complex, heterogeneous group and their reasons for indecision are just as varied” (Gordon & Steele, 2015, p. 4). Although there is a noteworthy amount of research about undecided students and vocational indecision (Gordon & Steele, 2015; Miller & Rottinghaus, 2014), there are gaps in the research about the process in which these students select a college major, when students solidify a decision, and how the institutional environment influences student decision-making (Cuseo, 2005). In addition, updated research about undecided students is needed given how dated this body of research is (Foote, 1980; Holland & Holland, 1977; Kramer et al., 1994; Titley & Titley, 1980).

In the literature, *undecided* refers to students who are unsure of academic and/or vocation goals (Gordon & Steele, 2015). By nature of the definition, the literature incorporates research about major and career selection. Though often combined, educational attainment goals, college major selection, and career goals are separate areas of research. Student commitment to education goals, such as earning a bachelor’s degree, may not be related to a specific academic major (Brown & Strange, 1981; Graunke et al., 2006). Students may have selected a major, but do not yet have specific career goals. Similarly, students may have career goals, but have not identified the appropriate major

to reach that goal. Though major and career selection are closely related, this study is primarily focused on major selection.

Studies of undecided students are found in student development, higher education, career counseling, vocational psychology, and academic advising literature. The research predominantly explores undecided student characteristics (Anderson et al., 1989; Baird, 1969; Brown & Strange, 1981; Gordon & Steele, 2003; Hagstrom et al., 1997; Orndorff & Herr, 1996), retention and persistence (Allen & Robbins, 2008; Foote, 1980; Graunke et al., 2006; Lewallen, 1993; Titley & Titley, 1980), types of undecided students (Gordon, 1998; Holland & Holland, 1977; Kelly & Pulver, 2003), and factors surrounding decision making (Beggs et al., 2008; Malgwi et al., 2005; Porter & Umbach, 2006). Additional research is needed to explore the student perspectives on the process of major selection for students, including how institutional factors and experiences impact student decisions.

The following review of relevant literature focuses on undecided students, influences on major selection, and institutional support services. This study explores student experiences using the bioecological model of human development as a framework, which is also described in the review of literature (Bronfenbrenner, 1979, 1999).

### **Who are Undecided Students?**

Students who enter college without a major selected are typically referred to as undeclared, undecided or exploratory (Gordon, 2007). Institutions may also use alternative terms for undecided students, like open option, undetermined, or general

studies (Lewallen, 1994). Not all institutions offer students an option to select undecided as their initial major while some institutions require first-year students to be undecided. In 2000, it was estimated that 36% of baccalaureate/liberal arts colleges do not allow first-year students to declare an official major (Upcraft, Gardner, & Barefoot, 2005). More recent data about undecided institutional student practices are needed to understand how this population of students is served and moved through the university.

Only a small percentage of students enter college each year with an officially declared undecided major. Across a national sample of almost 200 participating institutions, approximately 8.9% of entering first-year students selected undecided as their initial college major (Eagan et al., 2016). This percentage has been steadily increasing since 1966, when 1.7% of students selected “undecided” as their major (Eagan et al., 2016). This increase could be due to student interest in selecting undecided, perhaps due to more institutions offering undecided as an option for entering students.

Students who enter college with a declared major but are not sure of their decision or who change their major are also considered undecided in some research. One study estimated that 75% of all entering students were unsure of their academic plans and 46 - 87% of students who entered college with a declared major changed their major at least once (Foote, 1980; Kramer et al., 1994; Theophilides et al., 1984; Titley & Titley, 1980). This research suggests that a large number of students are unsure of their major selection during college. However, these data are more than 20 years old and updated studies about the number of entering students who are unsure of their academic plans were not found. Although once a popular research topic in the 1980’s, research on career

indecision has waned. Kelly and Lee (2002) found a 50% decrease in the number of articles about career indecision published in the 1980's (38 articles) compared to the 1990's (16 articles).

The majority of the studies are quantitatively focused on student characteristics (Anderson et al., 1989; Baird, 1969; Brown & Strange, 1981; Gordon, 1998; Gordon & Steele, 2003; Orndorff & Herr, 1996), retention and persistence (Allen & Robbins, 2008; Foote, 1980; Graunke et al., 2006; Lewallen, 1993; Spight, 2019; Titley & Titley, 1980), and influential factors in decision making (Beggs et al., 2008; Malgwi et al., 2005; Porter & Umbach, 2006). Only two qualitative studies were identified, which focused primarily on decision making processes and understanding student experiences (Carduner et al., 2011; Hagstrom et al., 1997). The present study seeks to provide updated research on a segment of the undecided student population and add a qualitative understanding of their experience.

### **Definition of Undecided**

Undecided is generally used in the literature to describe students who are “unwilling, unable or unready to make educational and/or vocational decisions” (Gordon & Steele, 2015, p. viii). While descriptive, this definition can apply to multiple student populations, which makes it difficult to differentiate research outcomes. One of the challenges of existing literature is the variety of definitions and terms used to identify such students. Undecided is descriptive of the student condition, but is also used as an official degree program label. Some studies use student selection of an undecided college major on their admission application (Ashby, Wall, & Osipow, 1966; Foote, 1980; Titley

& Titley, 1980). Some research identifies undecided students using career indecision scales (Holland & Holland, 1977; Taylor, 1982) while other studies use a combination of factors to define undecided (Baird, 1969; Bullock-Yowell, McConnell, & Schedin, 2014; Lewallen, 1993).

The variety of undecided student characteristics add to the complexity of studying this population. Students may be undecided about academic major, but confident in career selection. Alternatively, students may be confident in their selected academic major, but undecided about their career choice. Or, college students may be unsure of both major and career selection.

According to Lewallen (1994), a broader definition of undecided is embraced in the literature because it is more encompassing and provides a clearer picture of student needs for career and major exploration. Students who select undecided as their major are indicating a need to explore options, but the research literature frequently expands the definition to include a larger portion of students who indicate general indecision about their selected major or career through a survey or instrument administered to students.

### **Undecided Characteristics**

The variety of definitions used in the literature has made it challenging to recognize any characteristics specific to undecided students. Early studies compared decided and undecided students and failed to find many definitive characteristics. Lewallen (1995) states, “Even with varying definitions of decidedness, the results point to the conclusion that these two groups [decided and undecided students] are more similar than different” (p. 28).

**Aptitude, academic preparation, and background characteristics.** Early studies attempted to differentiate undecided students based on aptitude, academic preparation, or background characteristics. Little or no differences were found for variables related to academic preparation and aptitude, including ACT and SAT scores and high school grades (Anderson et al., 1989; Ashby et al., 1966; Baird, 1969; Foote, 1980). In addition, little or no significant differences were found between undecided and decided students based on parents' income, parents' education, number of siblings, birth order, nor high school size (Baird, 1969). Foote (1980) also found no significant differences between "determined" and "undetermined" students based on age, state residency, ethnic group, marital status, or veteran status. Race and gender distribution of undecided students was also similar (Anderson et al., 1989). Research suggests that undecided and decided students are more likely to be similar than different.

**Retention.** Although undecided students are often considered an at-risk population for retention and degree completion, there is little consensus regarding whether starting college with an undecided major or with a declared major impacts student persistence (Gordon & Steele, 2015; Graunke et al., 2006; Leppel, 2001; Spight, 2019). Despite the lack of consistent evidence suggesting undecided students graduate at lower rates, there is the perception that undecided students should be considered at-risk of not persisting and/or not completing their degree (Onink, 2010; Simon, 2012; Spight, 2013, 2019).

**Vocational maturity, career certainty, and anxiety.** The only semi-consistent characteristics of undecided students include lower levels of identity development and

vocational maturity, lower levels of career certainty, and anxiety which is appropriate for students who are undecided about their major and career goals (Holland & Holland, 1977). Similarly, declared students scored significantly higher on measures of career decidedness, major decidedness, values involvement, interests and abilities involvement, and career planning involvement (Orndorff & Herr, 1996). Undecided students scored significantly lower than declared students on measures of career certainty (Orndorff & Herr, 1996).

In addition to low levels of career certainty, undecided students are anxious about not having a major selected (Gordon & Steele, 2003; Hagstrom et al., 1997). In a 25-year longitudinal study of undeclared college students at a single institution, Gordon and Steele (2003) consistently found that 80% of first-year undecided students were very or somewhat anxious about not yet selecting a major.

In one of the few qualitative studies found in the undecided student literature, the advanced undecided students interviewed had a complex combination of personal, financial, and career related concerns (Hagstrom et al., 1997). The results illustrate a complicated combination of factors that led to distressing and negative experiences, specifically students felt isolated, unmotivated, frustrated, ashamed, and directionless (Hagstrom et al., 1997). The results of the study of advanced undecided students alludes to the complexities and unrealistic expectations about the process (Hagstrom et al., 1997). The anxiety makes sense given that the top reason students have cited for the past 30 years as to why they chose to attend college is career preparation (Gordon & Steele, 2015). However, Brown and Strange (1981) found that selecting a career direction was

more powerful than selecting a major in terms of reducing the amount of anxiety experienced by students. In terms of anxiety, students who had not selected a major or career were very similar to students who had selected a major but not a career (Brown & Strange, 1981). According to Brown and Strange (1981), “questions about purpose and career direction have broad import for the successful resolution of the developmental tasks of this period” (p. 334). Anxiety about career and major selection are closely intertwined, but anxiety is heightened as it relates to the longer-term decision about a career and life after college.

**Student typologies.** Other research on undecided students seeks to characterize and identify types of undecided students. Types of student undecidedness are often based on an undecided-decided continuum based on counseling implications and factors, like choice anxiety, self-efficacy, personality variables, and career maturity (Gordon, 1998; Kelly & Pulver, 2003). Gordon (1998) identified seven undecided and decided student types in a meta-analysis of 15 studies published between 1977 and 1996: very decided, somewhat decided, unstable decided, tentatively undecided, developmentally undecided, seriously undecided, and chronically indecisive. Kelly and Pulver (2003) later identified four career indecision types based on earlier multivariate typology studies: well-adjusted information seekers, neurotic indecisive information seekers, low ability information seekers, and uncommitted extraverts. Understanding levels of indecision and types of undecided students offers insight into potential interventions and advising interactions to assist students.

Other characteristics of undecided students further contribute to typologies of undecidedness and add to the complexity of studying this population. Students who select undecided before enrolling are different from students who are forced to be undecided because they were not admitted to their first choice major (Cuseo, 2005). Students who are not admitted to their first choice major are indecisive because of the loss of their educational goal (Cuseo, 2005). Similarly, students may recognize after taking courses that their first choice major is not a good fit with their skills and explore other degree options (Cuseo, 2005; Gordon & Steele, 2015). Although these students may not officially become an undecided major, the characteristics of anxiety and indecision are much the same.

### **Major Selection and Career Decision-Making**

By far the largest body of research related to undecided students is about career indecision, which is one of the most researched topics in vocational psychology (Miller & Rottinghaus, 2014). Career indecision encompasses people at any stage in life who struggle to identify or set a career path. For college students, major selection and career decision-making are often interrelated and the concepts are often conflated in the literature. According to Lent, Brown, and Hackett (1994), “academic choice and success often posit causal mechanisms that are quite similar to those viewed as important to models of career development” (p. 81). Major selection can inform career choice behavior, though the reverse is possible as well (Chuang et al., 2009). Although interrelated, Walck and Hensby (2003) suggest that timing impacts the focus on academic or career decisions and students are more likely to focus on immediate needs. Prior to

collegiate enrollment, students prioritize selecting a major for the purpose of the application but may not be ready to make an informed selection (Walck & Hensby, 2003). Once students settle into the university and have experience in courses related to their major, career uncertainty may become an issue (Walck & Hensby, 2003). This study acknowledges the relationship between career and major decision-making, but focuses primarily on major selection.

### **Reasons for Indecision**

Students are undecided about their major for a variety of reasons and research has attempted to categorize types of student indecision. Gordon (1985) identified three basic reasons for student indecision: lack of information, lack of developmental skills, and personal/social problems. These types are similar to the results of a meta-analysis of vocational indecision by Brown and Rector (2008), which yielded a four factor model of indecision. Brown and Rector (2008) found the primary concerns related to vocational indecision included: chronic indecisiveness, developmental unreadiness, information deficits, and interpersonal conflicts or barriers.

**Generalized indecision.** Generalized or chronic indecision is a common issue in which decision-making in general is difficult (Brown & Rector, 2008; Gordon, 1985). According to Brown and Rector (2008), this type of student may seek help in order to commit to a tentatively made decision and feel more comfortable with decisions already made. This type of undecided student may not be searching for options, but instead be in need of assistance confirming an earlier choice (Brown & Rector, 2008). These

undecided students may be disguised within a declared major, but seek assistance to confirm their choice.

**Interpersonal conflicts and barriers.** Students may also be indecisive because of interpersonal conflicts and barriers (Brown & Rector, 2008; Gordon, 1985; Lair & Wieland, 2012). Student indecision may be based on value-goal conflicts, interest-ability conflicts, or conflicts with other people or social forces that create barriers to pursue certain paths (Brown & Rector, 2008; Gordon, 1985; Lair & Wieland, 2012). Students report both personal factors and contextual factors as barriers to pursuing academic or career goals (Lent, Brown, Talleyrand, et al., 2002; Swanson & Tokar, 1991). Common contextual factors include financial concerns, negative social/family influences, and role conflicts (Lent, Brown, & Hackett, 2002; Swanson & Tokar, 1991). Common personal factors cited by students include personal adjustment problems, such as difficulty with the transition to college or time management problems, and limitations of their ability (Lent, Brown, Talleyrand, et al., 2002; Swanson & Tokar, 1991). Perceived barriers to major and career selection hinder student's decision making and suggest students must reconfirm and defend choices or select alternate paths.

**Lack of information.** Another reason for student indecision is a lack of information (Brown & Rector, 2008; Gordon, 1985; Gordon & Steele, 2015). A variety of types of information may be lacking that influence indecision. Students may lack information about their personal strengths and limitations, information about academic and career options, and information about the connection between majors and careers (Gordon, 1985). In studies of perceived barriers to major and career selection students

indicate a lack of information (Swanson & Tokar, 1991). Although students did not identify lack of information as an influence on major selection decisions, Beggs et al. (2008) found that students ranked information searches as having a very low influence on major selection. This study is particularly interesting because, although information searches ranked very low, students identify matches with interests, job characteristics, and major attributes as significant influences on their decision (Beggs et al., 2008). The results of the study suggest that students are not conducting research on majors but are instead basing decisions on other sources of information, such as the input of friends and family (Beggs et al., 2008). Without enough information, students are not able to make decisions about a major or career. Seeking information about major and career options suggests students are ready to engage in the decision-making process, though not all students are developmentally ready to embark on this task early in their post-secondary education.

**Developmental readiness.** Developmental readiness is also a factor related to indecision for students struggling to make academic and career decisions. Both, Brown and Rector (2008) and (Gordon, 1985), discussed students who were developmentally unready to make academic and career decisions. These students may be indifferent about selecting a major or career and not seek assistance until a choice is imminent (Brown & Rector, 2008). Multiple student developmental theories argue that critical developmental tasks must be completed before students will be able to make decisions related to their emerging identities and independence (Gordon, 1985). Both Chickering's Theory of Identity Development and Perry's Theory of Intellectual and Ethical Development

propose that students move through a series of stages or tasks each requiring increased amounts of critical thinking, independence, and self-efficacy (Evans, Forney, & Guido-DiBrito, 1998). According to Gordon and Steele (2015), “students are often forced by institutions to make decisions at a time when they are not developmentally ready” (p. 39). Most traditional first-year students are not developmentally ready to make informed decisions about education and career goals (Gordon & Steele, 2015).

Developmentally, college students are still in the process of exploring and solidifying identity and self-efficacy. A key construct in the career indecision literature is career self-efficacy (Lent et al., 1994; Taylor & Betz, 1983). Career self-efficacy refers to the individual personal assessment of one’s abilities to reach a desired goal (Lent et al., 1994). According to Taylor and Betz (1983), “students who are less confident in their ability to complete the tasks and behaviors required for effective decision making are more likely to report being vocationally undecided,” (p. 79). If students do not believe in their own abilities in certain areas, whether accurate personal assessments or not, students may be less motivated or tenacious in their pursuit of certain majors (Lent et al., 1994). Career self-efficacy is important because of its applicability to diverse groups and is predictive of positive outcomes (Betz, 2008).

Students are undecided for many reasons and a significant amount of research has been conducted to explore these issues. The multifaceted nature of student indecision about major and career options creates a unique challenge for faculty and staff to create interventions and programs. While this study does not specifically explore student indecision types or factors in indecision, the nature of student indecision is an important

factor in shaping how students navigate moving from undecided to decided. Other influences on student academic and career decision making are expanded on in the next section.

### **Individual Sources of Influence in Selection of College Major**

Student choices about academic major can be influenced by a variety of internal and external factors. The review of literature about the sources of influence on the selection of college major focus on gender, socioeconomic status, race and ethnicity, parental education and occupation, and student personality traits. Though these traits are interrelated and intersectional, they are addressed individually below. Differences in major selection are more likely to be based on gender than any other factor (Dickson, 2010).

**Gender.** Underrepresentation of women in science, engineering, and math related careers is influenced by experiences and perceived barriers occurring earlier in life that lead to divergent pathways toward college majors (Leslie, McClure, & Oaxaca, 1998; Morgan, Gelbgiser, & Weeden, 2013; Staniec, 2004; Ware, Steckler, & Leserman, 1985). Women are significantly less likely to select a science, engineering, or math major when compared to men (Leslie et al., 1998; Staniec, 2004; Ware et al., 1985). Although men and women have equal ability in math and science, women start to lose interest and confidence in math and science areas in early adolescence which ultimately influences decisions about course-taking behavior and major selection (Leslie et al., 1998; Ware et al., 1985).

Perception of ability and interest, and therefore college major selection, can also be influenced by gender role socialization (Dawson-Threat & Huba, 1996; Leslie et al., 1998). Gender role socialization refers to the extent to which an individual's sense of self is associated with gender stereotyped roles and values defined by society (Dawson-Threat & Huba, 1996; Ma, 2009). The majority of both men and women chose majors traditionally associated with their gender (Dawson-Threat & Huba, 1996; Gianakos & Subich, 1988). In the same study, research also indicated that women in non-traditional majors did not view themselves as feminine as women in majors dominated by women (Dawson-Threat & Huba, 1996). Men, however, had similar views of their masculinity regardless of traditional or non-traditional major (Dawson-Threat & Huba, 1996). Gender role socialization further influences work values (Ma, 2009). Multiple studies have found men are more likely than women to major in fields that correlate to work with external rewards, such as high earning potential and prestige; while women are more likely than men to enter fields that lead to work that emphasizes intrinsic, altruistic, and social job rewards (Leslie et al., 1998; Ma, 2009). Women tend to select majors in social sciences and humanities, while men tend to select majors in business and life or health sciences (Ma, 2009). However, these tendencies shift when intersectional identities incorporate socioeconomic status.

**Family background and socioeconomic status.** Family characteristics and socioeconomic status often influence values, and therefore can influence major selection. Socioeconomic status influences student major selection by either reproducing family background or seeking to improve social status. Socioeconomic status and family

educational background also correlates highly with the level of cultural capital available to navigate higher education systems (Davies & Guppy, 1997; Lareau, 1987). According to Bourdieu, cultural capital refers to the accumulation of language, skills, mannerisms, belongings, and orientations associated with certain social and economic statuses (Reay, 2004). An individual with a higher social standing who expresses certain tastes or knowledge, which provides credit and legitimacy, can lead to opportunities related to that social standing (Allan, 2011). Bourdieu described cultural capital as a type of currency that is exchanged based on the value or quality of the traits or actions (Levinson, 2011). The cultural “currency” is used to gain access to resources available to those within a specific social standing (Levinson, 2011). Students familiar with the language, culture, and authority structures are more likely to integrate with educators, who are also part of the elite status (Simpson, 2001). Cultural capital allows students from upper socioeconomic status families and families with educational experience to better navigate systems of education, like selecting and changing majors. However, students can develop cultural capital with the assistance of mentors and support structures on campus to successfully navigate major and department cultures (Davies & Guppy, 1997; Simpson, 2001).

Students from families with a lower socioeconomic status tend to choose majors that lead to higher paying jobs after graduation in order to take advantage of upward mobility and higher economic returns such as technical, business, and life/health fields (Ma, 2009; Staniec, 2004). Socioeconomic demands and influences can outweigh gender socialization (Ma, 2009). For example, women from lower socioeconomic status

backgrounds are as likely as men to select a major that could lead to a lucrative career (Ma, 2009). However, as socioeconomic status increased, college women were less likely to major in business, while men became more likely to do so (Leppel, Williams, & Waldauer, 2001).

**Race and ethnicity.** Racial and ethnic background is another factor that influences major selection and career decision making, though gender and socioeconomic status are frequently interrelated in the research (Ma, 2009; Simpson, 2001; Staniec, 2004). Research focused on major choice has primarily examined science, engineering, and math fields in order to understand and improve pipelines for underrepresented minorities in those disciplines (Arcidiacono, Aucejo, & Spenner, 2012; Ma, 2009; Shaw & Barbuti, 2010). Although underrepresented in the workforce, racial and ethnic minorities are not underrepresented in terms of the first college major selected at the time of admission to the institution (Ma, 2009; Staniec, 2004). Underrepresented students are less likely to persist in a science engineering or math major than white and Asian/Pacific Islander students (Shaw & Barbuti, 2010). Underrepresented students may enter with interests in science and engineering, but due to differences in academic background, preparation, math self-efficacy, and exposure to science and math related fields, students do not persist in their initial major (Arcidiacono et al., 2012; Shaw & Barbuti, 2010; Wang, 2013). However, underrepresented students in math and science fields are also influenced by the encouragement of instructors, peer support, mentors, as well as the campus racial climate (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Falconer & Hays, 2006; National Academies of Sciences Engineering and Medicine, 2019).

**Parental education and occupation.** Family values and expectations can shape the individual interests, values, skills, and decision-making styles of children (Duffy & Dik, 2009; Gordon & Steele, 2015). More specifically, parents can influence decision-making through support provided as well as attachment theories (Gordon & Steele, 2015; Lee & Hughey, 2001). Parental education levels can impact college student decisions about academic goals. Pearson and Dellman-Jenkins (1997) found that students reported a lack of support from their parents when the parents did not graduate from college. Despite a lack of parental support, research found that first-generation students were no more likely to select undecided as a major than other populations of students (Pearson & Dellman-Jenkins, 1997). In other situations, students may not be able to select undecided as a major because it is not accepted by their family (Gordon & Steele, 2015).

Similarly, research about parental occupation has also shown an influence on student major selection. Men and women whose fathers were in professional or executive occupations were more likely to major in engineering and the sciences (Leppel et al., 2001). Women whose mothers were in professional or executive occupations were less likely to enter education than other students who were women (Leppel et al., 2001). These findings support earlier findings that mothers occupational influence was positively related to women's entry into nontraditional college majors (Hackett, Esposito, & O'Halloran, 1989; Leppel et al., 2001).

**Personality traits.** Personality traits and preferences adds to the complex combination of variables that influence college major selection. One of the most cited theories of career development is Holland's theory of personalities and work environment

(Holland, 1985). Holland theorized that people prefer environments that align with their interests, abilities, values, and attitudes (Evans et al., 1998). Holland's theory categorized people into six different personality types: realistic, investigative, artistic, social, enterprising, and conventional (Evans et al., 1998). Environments were similarly categorized into the same six categories (Evans et al., 1998). Holland's theory assumes that individuals will be more satisfied, successful, and persistent when there is a good fit between people and their environment (Evans et al., 1998). Holland's theory has been used as a theoretical framework for several studies of undecided students and college major selection, as well as research about college major selection (Allen & Robbins, 2008; Feldman, Smart, & Ethington, 1999; Holland & Holland, 1977; Osipow, 1999; Porter & Umbach, 2006; Reardon & Lenz, 1999). The research consistently finds a relationship between person-environment fit and stability of interests and achievement.

Much of the research about influences on student major selection are focused on personal factors or innate personal characteristics. However, some research explores the influence of external factors in the selection of a college major.

### **Institutional Sources of Influence in Selection of College Major**

Though less studied, factors external to the student can influence major selection. Research has explored the influence of instructors, financial aid, experiential education, advising, student services, and policies on major selection.

**Instructors/Faculty.** Experiences with role models in a major or career can influence the likelihood of student interest. Bettinger and Long (2005) found that female instructors have the potential to positively influence student interest based on course

selection and major choice. Instructors who were women with a department were most likely to influence women's interest in selecting a major within that department (Bettinger & Long, 2005; Rask & Bailey, 2002).

**Financial Aid.** Financial variables can influence student major selection and may dissuade students from demanding majors that may require extra time to complete the degree (Sjoquist & Winters, 2015; Stater, 2011). When college costs increase, students are more likely to select professional fields or undecided as an initial major than humanities or science degrees (Stater, 2011). State merit aid programs similarly reduce the likelihood of selecting a science major due to concerns about maintaining grade requirements (Sjoquist & Winters, 2015).

**Career exploration.** In the qualitative portion of a mixed methods study, Orndorff and Herr (1996) found that declared students developed their major interests and career direction through more in-depth and diverse career and self-exploration. "Undeclared students may need to be provided more intense and comprehensive forms of career exploration in order to crystallize and make more concrete their understanding and knowledge about various occupations of interest which, in turn, could help to clarify their career and major options" (Orndorff & Herr, 1996, p. 636). Orndorff and Herr (1996) found that both undeclared and declared students indicate low levels of occupational exploration.

**Advising.** Undecided students are more likely to be advised by professional academic advisors, whereas decided students may be advised by faculty or professional advisors depending on the organization of the institution. Gordon and Steele (2015)

described the primary advantages of advising centers for undecided students as the early identification and opportunity for students to participate in specialized programs and services early in their academic career. Because undecided students consider majors throughout the institution, advising centers for this population are often centralized. According to the Fifth National Survey of Academic Advising in 1998, 65 percent of institutions indicated that a centralized advising office supported undecided students (Habley & Morales, 1998). According to Gordon and Steele (2015):

The delivery system selected by an institution to advise undecided students will depend on the importance it attaches to these special students; its philosophy regarding the right of, and the need for, individuals to explore; and the resources, both human and financial, that it is willing to allocate to this function.

The delivery of undecided student services by an institution depends on the importance attached to the population, perspective on student exploration, and institutional investment (Gordon & Steele, 2015).

Within centralized advising offices, like those frequently used to support undecided students, full- or part-time professional advisors were more likely to be hired to work with students (Habley & Morales, 1998). One-on-one student interaction is the core service provided by undecided advising centers (Gordon & Steele, 2015), and therefore, the role of the advisor is critical. Advisors are responsible for student expectations about making a decision, and in some cases may create pressure for students to select a major quickly (Titley & Titley, 1980). Though intended to serve students in

the process of identifying a major, some advisors may not have the appropriate knowledge to support students exploring majors and careers (Grites, 1981).

As a specialized population, advising undecided students requires additional skills and knowledge (Gordon & Steele, 2015). Specifically, advisors who work with undecided students must be trained to have general knowledge of a wide range of academic programs in order to discuss the all possible options with an individual student (Cuseo, 2005; Gordon & Steele, 2015). In addition, advisors who work with undecided students must be knowledgeable of career and student development theories in order to guide students through the process of selecting a major (Gordon & Steele, 2015). Undecided student advisors must also be skilled in interviewing and asking questions in order to help students explore and guide students through the decision-making process (Gordon & Steele, 2015). And, finally, undecided student advisors should also be expert referral agents to connect students with necessary resources to make informed decisions about college major (Gordon & Steele, 2015).

In working with undecided students, academic advisors often apply an intrusive or proactive advising philosophy to intervene early and improve student outcomes. Cuseo (2005) advocates for intentional, proactive, and early interventions to assist undecided students with initial academic decision-making and career planning. Interventions can take a variety of forms, including exploratory courses, workshops, or required advising appointments.

**Interventions.** In addition to one-one-on advising sessions, interventions offered through an advising center may include workshops, first-year seminars, and career

courses (Gordon & Steele, 2015). Research supporting such interventions varies but overall suggests positive outcomes. One study of workshop effectiveness found students who participated in the workshop made more accurate and informed decisions, as well as increased their confidence to declare their major (Legutko, 2007). Both first-year seminars and career courses have been shown to have a positive impact on graduation outcomes (Gordon & Steele, 2015; Upcraft et al., 2004). Tampke and Durodoye (2013) found that undecided students enrolled in a first-year seminar course performed better academically and persisted to the next semester more than students not involved in a seminar course. For undecided students, such courses have the added benefit of personalized attention and creating a community (Cuseo, 2005). Career courses have further been shown to positively impact career development outcomes, such as career decision-making ability, vocational identity, and career decidedness (Gordon & Steele, 2015; Reardon & Fiore, 2014). Group interventions, like workshops and courses, provide a structured format for students to develop skills and explore areas of interest necessary to decide on a major.

**Timing of major selection.** At most institutions, students select an initial major at the time of application. Some institutions do not allow students to select a major at admission and instead they must take some time to explore and/or confirm their selection. Students who select undecided as their major may have a deadline in which they must declare a major, though limited research is available related to institutional policies and practices surrounding major declaration and undecided students.

The timing and process for exploring degree options is critical and research repeatedly suggests students should use the first semester or year of college to explore interests, values, and abilities (Beggs et al., 2008; Cuseo, 2005; Theophilides et al., 1984). “The prolongation of the transition to adulthood . . . has been associated with a delay in serious vocational consideration and decision making” (Johnson & Mortimer, 2002, p. p. 67). In a study of European higher education institutions that have different timelines for students to declare a degree program, Malamud (2011) found that students who were required to select their degree program before beginning their studies were more likely to select a career path after graduation outside of their degree, while students allowed to explore for a year were more likely to select a career after graduation that align with their degree program. Students who enter the institution with an undecided major make fewer major changes by the time they graduate compared to students who enter with a declared major (Kramer et al., 1994). Educational programs that allow time for exploration can improve the labor market outcomes by increasing productivity through better person-career fit (Cuseo, 2005; Malamud, 2011; Titley & Titley, 1980). Such studies support the need for students to have time in their first year to explore their interests in a college setting before committing to a specialization or major.

**Policies and procedures.** Limited research exists on institutional policies and procedures surrounding undecided students and major declaration (Cuseo, 2005). National survey research suggests there is a wide variety of institutional policies and approaches to student decision-making. A 2003 national survey of first-year practices showed that just over half of 4-year institutions surveyed allow first-year students to

declare a major but neither encourage nor discourage students from selecting a major (Upcraft et al., 2004). Pringle (2014) found that students' selection of major was an indicator of academic integration but that integration may not be sustained if students are forced to select a major before they are ready. Advocates of major exploration early in the college experience argue that students need time to gain more self-knowledge and experience with the college curriculum before selecting a major (Cuseo, 2005; Gordon & Steele, 2015; Pringle, 2014).

The literature about undecided students, college major selection, and career decision making is vast. A summary of the literature most relevant to this study creates a foundation for the research. The foundation for the research is further guided by Bronfenbrenner's bioecological model of human development, which is described in the next section.

### **Theoretical Foundation**

The bioecological model of human development guides the exploration of student experiences related to major declaration (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006). Originally, Bronfenbrenner (1979) referred to the model as the ecological model of human development, but shifted to the bioecological model in his 2005 book, *Making Human Beings Human* (Bronfenbrenner & Morris, 2006).

The bioecological model incorporates the layers of individual influences, processes, context, time, and sociocultural influences on development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006; Renn, 2003). Bronfenbrenner's bioecological model posits that movement through various environments create transitions that are a

cause and/or consequence of change and development. The bioecological model is well suited to frame research related to processes and interactions related to college student development (Renn, 2003; Stebleton, 2011). College major selection is a complex process in which students navigate a variety of influences and experiences that influence development and decision making.

This theory was selected because of its ability to incorporate and focus on the contextual and experiential factors of career and major identification, while also taking into consideration individual characteristics within a complex college context. While other career development and major selection theories exist, the bioecological model highlights specific key features of the environment that may play a role in major selection for an individual. Social Cognitive Career Theory has incorporated ideas related to context, but the focus is primarily on the process of career decision making and fails to distinguish specific environmental factors (Lent et al., 1994).

Some career development literature has drawn on the developmental ecology model to explore the nature of interactions between individuals and their environment (Cook, Heppner, & O'Brien, 2002; Xiao, Newman, & Chu, 2018; Young, 1984). Young (1984) described the benefit of using an ecological model as a holistic perspective on the career development process and highlights interactions between an individual and the environment. Young (1984) defined career development from an ecological perspective as, “the growing capacity of the individual to understand and act on the career environment” (p. 154). Although this definition speaks to the larger career development sphere, major selection for undecided college students is a piece of that larger process.

Previous research related to college major selection has primarily used psychological or counseling theories to explore career development concepts within the immediate surroundings and influences of undergraduate students. However, this research takes a unique perspective by focusing on the variety of influences and contexts on student major selection.

### **Bioecological Model of Human Development**

Bronfenbrenner (1979) asserts that understanding human development requires the examination of the subjects' immediate setting, but also the environment beyond the subject being observed. This understanding is critical for developmental research as well as social policies "because they alert the investigator to those aspects of the environment, both immediate and more remote, that are most critical for the cognitive, emotional, and social development of the person" (Bronfenbrenner, 1979, p. 8).

Another unique feature of the bioecological model of human development is the conceptualization of development. The bioecological model is different than other models of human development because the focus is on the psychological content of what is perceived, feared, or thought about and how that content changes due to interactions with the environment (Bronfenbrenner, 1979). Other models of human development focus on psychological processes like perception, motivation, and learning regardless of content (Bronfenbrenner, 1979).

Bronfenbrenner (1979) developed the ecology model of human development in order to incorporate aspects of the individual within the immediate setting as well as

larger systems of social, cultural, and organizational environments. According to Bronfenbrenner (1979):

The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded. (p. 21)

As humans develop they interact within a changing context that shapes behavior in meaningful ways. Within the model, Bronfenbrenner (1979) describes the ecological environment as a “nested arrangement of concentric structures,” that reciprocally interact with an individual (p.22).

Bronfenbrenner (1979) refers to the structures as the micro-, meso-, exo-, and macrosystems. Each layer expands outward with less direct effect on the individual. The most immediate layer, the microsystem, is the face-to-face settings in which an individual interacts and can influence the setting as well as be influenced by the setting (Renn, 2003; Young, 1983). “A microsystem is a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics” (Bronfenbrenner, 1979, p. 22). For college students, this includes classrooms, residence halls, friend groups, and immediate family (Renn, 2003).

Interaction between microsystems creates the mesosystem in Bronfenbrenner’s framework. “A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations

among home, school, and neighborhood peer group; for an adult, among family, work, and social life)” (Bronfenbrenner, 1979, p. 25). For college students, this includes areas of intersection in which students have competing demands, like studying for a test (academic microsystem) or going out with friends (friendship group microsystem). According to Bronfenbrenner (1979), development requires interactions in the mesosystem with increasing levels of complexity. Navigating those conflicts and complexities furthers developmental tasks, like identifying academic and career goals.

Further out in Bronfenbrenner’s circles of influence, he describes the exosystem. “An exosystem refers to one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person” (Bronfenbrenner, 1979, p. 25). For college students, this could include social class, faculty decisions about curricula or federal financial aid guidelines (Renn, 2003; Young, 1983).

The outermost circle of influence is the macrosystem. “The macrosystem refers to consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies” (Bronfenbrenner, 1979, p. 26). In the context of college students, macrosystems are the historical, cultural, and social forces that may broadly influence higher education and the world of work (Renn, 2003; Young, 1983).

Bronfenbrenner (1979) suggests transitions that impact individual roles or settings in order for development to occur. “An ecological transition occurs whenever a person’s

position in the ecological environment is altered as the result of a change in role, setting, or both” (Bronfenbrenner, 1979, p. 26). For college students, ecological transitions include the significant number of changes that occur as students enter college, changes academic directions, or graduates.

Bronfenbrenner’s theory has been used as a framework for research about college students (Dennis, Phinney, & Chuateco, 2005; Renn, 2003; Renn & Arnold, 2003), advising (Stebbleton, 2011), and career development (Cook et al., 2002; Xiao et al., 2018), but has not been used specifically in the context of academic major selection or undecided students.

### **Conclusion**

There is a wealth of literature related to undecided college students, though most of the research occurred 20 years ago and the field benefits from new research that examines the current student population. The growing interest in timely graduation and job placement for students has revived interest in undecided college students and factors that influence major selection. This study seeks to add to the literature by updating research about undecided students and adding a qualitative description of the student experience.

### **Chapter 3: Research Methods**

The study of undecided students is of particular interest to me because of my personal experience with indecision related to college major and career path. My own indecision about selecting a major and career path led to my decision to pursue a career in higher education and career development working with undergraduate student populations. I work with students on a daily basis through my role as an advisor and administrator, primarily with students who are undecided. I am most intrigued by the student stories of exploration and inspiration that inform the selection of their college major. I conducted this study because I am most interested in the personal experiences of students exploring and confirming decisions about college major. Further, I want to add the voice of undecided students to the extant literature about major selection.

The following review of the research methods begins with a review of the research problem and research questions. Next, I provide an overview of the research design and methods. Following the overview, I describe in detail the quantitative and qualitative methods for data collection and analysis.

#### **Review of Statement of the Problem**

Many studies focus on the factors that influence major selection, career decision making, and characteristics of undecided students (Beggs et al., 2008; Cuseo, 2005; Foote, 1980; Lent, Brown, Talleyrand, et al., 2002; Titley & Titley, 1980) but few studies explore how students navigate major selection and qualitatively capture student experiences (Carduner et al., 2011; Hagstrom et al., 1997). The purpose of this study is to understand how students who enter college as an undecided major arrive at their final

major selection. More specifically, how do students describe their experiences and how does the institutional context influence decision-making. A sequential mixed method multisite case study design (Teddlie & Tashakkori, 2009) explores how undecided students navigate the major selection process. The study is primarily driven by inductive qualitative methods and data collection in order to capture the rich narrative descriptions of undecided student experiences related to major selection. The quantitative portion of the study is used to identify sites in which to collect data and understand context for the purpose of data collection.

### **Review of Research Questions**

The overarching questions guiding the study are:

1. How do undecided students describe their experience being undecided through to the selection of an academic major?
2. What factors do undecided students identify as being influential in the selection of an academic major?
3. What policies and interventions related to undecidedness are in place on different campuses?
  - a. How are students' experiences of being an undecided student shaped by these policies and interventions?

Several key words in these questions speak to the goals and methods for the study. The word *how* suggests the qualitative nature of the study and the desire to gather rich descriptions. The word *what* suggests the quantitative element of the study. The phrase *undecided students* defines the population to be studied. For this study, undecided

students are those students who enter college undecided about their academic plans and select “undecided” as their initial college major. The word *experiences* identifies the desire to discover the experiences that shape the phenomenon as well as bring the student voice to the research. The phrase *selection of an academic major* narrows the focus of the study to college major selection processes and factors for the undecided population. The key words *policies* and *interventions* refers to institutional context of policies and interventions in which students navigate the process of major selection guided by Bronfenbrenner’s (1979, 1999) bioecological model.

### **Research Design**

This qualitatively-driven sequential mixed methods study explores student experiences and the context in which students make decisions about college major. Although the primary focus of this study utilized qualitative multicase study methods, mixed methodology was employed to capture quantitative data about institutional contexts and further develop the qualitative portion of the study. Mixed method designs combine strategies of both qualitative and quantitative research strategies within a single project that may be driven by either a qualitative or quantitative framework (Morse, 2003). This combination of methods allows for breadth and depth within a topic in order to more thoroughly address research questions (Teddlie & Tashakkori, 2003). The synergistic way in which one method informs the other is an advantage of mixed methods (Hesse-Biber, 2010). Quantitative methods are typically framed in a confirmatory manner, whereas qualitative methods are framed in an exploratory manner (Teddlie & Tashakkori, 2003). When these elements are combined, this method allows for

understanding of complex phenomena (Newman, Ridenour, Newman, & DeMarco, 2003; Schoonenboom & Johnson, 2017). Early mixed method studies intended to combine strategies as a means of triangulating data sources (Creswell, 2009). As the methodology evolved, additional reasons for using the method emerged, including complementarity and expansion (Creswell, 2009; Schoonenboom & Johnson, 2017). According to Schoonenboom and Johnson (2017), complementarity “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method.”

A mixed method multicase study was appropriate to approach the research questions because of the complexities of institutional environments and varieties of student experiences, as well as the need for rich descriptions of student experiences surrounding major selection within an institutional context. Further, the quantitative data complements the larger qualitative component to expand understanding of the topic. The qualitative focus underscores the student perspective and rich descriptions of their experience, while the quantitative portion supplements student narratives with information about institutional contexts, as well as serving as a means to identify research sites. Currently enrolled undecided college students were drawn from three different institutions in order to provide an opportunity to explore multiple student cases and cases in different contexts. Exploring the different student cases within context provided a rich description of undecided student experiences which fills a gap in the literature as well as informs current practice.

In this qualitatively-driven sequential mixed methods study (Schoonenboom & Johnson, 2017; Tashakkori & Teddlie, 2003), I first collected the quantitative survey data in order to collect information about policies and practices related to undecided students (see Figure 1). The quantitative data were also used to identify research sites for the larger qualitative portion of the study. With the sites selected, I identified potential student participants to interview to collect qualitative descriptive data about experiences and influences on major selection. I conducted semi-structured individual interviews with each student from the convenience sample. Once interviews were transcribed, I analyzed individual student cases, followed by a cross-case analysis of the student descriptions and contexts. The analysis of quantitative data were integrated into the overall discussion of results surrounding the institutional context. I separately discuss the quantitative methods and qualitative methods following later in the chapter.

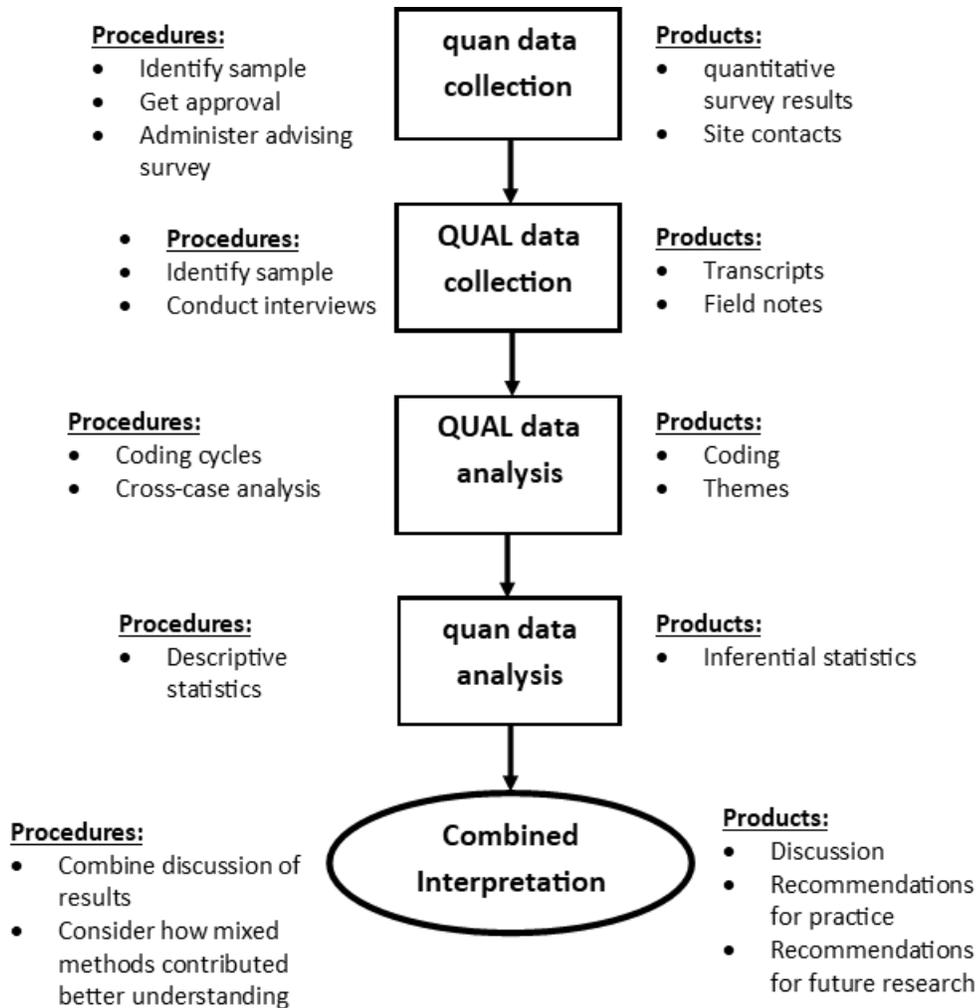


Figure 1. Diagram of qualitatively-driven sequential mixed methods design data collection and analysis.

### Reliability and validity

Validity and reliability mean different things in quantitative and qualitative research. Although both refer to the trustworthiness of the data and findings, quantitative research defines validity and reliability from a positivist epistemology that values replication and consistency of responses and findings (Golafshani, 2003). Qualitative research is more likely to draw on naturalistic or constructivist paradigms that seek to

understand phenomenon in a real-world setting (Golafshani, 2003; Lincoln, Lynham, & Guba, 2000). The purpose of mixed methods research is to combine quantitative and qualitative methods in order to increase understanding from multiple perspectives, as well as increase the validity of the study (Schoonenboom & Johnson, 2017). The mixed methods approach strengthens the validity of this study by triangulating findings in the qualitative component with data from the quantitative component. Specifically, quantitative data about requirements for undecided students, such as meeting with an advisor, and advisor perceptions about undecided students supported themes found in the qualitative component of this study. Additional discussion of validity and reliability is found in the quantitative and qualitative methods sections that follow.

One of the criticisms of mixed methods research is the potential juxtaposition and conflicting epistemological perspectives that occur when conducting both qualitative and quantitative research within the same study (Greene & Caracelli, 2003; Johnson, Onwuegbuzie, & Turner, 2007). Although other philosophical underpinnings are possible in mixed methods research, Johnson et al. (2007) suggests that pragmatism is a useful approach to mixed methods and used by many researchers. Pragmatism in mixed methods research draws on practicality to determine the design decisions based on the complexity of the context and information needed (Greene & Caracelli, 2003; Johnson et al., 2007). This study embraces a pragmatic perspective to inform methods and analysis.

### **Quantitative Methods**

For the first phase of this sequential mixed method study I collected descriptive survey data about college major selection practices, policies, and academic advisor

opinions about issues related to undecided college students. The data collected informed the selection of sites for the qualitative portion, as well as provided contextual information about undecided student policies and practices related to undecided students and major selection.

### **Recruitment and Participants**

The sampling frame used for this component of the study was higher education professionals working in the field of academic advising, specifically members of the National Academic Advising Association (NACADA). Members are largely faculty and staff who provide direct academic advising services to students and are knowledgeable about student policies and procedures related to major selection and declaration at a variety of institutional types throughout the world. A recruitment email was sent to all members of NACADA, which included 12,943 advisors, faculty advisors, or administrators at all types of higher education institutions who were members of the organization as of September 2018.

A total of 1,426 responses were received, though only 1,170 survey responses were complete, which yielded a 9% response rate from the NACADA population. Table 1 includes the role and institutional affiliation reported by the participants. Participants were largely primary-role academic advisors from large public, doctorate granting institutions in the United States.

Table 1. *Role and institutional affiliation of participants*

<b>Participant Role</b>	<b>N = 1170</b>	<b>%</b>
Academic advisor/counselor/coach (primary role advising)	761	65.0%
Advising administrator	195	16.7%

Administrator with responsibilities over several areas, one of which is advising	134	11.5%
Faculty advisor (primary role teaching or research)	33	2.8%
Career counselor/advisor	19	1.6%
Institutional position that supports advising (Registrar, admissions, financial aid, etc.)	17	1.5%
Affiliated with a college or university but not in any of the roles previously listed	11	0.9%
<b>Highest Degree Granted at Institution</b>		
Ph.D., Ed.D., or professional degrees, (i.e. M.D., J.D., D.D.S., etc)	813	69.5%
Master's	172	14.7%
Bachelor's	41	3.5%
Associate's	138	11.8%
Specialist	4	0.3%
Technical (vocational) certificate	1	0.1%
Not applicable	1	0.1%
<b>Institutional Control</b>		
Public	956	81.7%
Private (nonprofit)	187	16.0%
Private (for profit)	25	2.1%
Not currently employed	1	0.1%
Other (please explain)	1	0.1%
<b>Institutional Size</b>		
Less than 2,500	68	5.8%
2,500 - 4,999	114	9.7%
5,000 - 9,999	156	13.3%
10,000 - 19,999	234	20.0%
20,000 - 29,999	233	19.9%
30,000 - 39,999	180	15.4%
More than 40,000	181	15.5%
No response	4	0.3%
<b>Institutional Location by NACADA Regions</b>		
Great Lakes (WI, IL, MI, IN, OH)	204	17.4%
Mid-Atlantic (PA, NJ, DE, MD, VA, DC)	144	12.3%
Mid-South (WV, KY, TN, NC, SC)	87	7.4%
North Central (NE, IA, SD, ND, MN, MT)	73	6.2%
Northeast (ME, VT, NY, NH, MA, RI, CT)	94	8.0%
Northwest (AK, WA, OR, ID, MT)	75	6.4%
Outside the U.S.	36	3.1%
Pacific (CA, NV, HI)	81	6.9%

Rocky Mountain (AZ, CO, NM, UT, WY)	124	10.6%
South Central (KS, MO, OK, AR, TX, LA)	133	11.4%
Southeast (MS, AL, GA, FL, Caribbean)	116	9.9%
No response	3	0.3%

**Survey instrument**

The purpose of the survey was to collect information about the policies, practices, and opinions related to undecided students from advising professionals in higher education. The survey included both closed and open-ended questions in order to best understand and capture a variety of practices (Johnson & Turner, 2003). The survey consisted of three sections to capture institutional characteristics and personal perspectives about advising undecided students. The survey questions were developed after reviewing the literature and previous surveys in related areas ("NACADA Career Advising Survey," 2007; Policy Center for the First Year of College, 2000). The first section asked about institutional characteristics and participants' roles at their respective institutions (See Appendix A). NACADA regularly conducts surveys about advising-related issues and topics and questions about respondents and their institutions were drawn from previous NACADA surveys for consistency. Several NACADA surveys related to undecided students, career advising, and advisor perspectives ask a standard set of questions about institutional information (e.g., institutional size, type, location) and advisor role (e.g., advising load, student groups). The second section explored institutional policies and practices related to undecided students and major selection. Some questions from this section were modeled after questions from the 2000 National Survey of First Year Practices (Policy Center for the First Year of College, 2000; Upcraft

et al., 2004). The remaining questions in that section were written based on my 14 years of professional experience advising undecided students in my roles as an academic advisor and advising administrator. The third section explored participant perspectives about advising undecided students and included open-ended questions. An optional question at the end of the survey allowed participants to include contact information for further questions about the topic.

### **Procedures**

The University of Missouri's Institutional Review Board as well as the NACADA Research Committee, approved the survey. Next, the survey was sent to all members of the NACADA organization as of September 2018. Participants received the invitation to participate via email and provided consent to participate by clicking on the individual Qualtrics survey link within the email (See Appendix B). An individual survey link was provided to participants in order to provide the opportunity to send a reminder email only to participants who had not completed the survey through the Qualtrics software platform. Individual participant data were not analyzed as a secondary data source. The survey deployed on September 11, 2018, and participants received a reminder in October 2018 (See Appendix C).

### **Confidentiality and Data Security**

Participants were asked to disclose general identifiers such as institutional affiliation, institutional type (i.e., public, private, 2-year, or 4-year) and job role type (e.g., advisor, faculty advisor, administrator). The survey instrument did not require personal contact information, such as name, phone, or email address; however, at the end

of the survey, participants were asked if they were open to being contacted to provide further clarifying information about their responses or institutional context. If they were open to doing so, they were asked to provide a name and email address for the purpose of following up with additional questions.

Data were collected using a university-affiliated Qualtrics account. All data were stored in a password protected electronic format. Only aggregate data were reported and all personally identifying information was redacted from reports.

### **Quantitative Data Analysis**

Descriptive analyses were used to explore participant survey data using frequency tables. Survey data were analyzed in Excel to examine participant characteristics, and opinions, as well as institutional policies and practices. The quantitative survey data were also used to inform the selection of research sites for the qualitative component of the study. A description of the process of site selection is included in the qualitative methods section.

### **Validity and Reliability**

For the quantitative portion of the study, validity and reliability are dependent on the validity and reliability of the survey instrument and data analysis tools. Validity relates to the accuracy in which the instrument measures what it is supposed to measure (Heppner & Heppner, 2004; Nardi, 2014). The majority of questions used on the survey were informational and taken directly from or adapted from other survey instruments found in the literature review ("NACADA Career Advising Survey," 2007; Policy Center for the First Year of College, 2000).

As suggested by Nardi (2014), a small group of five academic advisors and one career development specialist at three different institutions pilot tested the survey and provided feedback to clarify questions and response options. The feedback provided by advisors as experts in the field who tested the survey instrument served to establish the content validity of the survey. Content validity is a subjective estimation of how a survey instrument measures the complexity of a concept (Nardi, 2014). Reliability in survey research refers to the consistency of responses over time (Heppner & Heppner, 2004; Nardi, 2014). Although it did not support the reliability of the survey, the survey results did capture the complexity of the research issue.

### **Limitations**

Several limitations related to the quantitative portion of the research were noted. Validity and reliability in survey research are largely determined by the quality of the survey instrument. In this study, the survey instrument presented several challenges that impacted the quality of the study. Though the survey was an exploratory process, the questions were not evaluated and vetted appropriately. A definition of “undecided students” was not provided in the invitation email nor survey text, which further could have helped clarify the target population. However, omitting a definition provided an opportunity to identify inconsistencies. Inconsistent responses from survey participants at the same institution suggest either participant knowledge was inconsistent or the language used in the survey questions were not clear. Despite the inconsistency, the data were useful to highlight the complexity of policies and perspectives related to undecided

students. The data collected represents survey participants' understanding or perception of policies and practices at their institution.

Further, nonrandom (or convenience) sampling was used to collect data for convenience. Because of the inconsistency and randomness of respondents in convenience samples, the data from such a method is not generalizable beyond the scope of those who completed the survey (Nardi, 2014). In addition, the overall response rate for the survey was low (9%) which further limits the ability to generalize findings to the larger advising community.

### **Summary**

The quantitative portion of this sequential mixed methods study uses survey methods to collect information about policies, practices, and opinions of advising professionals related to undecided students. Data from the sample of 1,170 participants was evaluated using descriptive analysis to supplement the qualitative portion of the study and guide the selection of research sites. Although there are several critical limitations associated with the survey instrument in this portion of the study, the survey and responses can be used to improve future research.

### **Qualitative Methods**

The larger qualitative portion of the study was a multisite, multiple case study design focused on the experiences of traditional aged college students (18 – 24 years of age) who started college undecided and within one year of completing their selected undergraduate degree. Cases were based on individual interview data from college students at three different institutions.

## **Case Study Research**

Case study incorporates an in-depth understanding of a phenomenon within a real-life context and often includes the collection of multiple forms of data (Creswell & Poth, 2018; Yin, 2009). Case study methods are often selected to study “how” and “why” questions and to investigate the complex nature of real-life questions (Merriam, 2009; Yin, 2009). Case study methods offer a rich and holistic description of a phenomenon within a bounded system (Merriam, 2009). The bounded system focuses the study on a specific unit of analysis that share common characteristics (Merriam, 2009). In this study, the primary data source was interviews and the unit of analysis was individual students, specifically students who entered college with an undecided major.

Case study research designs may involve a single case or multiple cases. Single case study designs are beneficial for the study of individual unique cases, representative cases, longitudinal studies, or cases used to test a relevant theory (Yin, 2009). Multiple case study designs are valuable because of the possibility of replication of results and examine how a phenomenon operates within different environments (Stake, 2013; Yin, 2009). Replication of results or contrasting results provides more insight into the phenomenon than a single representative case. This study was a multicase study in which multiple student cases were identified to contribute to understanding the phenomenon of undecided students and exploring the influence of institutional characteristics on the student experience as they explore and select college majors. Although a single case study design could have been used for this study to explore a representative case in-

depth, the lack of research on student experiences and the variety of policies and practices around major selection do not suggest a common student experience.

### **Research Locations**

Survey data from the quantitative portion of the study were used to explore institutional policies and practices surrounding undecided students and major selection. Site locations were identified after the collection of quantitative data. The literature offers little guidance about the number of sites appropriate for a multicase, multisite study (Sharp et al., 2012). Multicase research designs typically include four to 10 cases in order to provide enough data to explore the phenomenon without overwhelming the reader (Miles, Huberman, & Saldaña, 2013; Stake, 2013). Multisite case study designs typically rely on purposive sampling to identify the number of sites (Sharp et al., 2012). Multiple cases and sites are based on replication of findings across cases and the prediction of contrasting results (Yin, 2018). I anticipated some institutional differences would emerge from the cases at different institutions. Yin (2018) described subgroups in multiple case studies to explore groups of cases based on different types of conditions, using at least two cases per subgroup to replicate findings within the group. Using these recommendations, I aimed to collect data at three sites to explore different conditions or contexts, with a minimum of five student cases at each site in order to replicate findings between cases at each site, while not creating an overwhelming amount of data and time required to collect and analyze the data (Miles et al., 2013; Stake, 2013; Yin, 2018).

I used convenience sampling to identify institutions that met criteria of interest specific to the case study (Merriam, 2009). The quantitative response data were

narrowed to focus sample selection on large, research intensive 4-year institutions. First the sample was narrowed to include only 4-year institutions because of extended time students spend at a single institution to explore academic interests and my interest in the process in which students select an undergraduate 4-year degree program. The sample was further narrowed to include only respondents that were willing to be contacted for further information after completing the quantitative survey. Further criteria for the selection of sites were based on elements of the institutional context surrounding major selection, institutional characteristics, and personal contacts. The following criteria were used to identify sites: deadlines to declare a major, advising requirements, institutional characteristics, and personal contacts.

I contacted survey respondents at 14 different institutions via email (see Appendix D) and received responses from seven respondents. I scheduled phone interviews with the seven contacts to confirm my understanding of the data reported in the quantitative survey. Four institutions agreed to participate by contacting students via email regarding my study. However, only students at three institutions completed the next steps to participate in the study. Table 2 highlights key information about the institutions that participated in the study. All of the research locations were large, public institutions that grant doctoral degrees in the interior of the United States. The institutions did range in size, location, and the types of resources and practices related to undecided students.

Table 2. *Research site and institutional characteristics*

Institutional pseudonym	Institutional size	NACADA Region	Name for undecided students	Major declaration deadline	Advising requirements
Midwest State University	30,000 - 39,999	Great Lakes (WI, IL, MI, IN, OH)	Exploring/ Exploratory	No deadline	Seminar course
Urban Public University	More than 40,000	Great Lakes (WI, IL, MI, IN, OH)	Exploring/ Exploratory	No deadline	Must meet with an advisor once per semester
University of Central State	20,000 - 29,999	North Central (NE, IA, SD, ND, MN, MT)	Undecided	No deadline	Must meet with an advisor once per semester

### **Recruitment and Participants**

After further review of the quantitative data and information provided by institution contacts, I requested assistance from advisors or administrators at four institutions via email to identify student interview participants. Academic administrators at the institutions served as informal gatekeepers to gain access to students (Seidman, 1998). Academic administrators who oversee undecided student advising offices were asked to identify and contact students who were undecided when they started college. The email request included information about the study and the desired population of students, as well as a sample email to send to students (See Appendix E).

Although I initially contacted and planned to include four institutions in this study, only students from three institutions responded. Therefore, the sample population consisted of students from three institutions. The sample population was limited to those

students who started college with an undecided major and were enrolled at the same institution in a declared major and within one year of graduation. I aimed to talk with students who started college with an undecided major and were currently enrolled juniors or seniors. If using a 4-year degree completion timeline, students complete 15 credit hours each term. Therefore, juniors and seniors have typically earned 60 credit hours or more. Juniors or seniors were selected because of the relationship to major selection and 4-year degree completion. In a research study that explored timing of major selection and degree completion, students did not delay graduation until they selected a major after the fifth semester of enrollment (Venit, 2016). Data from the quantitative portion of this study further supported the selection of students with 60 credit hours or more. Of advisor respondents who indicated their institution has a deadline for students to declare a major, 49.15% said their institution required students to declare a major once they have completed 60 credit hours or more. Based on these criteria, students were juniors and seniors with 60 or more credit hours completed and nearing graduation.

Students who met the criteria received an email from an advisor or administrator at their home institution and were asked to complete a short online survey to confirm study parameters and collect data to guide the interview (See Appendix F). A total of 2,141 students at three different institutions received the email invitation to participate in the study. Student participants who completed an interview received an Amazon.com gift card as compensation for their time participating in the study (Robinson, 2014). Email invitations also included a description and purpose of the research project and link to the short confirmatory survey that also asked for the preferred contact method to

schedule an interview. Table 3 shows the response rates and final number of cases at each research site.

Table 3. *Recruitment communication and participation*

	<b>Midwest State</b>	<b>Urban Public</b>	<b>Central State</b>	<b>Total</b>
Received email invitation	65	1478	598	2141
Completed initial survey	21	79	17	114
Scheduled an interview	8	9	9	26
Completed an interview	8	7	8	23

Students who completed an interview became the individual cases for this study.

Twenty-three cases were identified. Some participant demographic information was collected and shown in Table 4.

Table 4. *Overview of student participant characteristics*

	<b>Midwest State (8)</b>	<b>Urban Public (7)</b>	<b>Central State (8)</b>	<b>Total (23)</b>
<b>Gender identity</b>				
Woman	5	4	6	15
Man	1	2	2	5
Another gender identity	0	0	0	0
Prefer not to respond	0	1	0	1
No response recorded	2	1	0	3
<b>Race/Ethnicity</b>				
American Indian or Alaska Native	0	0	0	0
Asian	0	0	0	0
Black or African American	0	1	0	1
Hispanic or Latino	0	0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0
White	5	5	7	17
Other	1	0	0	1
Prefer not to respond	0	0	1	1
Not response recorded	2	1	0	3
<b>Major on admission application</b>				
Undecided	4	3	7	14

Other major	4	4	1	9
<b>Anticipated graduation date</b>				
Dec. 2018/May 2019	3	1	3	7
Dec. 2019/May 2020	4	6	4	14
Dec. 2020/May 2021	1	0	1	2

## Data Collection

The development of case studies relied on interview methods for data collection. Interview methods are one of the most common methods for case study research (Stake, 2013). Collecting data via interviews allows for the collection of rich description from the perspective of the participant in order to understand their experience and how they make meaning of the experience (Kvale & Brinkmann, 2009; Seidman, 1998). The interview protocol is described in the next section.

I aimed to interview a minimum of five students at each site to reach data saturation (Kvale & Brinkmann, 2009), and at the conclusion of the interviews I had a minimum of seven students per institution. Data saturation refers to the point at which data collection no longer reveals new or unique information that adds to the value of the study (Merriam, 2009). The same interview protocol was used so that saturation was apparent once responses to questions were similar across cases and no new codes emerged during analysis (Fusch & Ness, 2015).

Students were contacted via text message and email based on their preference indicated in the initial interest survey to schedule an interview time using Sign-up Genius, a free online scheduling tool. The online scheduling tool allowed participants to select the time and date for their convenience (Seidman, 1998).

Prior to the interviews, I contacted participants to confirm their interview date and time as well as complete the research consent form. The confirmation email included a link to an online consent form using a Qualtrics online survey that confirmed their participation as well as consent to be recorded (Appendix G). Three demographic questions were added to the consent form in order to describe the participant pool.

Interviews were scheduled for 60 minutes and took place in a meeting room on campus, online via Zoom video, Zoom phone (no video), or personal phone (see Table 5). As a means to explore the institutional environment and for the convenience of participants I planned to travel to each of the campuses. However, one site visit was canceled due to weather. I visited Midwest State and Urban Public Universities to conduct some in-person interviews (Seidman, 1998). For the in-person interviews, I contacted my institutional contact or their supervisor for assistance securing an interview location. Interviews at Midwest State University were conducted over 2 days, while interviews at Urban Public University were conducted on a single day. At the two institutions I was physically able to visit, the interviews were conducted in the exploratory advising offices in empty individual office rooms.

The remaining interviews took place using Zoom video or phone technology. The use of Zoom or phone was dependent on internet connection and comfort of the participant. All interviews, except one, were recorded using an electronic recorder or using the Zoom recording feature. In one case, the interview was not captured via audio because I failed to initiate the recording feature on my phone. Shortly after the interview

concluded and I realized the error, I wrote extensive field notes based on my written notes during the interview as well as from my memory of the conversation.

During every interview, I also made some notes while participants spoke. In addition, I jotted down field notes following each interview noting the interview setting, participant description, and my reactions and reflections on the interview (Merriam, 2009).

Table 5. *Interview settings*

	<b>Midwest State (8)</b>	<b>Urban Public (7)</b>	<b>Central State (8)</b>	<b>Total (23)</b>
In-person	6	2	0	8
Zoom video	1	3	4	8
Zoom phone or personal phone	1	2	3	6

Interviewing is a skill that requires practice and rapport (Seidman, 1998). Recognizing rapport was an important component to the interview process, I reflected on my positionality as a means to minimize bias in the process and recognize issues that could impact rapport-building with participants, such as power dynamics or professional experiences. I aimed to develop rapport with the students to make them feel comfortable describing their thoughts and feelings about their experiences as an undecided student and influences on their major selection process. To begin to develop rapport, I greeted participants with hospitality and small talk. As I introduced myself, I focused on my role as a researcher and minimized my professional experience to reduce my perception as an administrator or authority figure. I selectively shared some of my own experiences and professional background to relate to participants. During the interview Seidman (1998)

describes rapport as a delicate balance between respecting what is being said and posing challenging questions. During interviews, I focused on student responses and asking follow-up questions to clarify meaning and explore topics further (Seidman, 1998). Interviews were also guided by a semi-structured interview protocol, described in the next section.

### **Interview Protocol**

An interview guide was created with 13 main questions about student experiences related to major selection (See Appendix H). Interviews used a semi-structured protocol to guide conversations and replicate procedures at each site. A semi-structured format was used to allow for situation specific responses and new ideas to emerge (Merriam, 2009).

The interview protocol drew questions from a previous study and questions based on the theoretical framework and literature review. Ten questions were based on the protocols used by Scharen (2010) to explore influences on student major selection at the sophomore level in a three part series of interviews. Questions for my protocol were modified to reflect interviewees at the junior or senior level and the focus on undecided students. Scharen (2010) was interested in the sources of influence, such as family, institutional resources, and personal intuition, on major selection in undergraduate college students. Although Scharen (2010) did not utilize the bioecological model of human development to create her interview protocol, the questions align with the framework because of the interest in influences from the student environment, like campus experiences and family.

## **Confidentiality and Data Security**

Prior to beginning the interview, I confirmed participants had completed the consent form and consented to recording the interview via the online survey using a university-affiliated Qualtrics account. All data were stored in a password protected electronic format. During the interviews, all questions were optional and students could have opted out of the study at any time. A professional service transcribed recorded interviews verbatim for data analysis. Student names and demographic data were stored separately from transcripts and pseudonyms were used to protect student confidentiality. I spot checked the transcriptions for accuracy and clarified transcripts as needed using the recorded audio files.

After interviews, I made field notes to capture my immediate reactions and reflections on the process. I used field notes to begin identifying codes as well as details of the data collection process. I created a database of interview transcripts and research notes to organize data and provide a means to review data easily (Yin, 2009). All data collected was organized using NVivo, a software product for qualitative analysis.

## **Qualitative Data Analysis**

I conducted data analysis using open-coding and cyclic coding described by Saldaña (2015) and grounded by the bioecological model and literature of undecided students. The literature and framework led to theoretical propositions that drove data analysis within the coding process (Yin, 2018). Codes are grounded in the data as well as the perspective of the researcher. I describe my positionality later in this chapter to address potential influences on data analysis and interpretation.

Coding is the process of exploring the data and identifying any relevant data that contributes to answering the research questions (Merriam, 2009). Saldaña (2015) defines a code as a word or short phrase that symbolizes an “essence-capturing” attribute or idea. Coding data is a cyclical and iterative process that creates a way to identify and link similar ideas and concepts. Several cycles of coding occurred to refine and reflect on the data (Miles et al., 2013; Saldaña, 2015). Codes were refined with each cycle and further refined as categories emerged.

The initial stages focused on the within-case analysis to draw together data from the various sources and create a holistic profile of the case (Merriam, 2009). Each transcript was printed and reviewed to manually code each line of data. Initial codes were a combination of descriptive and in vivo coding strategies (Miles et al., 2013), specifically using words, phrases, and direct quotes. Fifteen transcripts from two institutions were coded first, then entered into NVivo, a computer assisted qualitative data analysis software (CQDAS) program.

CQDAS programs, like NVivo, are used in qualitative research for data management, as well as identifying and locating pieces of data (Bazeley, 2003; Merriam, 2009). In addition to the organization and management of data, I used CQDAS for comparative analysis and data visualization of responses based on themes or participant characteristics (Bazeley, 2003; Miles et al., 2013). Entering the codes into NVivo provided a second review and refinement of the initial codes. The initial codes generated with the first transcripts were used to manually code the final eight interviews. After

coding was completed and all of the codes were entered into NVivo, I reviewed the codes again to further refine and focus the developed codes.

To fully highlight each case, I created a chart as described by Saldaña (2015) to summarize their case and highlight key elements of each student story. The chart was then used to create a case profile, or vignette, for each participant. Profiles were used as a means to describe key case findings and create a solid foundation for analysis and interpretation (Miles et al., 2013; Seidman, 1998). These profiles became the student case descriptions in chapter four. The case descriptions further highlighted key themes and important experiences to reinforce themes in the cross-case analysis.

After all cases were reviewed and coded, the second cycle of coding incorporated focused coding and cross-case analysis (Merriam, 2009; Miles et al., 2013). Focused coding was used to develop categories based on the frequency or significance of codes across cases that emerged from the first cycle of coding (Saldaña, 2015). NVivo was used to determine the frequency of codes, though that was not the only criteria for selection into a category (Saldaña, 2015). For the second-cycle of coding, I wrote out all of the codes on index cards and created categories based on similar meanings (Cho & Lee, 2014; Saldaña, 2015).

After initial categories were created, I also analyzed the codes using the bioecological model focused on the context elements described by participants, like family relationships and institutional interventions. I wrote down all of the codes again and attached them to a physical drawing of the concentric circle illustration of the bioecological model applied to a postsecondary environment created by Renn and Arnold

(2003). This analysis informed adjustment of some categories and was incorporated into the initial category descriptions. After multiple iterations of analysis and categorization, the final themes emerged. The themes were reviewed by four professional peers to establish validity, described by Creswell (2009) as peer debriefing. Peers asked questions about the categories and associated codes, and confirmed the emergent themes.

Themes were further honed as I wrote the analysis portion of the study in chapter 6. I also incorporated cross-site analysis at this stage of the process. I used NVivo to sort theme categories by institution to explore patterns of themes by participants at different institutions.

### **Trustworthiness**

A variety of terms are used to describe research quality and trustworthiness in research designs. Quantitative research uses the terms reliability and validity from a positivistic perspective to describe the consistency in which similar results would be achieved and if the research appropriately measured the desired topic appropriately. In qualitative research, a variety of different terms are used to describe practices that establish the trustworthiness of the collected and analyzed data (Golafshani, 2003). For the qualitative portion of the study, trustworthiness is tied to the integrity of the research methods and researcher to produce trustworthy data (Golafshani, 2003). I use the term trustworthiness to describe the strategies used to demonstrate the quality of this study.

The researcher is a key figure in qualitative research that contributes to the trustworthiness of data collection methods and interpretation of the findings. The interaction of participants, data, and the researcher are an inherent component of

qualitative research, especially when interview methods are used (Seidman, 1998).

Although I aimed to minimize my impact on the process, bias is unavoidable. Though it does not eliminate bias, reflexivity is one method of recognizing the potential effect of personal experience, characteristics, and beliefs (Berger, 2015). Through the process of reflexivity, I recognized my role as an instrument in the process and how I am situated within the research topic and data analysis. My positionality in the research is further discussed in the section titled, “Researcher as Instrument,” that follows the limitations section of this chapter.

Several methods and strategies were used to add to ensure trustworthiness of the data collected and analysis procedures. First, steps in the data collection process were documented and replicated for each case (Yin, 2009). The semi-structured interview protocol was used to consistently ask the same questions of each interview participant. Another strategy I employed to contribute to the trustworthiness of the study was peer debriefing, which involves identifying one or more peers to review the analysis of data (Creswell, 2009). Four of my peers reviewed the categories and associated codes as part of my data analysis to provide an outside perspective on findings and assess the plausibility of my conclusions (Creswell, 2009; Merriam, 2009). Third, several types of triangulation were used to validate findings. The multiple case study method allows for triangulation of findings across cases (Stake, 1995). As part of the data analysis, I utilized NVivo to see the frequency of themes across cases. The frequency identified areas of overlap, or triangulation, between and across cases. In addition, one of the benefits of mixed method research is the ability to triangulate data using different

methods (Creswell, 2009). I triangulated data from the qualitative findings with data from the quantitative portion in the final discussion section in chapter 7. Combined, these methods and efforts contributed to the trustworthiness of the data collection and interpretations.

### **Limitations**

The purpose of qualitative case study methods is to explore, understand, and examine a phenomenon within context. Given the limited number of cases studied, the results cannot be extrapolated to the larger population. The results do highlight the experiences of the cases reported. Further study is needed to generalize results.

One of the limitations of the qualitative portion of the study was the inconsistent data collection procedures. Students were interviewed in several formats, including in person, voice, and video. The in-person interviews led to better rapport with participants, as well as much more rich conversations and interview data. The video calls provided an opportunity to observe body language and feedback to questions and responses, but not as well as the in-person interactions. In addition, I was only able to visit two of the three physical campuses which did not allow me to observe and describe the exploratory advising space and other elements of the campus environment.

Another potential limitation of the qualitative data includes the recruitment of participants. First, students were recruited through staff in the exploratory advising office and therefore students who participated were more likely to talk about advising related resources. Other resources, like career services, on each campus likely offered support for career exploration but may not have been mentioned because of the advising lens

suggested by the email invitation. Second, student participants who had a relationship with the office or staff member who sent the research invitation may have been more likely to participate. Several students that I interviewed worked as peer mentors or ambassadors for the exploratory advising offices. All of the student participants from Midwest State University were peer mentors in the exploratory first-year seminar course and two of the students at the University of Central State were ambassadors for the exploratory advising office. These students were more likely to participate in my research because of their relationship and interest in helping undecided students as well as their relationship to the staff who sent the research invitation email. For the reasons mentioned, students may have been more likely to be knowledgeable and positive about their experiences because of their involvement in the exploratory advising office.

The impact of my personal background and experiences on the interpretation of the data could be a limitation and benefit to this study. As a professional in the field who has worked extensively with undecided students in academic advising, I could interpret the data differently than a researcher without such background. The role of the researcher in qualitative research is discussed in more detail in the following section.

### **Researcher as Instrument**

In qualitative research, the researcher is the primary instrument of data collection and analysis. Finlay (2002) describes multiple ways of considering and incorporating positionality in research through reflexivity. I used introspection to reflect on my experiences as compared to my participants and use my insights as part of the research analysis. Using introspection, “personal revelation not as an end in itself but as a

springboard for interpretations and more general insight” (Finlay, 2002, p. 215). Given the lens of researcher as instrument and the importance of reflexivity, it is vital to consider my own personal experiences, professional background and how they influenced my interpretation of the data collected for this study.

Although I was never officially considered an undecided college student, my path through my collegiate career is marked by several shifts in thinking about my major and career goals. My passion for working with undecided students was sparked when I, after completing my undergraduate degree, felt lost in terms of my next steps. Several failed job searches left me rethinking my career trajectory. As I considered my future, I decided to start working at my alma mater to try to help other students think about career goals earlier in their academic planning process. That job started my professional path in higher education and my passion for working with undecided students. I wanted to help students learn about themselves and reflect on their academic and career goals earlier in their college experience; something I wished I had done.

After working in career services for 4 years at a small, private liberal arts college, I transitioned into a position in advising undecided students at a large, public research institution. In that role, I worked one-on-one with undecided college students to explore their goals and interests related to majors and careers while also helping students navigate the intricacies of a large institution. After a few years in advising, I moved into a more comprehensive role coordinating the undecided advising office, as well as advocating for undecided students and academic advising at a campus-wide level. After seven years in the coordinator role I moved into an Assistant Dean role in one college at the same

institution, where I continued to oversee the undecided advising office, as well as advising initiatives within the college.

As an advisor and advocate for undecided students, I worked to eliminate barriers for students at a large institution and draw attention to the unique needs of undecided students and major-changing students. I often advocated for lower advising loads and coordinated programs to support undecided students and students who changed majors. I firmly believe all students would benefit from academic and career exploration early in their college experience with the guidance of professionals in the field. I also defended undecided students as a population no more at-risk than other students, who were just as likely to be uncertain of their future. I learned this largely depended on the institution, since the institution in which I worked saw undecided students retained and graduate at lower rates. This is one reason I was interested in exploring institutional influences on student experiences. I assumed that student experiences would vary based on individual experiences or institutional characteristics and policies. My research interest was also driven by my experience training advisors on my staff to understand institutional policies about major declaration for all of the majors offered by the institution. It was difficult to find and explain these policies to staff, and I imagined it would be difficult for students to navigate as well. Throughout my time in advising and advocating for undecided students, I maintained an advising load to maintain my connection to undecided and at-risk students, as well as the institutional network.

My research sites did not include the institution in which I am employed. By selecting research sites that I was not familiar with provided an opportunity to explore

student experiences and influences with a fresh perspective in a new context. While my professional experiences still influenced some of my understanding, I could more easily see the context and student experiences without institution specific knowledge. Further, I could experience to some extent what new students experience in trying to understand an institution. In summary, my roles in higher education and continued work with undecided students enhanced my understanding and interpretations of the data collected.

### **Summary**

The qualitative portion of the sequential mixed methods study relied on interview data from 23 college students who started college undecided. Participants were selected from three large public institutions in the Midwest. A semi-structured interview protocol guided data collection and interview data were transcribed verbatim for analysis. Data analysis consisted of open-coding and several cycles of analysis that resulted in individual case vignettes and cross-case themes. Quantitative survey data served to triangulate interview data and supplement the primarily qualitative study. Although there are several limitations to the study, the findings highlight key experiences of undecided students and the influences on their major selection.

### **Conclusion**

Research is needed to better understand undecided students and their experiences selecting an academic major. Research that captures the student experience within the context of an institution provides important insight into how undecided students experience the process of selecting a major. The purpose of this study is to understand the experiences of undecided students and how influences from the student environment

informed the process of selecting a college major. In this mixed methods study, interviews with students who started college undecided were used as the primary method of data collection at three different institutions. The bioecological model guided data collection via the interview protocol and was also used to analyze data to explore influences on the process of major selection. The knowledge gained from understanding the experiences of undecided students in the current context of higher education provides updated insight to support not only undecided students, but the larger population of students who are unsure of their major selection.

## **Chapter 4: Quantitative Results**

Although this study had a strong focus on the qualitative data, the quantitative data contributed to an understanding of the context of the student experience and helped expand the interpretation of some of the qualitative findings. This chapter contains a description of the key relevant quantitative findings, which also help inform the discussion in the final chapter.

This chapter begins with a description of the survey participants and is followed by a discussion of the overall lack of clarity about undecided students that quickly became apparent upon reviewing responses. The remainder of the chapter focuses on four key areas from the survey that shed light on the undecided student context and institutional practices: 1) terms for undecided students, 2) institutional policies, 3) student requirements, and 4) advisor perceptions of undecided students.

### **Survey Participants**

Survey respondents were members of the National Academic Advising Association (NACADA) in September 2018. A total of 1,170 completed responses were recorded from faculty and staff who work in the field of advising at institutions across the United States as well as some international institutions. As noted in the methods section, the majority of respondents were faculty and staff from public institutions (81.6%) that grant doctorate degrees (69%). Although not all respondents shared the name of their institution, 96% of respondents provided the name of their institution. Of those who shared the name of their institution, at least 583 institutions were represented. Survey

responses were further used to identify potential sites for the qualitative data collection portion of the study.

In order to better understand participants' characteristics and experiences with undecided students, respondents were asked to identify their primary role and experience in the field. Table 6, below, shows the roles related to advising and years of experience of respondents.

Table 6. *Respondent work roles and experience in advising*

<b>Respondent roles</b>	<b>N=1170</b>	<b>%</b>
Academic advisor/counselor/coach (primary role advising)	761	65.0%
Advising administrator	195	16.7%
Administrator with responsibilities over several areas, one of which is advising	134	11.5%
Faculty advisor (primary role teaching or research)	33	2.8%
Career counselor/advisor	19	1.6%
Institutional position that supports advising (Registrar, admissions, financial aid, etc.)	17	1.5%
Affiliated with a college or university but not in any of the roles previously listed	11	0.9%
<b>Respondent advises undecided students</b>		
Yes	691	59.1%
No	479	40.9%
<b>Respondent years in advising</b>		
Less than 1 year	51	4.4%
1 year but less than 3 years	163	13.9%
3 years but less than 5 years	182	15.6%
5 years but less than 10 years	312	26.7%
10 years but less than 15 years	217	18.5%
More than 15 years <sup>1</sup>	237	20.3%
Not applicable	8	0.7%

<sup>1</sup> There was an error in the existing instrument used as a model for this question because it is unclear how someone with 15 years of experience should respond.

Respondents were largely primary-role advisors, counselors or coaches (65%), and the second largest type of respondents were advising administrators (17%). More than half of the respondents advised undecided students as part of their role (59%). Most respondents also had at least 5 years of experience in the academic advising profession (66%).

## **Results**

Respondents were asked questions about undecided student policies and practices at their institutions. In some cases, multiple advisors from one institution responded and, in many cases, their answers differed. Therefore, these data represent advisors' understanding or perception of policies and practices at their institution. The following sections include survey response rates to key findings from the advisor survey.

### **Lack of Clarity**

Findings from the survey of academic advisors seem to support the variety of definitions and lack of clarity about this population. Because multiple advisors from a single institution responded in many cases, it was possible to observe a lack of clarity about the terms and practices surrounding the undecided student population within an institution. Respondents from the same institution provided different answers to questions about services, policies, and terminology used. Inconsistent responses from survey participants at the same institution suggest that participant knowledge was inconsistent and/or the language used in the survey questions was unclear.

Of the 583 institutions represented, 219 had multiple responses from the same institution. Of those institutions with multiple responses, 53% of those institutions had

inconsistent responses from respondents based on responses to a single multiple-choice question asking for the term used to describe “undecided” students. Additional survey questions had inconsistent responses but were not statistically analyzed. The lack of clarity within institutions was a major finding within the quantitative data.

Despite the variety of roles and experience in advising, I expected more consistent responses because many of the respondents indicated they worked with undecided students. However, training may not be consistent within an institution and respondents could have changed roles during their tenure in advising. Responses were not disaggregated by respondent characteristics but could be in the future to further understand the data.

### **Terms for Undecided Students**

Survey respondents were first asked to identify the name used by the institution to identify undecided students (see Table 7). According to respondents, undeclared was the most common name selected by 31% of respondents. Exploring/exploratory was the second most common response selected by 24% of respondents. And, as mentioned above, inconsistent survey answers for this question specifically were found in 53% of institutions represented (and named) by respondents. Almost 18 percent of respondents indicated “other” as the term used for undecided students. Respondents identified alternative terms, including: general studies, university studies, and deciding.

Table 7. *Official term used for undecided students*

<b>Official term</b>	<b>N = 1170</b>	<b>%</b>
Undeclared	361	30.9%
Exploring/Exploratory	277	23.7%

Other (please explain)	206	17.6%
Undecided	192	16.4%
This is not an official major	104	8.9%
Open/Open option	30	2.6%

---

The language describing undecided students is complicated by different interpretations of the term. Respondents were asked to identify the types of majors available to students as entering first-year students at the time of admission (see Table 8). A small proportion of respondents (5%) indicated students are not allowed to select a major at the time of admission. Respondents indicated a wide variety of types of majors are offered to students at the time of admission and selected multiple responses based on their institution. Based on the responses to this question compared to responses about the terminology used to describe undecided students, it was apparent that respondents may have different understandings of undecided students, depending on their institutional organization and internal sorting processes. For example, a few respondents who selected “This is not an official major at my institution” regarding the terminology used also selected “undecided/exploratory” as a major offered at admission, which seems to be contradictory. Similarly, a few respondents who selected “undecided/undeclared” as the official terminology used did not select “undecided/exploratory” or “undecided/undeclared within an academic division.” Between the different official terms for undecided students and the different types of majors offered at institutions, the confusion regarding the definition of undecided students is apparent.

Table 8. *Majors available to entering first-year students at the time of admission*

<b>Responses</b>	<b>N = 1170</b>	<b>%</b>
Undecided/Exploratory	750	64.1%
Undecided/undeclared within an academic division	478	40.9%
Pre - (insert major(s))	598	51.1%
Specific majors	878	75.0%
Meta majors	142	12.1%
Students are not allowed to select major at admission	58	5.0%
Other	98	8.4%
No response	4	0.3%

Regardless of the language used at an institution, the selected term used to describe undecided students can be perceived in different ways. Respondents were asked if the official term used at their institution had a positive or negative connotation (see Table 9). Just over half of respondents (52%) thought the term used for undecided students on their campus was neither positive nor negative. However, slightly more respondents (26%) perceived a negative connotation to the language used on their campus as opposed to a positive connotation (21%).

Table 9. *Respondent opinion of term used for undecided students*

<b>Response options</b>	<b>N=1170</b>	<b>%</b>
Extremely positive	97	8.3%
Slightly positive	149	12.7%
Neither positive nor negative	607	51.9%
Slightly negative	274	23.4%
Extremely negative	28	2.4%
No response	15	1.3%

In summary, institutions use a variety of terms to describe undecided students and the majority of advisors find the language has neither a positive or negative connotation.

## Institutional Policies

One of the research questions for the study addresses whether policies play a role in the undecided student's environment. The survey specifically asked respondents to indicate if any recent policy changes had occurred and what policies were already in place to suggest a timeline for student major selection.

**Policy change.** Respondents were asked if their institution had made any changes to policies related to undecided students or major declaration in the last 3 years (see Table 10). More than half of respondents (62%) indicated a policy change had not taken place at their institution.

Table 10. *Policy change related to undecided students or major declaration in the last 3 years*

<b>Response</b>	<b>N=1170</b>	<b>%</b>
Yes	435	37.2%
No	709	60.6%
No response	26	2.2%

Respondents who indicated a policy change had occurred were asked to briefly describe the change. A few of the policy changes mentioned included adding a deadline for undecided students to declare a major, changing the name of undecided to exploratory, creating or changing advising support for undecided students, and the creation of major pathways (also known as meta-majors).

**Deadline to declare a major.** In order to complete a degree, undecided students must select a major and many institutions have a deadline in which undecided students must declare a major. Table 11 shows respondents' understanding of the policy requiring

students to declare a major at their respective institution. Sixty-six percent of respondents indicated their institution had a deadline for undecided students to declare a major. Of those with a deadline, 33% of respondents indicated their institution required students to declare a major when they accumulated 60 credit hours or more.

Table 11. *Required timeline to officially declare a major*

<b>Response</b>	<b>N = 1170</b>	<b>%</b>
No deadline	383	32.7%
Fewer than 30 credit hours	42	3.6%
30 credit hours	73	6.2%
45 credit hours	98	8.4%
60 credit hours	298	25.5%
More than 60 credit hours	78	6.7%
Based on criteria other than credit hours	176	15.0%
No response	22	1.9%

Other criteria listed included timelines based on the number of completed semesters, academic standing (e.g. sophomore, junior), or based on completed coursework necessary for admission into a major. I was surprised by the number of respondents (33%) who said that their institution did not have a deadline for students to declare a major.

### **Student Requirements**

Like deadlines to declare a major, some institutions require undecided students to complete certain requirements as an intervention to support students' progress. Table 12 shows the interventions used by respondents who indicated *undecided* was a major available to students at the time of admission at their respective institution. Respondents

selected one or more interventions used. The majority of respondents (57%) indicated that students are required to meet with an advisor at least once each semester.

Table 12. *Required interventions for undecided students*

<b>Responses</b>	<b>N = 750</b>	<b>%</b>
Must meet once per semester with advisor	429	57.2%
Face-to-face course	123	16.4%
Workshops	55	7.3%
Online course	16	2.1%
Self-assessments	100	13.3%
No requirements	160	21.3%
Other	97	12.9%
Not sure	119	15.9%
No response	1	0.1%

Although many respondents indicated advising was required for students each semester, many more would like to implement such a policy. Table 13 shows the responses regarding what advisor respondents *believe* undecided students should be required to complete. Overwhelmingly, respondents believe undecided students should meet with an advisor each semester. Respondents also indicated they believed undecided students should complete self-assessments or workshops.

Table 13. *Respondents' opinions of desirable interventions for undecided students*

<b>Responses</b>	<b>N = 1170</b>	<b>%</b>
Must meet with an advisor each semester	1034	88.4%
Face-to-face course	502	42.9%
Workshops	591	50.5%
Online course	167	14.3%
Self-assessments	926	79.1%
No requirements	42	3.6%
Other (please explain)	189	16.2%
No response	9	0.8%

## Advisor Perceptions

In the final section of the advisor survey, respondents were asked how students are viewed from an advising perspective. Advisor perceptions provide some insight into advisors' beliefs about student undecidedness. Advisors were asked to indicate their level of agreement with the statement: "Undecided students are better off in the long run because they have considered what they really want to do early in their college career." The responses in Table 14 suggest slightly more advisors (42.8%) see the benefit of undecided students taking time to consider their future plans, as compared to neutral responses (36.9%) and respondents who disagreed (20.1%). There was a similar proportion of respondents who were neutral or agreed with the statement. I was surprised there was not more agreement with the statement because most respondents were academic advisors who work with undecided students.

Table 14. *Respondent opinion about long-term undecided student success*

<b>Responses</b>	<b>N = 1170</b>	<b>%</b>
Strongly agree	154	13.2%
Agree	344	29.4%
Neutral	432	36.9%
Disagree	197	16.8%
Strongly disagree	37	3.2%
No response	6	0.5%

Advisors were also asked about their perception of undecided student connections on campus. As seen in table 15, 50% of respondents indicated they disagreed or strongly disagreed with the statement that "undecided students struggle to make connections on

campus.” Though a broad statement, the response suggests advisors do not perceive undecided students to struggle with finding community on campus or issues of belonging.

Table 15. *Respondent perception of student connections on campus*

<b>Responses</b>	<b>N = 1170</b>	<b>%</b>
Strongly agree	26	2.2%
Agree	280	23.9%
Neutral	279	23.8%
Disagree	481	41.1%
Strongly disagree	99	8.5%
No response	5	0.4%

Advisor perceptions of undecided students provide a unique perspective on understanding the student experience. Overall, the responses to these questions were not as definitive as I expected because of the role respondents have working with undecided students. The responses suggest a variety of perceptions of undecided students and the complex issues related to advising undecided students.

### **Summary**

Overall the survey responses provided some insight into undecided student experiences related to advising and the advisors perspective on undecided students. Survey data also contributed to the selection of participants for the qualitative portion of the study. The final chapter further analyzes the quantitative data as it relates to the qualitative data and analysis.

## **Chapter 5: Participant and Institution Profiles**

Participant profiles provide a way to highlight key personal thoughts and experiences for each individual as it relates to their experience as an undecided student and selecting a college major. The profiles that follow are drawn from verbatim responses to semi-structured questions during individual interviews with each participant. Pseudonyms were used to protect the identities of the participants and encourage open and honest communication.

Although the focus of this study is on individual student cases, there are three different institutions from which the student cases were drawn. The student context provides additional insight into the individual cases, as well as provides another layer of cross-case analysis. Pseudonyms were used to protect the institutions, as well as any specific staff members named, and encourage students to be open about their experiences. Information about the institution was gathered from the advisor survey, phone interview with staff member at the institution, student descriptions, as well as my own personal observations when I traveled to two of the institutions. A profile of each institution precedes the related student profiles.

### **Midwest State University**

Midwest State University is a very large, public, land-grant institution in the Midwestern part of the United States that follows a semester-based academic calendar system. At Midwest State, undecided students are officially designated and known as exploratory. Midwest State is a competitive institution with a 2-step admissions process in which students are holistically reviewed for admission to the university, but a

secondary admission process is used for additionally competitive majors. Students not admitted into their desired program are automatically admitted to the exploratory major. According to the U.S. Department of Education Integrated Postsecondary Education Data System (IPEDS; 2018), Midwest State University admits 52% of students who apply and retains 95% of first-time bachelor's degree seeking students from the first year to the second year. The institution does not have a specific deadline to declare a major, however, the exploratory advising office uses registration holds to require students to declare a major by their fourth semester. Exploratory students may petition to delay declaration if extra time is needed.

Midwest State has a centralized advising office with 13 staff members who serve undecided students. The exploratory advising office is located on the third floor of an academic building near the heart of campus. When I visited campus, signs directed me to the non-descript office space. The office had two administrative staff members to greet students and visitors, as well as a small waiting room for students to wait to meet with their advisor. When I was there, there were few advisors or students in the office and it was very quiet during my time in the office. All of the student participants from Midwest State University served as peer advisors for exploratory students through the seminar course after they declared their major.

All first-year students at Midwest State are required to enroll in a first-year seminar course and exploratory first-year students enroll in specific sections with an intentional curriculum to support exploration of majors and careers developed by the exploratory advising office advising staff. Course instructors for the exploratory seminar

are exploratory academic advisors and the students enrolled are their assigned students. Each advisor teaches three course sections with 60 students in each section in the fall term. In addition to the required seminar courses, exploratory students are required to meet at least one time with their academic advisor each semester, which is not a common practice for other majors on campus. Each advisor is assigned between 150 and 350 students.

### **Carli**

*Carli entered Midwest State University as an undecided student and explored her interests through a first-year seminar course. She talked with several other students to confirm her decision and recently learned about her own genetic disorder which further sparked her interest in molecular genetics.*

Carli was a recent graduate from Midwest State University. As an entering college student, she was unsure of her plans and did not want to select a major without being sure: "I had no idea what I wanted to do. I also just figured it would be better to go undeclared than to pick something and not really be totally into it and have to change."

During her first semester, she enrolled in a mandatory course for undecided students that provided information about university policies as well as activities to help students learn about majors and narrow down their options. She narrowed down her options to majors related to science and looked into those majors in more detail. Specifically, she used a program in which she could look up other students in the major. She reached out to a current student in the molecular genetics major and talked with her about the major. The student she contacted was involved in undergraduate research and

Carli became very interested in pursuing the degree. In addition, Carli had recently learned of her own genetic disorder that fueled her desire to learn more. Although she did well in her introductory science courses and was pretty confident in her decision during her first year, she did not officially declare the major until second semester of her sophomore year because she was intimidated by making such a big decision. After declaring her major, she also served as a peer mentor to incoming undecided students and advised them to use their resources and not to be as anxious about the decision:

There's so many resources that universities offer to students to help them choose, but I feel like a lot of students don't go out of their way to use their resources. So although sometimes . . . reaching out all of the time feels, like useless. But I feel like it does eventually work. . . . As a student, it's still nice to hear that, like, they're here. Because I remember getting those emails from my adviser . . . when I was a freshman. . . . And although I never responded, but it's still nice to hear from them.

Looking back, she recognized she was unnecessarily stressed about selecting a major and that her major selection worked out with time. She also shared with her mentees that many of her friends changed their major multiple times before identifying a final major to ease the weight of the decision for new students. After she declared her major, she enjoyed her remaining courses but is struggling to identify a career path, especially a career path in the field with only a bachelor's degree. She is working as a research assistant and considering earning a master's degree in order to have more job opportunities in her field.

## **Ruth**

*Ruth was drawn to Midwest State University because of the number and variety of majors the institution offered for her to explore. She was daunted by the thought of selecting a major that would dictate her career for the rest of her life and the pressure to complete her degree in four years.*

Ruth was an athletic and friendly college junior who selected Midwest State University because of the number of majors offered at the institution. Although initially embarrassed that she had selected undecided, because everyone she knew seemed to have a plan, she realized her friends with initial plans were not going to follow through on that exact plan. She was also concerned about finishing her degree in four years because of the extra cost associated with more than 4 years of school, as well as wanting to graduate with her peers. Her embarrassment and concern for finishing her degree on time was stressful and pushed her to identify her major as soon as possible. The first-year seminar course and her first semester courses helped her narrow down her interests but she still felt lost and like she was taking random classes:

I think I realized that I needed to stop just taking a bunch of random classes and just figure out kind of a plan. Because if I stayed in there [as an undecided major] any longer then I was going to get behind and I wasn't going to be able to graduate on time.

Ruth was concerned about adding time to her degree and she felt like her classes were random without a major selected.

It was her college roommate, who was a business major, who exposed her to the opportunities and variety of areas of study within business. She was intimidated by the pressure to select a major that would determine her career “for the rest of her life,” but a degree in business appealed to her as a “safe” option because of the variety of options she could pursue with that degree. She was also drawn to a major and career in business because of her observation of the business her family owned. She said she may have thought about business as a major before starting college but had seen her mother work in a business job she hated and did not want to have the same fate. She officially declared a business major with an emphasis in marketing during the first semester of her junior year without having taken any business courses. After completing a required accounting course with a very good instructor, she switched her major to accounting. As a junior she was still learning about the different job opportunities within the field of accounting that she might pursue after graduation.

### **Holly**

*Holly was very social and driven student who entered college as an undecided student but after her first year she was dismissed from the institution. She chose to go back home to attend community college and work full-time before returning to the institution. She returned to Midwest State University a year later and worked closely with her advisor to explore communication-related majors and careers.*

Holly was an outgoing and energetic college senior who was very open about her challenges and the uniqueness of her path. Holly was from a small town in Ohio and said that she “skated” through high school with little effort: “I was smart and I knew what I

was doing, but I didn't actually try and apply myself.” After high school, she was driven to push herself to do more and prove to her friends and family she could succeed at Midwest State. She selected undecided for her major entering college because she had many interests and did not have a clear direction, as well as she felt overwhelmed by all of the opportunities.

During her first year, she participated on the rowing team and prioritized social activities because she wanted to fit in and cared deeply about the opinions of others. She struggled academically because she was going out for social events and missing classes, and she did not feel like her courses were related to her future: “None of the classes I was taking . . . felt like this is what I wanted to do.” In her second semester, she continued to be socially involved and missing classes, but was also entangled with a friend struggling with mental health issues and the friendship ultimately fell apart. She got further and further behind in her courses and became depressed.

After her first year at Midwest State, she was academically dismissed and returned to her hometown and decided to attend a community college “to get back on [her] feet . . . for a year.” In addition to taking courses at the community college, she worked a full-time job at a company in her hometown. Her aunt and grandmother had suggested she consider a job in human resources because of her social personality and interest in helping people, but the experience of being dismissed shattered her confidence: “My self-esteem was so low. . . . There’s no way I’m gonna get a job in a field like that.” But she interviewed and got the job, which she credits as a turning point in her path to identify her college major.

She successfully completed 2 semesters of college courses at the community college and decided she wanted to return to Midwest State. After a year, she reconnected with her advisor at Midwest State who helped her navigate the academic appeal process to be readmitted as a student. The process required her to submit a written appeal that included her explanation of what led to her poor performance in her first year of college and the coursework she completed at the community college.

After she was readmitted, Holly talked with her advisor about her interests and narrowed the list of majors down to six or seven for Holly to explore. Holly found it easier to talk with her advisor after returning to Midwest State because her advisor had helped her through the appeal process and knew her story:

I felt more of connection with her, and I was able to talk about stuff, like, after she helped me through, like the process. And, like, she didn't make me feel bad for being academically dismissed. . . . And I respected her for, like, how she treated people who maybe weren't on the perfect path for themselves. . . . I was actually, it felt I was able to open it up for conversation with her, like, what I was actually feeling. . . . It was just, honestly, such a different between, like, a counselor who's like trying to . . . diagnose [you] and a counselor who's like there literally just to listen and to bounce ideas off. Like, it's so much easier to talk to that person rather than someone who's trying to diagnose you. . . . I probably told her more about what was actually going on internally than I told my parents or that I told my friends or even my boyfriend.

Her work experience while she was dismissed and away from Midwest State led her to look into majors in communication and business. She explored related majors and their required courses, and took some courses in communication, human resources, and business. She also continued to get experience in different areas within human resources at the company she had worked for in her hometown, but at the local branch office. Holly talked with her manager and co-workers to learn more about different opportunities in the field as well as their own career path. She talked with her advisor about all of the information she gathered and experience she gained and ultimately decided to pursue Strategic Communication. She had an interest in social media and one-on-one interactions with people, but also appreciated the range of career opportunities she had learned about that she could pursue with a degree in Strategic Communication. She declared a major in Strategic Communication at the beginning of her third year in college.

Although she felt very confident in her major selection, she was again overwhelmed by the number of career path options available:

And, it's like the major, yes, I'm sure, but everything else after is so intimidating 'cause there's so many options, which shouldn't be intimidating. It should be exciting. . . . I just don't know how I'm going to approach that one.

Although Holly selected the Strategic Communication major because of the range of career opportunities available, she was still overwhelmed as she neared graduation because she did not have a career plan in place. She thought the number of possibilities would give her a good feeling as she completed her degree, but instead she found the

process of identifying her first job after college intimidating. Holly mentioned several career paths related to communication and human resources she was considering, including recruiting, benefits, or continuing her education in a graduate psychology program or a pursuing a law degree.

### **Amy**

*Amy felt “all over the place” in terms of her interests when she started at Midwest State University. She first decided to pursue a science major and then identified a specific program based on finding a community of friends and an interest in learning more about the neurological disorder facing her brother.*

Amy was a soft-spoken sophomore who planned to go out of state for college, but ended up back in her hometown. Amy applied to many out-of-state schools and only applied to Midwest State University as a back-up. She was not admitted to most of the out-of-state schools she applied to, but was very thankful for her experience at Midwest State University. Amy initially selected Biology as her college major because she was interested in going to medical school. After she submitted her application, she looked at the curriculum for the major and realized it was not what she wanted:

I looked more at the curriculum and I was like, “I definitely don’t want to do that.” So I just decided to do exploration [undecided] because I was like at least then, I’ll have a better opportunity to kind of look and see everything that’s available.

After learning more about her initial major selection of Biology, Amy decided she did not want to take all of the courses required for that major. She changed her major to

undecided (called exploratory) before she attended orientation and scheduled her first semester courses.

She knew she was interested in going to medical school or graduate school for a science-related area, but felt “stuck” because she did not know what she wanted to do for her undergraduate degree. She knew there was a variety of majors that could prepare her for her post-baccalaureate goals and felt like she had “no clue” because of the range of majors she considered: “I wasn’t sure what I wanted to do in undergrad. I even thought about doing English or some sort of humanities but still doing the med school classes.”

Her first semester schedule included pre-med courses like math and chemistry, along with Spanish and a first-year seminar course for exploratory students. Through the seminar course she took several assessments and learned about other majors by talking with other students about the programs they were considering. She considered majors in comparative studies, English and the humanities, but realized she enjoyed the subjects but did not want to study them academically.

She first decided she wanted to pursue a major in the sciences and felt like that was a big step in her process. She quickly eliminated Biology as a major because so many students that attend medical school select Biology and she wanted a more unique major. She knew some other students pursuing the neuroscience major and liked the community within the major so much that she decided to learn more. She met with the advisor to learn more and felt like it was a fit. Looking back at her decision, she realized she may have made a connection between the major and her brother’s autism and

seizures, which are both neurological conditions. She declared neuroscience as her major during that initial meeting with the advisor at the end of her first semester in college.

Although her goal was medical school initially, a chance opportunity to participate in undergraduate research exposed her to other career options in the field. An opportunity presented itself when she knew someone was leaving a research position and she submitted her resume to express her interest. She described being hired as “pure luck” because so many other students send resumes to several research investigators before being selected. She enjoyed the research experience so much that she is reconsidering whether she wants to pursue medical school or a graduate degree to continue in research. Through her research experience she also connected with the principle investigator, who had a similar plan to attend medical school but changed her plans to pursue research. Through her mentor and research experience, she was also working on her own research project that she proposed and received funding for through a grant she wrote. She was very excited about the skills she was learning in the lab and the opportunity to explore possibilities within the field. Amy believed that major and career choice occurs incrementally and plans to continue to explore options related to her major while she finishes her degree.

### **Renee**

*Renee had many interests when she started college at Midwest State University and struggled to balance what she was really interested in with making money. She changed her major multiple times before declaring a Business major with an emphasis in Human*

*Resources. She hopes to combine her interest in the food industry with her business degree.*

Renee was an outgoing and talkative junior who had many interests and changed her major multiple times before and during her college journey on the Midwest State University campus. Renee selected Business as her major when she applied to Midwest State University because of mother's job in business and there was not another area that interested her enough to pursue at that time. She was admitted as a freshman to the competitive business program but changed her major to undecided then to social work before orientation. Once she checked in for orientation, she switched back to undecided. Renee felt pressure to identify her plan quickly because her peers talked about their plans and knew what they wanted to do. She also hated being asked what her major was when she started college:

I remember telling people that I was undecided when people would ask my major and you'd tell them you're undecided and it takes a lot of words to say, "But I'm interested in linguistics and poli sci and, like, all these other things." So you'd just say you're undecided and then they go, "oh." Because it doesn't tell them anything about you. . . . I'm boring because nobody knows anything about me from my major.

Renee remembers being asked about her major when she started college and feeling like she was "boring" because she did not have a major to help define her.

Renee took a variety of courses in her first year to explore her interests in languages and literature, as well as a first-year seminar course for undecided students. In

addition to career exploration activities and assessments in the seminar course, students were required to attend three or four sessions held by the different schools and colleges on campus for students to learn more about majors in each area. Renee remembers attending sessions for architecture and education to explore areas she was considering. She specifically did not attend the business session:

I was not being a business major. I was doing something more interesting than that because business was too plain and boring. . . . I think business is frequently a major for people who don't have strong other academic interests.

Renee did not want to be a business major initially because she perceived the business major was for people without strong interests and it, again, did not define her in a way she liked.

She wanted to pursue a degree in foreign language education with a French specialization, but her family was concerned about the financial viability of a career in education. She decided to pursue a French minor and continued looking for a major. She searched an institutional website that listed all of the majors available for undergraduate students and found that she was drawn to City and Regional Planning. She declared the major mid-way through her first semester. Although she liked the courses in her major, she continued to be concerned about job opportunities and financial security related to major. In one of her required courses, aviation planning, different company representatives came to class to talk to students about different opportunities in the aviation industry. One specific company she learned about led her to explore business majors. She still wavered in her decision and decided to shadow her mom at work and

talk to other people who work with her mom to learn more about different areas in business. She decided business provided a lot of different opportunities for jobs:

A lot of it was business opening a lot of doors. It felt like I could do anything with a business degree. We'll see. But I do think I could do a lot more than I could with a city planning degree.

Once she learned more about actual job opportunities through job shadowing, Renee saw the value and possibilities a business degree could provide. She switched her major back to exploration while she worked on prerequisite courses and to avoid course fees for based on her major. She applied to declare her major in business with a focus on human resources as she was going into her junior year. As she takes more courses in the major and gets deeper into her specialization in human resources, she feels better about her path and more comfortable with her decision.

She was adamant about finishing her degree in 4 years and in order to do so must complete a full course load of 18 credits per semester for the remainder of her college career to catch up with her peers and finish in four years. Looking back, she wished she could have pursued a degree in food science because she developed an intense interest in food and cooking while in college that she hopes to make a part of her career. She reflected on her experience selecting her major and described her expectation that the process would be easier:

I think I thought it would be a lot easier. I would take this one class and I really thought I was gonna go into linguistics. And I didn't really think about how academic that would be and how . . . I would need to think about what the career

on the end of it would look like. . . . I thought I would just pick what I was interested in.

Although Renee was interested in foreign language and linguistics, she did not see the job and financial opportunities as enough to support her lifestyle. She, instead, focused her search on finding a job and supporting herself and a partner after graduation. She was confident in her major selection and human resource specialization, but still searching for the perfect fit for her career.

### **Mia**

*Mia was a first-generation college student who was driven to pursue advanced education in healthcare. She took advantage of many opportunities as a student, including internships and volunteering, while also working many hours to help pay for her education.*

Mia was an energetic and hard-working first-generation college student who came to the United States as a young child. She started saving for college when she was 16 years old working at a nursing home, where she continued to work in her first 2 years of college. She lived at home and commuted to campus every day for her classes as a means to save money while working on her degree. She also had an interest in working in the healthcare and was considering medical school when she applied to Midwest State University. She selected chemistry as her major because of her medical school aspirations, but changed her major to undecided during the first week of classes because she did not feel like it was a good fit based on peer interactions, career opportunities, and she learned there were so many other majors to consider:

When I applied to college I was like, I'm definitely going to major in chemistry. I definitely knew what I wanted to do. And I was really good at it. I rocked it in high school and everything like that. My first week here [Midwest State] and I was like, I can't do this my whole life. . . . Everyone's talking about these random majors I never even heard about. I was like, 'What is that?'. I thought you could do chemistry, biology . . . and they were going through all these different majors. And I was like, 'Okay, I definitely don't want to do chemistry. . . .When I switched to exploration and . . . introduced to pretty much all the majors . . . and was like, these are way more interesting than just a basic science major.

In the first week of classes, Mia learned there were many more majors she could consider beyond chemistry and felt relieved when she declared undecided as her major to explore those options. She also talked with peers in the chemistry major and found she was not as passionate about the subject and did not feel like she fit in. In addition, she wanted a major with solid job opportunities after her bachelor's degree (in case she could not get admitted into a grad program) and thought most jobs were in research and required further education.

When she changed her major to exploratory, she was automatically enrolled a first-year seminar course for undecided students that included a large lecture and a recitation (small group meeting) with their assigned exploratory advisor. She liked the course because she learned about majors offered at Midwest State and how to navigate the university. "Being a first gen I didn't know anything about college. And these recitations are, like, telling you about a lot of things you need to know about college."

Mia is sharing the information she learned from the course and her other college experiences with her high school age sister.

During her second semester she took a chance on a random opportunity to interview for an internship with the Red Cross. She received a newsletter that included the opportunity and noticed other students were getting involved in organizations and applying for internships, and decided to interview. She was selected and started during her second semester.

So, I got my internship. I started, like, second semester freshman year. . . . It was like blood services coordinator sort of thing. So it's like businessy, but still, like, public health. . . . Through that I kind of saw how I really like public health too. . . . I kind of validated. 'Okay, this is nice.' Like I really like the management and, like, still helping people endemically through this process of getting donors and stuff like that.

The internship was a turning point in her path that confirmed her interest in healthcare and management, and led her to consider a major in public health.

She felt pressure to declare a major as soon as possible so that she could finish her degree in 4 years and not add to the cost of her undergraduate degree, especially knowing she planned to continue her education afterwards. She declared her major in public health during the second semester of her first year in college and continued to gain work and volunteer experience in healthcare settings, as well as talking with peers about her plans and career options. A peer introduced her to graduate nursing programs that allow

students with a bachelor's degree to complete the requirements to become a registered nurse.

During her senior year, she started working full time before as a patient care assistant at the university hospital, which provided an employee discount for her tuition. She hopes to be accepted into the nursing and/or master's degree in health administration programs so that she can continue to use her employee discount to reduce the cost of continuing her education.

### **Dan**

*Dan had a career goal to be involved in politics as a means to help people and selected undecided on his application to Midwest State University to explore liberal arts majors that could help him reach his goal. Once he selected his major, he supplemented his degree plan by adding minors, completing multiple internships, and mentoring other students.*

Dan was a friendly and laid-back senior who was a fan of Midwest State before becoming a student. Several members of his family had attended and he grew up following their teams. Although he had an interest entering college, he selected undecided on his application to learn more about majors at Midwest State.

I wasn't fully aware of every possible major or what [Midwest State] had to offer. Um, I kind of knew what my interest was, but I didn't know how my interest exactly aligned with possible, you know, majors. I was going for, like, College of Arts & Sciences. . . . But I was like, "You know, why not go in undecided?"

Dan had an interest in politics but was not sure which major aligned with his career goals. To explore his options, he selected the undecided major to learn more.

Dan was the only one of his friend group to select undecided; all of his friends had a major. But he was confident in his selection of the undecided major because he knew many of them would change their major after taking a few courses. Dan had learned about navigating college from his older brother and his brothers' friends, who referenced changing majors and the first-year seminar courses geared toward specific majors. Dan wanted his first-year seminar course to be focused on navigating college and learning about college majors, which was another reason he selected undecided for his major.

Based on his political interest, his exploratory advisor suggested he explore majors in political science and public administration. He tried and enjoyed courses in each subject area, but was drawn to the debates and making arguments in his political science courses. He talked with faculty members and students in the political science major to learn more about the degree.

[An exploratory advisor] recommended me to stop by the political science advising office. So I did that. And they had me talk to some seniors to kind of see what they were planning on doing. And, you know, at the time, I thought I wanted to do law school, like I'd say 95% of political science students. So talking to them about that, and then I was like, 'Okay . . . this is good.' . . . But, like, [Midwest State's] political science department is . . . pretty high up there as far as poli science programs go. And it was like that's cool . . . being in a nationally

ranked program. One of the seniors I met with recommended me to go speak to a certain professor about it and just talking to people in the program, it . . . made everything kind of like, you know, less numbers, more people . . .

Talking with faculty and students in the department confirmed his interest in the major and made him feel like he had found a home in the department. He declared the political science major at the end of his first semester of college.

In addition to his political science major, Dan decided to pursue minors in criminology and public policy, as well as internships and work experience. He was grateful to his exploratory advisor who helped him think beyond a singular major and consider ways to supplement his degree based on his policy interests and long-term plans.

The common theme between a lot of my jobs is, like that public sector, public service, you know, helping people. . . . I think one of the things that drove me into politics is you've such . . . potential to impact people's lives in such great ways, and I feel like that's one of the best ways that I can help make, like, people's lives better.

During his sophomore year, Dan was involved in a sophomore-year program called Second-Year Transformation Experience Program that provided an opportunity for \$2,000 in grant funding. The program advisor encouraged him to use the funding for an internship experience in Washington, DC. He applied to the internship and was accepted. He thought his political career required a law degree, but during his eight-month internship in Washington, D.C. he learned that there were other post-baccalaureate programs he could consider.

And it was in DC when talking to an individual there that they were like, “Why do you want to go to law school?” And I was like, “Uh, ‘cause I want to be a politician.” They were like, “That is the worst reason to go to law school.” . . . And she starts sprouting off facts ‘cause she went to law school – starts sprouting out facts about, like, you know, drop out rates, how expensive it is, you know, how, like demanding it is and, like the amount of individuals that go to law school and then, like, leave. . . . She’s like, “You go to law school to be a lawyer, no other reason.” And, I was like, “Then I’m not going to law school.” . . . still the goal of political career . . . just without a law degree.

During his internship he began thinking about a master’s degree in public administration, instead of law school, to help him toward his goal of working in politics. He completed additional internships in government affairs and a political campaign to explore related career paths. After completing his master’s degree, he plans to return to Washington, DC to hopefully work in one of three dream jobs.

I would say there’s three possible dream jobs. It would be, like, federally elected official, you know, like, House of Reps member . . . on the government affairs lobbying team for Midwest State . . . or on the government affairs lobbying team for, um, the Beer Institute.

Dan’s aspired to a career in politics or lobbying. He was excited about his plans and grateful for the help he received to develop his academic plan to support his career goals.

## **Karen**

*Karen had an interest in healthcare but was forced to explore majors when she was not admitted to her first-choice nursing major at Midwest State University. She was influenced by her interests, job opportunities, and a personal connection to future work.*

Karen was a junior who was interested in nursing and healthcare. She applied to Midwest State University as a pre-nursing major but was denied admission to that program based on her ACT score. She was automatically switched to an undecided major, but ultimately benefitted from the undecided advising support.

Explorations [undecided major] was not my first choice. I didn't even know what it was at the time. So, I went into explorations with the idea that I would still apply to nursing [later]. And, I did, but during the time I was in explorations, like, I learned a lot more about different majors that, like, made me sway otherwise where I wanted to go somewhere else, like instead of just nursing. So that was actually very beneficial towards me. I never would have thought that I would've liked an explorations program just because people talk . . . it just, like, kinda seems negative, that you don't know what you want to do.

Karen did not know about the exploratory advising support before orientation and had planned to continue on her path toward a career in nursing. But she was pleasantly surprised by what she learned and how the program helped her. She appreciated that she was pushed to explore other programs and met other students in the exploratory program who were not admitted to their first choice major or completely undecided. "I got to see

it more in a positive light and get me used to it as opposed to just kind of pushing it off and being, like embarrassed by it.”

Her initial goal of a nursing degree was based on an interest in the medical field and a desire to help people. She was drawn to healthcare because of her experience helping her grandparents when her grandmother was diagnosed with Alzheimer’s disease.

I’ve always been a very, like, sympathetic and caring person. Um, so that always has kind of pushed me to be more so in the medical field because I love interacting with people and talking to people. And I think I find patient care very interesting. My grandmother was diagnosed with Alzheimer’s when I was 12 years old. So, by the time I was 15, she had, like, no idea who I was. But she had several, like, doctors and nurses where were always helping and assisting, taking care of her and helping my grandfather out. . . . So that was always, like a big influence to me that, like, I wanna be able to help someone like her who actually needs it.

Karen knew why she was interested in healthcare because of her awareness of her personal qualities and based on her experiences with her family. Through the exploration program she was able to explore several health-related fields.

As part of the first-year seminar course for undecided students, she chose to attend sessions about majors in nursing, health sciences, education, and business. The first session she attended was for education and she was initially drawn to childhood education because she likes working with kids. She shadowed and talked with teachers in the field, who cautioned her about the field because of the low salary as it relates to

paying off student loans. When she attended the health science session, she discovered occupational therapy which combined her interests in education and healthcare. Her exploratory advisor suggested she shadow occupational therapy professionals in the field to confirm her interests, which she did and decided to pursue the career field.

I'm glad I took the time to think about it and everything. But I think after having several appointments with my advisor and actually shadowing for the profession, that's when I really decided I wanted to. . . Like, it wasn't just "I think." It was an "I know."

Karen's advisor challenged her to really understand and confidently know why she was selecting the career.

For a career in occupational therapy, Karen must complete her bachelor's degree and prerequisites for admission into a graduate program. For her undergraduate degree, she identified a major in health sciences that includes graduate school prerequisites as part of the major requirements. She officially declared the health sciences major at the end of her sophomore year after meeting prerequisites for the major. As a junior, Karen was working on required graduate school shadowing hours in addition to her coursework, as well as participating in two undergraduate research programs.

### **Urban Public University**

Urban Public University is a large, public, institution located in an urban setting in a Midwestern city in the United States that follows a semester-based academic calendar. Urban Public University admits 73% of students who apply and retains 86% of first-time bachelor's degree seeking students from the first year to the second year (U.S.

Department of Education, 2018). Undecided students at Urban Public are known as exploratory and are officially housed within the College of Arts & Sciences. Urban Public has a few majors that are competitive and students denied admission to those programs are admitted as exploratory. According to the director of the advising office, approximately half of the students advised by staff in the exploratory advising office are students denied admission to their desired major and exploring alternative majors. There is not an institutional policy that requires students to declare a major.

Urban Public University has a centralized advising office that supports exploratory students, as well as students who are denied admission to their first-choice program or want to change majors. The exploratory advising office is located on the edge of the main campus, but in between main campus and medical campus. The office is located on the first floor of an academic building and has a large, open waiting area that serves the exploratory advising office as well as the adjacent College of Arts & Science advising offices and tutoring center. The exploratory advising office has six staff members that are assigned approximately 350 students per advisor. The director explained the office had experienced some staff turnover that had increased the advising loads. While I visited, I used one of the offices vacated by advisor turnover.

Exploratory students are not required to enroll in a first-year seminar course, but some opt to participate. Like Midwest State University, students enrolled in the seminar course are taught by their academic advisor and work through an intentional curriculum designed to help students explore majors and careers. The 3-credit hour seminar course curriculum is based on the 3-I Process of career and academic decision making, as

described by Gordon (2006), which incorporates exploration, information seeking, and decision-making. Exploratory students are required to meet with their exploratory advisor at least once each semester during their first year (not including summer).

### **Kendra**

*Kendra did not initially want to attend college, but felt it was her only option. She selected a major quickly without experience in the area at the Urban Public University. She was influenced by her family, career opportunities, and personal interests.*

Kendra was a senior who grew up not far from the Urban Public University campus. At the time she applied, she selected early childhood education because she coached volleyball in high school and loved working with the kids.

I was a volleyball coach in high school with a bunch of different ages of kids and I just loved it. And I've always loved kids so I thought that would just make sense, but then I kind of realized maybe I love kids but not necessarily other people's kids [laughing].

She changed her mind after thinking more about a career working with children. Staff at the institution officially changed her major to undecided because she could not identify another other area for her major before orientation. She continued to consider her options and talk with her father about her interests.

And my dad told me I should do marketing or architecture. And architecture did not sound fun, so I was like, "Sure, I'll do marketing." I had no decision. He just kind of said, "you should do this," and I was like, "Okay." . . . I think he was just trying to tap into things I'm interested in. I really like social media and art and

things like that, and I think he was just kind of looking up things related to that sort of stuff and that's what he came up with.

Kendra had interests in art and media but struggled to translate them into majors and careers. Her father helped her make the connection to marketing and she then began learning more about jobs in the field.

I think . . . once he suggested it and I started looking into jobs. And I saw that it was really broad so I didn't feel like I would just be stuck doing something I didn't like because I knew there's so many different ways you could go with it, so I think I felt like I had options more so than some other majors.

After learning more about career paths and jobs related to marketing through her own research, she identified marketing as her desired major just prior to the beginning of classes for her first semester of college. For the first two years of her college career she completed prerequisite courses and officially applied to the major during her second year. She did not feel confident in her decision until she was admitted to the major and allowed to take courses in marketing, which confirmed her decision because she enjoyed those courses.

I don't think my choices really solidified until I started, because at UC, for the first two years, you have just a bunch of intro business classes, pretty much. So I don't think I really felt confident in my decision until I started taking marketing classes, actual marketing electives, and I think I really like those, so I think those helped me feel like I was making the right choice.

Although she settled on her direction during her first year, she did not feel confident in her selection until she was able to take specific courses much later in her academic path. Even though she expressed confidence, she expressed uncertainty that marketing was the best fit for her.

I feel like there's always something that I could probably do that I would enjoy more, whether it be something totally random. . . . there's something else that could probably be a better fit. But it's also something that I've really loved thus far.

She had not yet found a position after graduation, but was exploring jobs in marketing related social media.

### **Heather**

*Heather was interested in art and design but wanted to have flexibility in her degree program to explore and develop skills outside of art. She was influenced by good introductory courses and faculty, talking with peers, and pursuing her dream job.*

Heather was junior at the Urban Public University who was interested in art and design. Although she had an interest in art and design when she applied to the Urban Public University, she selected undecided for her major on her admissions application to explore degree options.

It just meant that I didn't know what . . . what I was doing, but I would be taking classes that would possibly help me figure that out. . . . I think it was weird because there was a lot of people who were undecided, but also a lot of people who just picked majors, and so they started taking classes based on that [major];

whereas . . . I was taking classes that, uh, were kinda just general classes . . . so I could get into any different major.

Heather recognized many students were not sure of their major and wanted to take a variety of classes to learn about different majors.

As part of her first semester, Heather was involved in a learning community for undecided students that included a first-year seminar course. The seminar course helped her explore a variety of majors at the Urban Public University, but she also met with several faculty members and advisors outside of class to learn more and gain insight for her decision making. “I think meeting with advisors or teachers [was the most helpful]. I would meet with different people all the time just to learn more about different things because it was personal one-on-one and they’d have good information for me.” One of the people she met with was her first semester marketing instructor. She learned that marketing was a versatile major with which she could pursue a a lot of different jobs, including art-like areas like interior design.

Heather described the turning point in her major selection as the realization that she could have the types of jobs she always wanted to do, like staging homes, with the marketing degree. Heather continued to talk with different friends and family members about her major and career options. “And then I have a friend who did staging. And when I called her, she was like, “yeah I got a business degree and I could still do what I loved.” The information she collected confirmed her decision and she declared her major in marketing during the first semester of her sophomore year. She is also pursuing a minor in sales to supplement her major.

I could do a fine arts minor, but I decided to minor in sales just because I think it's a good thing to partner with a marketing degree and because I have the skills of art. I wanted to learn how to just be a better businessperson in general.

Heather continued to practice her art skills outside of classes through internships and part-time work, while she focused her coursework on business. To gain skills and experience, heather completed an internship in graphic design after her sophomore year and was working part time for a home staging company. She hopes to continue working for the company after she graduates.

### **Julia**

*Julia had an interest healthcare that was shaken when she applied to the Urban Public University because she was not admitted into her desired medical science major. She learned the value of job shadowing in high school and continued to use that as a method to explore and confirm her ultimate major selection. She was influenced by her experiences in the field, interests, and job opportunities.*

Julia was an outgoing junior who was very involved in her major and campus life at the Urban Public University. Before going to college, Julia explored possible majors and careers through a high school job shadowing program. She had an interest in healthcare from a young age and was initially interested in dermatology.

I was able to be matched up with one of the only dermatologists in my hometown at the time. Um, so I was able to follow him for, I believe three weeks. . . . He worked alongside a whole bunch of other doctors . . . so that allowed me also to, um, see kind of some other, um, doctors as well as PA's [Physician's Assistant's]

and some nurse practitioners as well. . . . And I definitely learned the most from a few sessions with this PA than the time that I had spent with the dermatologist, which, to me, I thought meant a lot.

During her shadowing experience, she changed her focus to primary care and was planning to pursue a Physician's Assistant degree when she applied to college. When she selected her major on her admissions application, she selected medical sciences which was the major that sounded like it best fit her goals from the list of options.

And I just kind of remember being this, like, senior in high school and really not knowing, like, what the heck I'm doing. I was like, "You know, I guess we'll just kind of pick the first one that sounds right, and we'll just go for it."

The major she selected turned out to be very competitive and she did not meet the criteria. Instead, she was admitted as an undecided major. The experience shook her confidence in her interest in healthcare. "I kind of just started looking, and I was like, "Well maybe this isn't what I'm supposed to do. Like, maybe this is a sign." At orientation she talked with her advisor about a degree in business and created her first semester schedule at summer orientation to align with business requirements.

And so I got home from orientation and my family decided to go out to dinner this evening. . . . And, um, my older brother is a supply chains major . . . and my dad . . . is an accountant. And so I was like, okay, like both of these guys do it Like, I'm very much like my dad. And so I'm like, "You know, maybe this will be good." Um, I distinctly remember, I'm sitting at the dinner table, and my dad and my brother are talking numbers and decimals and all this stuff. I'm just sitting

there, and I'm like, "I can't do that the rest of my life." And so I went home that night and I called my advisor. . . . I knew that I wanted health or I wanted medicine or something, but I wasn't entirely sure of what exactly I wanted to do.

She realized that she was still passionate about healthcare. She rearranged her first semester schedule to take general courses and remained in the undecided major, but began researching information online about majors at the Urban Public University that related to healthcare. She identified physical and occupational therapy as a career area of interest.

And from the research that I had done, I, in the beginning, had a very broad definition of what occupational therapy was. I was like, oh, all they do is help people with their fine motor movement. But . . . it's so much more than that.

There's so many different ways that you can take the profession. And essentially, you can almost do with it what you want and make it kind of how you want to help people.

Julia continued to research the field and discovered there was much more to the field than she originally thought. Her interest piqued, she shadowed an occupational therapist in her hometown to see first-hand what the job looked like.

And so that was kind of a really nice intro into the profession just because it's one of them where . . . it's not anything super focused. But, you get to see patients. . . . So from the experience I had with her, I was like, wow, I could really see myself doing this.

Her shadowing experience provided an opportunity to observe the job and learn about the variety of job possibilities within the field, which confirmed her interest in a career in occupational therapy. She worked with her exploratory advisor to create a schedule that aligned with the prerequisites for the health science major with an emphasis in behavioral and occupational studies which would prepare her for graduate school programs in occupational therapy. She was admitted into the major at the end of her sophomore year.

I really kind of got to know my advisor because not only did we have to get in there, but I was one of those students where I'm like, "Okay I have an idea of where I wanna go, but I really don't know if I'm gonna get there on my own." So, I definitely leaned on my advisor a lot during that time.

Julia was required to meet with her exploratory advisor at least once every semester but she made multiple appointments each semester to stay on track to apply to her desired program.

After admission into her chosen major, she began preparing for the next step in her professional career. She was exploring graduate school programs, studying for the GRE, and observing occupational therapy practice settings to prepare for the application process.

### **Simon**

*Simon had an internship experience that confirmed his major selection and led him to pursue a degree in Business. He was most influenced by experiences in the field and potential job opportunities after graduation.*

Simon was a practical and financially minded junior who valued getting experience outside of the classroom to solidify his major selection. He selected undecided for his initial major in order to explore majors and not get behind on coursework. He wanted to avoid the experience some of his friends had going to college for one major but changing later.

But when [friends] change [majors], they're already a semester or two behind. . . . So I was just like I'm just gonna go in with a clean slate, kind of open mind, and be like, oh, just go in exploratory. . . . So I thought that'd be good, and, I had an interest in business but I wasn't sure. . . . I wanted to go in and make sure I wasn't gonna be behind and I wasn't wasting time.

Simon was cautious about selecting his major because he was concerned about finishing his degree in four years to minimize the cost of college. He frequently commented on finances, minimizing student loan debt, and careers that led to financial stability.

As an undecided student, he described he felt like he was missing out of some community activities because he was not a declared major. Many declared majors at the Urban Public University had learning communities, but undecided students did not have a learning community.

I kind of felt . . . I don't wanna say left out. But I wasn't in the Business College and I didn't get that feel. . . . And, at first, I kind of felt like I was missing something. . . . So it was like I was not in the business college. I was taking classes there but I wasn't, like, in their curriculum of, like, LCs [learning

communities]. . . I'm not part of the business college. I think that was kind of a clear understanding I got.

Simon was taking business classes with other business students but felt left out of the community of business majors because he was not a declared major. Simon recommended that the Urban Public University consider creating some kind of a learning community for undecided students with different interest areas, i.e. undecided students interested in business.

Although he felt left out, he felt like the exploratory advising office did a good job normalizing major exploration through orientation sessions and advising meetings.

They were very warm and welcoming with that. I thought that was kind of cool.

And, then, you see you're not the only one who's an exploratory. Kind of felt left out, but when see everyone else it was like, yeah. Like I think I want to do this.

I'm not sure. It's, like, okay, like, this is normal. You know, it's a normal thought process to go through.

He described the exploratory advising office as a helpful resource and source of support as he started college exploring majors. Though in some ways he felt left out, the exploratory advising office connected him with other students who were uncertain and assured him, and other students, that exploring majors was a normal process.

His initial interest in business matched his interest in financial stability and he also had several family members who worked in different areas of business. However, it was an internship that confirmed his interest in business. He randomly learned about the

internship opportunity in one of his classes, and after verifying it was a legitimate company, he participated in the program the summer after his first year.

The internship was really focused on . . . teaching, um, students how to manage and run a branch of their own business. . . . And I did everything from the marketing, like putting up signs and posters, to cold calling door-to-door, to operations which was making sure we did quality jobs, working with customers . . . . And I loved it. I did really good. I really did a lot of work on it. And I was, like, really passionate about it for some reason. . . . And [the experience] just, like, stuck with me, and, like, this is what I wanna do. I wanna be in business.

He officially declared the business major during the second semester of his sophomore year after he completed prerequisite courses for the degree. He selected operations management as his emphasis area because of his internship experience.

Operations, I mean, it's about productivity and, you know, approving things and . . . it's like how the business does it, I think, is where it's really worth its salt where it's quality or where it's not and I, I wanted to study it. . . . I took the major, I guess, accepted it, the second semester. And then I took an Operations Management course that I . . . and loved it. It was at 8 a.m. every day and I . . . looked forward to it. And I was like, wow, this is, like, really . . . for some reason, just passionate about this. . . . And it's like this is what I want to study. It's weird but it's cool. I'm glad I found, like, a little home for me.

The internship provided an opportunity to explore a variety of areas in business and identify a good fit for his interests, as well as a community with which he connected.

During the second semester of his junior year, he participated in a co-op in which he spent the semester working full-time in an internship-like program. He explained that co-ops are strongly recommended for business majors to gain experience in the field, as well as make connections in industry for after graduation. He was still exploring possible paths after graduation. “I’m still kind of learning things. . . . I’m still kind of keeping my options open, I guess.”

**Tia**

*Tia used resources like the exploratory advising center, her advisor, and courses to explore majors in her first year at the Urban Public University. She was influenced by her experiences in the classroom, interests, and the versatility of her degree.*

Tia was a first generation, underrepresented minority student in her junior year at the Urban Public University. She identified undecided as her major when she began exploring colleges and she selected the Urban Public University because she could explore a wide variety of degree programs.

So I actually, when I was looking, I was undecided. So, like a lot of people, like choose their college based off, like maybe like a program for their major, or that’s at least a deciding factor. So, I kinda, like always knew that I didn’t really want to go in with a major. . . . I may have had an idea on something, but I didn’t want to commit to something and then I’d end up changing it. So I may have thought I wanted to do something else, and . . . if I was undecided I could see, like, more options available to me.

While she may have had some ideas about possible majors, she did not want to commit to a major and have to change degree paths if she changed her mind after learning more about different opportunities. While she was open to exploring different majors, she felt some pressure to choose quickly especially as a first-generation college student.

I'm the first generation college student. . . . So they [her parents] didn't really go to college. So, um, they did kinda ask me like, "Well . . . what is your major? Like, what are you doing, basically?" Um, and I did, maybe, kind of feel pressured to pick a major. It wasn't like really severe . . . like to where I was like, "wow, I have to pick a major or my parents would disown me." But they did kinda ask me, you know . . . like, "well, which thing are you studying? And it was kinda awkward when I would say, "I don't know."

Her family never directly pressured her and were generally supportive, but she still felt pressure to identify a major sooner than later. The question, "What's your major?" implied she needed to select something, whether coming from her parents or others.

To begin her process of exploring degree options, she talked to her advisor in the exploratory advising center about her interests and he recommended she try a marketing course in addition to taking the first-year seminar course for undecided students. In the seminar course, she took different career assessments, which also pointed her in the direction of business majors, and helped her narrow down the list of majors.

And then I really liked the marketing class. I liked the concepts. It came, like very easy to me. I go, like an A in that class. . . . And then I had to write a paper for the exploratory course . . . about if you knew you'd selected a major yet. . . .

The paper just really brought up a lot of ideas to me, like, whenever you have to write out your thoughts. And, um, I just kept thinking about it more, and I was like, “Well, marketing makes sense.” And then it was just like, “Why not choose marketing? What’s stopping you from choosing that?” And, then I . . . just realized, like, I could get a marketing degree, and if I wanted something else to do, I could do the same job with my degree.

Her experience in the marketing course and researching career paths related to marketing in her seminar course confirmed her interest and she decided to declare the major.

However, she had to wait to officially change her major until second semester of her sophomore year because she was required to first complete prerequisite courses.

I would have declared it earlier, but in order to get in the college, you have to take . . . business calculus and get, like, a C minus or above. And I took that over the summer at, like, a community college at home, and then, like the grades weren’t posted until, like August, and the deadline had passed for me to apply.

Tia had decided to pursue the marketing major and was taking prerequisite courses during her second semester of her freshman year and summer after her freshman year. Because she took the course at another school, the credit was not transferred to UC in time for her to be admitted into the major before her the beginning of her sophomore year.

Tia believed the major was only one piece of the puzzle. She was still exploring different career paths and understood that her career path may change.

A major doesn't, like, depict your career. . . Like, you have your whole life to figure something out, and deciding that major is not something that's going to affect you for the rest of your life. . . . I feel like my freshman year, I was 18, and I was like, "Wow, I have to pick a career. I have to do this. I have to do that." And now that I'm 21 and I'm getting ready to graduate, I don't necessarily feel that pressure now. If I wanted to . . . if I don't want to do marketing down the line, I would go back to school and do something or I can use my experience to do something else. . . . Your major does not restrict, like, how your adult life will be.

Tia reflected that she felt pressure to pick a major and a career at the same time when she started college. But after gaining experience and learning more about the world of work, she recognized there were many ways her path could go.

She completed internships after her first and sophomore years, and had another internship scheduled following her junior year. She also participated in a management leadership program for underrepresented students that incorporated career coaching, career fairs, company visits, and networking. Through her internships and the leadership program, she had many connections to industry and was interested in learning more about company environments and cultures as she began looking for jobs after graduation.

**Max**

*Max was a first-generation student who was interested in earning a degree that could provide a stable future for him financially. He was largely influenced by financial success, his family, and job opportunities.*

Max was a first-generation college student in his junior year at the Urban Public University. Growing up, Max was fascinated with the ocean and considered a career in marine biology. As he began applying for college, he realized there was a limited number of jobs and he was concerned about job prospects.

I've always had a fascination for oceanographic-based stuff. Like it's just, like one of those fantasies I have. . . . So I thought, like, "All right, I'm gonna grow up and be a marine biologist." Of course, as you get a little bit older and a little bit more wiser and logical, you kind of realize, "Huh, man, this ain't gonna work. Well, let's see . . . what's a close second? Oh, well, I'm decent in . . . actually pretty good in science in analytical senses." So, I figured, "Mm, which one pays very good? Let's go pharmacy."

His concern for a lack of jobs in marine biology led him to explore other science majors, especially those with solid and profitable job prospects. He mentioned financial stability and pursuing high salary careers and opportunities several times during the interview. He applied to the Urban Public University with a pharmacy career as his goal and was admitted to the Urban Public University in a preparatory pharmacy program.

He struggled in his first semester chemistry course, which was a key component of the pre-pharmacy program. He decided to change his major during his first semester to undeclared to explore different degree options.

So after I knew that chem and that pre-pharmacy wasn't going to work cause chemistry wasn't my thing, I had to come up with a new plan. So . . . for about two semesters I think, I was officially called an undeclared major.

He worked with an exploratory advisor to talk about possible majors and he also explored majors by walking through the various college buildings to see what courses looked like and sat in on a few courses in different areas.

Another thing I did not really talk about a whole lot is that when you're a first-generation student, you are coming into this completely blind. So kinda like you don't have that sort of, like, influence from, like, people who have been here before you. . . . So I started looking around, like, I actually remember my first year, I was walking into all the buildings around here. . . And I just remember, like seeing different people doing different stuff. And I just tried to think like, "Could I see myself in their shoes right now?" For most of them around here, I knew I couldn't see myself because I just had no desire for it.

His research into different majors and exploration of different academic spaces on campus helped him identify business as an area of interest. He identified business as an area of interest and ultimately decided to pursue operations management.

And I knew I wanted to be in a leadership-based position. So I knew that I was looking for something that either said, like, administration, management, or something corporate on it. So I saw that operations management, like I really didn't pay much attention to the whole operations part. All I knew is that if it said management, that means someone who's above, like, the workforce.

He wanted to obtain a leadership position and avoid positions of manual labor and he knew of some of the corporations moving into the areas surrounding the Urban Public University as well as his hometown that could have potential job openings. The potential

jobs and success he had in the courses confirmed his decision to pursue operations management. He officially declared his major during the first semester of his sophomore year after he successfully completed prerequisites for the business major. Max was exploring internship opportunities to gain experience and was working on developing career readiness skills, like networking.

Max also shared that he got really interested in weight lifting in high school and involved in bodybuilding competitions.

Now that I've got the good grades, my academics are going up and that I've actually did a little more personal stuff that I've expanded my . . . I should say, like, my opportunities to pretty much be who I want to be, either like in academics is the safest bet I can choose . . . but if I was to, you know, be a model, be an actor, be like one of those celebrities, like starting off on the side and then find a real good route shoot straight up to the top of the ladder? Why not do that on the side?

He thought bodybuilding competitions or modeling could be lucrative alternative routes for him to earn a living.

### **Callie**

*Callie had an interest in medicine but she explored majors to find the right major to reach her career goals as a student at Urban Public University. She was influenced by her mother's health concerns, her own research on majors available, and applied nature of the physiologic science program.*

Callie was a junior who entered college with an interest in science and medicine. Callie considered careers in science education and medicine because she wanted to help people. Growing up, Callie also observed her mother deal with multiple unique health conditions that may have increased her interest and knowledge of medical careers. She initially selected biology for her major when she applied to the Urban Public University, because at the time she applied she was considering a career as a science teacher. After applying she continued to explore and consider her options. Prior to orientation, she tried to switch her major to nursing because she was interested in science, medicine, and liked the amount of patient care included in the field of nursing. However, the application deadline for direct admission as a first-year student had passed and students who do not meet the deadline are encouraged to select a nursing preparatory major or the undecided major to fulfill prerequisites to declare a nursing major later or explore related degrees.

Then I came here [Urban Public University] for orientation and what not. And . . . they had a thing where it was like, “Well, is this what you applied as and is this what you want to do?” and I came in and I had switched over the summer and thought I wanted to do nursing and so I put on there and then they were like, “Well, that’s not the same thing,” and they put me in exploratory. . . . It was kind of weird because it was like, I don’t feel like I’m super exploratory. I’m like, “I know where I want to go.”

Callie was disappointed that she was switched to exploratory [undecided major] because she had a plan to pursue nursing and the pathway to that goal was not very transparent. Unlike other majors at the Urban Public University, the exploratory major

did not have a learning community which she was looking forward to in order to help her meet other students as a first-year student.

At orientation, she planned her first-semester schedule based on requirements for the nursing degree. But two weeks before the first day of classes, she was exploring pre-medicine careers and was torn between nursing and pre-medicine. Callie was drawn to nursing because of the patient care involved in the career and was hesitant to be pre-med because of the expense and difficulty of the path. Ultimately, she realized she could still work closely with patients as a doctor and make more money.

I wasn't sure which one I wanted to do and then I found out that the sciences didn't line up for both of them, and I was already in all nursing classes, and I was like, "Never mind," and I switched my entire schedule two days before classes started because then I was like, "You know what? No, I want to be a doctor and so I have to switch everything now."

Callie had to make a last-minute change to her first-semester schedule because she changed her mind, but also because the course requirements for nursing and pre-med did not overlap. She met with her advisor, but she did not find the advisor very helpful with the exploration or decision-making process because the advisor was assigned so many students.

I felt as though my advisor was overwhelmed. . . . I was like, "wow. I'm really glad I know what I want to do," because if I didn't I don't think I would have received as much help, and wouldn't been able to ask the right questions, or things like that. . . . I knew I wanted to be pre-med and people can do different

routes. Like, you can major in anything to be pre-med. . . . I think my advisor . . . just showed me the curriculum. And I did my own research on the website.

Callie did her own research by reading through information on the university website to learn about majors that could match her interests and discovered the physiologic sciences major. She found that it matched her interests as well as incorporated prerequisite courses she needed for medical school. Callie's advisor provided information about degree requirements and staying on track to apply to the program. Although Callie had made her decision to major in physiologic sciences, she could not declare the major until after her second semester in college after completing specific science courses and earning a specific GPA. Once admitted to the major, she found that she liked the community and hands-on nature of the degree program.

And I'm, actually, very, very glad that I'm in this major for pre-med because it is much more clinical-based than if I had done, like, arts and sciences [biology degree], which is much more, like, theoretical, conceptual which I understand, and perhaps you can take the MCAT, but I'm getting much more hands-on within what I'm in. . . . And within, health sciences . . . everybody knows everybody and the faculty and professors are kind of with you for the last two years, and they're all your teachers, and they know you, and I really enjoy that . . . community aspect.

Callie recognized the different types of programs offered and identified a clinical-based program as a better fit for her interests. She also found a community that she enjoyed within the major that made her feel confident in her decision. She is also

pursuing a minor in women, gender and sexuality to align with her interest obstetrics, which was also influenced by her family. She plans to work in the medical field for a year while she is preparing for the MCAT and working on medical school applications.

### **University of Central State**

The University of Central State is a large, public, land-grant institution in the Midwestern region of the United States that uses a semester-based academic calendar system. Though considered a large institution, Central State is smaller than the other two institutions. I was not able to travel to the Central State campus, due to inclement weather conditions at the time of my planned trip. Central State admits 80% of applicants and retains 83% of first-year bachelor's degree seeking students from the first year to the second year (U.S. Department of Education, 2018). Central State has a small number of majors that are competitive at the time of admission and students denied admission to those programs are admitted as undecided. Central State does not have a policy about the timing of major declaration, but has implemented a program through the undecided advising office to support students with 30 or more credit hours who have not selected a major.

Central State has a centralized advising office for undecided students. First-year students are not required to complete a seminar course, though a small learning community that includes a career exploration course exists if they wish to opt in. For students beyond the first year, the undecided advising office utilizes an account hold that requires undecided students with more than 30 credit hours to meet with an advisor at least once each term until they declare a major. The undecided advising office also offers

an annual fair with information about majors for students to attend and learn about programs of interest. Each advisor has an advising load of approximately 350 – 449 students.

### **Colin**

*Colin chose to enter the University of Central State with an undecided major to explore and confirm his choice before committing to a path. He was influenced by course and faculty experiences, as well as interest in the subject.*

Colin was a junior who decided to attend the University of Central State because of a scholarship and the opportunity to continue to play soccer. Colin selected undecided on his admissions application because he was not sure of the direction he wanted to go and he did not want to get “locked” into a specific path.

So I came in undecided because I really didn't know what I wanted to do and I figured that was the beset way for me to kind of not lock into one thing and take classes that I wasn't gonna need later. Because I always hear stories about people switching their major in their first years and wasting a bunch of credits. So I figured I would just kind of like take a bunch of different classes and hope something stuck.

Colin selected undecided in order to explore different areas through courses in his first semester without following a specific curriculum that would require additional courses if he changed direction.

As an undecided student, he was assigned an advisor in the exploratory advising office at the University of Central State, but Colin did not feel the interactions were helpful.

Like, I didn't get that much help from my advisor. I don't really think they were that good at trying to help me decided, like, what I should take . . . it was more just like I told them something and they agreed with me, whatever I said, which I didn't really like because, I mean, that's not really advising. That's just telling me, "yes."

Colin did not get the help he wanted from his advisor. While he got validation for his selections, he wanted an advisor to discuss his interests and challenge him on his ideas to help him make a better decision about his degree plan.

Although he selected undecided for his initial college major, Colin did have some interests in engineering and business majors. He knew a business major could be an option because his dad works in business as a database analytics manager and he saw a business degree as a "general" major that could provide a variety of opportunities. In his first semester he took courses that aligned with engineering and business majors, including an "exploring" engineering course. The engineering course taught students about the different majors and related careers in the field of engineering, but he did not like any of the engineering degree options that were presented.

During his second semester of his first year he enrolled in an economics course in order to explore business and fulfill general requirements.

I had an amazing professor. And I really liked the subject. I really did well in the class. I could see myself doing more with it. And then I took the next . . . like I took Intro to Macro[economics] first and Intro to Micro[economics] the next semester and I liked that just as much. So that kind of like, “Okay, this is what I want to do.” And I stuck with it. . . . I wanted to make sure it was a major where, like, I wouldn’t hate what I was doing but still have a good financial path ahead of me.

He found that he liked the course topics and future opportunities with a degree in economics could offer. He was strongly considering the major after the first course and enrolled in a second course to confirm his choice. He officially declared the major at the beginning of his sophomore year.

Colin was planning an internship at a bank for the summer after his junior year, but did not know exactly his next steps after graduation. “I’m still not exactly sure what I’ll do but I’m still hoping, like, something’ll fit its way in and I’ll figure out what I wanna do.” He doesn’t know the specific path, but hopes to have a job “that does something beneficial” such as an environmentally friendly organization where he can work on the “people-side of economics.”

### **Megan**

*Megan started college after taking a gap year in which time her father passed away. She had many interests and selected undecided on her application to the University of Central State to explore her options. She was influenced by her interest in the subject and potential jobs.*

Megan was a quiet and soft-spoken junior who delayed starting college for a year after graduating as valedictorian from her high school. During her gap year, she spent time with her father, who passed away, and time with her family before attending a bible camp and participating in a mission trip to India.

They [bible camp] were having a discipleship program that was gonna be, like, kind of a gap year for students, like, in my position where I'm not quite sure what I wanna do with my life, what I wanna major in so it's time [for] more self-exploration and service. And we ended up taking a mission trip to India and that was really great. . . . I mean it was a weird time in my life. Uh, my dad just passed away so there wasn't really . . . we weren't really talking about my school.

Megan experienced personal challenges and unique opportunities during the year between when she graduated from high school and started college.

When she began applying to colleges, she was not sure what direction to go in because she had so many interests in high school and wanted to be efficient with the courses she took.

And I've always heard, like, "People change their major all the time. Like, it's not that big a deal what you start off with" but I . . . just wanted to get my general education requirements out of the way and . . . I just wanted to try to be efficient and choose my major when I knew that's what I wanted to do.

Megan did not want to take courses she would not need or that could get her off track to finish her degree in 4 years, which was the extent of her scholarship funding. Because she did not know what courses she needed for a specific major, she started taking general

education courses that all students are required to complete along with major courses. She took a variety of courses in her first semester and worked with her exploratory advisor, with whom she had developed a very good relationship.

She just listened to me and asked me good questions about my interests and was able to pull out from my answers, like, what it seemed like I was interested in instead of just trying to force me in a certain direction . . . She was really good at that and gave me, like, ideas about classes to take and . . . she gave me these little interview sheets to talk to people in a job that you might consider having about, like, what it took them to get there and that was . . . that was cool.

Megan described her advisor as a good listener who made good recommendations based on her interests and someone she felt comfortable talking to about her ideas about majors. Megan's advisor also provided guidance on how to explore different careers through informational interviews and part-time jobs.

Megan talked about several areas she considered, including Spanish, education, music, and art. She also had an interest in psychology "in the back of her mind," but wanted to explore options before committing to any major. As the valedictorian of her high school class she also felt some pressure to pursue math or science.

I like math and science . . . and kind of felt pressure, like being valedictorian, everybody in my school's like, "Oh, you're gonna be a doctor or president or something." And I'm like, "No. That's not what I wanna do." And, just a lot of like, "Oh, girls should be getting into the STEM fields or whatever," . . . I have a

math minor . . . I enjoy the challenge of those sort of classes but, um, taking those classes it's like it's fun but I wouldn't wanna do this for the rest of my life.

Megan felt pressure to pick specific majors or aspire for certain careers because of her academic background. She recognized the difference between being good at subjects and enjoying subjects.

She took a variety of courses during her first semester, including math and Spanish. She planned to earn a Spanish minor but never considered a major in Spanish because she did not know what she would do with it for a career. She continued to take a variety of courses in her second semester, including a psychology course.

I feel like I'm not good with people but in certain situations, I can. I really have the desire to make a difference like on a personal level with people instead of just working a 9:00-to-5:00 job. . . I 've always been . . . like in high school, I was very interested in like, pop psychology or whatever. And then I took that one psychology course and it was helpful. I really like the, uh, the neuroscience portion. . . . Like when I went to the class and I'm like, "Okay. Like, I feel comfortable in this. This is interesting. . . . I can do this."

The course confirmed her interest and after a few weeks in the course, she decided to "go for it" and declared the major.

Megan was very confident in her decision to major in psychology, however, she talked about her concerns about career opportunities and potential financial limitations of the degree.

I'm not going to have the most lucrative career with psychology but I guess working at camp [camp for foster kids] . . . I really feel in love with that so that helped confirm also, just like, I wanna be working with kids. I wanna help people in kind of situations like that but intentionally pursued opportunities to gain experience, including volunteering and jobs that have further confirmed her desire to help people.

Megan was looking forward to her remaining courses in the major and learning about different opportunities in the field to pursue after she completed her degree.

### **Bianca**

*Bianca selected undecided on her application to the University of Central State to learn about different disciplines she had not been exposed to in high school. She changed her major once before identifying her ultimate major. She was influenced by potential job opportunities, aptitude in the subject and financial concerns.*

Bianca was a senior who was drawn to the University of Central State because of scholarship opportunities, the variety of majors available, as well as an equestrian team. She selected undecided for her initial major because she wanted to learn more about different subjects that she was not exposed to in high school.

Well, I didn't really have a lot of exposure to my options while I was still in high school. . . . I know there were different classes that we could take, like, different opportunities for, like accounting-based classes and other business stuff, but I was taking band and choir every year, so that took up two class periods. So I really

didn't have like the flexibility with my schedule to take those other electives and kind of explore options there.

Instead of taking a variety of courses in high school as electives, she took extra courses in music. But she did not want to pursue a music degree and instead opted to start college with an undecided major to explore her options.

Bianca met with an advisor in the exploratory advising office a couple of times, but did not feel comfortable talking with the advisor.

But, um, I just think the advisor that I had wasn't necessarily a great match for me. So we didn't really . . . I wasn't the most comfortable in terms of discussing, like, what was going well and what wasn't and what maybe are the next steps I should take. . . . I don't know if there were more resources that I just wasn't utilizing, but I kinda just dealt with it [major selection] by myself.

While she met with her exploratory advisor a couple of times, she did not find it beneficial because she was not comfortable talking with her assigned advisor. She was also not aware of any other resources to help her outside of online sources of information.

She enrolled in a variety of courses to fulfill general education requirements and explore different majors for her first and second semesters. She enrolled in chemistry course both semesters and her success in the courses led her to declare a major in forensic science during her second semester of her first year.

I don't really think there was any external pressure, but I . . . just felt like I needed to pick, I needed to start going somewhere. And so I think that kind of pushed me into the wrong decision, just because I thought I needed to pick something.

Bianca felt like there was some pressure to declare a major as soon as possible and went with the first thing that she did well in and had good job prospects. When she learned more about the major from the online list of majors, she found the career opportunities interesting and saw there was demand for those jobs.

My mom's always encouraged me to, like, find something that there's gonna be demand for. Um, just in the sense of practicality. And then finances kind of just plays a role into that, where you wanna be in something that's gonna pay off.

As well as doing well in the courses, job and financial security played a role in her decision. However, her next level chemistry course did not go as well and made her reconsider her major selection.

So after those general chemistry courses, um comes organic chemistry for, like, sciency majors. And so that class kind of, um, made me kind of question everything. It was not a good time for me. And I think part of the reason for that was because high school was pretty easy for me, so I never had to study. And then organic chemistry was just this whole new thing, and I didn't know how to study for it. And so I didn't do very well. Um, like, I still passed the class and everything, but it did end up dropping my GPA just enough to lose that scholarship that I have.

She struggled in the required advanced chemistry course for the forensic science major during the first semester of her sophomore year and her final grade in the course caused her to lose her scholarship. She did not know how to study for the course and did not have a lot of time to study because she was working as well as participating on the

equestrian team. In addition to struggling in the required course, she learned more about jobs in forensic science through a seminar and found the topics too emotionally heavy and dark for her to continue in that field. She changed her major to business during her sophomore year because she thought it was a broad area to begin exploring other areas.

And, um, so I just kind of switched into business because I thought that it was a catchall. . . . And if I didn't like it, I could try something else, but it would give me somewhere to start. . . . I thought biz ad [business administration] was just kind of a catchall, that it was gonna be super easy and that just people do it just because they don't know what else to do. . . . And, just that there were so many different avenues I could take even within just the general business major that, um, made that really attractive to me.

She did not know a lot about the business major when she declared it but thought it was a good general degree path to explore and that it could lead to a variety of different careers and practical job opportunities.

Because she had completed 2 semesters in another degree plan, she was behind on the degree plan requirements and had to take a summer course to catch up. Her summer course was accounting and she loved it.

And, um, I fell in love with that class, and I had another accounting class in the fall. So that's what made me add accounting as my second major. Um, everything just makes sense. Your assets equal your liabilities plus equity, and so everything balances all the time, and then figuring out where it doesn't. Um, all

of it just kind of made sense to me. And, the professor that I had over the summer was really awesome too, so I think that was also part of it.

Bianca was excited talking about accounting and how the subject made so much sense to her. She also talked to her cousin about her job in accounting and found that the work sounded interesting and something at which she would be good.

Instead of changing her major from general business to accounting she decided to add accounting as a second major. She completed an internship at an accounting firm that she hopes could lead to a full-time job after she graduates. She is also still exploring different areas within the field of accounting through her coursework and through activities associated with a business and finance honors fraternity.

### **Kira**

*Kira selected undecided on her application to the University of Central State, but was drawn to humanities majors though concerned about career opportunities. She was influenced by her interests in the subject, guidance from her advisors, and introductory courses.*

Kira was an outgoing and optimistic senior who was very aware of the financial aspects of going to college and was able to take advantage of funding provided by her mother's veteran status. She applied to the University of Central State with an undecided major to learn more about her interests as well as avoid committing to a major before she was ready.

I chose undecided for my major because I honestly didn't know what I was going to do. And also, with the VA program, like, you're not really allotted the same

flexibility to, like change your majors and minors. Like, you can, but it's much more of a difficult process to make those, like continuous changes. So I decided . . . I would just . . . take classes and see, you know, what my interest areas really were. Because in high school, I wasn't really decided on a specific major, like, I didn't know in my heart of hearts what I wanted to do. . . I kind of felt liberated in the ability to, like, explore classes.

Kira was unsure of her options and wanted to explore and feel confident in her decision before selecting a major. She had some interests in a few areas, including a few majors in the humanities but was hesitant to declare a major in that area.

And so I knew I had interest areas but I didn't know what specific route to go in. And also, like, as someone who's interested in the humanities, sometimes it can be scary to, like declare a major in those fields when you're, like, uncertain about your career path.

She was interested in the humanities but did not want to declare a major in humanities before she knew what career path she might pursue with that major.

Kira worked with her exploratory advisor and took a variety of courses in her first year to learn more about her areas of interest as well as fulfill general education requirements.

So going in, like, through the [exploratory advising office], I saw all the [general education] classes. And my advisor . . . was really good at telling me, like, take the classes that you enjoy, that interest you, that you're curious about learning

more about. And it honestly made my first semester, like, really fun because I was taking, like, all the classes that I loved, like, being in and learning about. . . .

Kira felt comfortable talking with her advisor and appreciated the support her advisor provided to explore a variety of different areas. Further, Kira was honest about what she was experiencing, which allowed her advisor to better support her.

And I think one thing that helped, like, develop a personal relationship was just, like, being honest and real with who I am and what I was going through. Like, I never went to her office and was, like, I have all my stuff together. Like, I kind of was real that, like, I was uncertain about my future, didn't know what I was doing with my degree, that I felt like I should know what I was doing.

Because Kira was honest with her advisor, her advisor was able to provide valuable feedback and support to help with the decision-making process.

During her second year she was contacted by the university and required to participate in a campus program for students who had not yet declared their major. Through this program she was connected with career coaches in the College of Arts & Sciences Career Services office, who helped her see the potential of humanities majors.

And she [career coach] helped me, like realize that the options are more infinite than they are, like, restricted when you have, like, a humanities degree. . . . So there's a lot of really cool, like, resources to help you find jobs. And that was one of the things that kind of held me back from declaring as well. . . . So I think there's, like, a lot of potential for humanities degrees. You just have to, like be willing to kind of find that potential for yourself.

Kira was connected to another student support office to help her learn more about career opportunities for students who major in humanities areas. Knowing more about resources to help her find a job, as well as the variety of jobs available to her, helped solidify and confirm her decision at the end of her sophomore year to major in Philosophy and minor in English and Psychology.

Kira continued to hone her academic plans at the beginning of her junior year as she continued to take courses and met with advisors in different majors. Kira adjusted her plans and will graduate with majors in Philosophy and English and minors in Psychology and Communication.

So that's, like, one of my favorite things about it is, like, that even though it sounds really impressive to have these double major, double minors, I just went with it. Like, I didn't know what I was doing freshman, sophomore year. I just got lucky in some ways taking the right classes. And so, yeah, I wouldn't change it for the world because even though they're all like humanities sort of things . . . I'm glad that I can go down, you know, that road because even though I might not know what my life will be like exactly in 30 years, I think it's better to kind of not know and have fun finding out than it is to, like, be certain about something and then be sad when you don't live up to those expectations.

Kira enjoys the areas she identified and is proud that she was able to accomplish so much. Although the uncertainty of entering as an undecided student was uncomfortable, she appreciates the uncertainty going forward and being open to opportunities in the moment.

After graduating, she planned to work for a short time before going to graduate school in one of several different areas she was considering related to art.

### **Maya**

*Maya was hesitant to go college because she was unsure of her direction. She tried a variety of courses in her first year at the University of Central State and connected with a department that provided a variety of opportunities for her to get involved. She was influenced by her interest and aptitude in the subject, as well as opportunities in the major.*

Maya was a personable and well-spoken senior who was very passionate about her major, despite initially being unsure about whether she wanted to go to college. Maya was hesitant to go to college because she did not have a direction and she was concerned about the cost of a college degree. She ultimately decided to try it for at least a semester and applied to the University of Central State as an undecided major.

So I figured, “Well, mom and dad are paying for freshman year. Why don’t I go try it out, see, like, what majors are out there, and then just kind of, like, from there decide.” And obviously being undecided, I was able to try out lots of different classes. And I ended up picking a major that I’m now super passionate about. And I couldn’t imagine not having gone to college.

Her parents agreed to pay for her first year and she decided to see what college was like and if she could find an area of study. She did not feel passionate about one field especially compared to her twin brother who was set on a degree in marketing.

During her first year she joined a sorority, talked with an exploratory advisor, and enrolled in a variety of courses to explore different areas.

Girls in my sorority had so many different majors, so they would recommend classes. So that was something that really shaped my first semester, as well as just meeting with my advisor, and you know, kind of explaining like, “I don’t know what I’m doing [laughter],” and like, “Give me some ideas,” which was also nice as well.

By talking with her advisor and other girls in her sorority, she learned about different courses and majors to consider and explore. She liked her first semester communication course and worked with her exploratory advisor to explore related majors. Specifically, her advisor recommended she talk with the faculty advisor in the Communication Studies department to learn more.

Yeah, so I would definitely say I, um, chose communication studies based on the meeting I had with the head of communication studies, um, just the fact that they are a small college, and the opportunities that were available for me in that college. So since declaring communication studies, I’ve had the ability to serve on the undergraduate board, work on research, um, be an ambassador for the college, as well as just really, like, form those bonds with faculty. . . . she really opened my eyes to just how I could connect majors or how I could connect my minor to communication studies, and once again, kind of helping me lay out that 4-year plan of how I would reach graduation.

The faculty advisor shared the benefits of a smaller department and was able to tie the degree plan to her other interests, specifically gerontology and leadership. The faculty advisor also explained some of the different paths within the major, as well as related career opportunities. She declared her major in Communication Studies during her sophomore year and became involved in different activities in the major shortly after.

I feel like I've really be able to gain so much knowledge not only in the classroom but also outside the classroom, so. Through this major, I've had so many experiences, once again, just doing research, connect with faculty. They've been great people to write letters of recommendation. And I wouldn't just say, like, I've only focused on one area in the field. . . . so just lots of different context I can apply to, um, different areas of my life as well as just when I'm in job interviews. I don't have just one experience.

Maya valued the experiences she was able to gain in her major department and the connections she made with supportive faculty.

Maya planned to work and gain experience before deciding about going to graduate school.

I really do think it'd be best for me right now just to go out into the field and kind of get experience. A lot of my professors have, like, said that . . . I should go to grad school, but it's also a good idea for me to go out in the real world, see what the jobs look like, see, you know, what I think of that 9:00 to 5:00, and then really, like, knowing that grad school is the right option before making that decision.

She was exploring administrative and event planning job opportunities to gain some experience and consider graduate school options later.

### **Cassandra**

*Cassandra hesitated to pursue her interest in music at the University of Central State because of the financial implications, but ultimately followed her passion to teach others about music. She was influenced by her passion for the subject.*

Cassandra was an enthusiastic and positive junior who selected undecided on her admissions application because she wanted to explore some of the strong programs offered at the University of Central State. In high school, she was very involved and interested in music but had not explored many career paths outside of that.

I was obviously pretty interested in music. . . . It's a big commitment of time and energy. And, you know, there's not, like, a huge paycheck waiting at the end for you to get. But, um, I honestly had always been a choir person and only been a music person. And I hadn't had much exploration outside of that, though I knew I had other interests that I could see myself going into something else. Um, and because I had only known the one thing, I was kind of like I wanna know more. Like college is a time that I need to know more. And the music ed program here is not very flexible.

Cassandra was actively involved in music in high school and enjoyed it, but wanted to learn more about some of her other interests before making a commitment to anything. The curriculum for music education did not have flexibility for her to explore other areas while also working toward music.

In her first semester, she enrolled in general education courses that allowed her to explore her interests in music and art. She also auditioned and was accepted into an a cappella singing group.

And literally, the only fun I had in my first semester in college were the four hours I was rehearsing with my a cappella group or was at History of Rock and Roll and, like learning about music. And it was pretty obvious to me, like, at that point, like I had neglected this voice in my head that was, like, you know that you wanna do music. Like, you know that you're passionate about this and that's what you wanna be.

Throughout her first semester, she most enjoyed the time she spent learning about music and performing. It was a clear indicator to her that she wanted to pursue music. She began the process of declaring music education two months after beginning college, but was not able to officially declare the major until the spring semester of her first year.

I very much paved my own path in the School of Music. And, um, I'm actually really glad that I had the opportunity to explore and see what I wanted to do. Um, I think that everything worked out exactly how it was supposed to. . . . I was gonna do a 2019 grad, and I'm in 2020 now. And, like, I am so thankful that I had that opportunity. I think that because I was undeclared, like, you know, it's just butterfly effect. Like, several things, just fall into place because of the time that you have yourself to figure things out.

Cassandra was very thankful that she started undecided because she had time to explore and have unique opportunities that she would not have been able to do if she had started in the very strict curriculum of a music education degree.

I had some classes I had already finished, and then I was taking other classes that were way less strenuous. And my entire schedule was kind of, you know, it was just kind of punctuated with, like, missing classes that I had already completed. And so, um, I had much more opportunity and time to make friends and be involved with residence life on campus and get that experience that I definitely could not have done if I were a full-time music ed student, like, doing all of the classes in order because it's just . . . a lot.

Because she was not fully embedded in the time-consuming music degree program requirements (ensembles, lessons, courses, etc.) during her first and second semester, she was able to take other courses, meet other students, and get involved in programs outside of music.

Entering the major as a sophomore was difficult because there were many requirements and programs that she had to learn to navigate on her own because she did not enter the program as a first year student.

There were a lot of things I did not know, but there are just a lot of things that are in place at the School of Music. . . . And everyone else had, like everything down. And literally people had to explain to me what they meant. . . . so, I definitely learned a lot of things about the School of Music on the fly.

Entering the program as a sophomore, Cassandra missed out on the programs for new first-year students that taught students how to navigate the program, learn the language, and understand the requirements. She learned to navigate everything through friends and instructors, though it was at times frustrating.

Cassandra consistently had the support of her mother, who is a positive psychologist and encouraged her to follow her passion.

I really think that the number one thing for me is passion and love of music and love of, like, teaching young people music. Um, so it really just came down to, like, this is what I know I need to do. And, I'm pretty, like, strong and independent in that way, but I was, like, I know it's gonna take an extra year. I know that I'm . . . going to pursue this thing that I love because, ultimately, that's what matters to me.

Cassandra was very confident in her decision to pursue music because she cared deeply about the subject and was passionate about music and teaching music.

### **Allison**

*Allison's audition was not strong enough to be approved to the competitive major in music at University of Central State and was switched to an undecided major going in to her first semester of college. She explored majors in business and worked the equivalent of a full-time job while completing her college courses. She was influenced by her interests, introductory courses, and work experience.*

Allison was a hard-working junior who selected the University of Central State because of her interest in music and playing the marching band, as well as the ability to

live at home while she attended school. Allison applied to the university as music major because she was involved in music in high school and wanted to continue playing music. She was interested in music but was not sure of her decision and she felt pushed into the major by friends and family because she was involved in music in high school.

I think I definitely got kind of shoved off the cliff. And, you know, like, felt like I had to do it because that's what I thought I wanted to do. Whereas, I wish I would have taken more time to really, like, try other things and see at what else I enjoyed. Music is one of those that, because . . . I played in high school and so everybody thought that that's what I was going to do in college.

Because she had participated in music in high school, she described feeling like there was an expectation she would continue that in college. Although she considered a music major, the audition process was very difficult and she was only approved for a music minor. Because she was not approved for a music major her official major was automatically changed to undecided.

And then, I kind of . . . I went along. Like . . . they start you off as like, um, you're still undecided so you're taking more Gen Eds but you, like, are still doing the music degree, if that makes sense. And I found I wasn't really liking it. And so I stayed undecided rather than, um, like moving forward for another audition to change it to my major. . . . Well, to me it was like a chance to explore other options. Rather than, like, being stuck in a program . . . and getting to try the sciences and try the major and try the education. And, like, seeing where I like did well enough and where, I, like, enjoyed being.

Although her major was undecided, she was still enrolled in some courses to explore the music major. However, she was “not pleased” with the advising she received at orientation because she was enrolled in 22 credit hours that combined music degree requirements and general education courses for her first semester. She asked about the load at orientation but was told the load would be fine. At the time she did not know that it was a really heavy load. Between her course load, work schedule, and involvement in marching band, she struggled in her first semester. Because of her first semester grades, she had to wait to declare her major until she was able to raise her GPA.

Allison worked closely with her exploratory advisor to plan her second semester, when she explored her interests in business and English.

When you’re undeclared, they reach out to you a lot to, like, see how you’re doing, see what you’re liking. And then, like, suggesting classes based off of that to try and get you towards a path that you can, like, successfully complete and enjoy, overall. . . . And she was really helpful in, like, making sure that my schedule wasn’t overloaded in the future. So that was a big help for me, too.

Allison appreciated that her advisor checked in with her, listened to her, and provided guidance based off her interests. Allison found she really liked and performed well in her accounting and English courses, which led her to explore those areas by meeting with an advisor in the business program.

Because when I was asked what I wanted to do, I was like, “Well, I don’t really know. But I like management and I like working in retail settings and I like working with people.” We decided to go the business admin route because it’s a

little more broad and it gets me in, into a lot more, like, career paths if I were to change later. Or decide that I want to do something really different. And then, we stuck an English minor on it to, like, help out with, like, so if I wanted to go into HR then I have that, like writing background and that type of thing.

When she met with the advisor in business, she learned about different degree plans and career paths. Ultimately, Allison created a plan with the advisor that combined her interest in business, English and working with people. She continued to explore careers in business through the career services office and alumni connections. She declared her major the first semester of her sophomore year.

And because the business degree's so broad, and you can go into a lot of things, like, a lot of avenues to promote and go forward and get higher titles. And so that was, a thing for me, like, how much I'll make later. I also really wanted to, like, work with people. So whether that's business to business, or business to consumer, I really wanted to, like, want to be stuck in a cubicle all the day with just my team, not helping people directly.

Through her research into business careers, Allison liked the opportunities available in so many different directions that the degree offered her. She also worked 30 to 40 hours per week outside of her courses in two different business-related jobs, which further solidified her decision.

And once I started working at the bank, and you work with all sorts of people, uh, finance majors, and management majors, and all sorts of stuff. And I found that,

like, I really enjoyed little bits of each thing so that helped me, like, stick with and stay with business admin. Because it was just such a broad degree.

Her work outside of classes allowed her to gain real world experience in different areas and learn what areas she was most interested in for her to consider in the future. She was considering customer service positions or management trainee programs after she completes her degree.

### **Samuel**

*Samuel selected undecided as his major when he applied to the University of Central State, but had strong interests in science and engineering because of the career and financial outlook for those fields. He was influenced by potential job opportunities, financial success, and interest in the subject.*

Steven was a laid-back senior from out-of-state who selected undecided on his application to University of Central State. He selected undecided because he was not sure which science or engineering major to select. He felt pressure to declare a major because he wanted to graduate in four years and “didn’t want to waste” his parent’s money. As a first-year college student, he decided to participate in an engineering learning community in order to meet people on campus since he was the only person from his small high school to attend the University of Central State.

In his first semester, he completed courses aligned with hard science and engineering major. In his second semester freshman year, he was sent an email that encouraged him to “get the ball rolling” on major selection because he had enough credit hours to be considered a sophomore based on college credit he earned while in high

school. Steven did not remember a specific experience that helped him declare his major, but remembered going through a process of elimination to select his major. He recalled an experience before starting college in which he took something apart and tried to fix it. Though he wasn't successful in fixing the object, he enjoyed the experience. He officially declared his major during the second semester of his freshman year. He was fairly confident in his decision and felt like he was on the right path with his degree. "It's going to work out. It may not be a perfect fit, but its good enough. . . . I think I'm going down a path that I'm interested in."

The career opportunities and financial outlook of an engineering degree were key factors in his decision, as well as his desire to get a job right out of college without having to "know someone to get my foot in the door." He completed an internship after his junior year and had already accepted a job with the same company in electronics engineering.

## **Chapter 6: Study Findings and Analysis**

The student profiles presented in the previous chapter highlight the individual student cases. This chapter focuses on the collective student experience and common themes that emerged through analysis of the qualitative data. Though no participant story was the same, several themes emerged relevant to the research questions. This chapter focuses on the themes that emerged in the qualitative data across the cases and institutions.

The chapter is organized based on the themes that emerged in order of how students moved through the process of selecting a major, starting with entry into the institution as an undecided student and concluding with their reflections on the process and advice for other undecided students. Although the bioecological framework was considered during the analysis of themes, the organization of this chapter highlights the students' experiences as well as some key ideas, such as student anxiety, that did not fit into the bioecological framework. A review of the data through the lens of the bioecological framework is discussed in the final chapter.

Four overarching themes emerged from the analysis of student interview transcripts: 1) navigating uncertainty, 2) relationships and community, 3) navigating the institution, and 4) decision-making influences and processes. The four themes tell the collective story of being an undecided student and the common themes that emerged through analysis of their individual interviews about their experiences and influences on selecting a college major.

## **Navigating Uncertainty: Approaches and Anxieties**

This first section explores how students described being undecided as they entered college and their early college experiences and addresses the first research question, “How do undecided students describe their experience being undecided through to the selection of an academic major?” This section also discusses student approaches to undecidedness either as exploring options or confirming interest areas. Students described different approaches to being undecided in terms of reasons why they selected undecided as their major and initial interests in potential areas of study. In addition, students talked about anxiety and stress associated with being an undecided student, as well as the pressure they felt to declare a major sooner than later. The section concludes with student reflections on the process of declaring a major and being undecided.

### **Approach to Undecidedness**

Students described an interest in exploring their options and/or as a means to confirm ideas they already had about potential majors. Half of the students interviewed described their reasons for selecting undecided as their initial major in order to explore and to learn about different options while nine students described interests they wanted to learn more about in order to confirm their selection. While students with intentions to explore and students with intentions to confirm their ideas were not mutually exclusive groups, they both used the phrase “better to be undecided than pick something and not be sure” to describe why they picked undecided for their major when they applied to the institution. Although students used similar language, they diverged on their reasons for and approach to being undecided as they started college.

**Undecided to explore.** Not surprisingly, a majority of the students who were undecided at the beginning of their academic career expressed uncertainty about their interests and direction as they started college. Specifically, 17 of the 23 participants across all institutions talked about their uncertainty about majors at the time they started college. Six students specifically used wording very similar to: “I had no idea what I wanted to do” to describe their uncertainty. Kira further described her uncertainty:

I wasn't really decided on a specific major, like, I didn't know in my heart of hearts what I wanted to do. . . . I chose undecided for my major because I honestly didn't know what I was going to do.

Kira selected undecided for her major to explore areas of interest but also to learn more about disciplines she was not exposed to in high school, like philosophy.

Students whose responses focused on exploration used words like, “open,” “explore options,” and “learn more about” to describe their intent to discover what other degree programs were available to them. Bianca explained her rationale for selecting undecided on her application:

I had just googled like the list of majors that [University of Central State] has and I tried to see if anything really stuck out to me, but . . . I hadn't had the exposure to really any of those. So I wasn't comfortable with declaring something and then trying to go down that path and then deciding, "Oh, that's not right." Like, I would rather just come in undecided and then trying a couple different things while I was still that [undecided] and then go from there.

Bianca and two other students expressed the same idea that they preferred to enter college undecided and explore options instead of picking a major they were not sure about.

Their openness to explore also speaks to the students' awareness that they did not know what all of the options were. Cassandra had many interests, but was involved in music in high school and did not have an opportunity to explore outside of that area:

I honestly had always been a choir person and only been a music person. And I hadn't had much exploration outside of that, though I knew I had other interests that I could see myself going into something else. Um, and because I had only known the one thing, I was kind of like, I wanna know more. . . . College is a time that I need to know more.

Cassandra enjoyed her experience in music in high school and considered entering as a music major, but she had looked at the music curriculum and saw there were few non-music courses and no room for general courses to explore other areas.

Although students described feeling uncertain and open to exploring new areas, they talked about the number of interests they had and the variety of major options to consider. Four students at Midwest State University used the phrase "all over the place" to describe how they felt as they began the process of exploration. Students at Midwest State University were more likely than students at the other campuses to talk about the number of major options they were considering or had available to them. Holly had so many interests she wasn't sure where she should start her exploration:

I just felt like I wanted to do everything. I like too many things, honestly, I think is my problem. Oh, marine biology, architecture. . . And even after all those, I

still just felt really lost. . . . I was just too all over the board to choose one major at  
[Midwest State University]

Holly was overwhelmed by the range of her interests as well as the number of degree options available at the institution.

Students who described their experience as exploratory considered a variety of options and had multiple interests they were exploring. Even though students said “I have no idea,” in almost all cases the students had a few areas of interest. Their level of commitment to those areas was the larger issue as well as their interest in exploring additional areas. While the students had some majors or careers of interest, they did not feel confident selecting the major at the time they applied. They wanted to learn more about degree requirements and related career options in their areas of interest, as well as explore other areas prior to confidently making a final decision. Other students had a specific area of interest they wanted to learn more about before declaring a major.

**Confirm ideas.** Several students described their experience of undecidedness as a means to confirm their ideas or gain admission into their desired major. Students described the goal of confirming an interest in contrast to how students described exploring many areas in the previous “exploring” theme. Nine students selected a different major on their application and changed to undecided after being admitted to the institution. Three students selected undecided for their major but had a specific area of interest they wanted to confirm before officially declaring the major. Overall, 12 students either selected a specific major on their admission application or had interests in specific areas they wished to confirm. These students all selected a major based on their

interest in a specific area but changed their mind or were not admitted into a specific program.

Of the nine students who did not select undecided on their admissions application, three were automatically switched to undecided because they were not admitted to their first choice major. One student at each institution experienced an automatic major change to undecided because of competitive admission programs. Allison was automatically switched to undecided after she auditioned for the music major and was not admitted:

I, uh, started undecided because I thought I wanted to do a, like a music degree, overall. . . . but the audition process was a little tedious and also very, like, high stake for [University of Central State]. And my original audition, I got approved for a minor but not a major. And then . . . they start you off as like, um, you're still undecided so you're taking more Gen Eds but you, like, are still doing the music degree, if that makes sense. And I found I wasn't really liking it [music]. And so I stayed undecided rather than moving forward for another audition to change it [music] to my major.

Allison was not admitted to her first choice, but after taking a few classes in that area she realized she wanted to explore other options. While she entered with a specific major in mind, she decided exploring options was in her best interest to find a better fit major. The other six students who selected a different major at the time they were admitted to the institution changed their mind about their initial interest. Abby changed her major from biology to undecided during the summer before she started classes.

Like, I wasn't really sure. I actually got into [Midwest State University] in . . . biology and ecology, or something like that. Like, that's what I initially chose. And then I looked more at the curriculum and I was like, "I definitely don't want to do that [laughter]." So I just decided to do Exploration 'cause I was like, "At least then, I'll have a better opportunity to kind of look and see everything that's available."

Abby selected biology when she applied to the institution but after learning more about requirements for the major she decided it was not what she wanted. Although she had an interest in a science major, she changed her major to undecided so she could learn more about other science majors.

Other students like Abby described a general interest area, such as science, but were unsure what major would best fit their interests and goals. They selected undecided for their major, they wanted to confirm their idea or explore within a specific area of interest. Dan knew he was interested in a career in politics, but was not sure which major best fit his interests: "I kind of knew what my interest was, but I didn't know how my interest exactly aligned with possible, you know, majors." Dan was focused on learning more about liberal arts majors that matched his interest in politics and possibly attending law school. He knew political science was one area to consider, but wanted to see if there were other options to consider that he was not aware of as a first-year student.

In order to try out specific majors or fulfil requirements for specific majors, students followed the curriculum for a specific program. Students who had a specific area in mind and took courses required for the major in order to confirm their ideas or

become eligible to declare the major they selected. Simon was strongly considering business as a major, but wanted to make sure it was the right major for him.

So . . . I was not in the business college. . . . I took general business classes like macroeconomics. I took microeconomics the next semester. I took Intro to Marketing, I guess. So really, really simple, low core classes in the Business College. So I was with them [declared business majors] and, yeah, in the curriculum-wise, but . . . not really in the culture-wise, I guess.

Simon was taking business courses and following the curriculum for business majors, but had not declared the major because he was confirming his choice. While he was involved in the courses, he did not feel like a part of the business college.

Similarly, students also described identifying a major and waiting to declare to be sure about their selection. Students hesitated to declare a major for a variety of reasons, including general avoidance of decision making. Carli was hesitant to select her major because she believed it was a huge decision and felt pressured to select the “right” major the first time.

Honestly, I think I was pretty set on genetics, but like I said, I don't like making decisions. So I kind of just kept putting it off [laughter]. Yeah. I feel like I knew, but I just didn't want to make the decision. . . . I think I at least waited one semester to make the final decision.

Carli did not like making decisions of any kind, but especially selecting her college major. Though no one told her she had to make the “right” decision, she felt pressure to select the “right” major and that she could not change her mind once it was selected.

When she began working as a mentor to entering undecided students, she made sure to let them know that they could change their major multiple times if needed to ease the pressure she felt when she was making the decision.

Almost half of the participants had specific majors in mind when they were admitted to their respective institutions. However, students either changed their mind based on experience or were not admitted to competitive majors. These students were initially much more focused on confirming their initial interests than exploring all of the available options. Although initially focused on a specific area, students explored interests in different ways to arrive at their final selected major. As Carli mentioned, the process of selecting a major is difficult and stressful for many students.

### **Anxiety and Stress Associated with Undecidedness**

Almost all of the students mentioned stress or anxiety as they talked about the process of selecting a major and their own personal pathway. Twenty of the 23 students interviewed talked about stress or anxiety as a part of their experience as an undecided student and deciding on their major. Although almost all of the students discussed anxiety, all of the Midwest State University students talked about stress and anxiety as it related to their experience and made more references to the issue than students at the other institutions. Although the majority of students at the other two institutions talked about anxiety, not all of the students at those institutions mentioned the topic in our conversations. Overall, students talked about feelings of anxiety and stress related to identifying as undecided as compared to others, but also the pressure to declare a major quickly and feeling behind in terms of progress toward their degree.

**The dreaded question.** Students described the experience of being asked about their college major as a stressful interaction. Five students specifically referred to uncomfortable conversations with family, peers, and strangers, who asked about their college major. Holly shared that she dreaded being asked what major she selected going into college because it was difficult to explain to others.

Um, honestly, it was kind of an unsettling feeling. . . . when people would ask me, like, "Oh, what are you going into?" that was the question I dreaded. Everybody always asked it. And, yeah, I just felt like, ah, like I don't know yet. I feel like everybody else knows what they're doing. And I mean, in high school they always told us, like, the statistics of how many people change majors too. But, like, I still felt like the outlier just like the odd one out. I'm like, "Oh, I'm going into exploratory." And they're like, "What's that?" Um, hmm, so like honestly, it was just, just hard to explain to them like, that entire process in, like, the little 50-second little conversation you have with 500 people, like, at your graduation party.

Holly felt like she was the only one of her peer group who was not sure about her major and direction in college. Holly was frequently asked what major she selected as she started college, but did not like telling others her major because she felt like she had to explain her selection.

Renee also struggled to answer the "what's your major" question when asked by others because it was difficult to explain her interests and her response did not provide information about who she was as a person.

Um, it mostly meant that I remember telling people that I was undecided [when] people would ask my major . . . you'd tell them you're undecided, and it takes a lot of words to say, "But I'm interested in linguistics and poli sci [political science] and, like, all these other things." So you'd just say you're undecided, and then they go, "Oh," 'cause it doesn't tell them anything about you. And that was one of the big things that I remember being like, "Oh, like, I'm boring because nobody knows anything about me from my major." . . . I really just felt like I was being boring by not having a major.

Renee talked about her major as a part of her identity as a new student and did not like telling people she was undecided because she had so many interests that undecided did not describe her well.

Students associated the “dreaded question” with their identity as a college student, and in comparison, to their peers, who largely had selected a major. Student comments about being asked about their undecided major highlighted the perceived uniqueness of their uncertainty because students also felt like everyone else already had selected a major.

**Others had plans.** Nine students contrasted their undecided major selection with peers who had declared majors or “knew what they were doing.” Ruth was embarrassed that she was unsure about what she wanted to major in and felt like all of her peers had decisively made plans. She chose undecided for her major because she was not sure what she wanted to major in and did not want to select a “random” major without being

confident in her selection. However, she realized later that her peers were just as uncertain as she was and many changed their major after they started college.

I mean, at first it was a little embarrassing. I really remember my orientation group. We went around and everyone's like, "Oh, I'm pre-med." "I'm engineering," and I was the only one that was undecided. So I mean, I don't know if embarrassing is the word, but everyone else seemed to have a plan in place. I mean, after a semester I kind of realized that a lot of those people were not going to actually follow through with that exact plan, and so I kind of felt a little bit better about myself, but.

Ruth was uncertain about her plans and felt embarrassed because so many of her peers had picked a major. However, she later realized that most of her peers changed their major after starting classes and were actually just as undecided as she was.

Students experienced anxiety because their peers had largely selected a major. Five students who talked about peers having a major also talked about feeling urgency to declare a major.

**Urgency to declare a major.** Students associated the stress of being undecided with the weight of the decision to select a major and the feeling of urgency to declare a major. The weight of the decision and urgency were intertwined with feeling behind on curriculum requirements and their peers, as well as concern for taking unnecessary courses.

Four students described selecting a major as a very important decision that would shape the rest of their lives, and therefore had to be the “right” decision. Ruth described selecting a major as “scary” because of the impact of the decision on her life.

It was kind of scary because I mean, this is what you're going to do for the rest of your life, and it's the biggest decision I've had to make in my life so far. And so it was-- yeah, it was really scary.

For Ruth, selecting a major meant she was selecting the job she was going to have for the rest of her life and had to be the right fit. The weight of the decision created anxiety for undecided students, especially in addition to the pressure students felt to declare a major sooner than later.

Fourteen students described the pressure and urgency they felt early in their college experience to select a major. Megan talked about being uncomfortable as an undecided student and wanting to declare a major quickly:

I guess it meant that I was [laughter] starting a clock that I really needed to decide my major pretty quickly . . . so I wanted to make the most out of that first . . . semester . . . Just deciding which path I wanted to take because . . . it was kind of uncomfortable being undecided.

Megan was uncomfortable without having a major selected. Megan specifically described the feeling of pressure to declare a major quickly, but did not identify from where she felt like the pressure was coming. Only one student described feeling pushed to decide and selecting a major too quickly. Bianca described her experience selecting a major before she was ready:

I don't really think there was any external pressure, but I was more-- like, I just felt like I needed to pick, I needed to start going somewhere. And so I think that kind of pushed me into the wrong decision, just because I thought I needed to pick something.

Bianca did not believe the pressure she felt was coming from others, but instead internally created. She selected a major in her first semester and realized after taking more courses in the field and learning more about careers that it was not a good fit. Looking back, she realizes she selected her major too quickly. Allison also talked about the pressure she felt to select a major quickly, but instead described the external pressure placed on students from society.

The older you get, the more people say you don't have to know exactly what you're going to do. But I feel like when you're really young, it's like, "What do you want to do with your future? What are you going to grow up to be?" And that kind of thing. So I think it puts a lot of pressure on you to, like, decide right away, rather than finding what you're good at or finding what you like to do.

Allison talked about how the pressure she felt to declare a major evolved. She described pressure as a younger student to declare quickly because she was asked often about what she wanted to do in the future. As she got older, the message about identifying a path shifted to one that was more flexible.

Students clearly felt some kind of pressure to declare a major and some students more specifically explained the reasons for the urgency to select a major. Of the 14 students who talked about a feeling of urgency to declare a major, half were students at

Midwest State University who linked the urgency with graduating on time or the cost of education. The urgency to declare a major added pressure to their decision-making process and was due to several different related issues, including not getting behind on required coursework and taking unnecessary courses as well as the financial cost of extra courses and taking more than 4 years to complete their degree if not on track for their major. Allison talked about both the pressure to declare a major from her father and the cost of education associated with taking extra time to finish her degree:

And my, like, my Dad . . . looked at it from my financial stance because . . . they do pay for my school. That he . . . wanted me to decide and decide quickly and stick with it because that'd, hopefully, be less time in school, paying for it.

Allison felt pressure to declare her major quickly so that she would not take extra time to complete her degree and therefore require her father to pay more for her education.

Like Allison, multiple students talked about feeling behind in terms of coursework and networking in their major. Simon selected undecided as his major to identify his major faster and stay on track to finish his degree in four years:

But I wanted to start with it, so I just, you know, keep it cheap, keep it easy, and, um, exploratory I thought was just the best way to do it, so. Undecided, so. This is kind of-- I wanted to go in and make sure I wasn't gonna be behind and I wasn't wasting time.

Simon saw the undecided major as a beneficial way to select his major with confidence early and avoid delays in graduation due to changing his major several times. Other students discussed feeling like being undecided would cost them graduating in four years

and finishing with their peers. Ruth was concerned about being undecided because she was very focused on finishing her degree on time:

Just because my main priority - well, one of them - besides finding a major, was graduating on time. And I was very worried about that the whole time. I think I just wanted to graduate with my friends. And then, obviously, money. I don't want to take an extra semester. And I think I just want to get done as quickly as I can. Yeah, I just wanted to graduate with my friends mostly. I didn't want to have to-- not that it's a bad thing to take an extra semester, but it's just kind of-- you are taking an extra semester, so.

Ruth wanted to graduate with her friends and avoid the extra expenses associated with enrolling for an extra semester to finish her degree.

Similar to feeling behind, students talked about having to catch up on courses because they declared their major after their first semester. Callie selected her major and was behind on her selected curriculum. To catch up with her peers, she enrolled in an advanced accelerated summer course:

Especially because I couldn't get into that chemistry and everybody else was in and then it meant that I would be behind because I was supposed to take organic chemistry my sophomore year and I had ended up taking general chemistry my sophomore year, and so I was like, "Well, I don't want to take organic chemistry in my junior year." And then I found out that they had a, um, accelerated over-the-summer one so that's what I did this past summer. . . . Everyone's like, "Don't

do it," and I was like, "I'm doing it," because I can't feel like I'm behind. And I got A's . . . I feel a lot better. I don't feel like I'm behind anymore.

The summer course Callie completed to get back on track for her selected major required a rigorous summer chemistry course. She did well in the course and also felt relief from the pressure of being behind in her major.

In addition to feeling behind, students at two of the institutions talked about their concerns about taking courses they would not need after they selected a major. Although more students talked about feeling behind in their coursework, the idea of taking unnecessary courses is closely related especially as it relates to the cost of extra time to complete a degree. Colin talked about this idea as a reason for selecting undecided. He selected undecided as his initial major at [University of Central State] so that he could explore different majors without going down a specific path of course requirements:

So I came in undecided because I really didn't know what I wanted to do and I figured that was the best way for me to kind of not lock into one thing and take classes that I wasn't gonna need later. . . . Because I always hear stories about people switching their major in their first years and wasting a bunch of credits.

Although Colin was concerned about taking courses that would not count toward his major, he actually selected courses so well that he had a good number of elective credits to complete at the end of his college career. Ruth had a different experience at Midwest State University and did not feel like she had enough guidance planning her first semester:

I don't think I got enough help to make it a constructive first semester. I took calculus, and then I took some other random classes. Maybe sociology or something. But looking back, I don't think I would have taken the same classes. . . . I mean, I just think throughout my time I took some classes that I thought would maybe help, but-- I don't know. They never really-- I guess maybe it helped me eliminate some.

As an undecided student, Ruth took a variety of courses in her first semester including a couple of courses that she ended up not needing for her accounting major. Looking back, she felt like they were “random” classes but she also recognized the courses helped her eliminate some major options.

Students who enter college undecided come with interests to explore further and/or ideas about majors to confirm. Navigating this process of exploration and confirmation, however, is stressful for most students. Almost all of the students who started college undecided described stressful experiences and anxiety about the decision-making process. Students at all three institutions expressed anxiety about being undecided. Each of the institutions had advising offices to support undecided students, which suggests an awareness of the challenges these students face and broader support at the institution. Even students at Midwest State University, where there is a long history of support for undecided students, experienced anxiety related to uncertainty about their major. As part of the process of exploring majors and navigating the associated stress, students talked extensively about relationships and community as an undecided student which is discussed in the next section.

## **Reflecting on the Process**

As students talked about their experience and influences on the selection of their major, they also reflected on the process and offered advice to other undecided students. Students reflected on the actual process of major declaration, their certainty about the major they selected, how they came to identify their major, and advice for other undecided students.

**Declaring a major.** The stress and anxiety students described at the beginning of their roller coaster ride of identifying a major was relieved once they declared a major. Students at two of the institutions (Midwest State University and Urban Public University) described a sense of relief when they declared their major. Amy described how relieved she felt after declaring her major at Midwest State University:

But, yeah, it felt really good. . . . I don't like not knowing things. So not knowing things just made me feel like, "Oh, I just need to declare something." . . . I don't think I was too rash, though . . . I just liked, like, knowing.

Part of Amy's anxiety about being undecided was related to not knowing her path and that was relieved once she selected her major in neuroscience.

The stress and anxiety of being undecided made students think that declaring a major would be a big event, however, three students at Midwest State University described the event as anticlimactic. Holly was one of the students who talked about expecting a bigger event when she declared her major at Midwest State University:

Um, so then, once I passed those two classes, then I applied for the major. And honestly, it wasn't a grand a feeling [laughter] as I was expecting. I was

expecting, like, once I declared, like, "Hallelujah!" like, kinda moment. But it was very, like, "That's it? Like, there's nothing else? That's all I had to do?"

Holly declared her major at the beginning of her third year and after a long exploration process she thought the process of declaring her major would be a bigger event.

Students had different experiences declaring their major. Some described a sense of relief, while others were let down by an anticlimactic process. In both, students were relieved to have such a big decision made.

**Certainty and uncertainty about next steps.** With a decision made, students talked about how certain they felt about the major they selected and their next steps after completing their degree. Students described uncertainty about the future and feeling uncertain about finding a job after graduating. Overall, fifteen students described different ways of feeling uncertain about their next steps after graduation. Students who expressed uncertainty were equally distributed across all three institutions.

While students realized that major did not have to match their career path and selected majors that provided many career options, they were still concerned about identifying a career path and specific job following graduation. Seven students described feeling confident in their major selection but unsure about their career path. For example, Carli graduated from Midwest State University prior to our conversation and still struggled to identify her career path: "I wouldn't change that I had that [molecular genetics] major, but I think I am still struggling trying to find a career path with it." Carli enjoyed her major courses but struggled to find a job after she graduated.

Students were conflicted between being excited about the possibilities and concerned about not having a solid direction or position in place prior to graduation. Kira was exploring different job and career options, but did not have a specific idea prior to graduating.

I'm kinda just seeing what comes up as I get closer to graduation and also fine-tuning my resume and things like that. So nothing is, like, very cemented in stone right now which is somewhat liberating but also a bit scary.

Holly was similarly satisfied with her major selection, but intimidated by the identifying a specific career path.

And, it's like the major, yes, I'm sure, but everything else after is so intimidating 'cause there's so many options, which shouldn't be intimidating. It should be exciting. But to, like, figure out what I'm gonna do later. It's much more intimidating.

While some students expressed anxiety about their next step, other students were open waiting to see what opportunities emerge. Five students used the language “seeing where things go” to describe their career uncertainty. Amy was satisfied with her major selection and open to opportunities.

I guess it's [career exploration] ongoing for me [laughter] because I choose the major but I'm still just seeing where things go. So it's like it all happens in steps.

Like, it never happens all at once.

Amy liked her major but was uncertain, yet optimistic, about her future. Students expressed both concern and optimism about their future after finishing their degree. But

despite the uncertainty, students reflected on their experience and how the pieces of the major declaration puzzle eventually came together.

**Good to be undecided.** Interestingly, despite the stress students described at the beginning of their college career 10 students reflected back on their time as a first-year student and appreciated their experience as an undecided student. Students at all three institutions talked about being undecided and the major selection process as an appropriate part of their process. Six of the eight students at Midwest State University reflected back on the process of moving from undecided to selecting a major as the right path for them to discover their major. Amy talked about putting the pieces together over time and looking back on her experience to see how everything fit together:

Like, you figure out little pieces. Some—okay, I guess some people have the a-ha moment, but I think most people figure it out in little pieces and then they have to, like, see what that means, and, like, where they're going, and pick up all of that.

But you can look back and see. . . . It's wild.

Amy described the process of finding her major as finding pieces of a puzzle that did not seem to fit together when she started the process, but later came together to make sense to her. Similarly, Cassandra was happy with the path she took to discover her major and that looking back all the pieces fell into place at the right time. “I'm actually really glad that I . . . had, like, the opportunity to explore and see what I wanted to do. Um, and I think that everything worked out exactly how it was supposed to.”

Although students described the process of identifying and discovering their major as stressful and anxiety provoking, they also reflected back on their experience and

recognized how the pieces fell into place. Looking back students were able to see their path to finding their major I was surprised to hear so many students say things like, “It happened the way it was supposed to” especially after talking about how being undecided caused anxiety and stress.

**Advice to others.** Student participants were asked if they had advice for students or institutions. When asked what advice they would give others, participants largely talked about two areas: student advice for exploration and advising. Although advice did not emerge as a theme on its own, students talked about similar things. What students chose to share as advice or feedback to others suggests features missing or helpful in their own experience.

Students offered suggestions to other undecided students related to identifying their major. Nine students encouraged other students to try a variety of different areas and “go for it” once they identify an interest. Six of the students were students at University of Central State. Kira encouraged students to take classes of interest and not to be afraid of trying something new.

I would say to follow your joy, like, take the classes that you're interested in and curious about learning more from. And don't be afraid to take a chance on yourself. . . . if you don't take a risk or even try to find out if you can do something, then you'll just wonder what you could have done.

Kira suggested other undecided students take courses of genuine interest and not be afraid to learn more about unfamiliar areas or challenging pathways. Kira took her own advice and chose to pursue a major she enjoyed in the humanities. Students highly

encouraged others to try many different fields before committing to one major and following a passion once an area is identified.

Other students talked about the value of getting experience in the field to confirm areas of interest. Three students encouraged other undecided students to get hands on experience in their chosen field to confirm their choice. Simon had a transformational experience during an internship that helped him identify his major and encouraged other students to seek similar hands-on experiences.

If you learn about it in the classroom and it's something you think about doing, it's good to get those mental muscles moving and actually do something outside the classroom . . . learning about it and just really solidifying if you like it or not. And if you don't, it should be a good thing. You know, and then you find something else you like and do the same thing. But yeah, getting yourself involved and getting your feet wet in something in your field just to make sure when you graduate, it's not something you wanna do.

Simon's internship allowed him to see what work in the field would be like in business, which was a major he was considering. The experience confirmed his selection and gave him confidence in his ability to do the work in the future. The three students who advised others to gain experience all took advantage of experiential learning.

Trying a variety of fields and gaining experience were the primary recommendations participants had for other undecided students based on the students' own experience trying new areas and experiential learning.

The other commonly referenced experience students referenced when asked to share insights with others was advising. Specifically, students talked about the relational skills of advisors. About half of the students overall suggested advisors should be more personable in order to make connections with students to provide personalized advice. Of the students that made the recommendation, half had a good advising experience and half said their advising experience did not meet expectations. Colin's advising experience did not meet expectations and he did not connect with his advisor, which was concerned him as it related to other undecided students.

I think that they [advisors] should try to talk to their students more and figure out what interests they have, even if it's just having conversations like, "What do you like to do in your free time?" "What are some things that interest you?" "What would you like to learn about?" . . . a lot of these undecided students really don't know what they wanna do and they're looking for help. And I think just sitting down with them for 10 minutes and, like, just agreeing with them or telling them what they want to hear is not really beneficial. . . . schedule an hour of time to go through things and just talk about them [undecided students] with how their doing, what they want out of college, and what they want past it would be a really beneficial and helpful experience.

Colin thought that advisors should take time to get to know students in order to make personalized recommendations and suggestions to help students meet their goals. Other students suggested advisors make students feel valued instead of "like a number" despite high numbers of students assigned to each advisor. Other students made similar

recommendations but based on positive experiences with advisors. Kira emphasized the importance of empathy in advising relationships. Kira felt comfortable talking with her advisor because of the empathy the advisor demonstrated.

I think having empathy for students and their confusion [laughter]. You know, that's part of why [Kira's advisor] was such an amazing adviser because she understood the struggle and didn't judge it. She just genuinely helped and advised. And at the end of the day, that's ultimately their job, it's not to tell students what to do, but it's to help give students the resources so that they can find out what they want to do on their own.

Kira appreciated the non-judgmental guidance she received from her advisor. Other students suggested similar qualities of advisors in order to develop relationships in which students felt comfortable talking about their interests and they felt valued as people.

When asked to provide advice to undecided students and others, students largely suggested students try a variety of new things and that advisors build or maintain relational skills to facilitate relationship building with students.

### **Relationships and Community**

This section discusses student descriptions of personalized support as students exploring majors and finding community as an undecided student or in their identified major, which relates to the first research question. As students talked about their experience as an undecided student, personal relationships and community emerged as a theme in their interview transcripts across all three institutions. Most students talked about personal relationships (19 out of 23) and more than half of the students (14 out of

23) talked about community as an undecided student or finding community in their selected major.

### **Supportive Relationships**

The majority of student participants talked about the impact of personal relationships on their experience as a means of support as they entered the institution and selected a major. More students at Midwest State University and University of Central State talked about supportive relationships than students at Urban Public University. In particular, students talked about support from family as they explored majors and guidance from academic advisors. Though students talked about other interactions with people, they specifically referred to the importance of the support they received and personalized attention. Other interactions with peers, advisors, and other individuals are discussed later.

**Family support.** A majority of the students (18) described how they felt supported as they explored majors by members of their immediate family. Students at all three institutions mentioned the support they received from family. Holly felt supported by her family as she explored her interests when she started college with an undecided major.

My mom was super supportive 'cause she knew I was having an internal conflict of like, I don't know what to do. And honestly, she couldn't recommend anything to me either 'cause she knew I had so many passions for stuff all over the wheel. So I think my mom thought it [undecided major] was a really good fit.

Holly described her mother as being very supportive. Her father suggested she pursue a major in engineering as he had done, but she decided against that because she believed there was not enough social interaction in engineering careers. She did not describe her father as unsupportive, but clearly felt more support from her mother regarding the undecided major. Maya did not believe her family influenced the major she selected, but did describe feeling supported by her parents as she went through the process of selecting her major.

I would say my family was really open. They've always said if I didn't want to go to college . . . I don't have to. . . . I think they were happy I found something but there wasn't any pressure from them or anything like that. They've always been really supportive.

Maya started college undecided and her parents were supportive of that decision, as well as the major she selected in her sophomore year.

Most family members also did not seem to apply pressure to students to make a quick decision. While parents asked about their decision-making progress, students did not feel pressured. Bianca described her family's reaction to selecting undecided as supportive in terms of taking time to explore without pressure. Bianca said, "My family was pretty supportive about it. They were like, "Yeah, you'll figure it out as you go along and just try different things. And you'll, you'll get there." Three students used similar "you'll figure it out" language to describe family reactions that were open to exploring and encouraged students to take their time to figure out the best path.

Only one student, Tia, mentioned her family did not completely understand why she selected undecided. “They said something about it, but it wasn't, like, negative . . . But they did say, like some [other] people asked, "Why didn't you know?." Tia did not feel pressure from her family to select a major quickly or select a specific major, but she may not have had the same level of understanding and openness to exploring as other students who were interviewed.

From the interviews, it was clear that students talked with their family about being undecided and largely had support from their immediate family to explore majors and careers early in their college career. Students also talked about the influence of family on their decision-making, which is discussed in another section.

**Advisor relationships.** Almost all of the students talked about academic advising as a component of their college experience as an undecided student. This section specifically focuses on the personal relationships that students developed with an academic advisor as an undecided student. Students also talked about other experiences related to academic advising, which is discussed in more detail in the next section about institutional support resources. Nine students specifically mentioned the importance of having a personal relationship or connection with an academic advisor. Students at Midwest State University and University of Central State, not Urban Public University, talked about having or desiring a personalized relationship with an academic advisor. Of the seven students who talked about a relationship with an academic advisor at Midwest State University and University of Central State, five students described very positive experiences and two students sought a personalized relationship or something more from

an academic advisor. One student, Holly, talked about both desiring a relationship and having a good relationship with her advisor based on her experience as a student who was dismissed and returned to Midwest State University later. Although not all students described having a connection to their advisor, they talked about their desire to have a more personalized relationship. From their descriptions, it is clear that students see value in the advising relationship but want a personal experience wherein they are known as an individual.

As a first-year student, Holly was overwhelmed by the transition to college as well as selecting a major. Holly met with her assigned advisor, but wanted a more personalized experience with her advisor: "It [advising] definitely opened up ideas and opportunities, but overall, I was just so overwhelmed and it didn't feel as personalized as I wanted to be." Although Holly met with her advisor, she desired a more personal relationship with her advisor. Renee also talked about desiring a better relationship with her advisor as a means to better guide her in her decision-making.

I would have liked it if people had been more willing to truly just look at me and listen to my interests and suggest majors . . . If anybody had, had looked at me and said, "I could see you in this, this, or this," I would have considered them. . . .

[that requires] knowing someone.

Renee wanted a personalized relationship in which her advisor got to know her better so that her advisor could make better recommendations and suggestions related to exploring majors. This desire corresponds to the relationship some students were able to develop with an advisor that shaped their experience and decision-making.

After Holly was dismissed, it was her academic advisor who helped her navigate returning to the institution. Through that experience, Holly developed a more personal relationship with her advisor that significantly influenced her experience as a student, as well as discovering her major.

And [my advisor] had kinda been with me through the whole . . . [getting] academically dismissed. And so, honestly, I felt more of a connection with her, and I was able to talk about stuff after she helped me through the process. . . . I'm pretty sure I probably told her more about what was actually going on internally than I told my parents or that I told my friends or even my boyfriend. I didn't feel judged when she helped me get through the academic dismissal process. . . . She, she was just there. And so, honestly, I pretty much owe everything to [my advisor]. . . . It was like truly, I think it's more about the people and not so much about, like, the knowledge that goes into, like, college, I guess.

Holly felt a connection with her advisor because her advisor had helped her navigate the process of being academically reinstated at the institution. The reinstatement process was difficult and required a lot of self-disclosure and reflection, but Holly felt comfortable sharing and talking through the process. Her advisor made a big impact on her experience returning to Midwest State University, as well as helping her identify her major.

Kira also felt comfortable talking with her advisor about her indecision and college experience.

Because we had great conversations. Like, when I was a freshman talking with [my advisor], it was like talking with family almost. Like, it was never scary or nerve-wracking. . . . And I think one thing that helped develop a personal relationship was just, like, being honest and real with who I am and what I was going through. Like, I never went to her office and was, like, I have all my stuff together. Like [laughter], I was real that I was uncertain about my future, didn't know what I was doing with my degree, that I felt like I should know what I was doing. And so being able to hear her feedback and just talk person-to-person rather than feeling like it was an adviser telling a student what to do . . . There was a natural flow to the conversations.

Kira described her experience with her advisor like talking with family. Kira worked with the advisor for two years and said the relationship took a little while to develop, but once the relationship was there she felt very comfortable talking about her thoughts about majors and careers.

Several students described and appreciated a relationship with an advisor who could make personalized recommendations and suggestions. While not all students had the same experience, even those without that kind of relationship desired that personalized approach from an advisor.

### **Community as an Undecided Student**

Another component of relationships and support as described by the student participants was community. Students talked about the sense of community they lacked as undecided students and students not in a specific department, but also the community

some students found with other undecided students. Students from two of the three institutions talked about community as an undecided student.

Initially, students were more likely to describe a lack of community because they did not have an identified major. Students from Urban Public University lacked a community of undecided students and talked more about connecting with other students with similar academic interests. However, students described feeling a lack of community because they were undecided in their first year and did not have an academic home. Simon started college with an undecided major but was exploring business fields and taking courses with others who had declared business majors.

Um, I guess I felt left out because I had friends in learning communities. They talked about all the wonderful people they had. . . . It was like these people all were in their college and their space. And I was more like I'm still figuring out, I guess, what I wanna do. But I wasn't part of the Business College. I think that was kind of a clear understanding I got.

Simon explained there was not a learning community for undecided students and because he was not a declared business major he was not able to participate in the business learning community. Without a community of undecided students nor feeling included in the business community, he felt left out.

In contrast to Simon's experiences, students from Midwest State University talked about the community they found with other undecided students in their learning community and first-year seminar course. Students who were connected with other undecided students appreciated finding others with the same concerns or having similar

experiences. Ruth appreciated connecting with other undecided students through the seminar course because it made her “feel a little bit more relaxed.” Karen added that she liked the community of undecided students because she found other students with similar concerns related to selecting a major.

My explorations group was very similar to the situation I was in. There was a lot of people who just didn't get their first pick of what they wanted to do. And then there were some people who were actually just completely undecided. So I kind of appreciated seeing multiple aspects of that.

Karen was glad to find a group of students with similar concerns about making decisions about major selection and who had similar experiences with selective admission processes.

Students talked about the anxiety associated with being undecided because they felt isolated since most other students had already selected a major. But identifying a community of undecided students with similar concerns who were still exploring and making plans eased some of the isolation and anxiety.

### **Finding Community in Selected Major**

More students talked about finding community related to their major than community with undecided students. Ten students talked about the community in their declared major and were evenly distributed across all three institutions. Eight characterized their experience declaring their major as finding a home. Simon was one of the eight students who described his experience in that way.

And then I took an Operations Management Course and I loved it. It was at 8 a.m. every day and I looked forward to it. . . . And it's like this is what I want to study. It's weird but it's cool. I'm glad I found, like, a little home for me.

As an entering student, Simon struggled to find community because there was not a learning community for undecided students nor was he involved in a first-year seminar course for undecided students. But once he identified and engaged in activities related to his major, like courses and an internship, he felt connected and like he “found a home.” Similarly, Callie appreciated the community she found within her major department.

And within health sciences, everybody knows everybody and the faculty and professors are kind of with you for the last two years, and they're all your teachers, and they know you and I really enjoy that part of the community aspect.

Callie felt at home in her department because she connected with faculty and other students, although only the last two years. Students who started college with an undecided major connected with students in their major later because they took time to explore majors, meet requirements, and confirm their decision. Renee changed her major multiple times leading up to her junior year and had not had as much time to connect with people and get involved in her major department.

It feels like it [being undecided] put me behind because I haven't spent four years in this program making connections and getting the newsletters that tell me to do all these different things. . . . I wasn't in a community, really. . . . Especially with jumping around majors, it's been really hard. Like, I just don't have friends in my major yet.

Renee described feeling like she missed out on opportunities and left out because she did not have many friends in her major. Renee met a few other students in her major at her internship after her junior year, but because she had been an undecided student she felt behind in terms of connecting with other students and getting involved in her major department.

Students described identifying a major as “finding a home” in a community, as well as confirming their selection of a major. While different than finding community as an undecided student, community is clearly a component of the undecided student experience and a component missing from the existing literature.

### **Navigating the Institution**

This section focuses on the student descriptions of institutional policies and resources related to their experience as undecided students and relates to the third research question. Specifically, this section discusses the institutional policies and procedures students described, as well as student support resources provided by the institution, like advising and exploratory activities. As it relates to the institutional environment, students described policies, processes and support resources they encountered in their experience as undecided students. All of the students talked about various institutional policies and processes related to admission policies, the undecided timeline, and declaring majors. In addition, all three institutions also provided support resources for students to assist them with the process of starting college as an undecided student and selecting a major.

## **Institutional Policy or Process**

As part of their path to declaring a college major, students described policies and practices that they encountered as they navigated the institution. The policies students talked about were primarily tied to the timing of declaring a major or admissions to competitive programs, while practices were more likely to be institutional procedures or the ways in which policies were enforced at that institution. Specifically, students described competitive admission policies, processes for declaring a major, and institutional timelines for declaring a major. Students at all three institutions talked about different policies or practices, though some topics were raised more at one institution than another and are noted as each policy or process is discussed.

**Application and admission.** All three institutions utilized admissions policies that would automatically switch students to the undecided major if they did not meet admission criteria for their original major selection. Among the student participants, one student at each institution was impacted by the admission policies for competitive majors and were automatically switched to undecided when they did not meet admission requirements for their first-choice program. Karen selected nursing on her admissions application but did not meet the ACT requirement at Midwest State University. Instead, Karen was admitted to the institution with an undecided major:

I, uh, initially went in as, um, undecided because I had wanted to do pre-nursing, um, but I didn't have, like, the ACT that qualified for it. I think I was, like, a point or two under. Um, and so, um, explorations [the undecided major] was not my first choice. I didn't even know what it was at the time. Um, so I went into

explorations with the idea that I would still apply to nursing.

Karen did not meet the admission requirements for the nursing program as an entering student. Prior to the automatic switch of her major, she did not know undecided was a major nor did she have any interest in exploring different options. Even after being switched to undecided she intended to continue to pursue a major in nursing. However, as an undecided student she was guided through the exploration process by advisors in the exploratory advising office. Through that process, Karen ended up exploring different majors and found that there was another area she was more interested in. Allison had a similar experience at the University of Central State and ultimately decided to pursue a very different major (business) than her original selection (music).

I started undecided because I thought I wanted to do a music degree, overall . . . but the audition process was a little tedious and also very high stake for [the University of Central State]. And my original audition, I got approved for a minor but not a major. . . . they start you off like you're . . . taking more Gen Eds but you are still doing the music degree . . . And I found I wasn't really liking it [music]. So I stayed undecided rather than moving forward for another audition.

Allison started college undecided after not being admitted to her first-choice music major. She enrolled in general education courses as well as some music courses to continue to explore music and fulfil general education requirements. In taking music major courses, she found she did not enjoy them and began exploring other majors. Through talking with her advisor and taking general education courses, she identified business as her major with an English minor. Both Karen and Allison were denied

admission to their first choice major, but because of the forced change of major to undecided they had access to support to explore other majors and ultimately ended up finding a better fit major.

Students also described competitive admissions processes to programs that required specific courses or an established grade point average (GPA) as part of their experience. Students across all institutions mentioned competitive programs, but more students at Urban Public University talked about competitive application processes. Julia identified health sciences as her desired major in her first semester but had to complete specific courses and earn a competitive GPA to apply and gain admission to her selected program:

I knew that I wanted to make sure that I had a good GPA, um, to transfer into the Allied Health College . . . Because the Allied Health College here is definitely one of the most competitive colleges on campus. . . . and then I just kind of sent that [application] off and prayed to God it was gonna come back positive. I believe it was the first week of May my sophomore year I had just gotten an email saying, "You've been accepted into the program."

The institutional process of applying to a competitive program was a component of Julia's experience selecting her major. Although she had met the requirements and earned a satisfactory GPA, she was still concerned about the competitive admission and relieved when she was admitted into the program at the end of her sophomore year. For Julia, the process was stressful for several reasons. Julia applied to a competitive program when she completed her admissions application and was denied, which caused

her to reconsider her major and career goals in medicine. Because of her experience at the time of admission, she was concerned about another competitive admission process. The competitive admission process was also stressful because Julia was concerned about getting behind in her coursework and not able to finish her degree in 4 years.

Competitive admission processes can alter the trajectory for students and can be stressful for students who do not initially meet the criteria. Such processes are stressful and not always straightforward for students, like automatic switches to undecided and delayed admission.

**Major declaration processes.** Although not competitive programs, a small number of students described multi-step and confusing processes to declare their major. Callie described her experience of the process at Urban Public University as “a little confusing” and “feeling kind of lost about what I needed to do and when I needed to do [it].” Six students described processes that were multi-step to declare their major, with four of the six students describing a complex process at the University of Central State. Bianca described a two-step process to change her major:

Um, so I just went and talked to him [her advisor], and he gave me a form that you have to fill out to switch, and you have to turn it into the dean of the college that you're in and then you have to get another one for, um, the dean and the advising office of the college that you're switching to.

According to Bianca and other students at the University of Central State, students were required to get and submit forms to the academic unit they were leaving as well as their new academic unit. Allison, another student at the University of Central State, said that

the process had recently been updated and “made it easier for students” to declare their major using online technology.

In contrast to a multi-step process, a larger number of students (eight) described their experience with the process of declaring their major as simple. Maya’s experience at the University of Central State was a simple, one-step process in contrast to four of her peers who described a multi-step process to declare a major:

Yeah, I mean it was really simple, just our advising office does walk-in, so I was able to walk into the [exploratory advising office], just say, "I wanna declare my major," sitting down, signing a piece of paper, and [laughter] calling it good.

Maya’s experience declaring her major included filling out a short form. Other students described similar experiences at the other institutions as well. Not all students talked about the major declaration process as part of their experience, though all students who were undecided had to complete some kind of process to officially declare their major with the institution.

**Barriers to declaration.** Overall, 11 students mentioned barriers to declaring or taking courses in their selected major because they were required to meet specific requirements. Five students mentioned they did not take courses in their major until they declared the major officially. Kendra completed introductory requirements in business before taking any courses in her area of emphasis within business:

I don't think my choices really solidified until I started, because at [Urban Public University], for the first two years, you have just a bunch of intro business classes, pretty much. So I don't think I really felt confident in my decision until I

started taking marketing classes, actual marketing electives, and I think I really liked those, so I think those helped me feel like I was making the right choice.

While Kendra was confident enough in her decision to major in marketing before taking any courses, she was not able to confirm her decision until her junior year when she finally took a course in marketing.

In Kendra's case, the institutional practices surrounding the timing of taking courses in her major impacted her experience selecting a major. Similarly, seven students talked about an institutional policy as a barrier to getting into courses or declaring a major. Tia talked about taking a course at another school over the summer and transferring the credit to Urban Public University, but the timing of that process caused her to miss the deadline to apply for the program:

I would have declared it [marketing major] earlier, but in order to get in the college, you have to take . . . business calculus and get, like, a C minus or above. And I took that over the summer at a community college at home, and then the grades weren't posted until August, and the deadline had passed for me to apply . . . if that makes sense.

Tia completed the course in the summer in order to meet requirements to apply for the major, but the timing of the institutional process to have the credit transferred and apply to the major did not align which prevented her from applying at the beginning of her sophomore year. She applied and was admitted as she entered the second semester of her sophomore year. Although she did not mention the process delaying her graduation timeline, she preferred she had been able to enter the major earlier.

Institutional processes created barriers for students that prevented them from taking courses in a major or declaring a major which caused student anxiety. Such processes delay student decision-making, increase student anxiety, and could ultimately impact progress to a degree. Although students described some anxiety about delays to getting into their selected major, they seemed to largely accept the barriers as part of the process and something all students experienced as they navigated changing majors or getting into a competitive program.

**Major declaration timeline.** All undecided students must declare their major at some point and there is a lot of variation among institutions about the timing of that deadline. In the quantitative survey, 66% of advisors who responded indicated that their institution had some kind of deadline for students to declare a major. Half of those advisors indicated their institutional deadline required major declaration once students accumulate 60 credit hours. Student qualitative data suggested that students were aware of the deadline and what happened if they did not declare their major prior to that deadline. At Midwest State University, students must declare their major after two years or four semesters. However, exceptions are made for students like Renee, who changed her major back to undecided in her sophomore year:

Here, you get kicked out of Exploration after 2 whole years. Um, so I think it's technically 4 semesters, but they don't count summers. . . . I think they put your account on hold so you can't register for classes. . . . And you get more time-- like, obviously, I came back into Exploration my sophomore year, and I knew where I wanted to be, um, but I would have gotten time. It wouldn't have been

like, "Oh, this is the end of your sophomore year coming up. You get kicked out."

Renee was aware of the deadline, but knew there were exceptions for students like her who changed to undecided later and were working on admission requirements to specific programs.

Institutional policies and processes related to selecting and declaring a major contribute to the experience of undecided students. Such policies are intended to encourage student action to explore and select a major in an appropriate timeline.

Though students did not describe significant issues with specific policies or processes, they did impact how students navigated the institution and being undecided.

### **Institutional Support Resources**

Another component of the institutional environment that all of the students talked about as part of their experience was the support resources provided by the institution. Students specifically talked about academic advising and undecided student support offices.

**Academic advising.** Twenty-two of the 23 students talked about interactions with an academic advisor. Students talked about meeting with advisors for registration, to learn more about majors and requirements, and navigating institutional policies. In an earlier section, I discussed student descriptions of personal relationships with academic advisors. While those were very positive experiences, the following student accounts are about general advising interactions. More students (9) talked about positive academic advising experiences than frustrations with academic advising (6). Julia explained the

positive experiences she had with her undecided advisor and major advisor at Urban Public University.

[I] really kind of got to know my advisor because not only did we have to get in there, but I was one of those students where I'm like, "Okay. I have an idea of where I wanna go, but I really don't know if I'm gonna get there on my own." So I definitely leaned on my advisor a lot during that time [as an undecided student]. . . . Um, and then I was blessed with an awesome, awesome advisor in Allied Health as well. . . . I cannot speak enough good on my advisor. And maybe that's just because I've had these past couple years that I've really kind of learned how to utilize my advisors really well.

Julia met with her undecided advisor more than once per semester, which was the minimum requirement. She learned how to utilize her advisor to help her navigate and explore the institution, and therefore when she declared her major she continued to utilize her advisor as a support resource.

Maya also shared a positive experience based on how her major advisor influenced her experience and helped solidify her decision.

I would say she really opened my eyes to just how I could connect majors or how I could connect my minor to communication studies, and once again, kind of helping me lay out that 4-year plan of how I would reach graduation, which obviously has all come before fruition, [laughter], so.

Maya met with an advisor in communication studies to learn more about the field before she declared the major. However, the meeting was more informative and helpful than she

expected. Because of the meeting, she promptly declared the major. Overall students described academic advising as a positive experience that helped them learn about majors, reflect on their choices, and navigate institutional policies.

However, not all students felt like they were best served by their advisor. Colin met with his advisor at University of Central State, but did not find value in the interactions.

I had a person there who was my advisor and tried to help me. Honestly, it wasn't my favorite. Like, I didn't get that much help from my advisor. I don't really think they were that good at trying to help me decide, like, what I should take or it was more just like I told them something and they agreed with me, whatever I said, which I didn't really like because, I mean, that's not really advising.

Colin expected his advisor to ask more questions and discuss his decisions instead of just agreeing with him. Callie also did not feel like she got very much out of her advising interactions at Urban Public University and was thankful she already had some direction. Callie described her advisor as overwhelmed and therefore not able to provide much support during student meetings.

I remember I felt as though my advisor was overwhelmed. I was like, "Wow. I'm really glad I know what I want to do," because if I didn't, I don't think I would have received as much help, and wouldn't been able to ask the right questions, or things like that. . . . I think they have so many students that they need to accommodate . . . and I think that that can be a very overwhelming. I mean, that's a hard job to do. . . . And I was switched. I had one advisor, [but] couldn't meet

with her and so they put me with somebody else until she got back and then she ended up moving or had a promotion . . . I think I switched around between advisors like three times.

Callie felt like her advisor was overwhelmed by the number of students she served and saw multiple advisors because of staffing changes. Callie was able to ask the right questions because she had a good idea about what major she would pursue. Callie was not confident that she would have received any help if she needed help with major exploration or decision-making based on her interactions with academic advisors at Urban Public University.

Academic advising was one of the topics that students talked the most about during their interviews. Though students had mixed experiences, academic advising was clearly an important resource provided by the institutions and a critical component to the student experience.

**Exploratory student resources.** All of the institutions offered support services for undecided students, and almost all of the student participants mentioned the service in some way as part of their experience. Students were aware of the undecided student resources and described them in various amounts of detail. Students also talked about using the resources and how helpful resources were in their experience.

One element of the exploratory student experience is the support resources related to creating community and easing student anxiety about being undecided, as discussed in previous sections. Simon described how he felt about the first orientation session he attended as an undecided student before classes began at Urban Public University. He

recalled that he was uneasy about selecting undecided as his initial major, but the staff in the exploratory student support office reassured students and families about their choice.

I thought it [orientation session] was pretty helpful, from what I remember. I remember it was a whole auditorium full of kids in there, their parents, and they. . . just explained you're on a good path. . . . Wherever you guys [students] wanna go we'll be happy to help out. And, they were very warm and welcoming with that. I thought that was kind of cool. And then, you see you're not the only one who's an exploratory. Kind of felt left out, but when see everyone else it was like . . . It's okay, this is normal. It's a normal thought process to go through.

Simon described how the exploratory advising unit normalized the experience of being undecided for entering students at an orientation session.

Another benefit of being a part of the exploratory advising services unit was the resources and opportunities they shared with students to help them explore. Karen expressed appreciation for the support she received from the exploratory advisors at Midwest State University.

But I think in the end, I don't think I would've done as-- nearly as well as I have been doing just because of all the support I've had and of all the opportunities I was exposed to. Like, I knew when I could get into research, and I knew what volunteer shadowing opportunities I could've been exposed to, and all because when you're in explorations, they basically throw all this stuff at you and saying, like, "You can do all of these." Like, it's not just subjected to one thing, which was very nice.

Karen talked about the opportunities, like research and job shadowing, that she was exposed to through email newsletters, meetings, and the seminar course for undecided students. Further, she was exposed to information about a variety of options and not limited to a specific path. Allison also shared her experience with the exploratory advising office and the resources offered.

There's an entire advising unit for the undeclared track. . . . And they were super helpful. They send out lots of bulletins. . . . When you're undeclared, they reach out to you a lot to see how you're doing, see what you're liking. And then suggesting classes based off of that to try and get you towards a path that you can successfully complete and enjoy, overall.

Allison described the resources and specialized services she received as an undecided student. When students referred to the exploratory advising office they primarily spoke about the advising services they received.

**Exploratory academic advising.** All of the institutions had specialized advising for undecided students within the exploratory student support office, but other support services varied. Megan talked about the experience she had with her advisor at the University of Central State in the exploratory advising office, where undecided student advising and support services were housed.

Mainly my [exploratory advising office] one [advisor] . . . just listened to me and asked me good questions about my interests and was able to pull out from my answers what it seemed like I was interested in instead of just trying to force me

in a certain direction. She was really good at that and gave me ideas about classes to take and . . . she gave me this little interview sheets to ask people in a job that you might consider having about what it took them to get there and that was cool.

Megan described her experience with her advisor as helpful because the advisor asked questions that allowed the advisor to provide individualized feedback and suggestions for exploration. Megan was relieved that the advisor did not pressure her into certain areas of study or classes. In addition, the advisor provided resources to help Megan explore different career fields, like the worksheet of questions for an informational interview.

**Exploratory seminar course.** In addition to advising, each institution provided additional support services to students via a course, event, and/or online resources.

Midwest State University was the only institution that required students to enroll in a 1-credit hour first-year seminar course for undecided/exploratory students. All students at Midwest State University were required to enroll in a one-credit seminar course during their first semester based on their academic interest or major. The undecided student seminar course focused on major exploration, as well as university policies and procedures in order to acclimate students to the college experience at Midwest State University and student support resources. All eight of the student participants spoke positively about their experience in the course. Ruth explained she appreciated the exploratory course because she was able to interact with other students, like her, who were exploring different majors and career paths.

I definitely think it [seminar course] was a good experience, and I like having the survey class because you're with other people that are undecided. It makes you feel a little bit more relaxed.

Ruth described one of the benefits of the course was finding community and relationships with other undecided students in the seminar course. Other students, like Carli, described beneficial course content and helpful activities.

My first semester I had to be enrolled in an undecided class, actually. We met once a week. And they just went over a bunch of different things. We went over a lot of basic university policies, like when you could drop a class, when you could add a class. . . . And then we also went through a lot of activities to help narrow down what you wanted to do. We took tests online and stuff like that. . . . I think one thing that we did in that seminar class . . . that was really helpful is, they actually just gave us a full list of all the majors that [Midwest State University] offered. And we just went through and crossed out what we knew we didn't want to do.

Carli was one of two students who specifically mentioned the majors list activity as part of their experience in the undecided seminar course. The other activity that several students mentioned was an assignment that required they attend three or four lectures or information sessions presented by the different colleges at the institution about majors they offered. Mia was one of four students who specifically talked about the positive experience they had attending lectures about the different majors offered.

But, like, I really liked exploration just 'cause it was, like, you'd go to a lecture, you'd get presented on majors from people from the colleges and then they would present themselves and what they offer and everything like that. And then you just got to choose ones you were interested in.

Mia liked that she got to choose which sessions she wanted to attend and the information they provided her to inform her decision-making.

Karen also liked learning about the different majors at Midwest State University through the required lectures.

And I did, but dur-during the time I was in explorations, like, I learned a lot more about different majors that, like, made me sway otherwise where I wanted to go somewhere else, like, instead of just nursing. . . . I went to a nursing one. I went to a health sciences one, which was the one that actually influenced me to be in the health sciences program. . . . I would've never known what it was unless I went to a lecture like that. . . . So it was a very good experience for me. I'm actually happy that I went to those lectures and figured out what best suited me.

By attending different lectures, Karen identified a new major to explore, and ultimately declare, that she did not know anything about prior to the lecture. The lecture introduced her to a new career path and after job shadowing and doing her own research, she declared the major.

**Other undecided student activities.** All three of the institutions offered additional activities to supplement advising and/or interventions aimed at specific groups

of undecided students. Other activities offered through the exploratory student support offices included events, targeted interventions, and activities related to exploring majors.

The University of Central State offered major exploration events and targeted programs for specific groups of students. At the University of Central State, undecided students who have earned a total of 45 credit hours become part of a program to “get the ball rolling” (Steven) and help students who had not yet selected a major with their decision-making process. Kira became part of the program and it helped her explore and confirm the major she declared.

And since I was kinda late in my decision choosing, I got put on the campus program. So if you don't, like, declare within the first year and a half basically, they put you on the first track of the campus program. And when I got that email and the mail I was kind of scared. I was like, "Eh, is this a punishment or something?" . . . So there aren't any, like, class requirements, but there is a requirement that if you don't declare a major in, like, a certain period of time, you get put in a program that helps you make those choices and give you more information.

Through the required program Kira met with career coaches in the Career Services office, which helped her explore and understand her career options for majors in the humanities fields. Once she had that information, she felt comfortable declaring majors in philosophy and English.

Central State also offered an event in which students could talk to representatives from different majors. Three students mentioned they attended the major fair, including

Colin, who talked about visiting with representatives from two different majors he was considering.

The [exploratory advising office] had a Major Fair where they had a bunch of, like, booths with, "Here's this major, here's that major, come talk to them." So I did. I checked that out one time. I didn't stay for that long. Like, I think I went to the business booth, I went to the engineering booth, and maybe one other, but it was just kind of like an overview.

Colin described the major fair event he attended that the exploratory advising student services office coordinated for students to explore majors at the University of Central State.

Students from both Midwest State University and University of Central State talked about career assessments administered by the exploratory student support office. The six students who mentioned career assessments did not specify if the assessments were part of a specific program, advising interaction, or course assignment. Amy talked about a Holland code assessment she completed through her engagement with the exploratory support services office at Midwest State University.

We got these codes . . . I think it was a Holland Code. It gave you a list of stuff you could think about. And that's kind of helpful 'cause it turned out that . . . I don't think neuroscience was on the list but it was very similar to things on the list, so it just made sense. And it actually seemed like it really summed up what I was interested in.

Amy appreciated the assessments she completed as an undecided student. While the results of the assessment did not specifically include the major she ultimately selected (neuroscience), the results confirmed the general area she was exploring.

Navigating the institution emerged as a theme because of the number of students who mentioned policies, processes, and support resources provided by the institution that impacted their experience as undecided students. Students described their perspective on admissions policies, major declaration timelines, and exploratory student support resources. Of the institutional elements described, academic advising and the exploratory support resources were by far the most relevant to students. Institutional policies and support resources both intended to assist students with selecting a major in a timely manner, but the following section discusses the specific influences students described that impacted their decision-making.

### **Decisions, Decisions, Decisions**

This section shares the students' descriptions of influences on their selection of a major and specifically addresses the research question, "What factors do undecided students identify as being influential in the selection of an academic major?" The section begins with a short discussion of how students described their decision-making process followed by a discussion of the influences that shaped their decision-making and selection of a college major. This section is arranged in order of the most immediate influences, like family and peers, followed by indirect influences, like finances and social perceptions. These influences are divided into proximal influences from students' immediate surroundings, experiential learning experiences, and external influences that

indirectly shaped student decisions. This section also includes a discussion of how students wrestled with the concepts of major, career, and the meaning of work.

### **Decision-Making Ideas and Strategies**

Not many students specifically described their decision-making process, but a couple of students spoke to the topic of decision-making in their experience. Students described very different experiences. One student talked about avoiding decision-making, while another talked about her agency in the selection process. Another student spoke to “gut feeling” as a part of the decision-making process.

Carli’s description of her major selection experience suggests a general difficulty with decision-making.

I’ve just always been bad at decisions [laughter]. And so it was more just making a decision freaked me out. . . . Honestly, I think I was pretty set on genetics, but like I said, I don’t like making decisions. So I kind of just kept putting it off [laughter].

Carli delayed declaring her major for one semester because she did not feel confident making decisions generally. In addition, she felt like selecting her major was a big deal and she wanted to make the right choice. While the weight of the decision further made her hesitate, she was not confident with decision-making in general. While Carli avoided decision-making, Kira was empowered by one of the courses she completed.

Well, in the Positive Psych class, for instance, that was the first time I’d ever heard a teacher say to the class you create your own reality in a sense. . . . It

helped me realize like the agency I had in choosing my goals and finding those pathways and having the agency to do those things.

Kira was empowered by the idea that she was in charge of her decisions and describes her agency as it relates to choosing her major.

Another decision-making concept student's mentioned was paying attention to gut feelings. Max talked about combining intuition with information to select his major.

You can have as much intuition as you have based on logic and fact but you also gotta have that gut feeling too because you sometimes can't always get too deep into the research and the numbers and all that without deciding to just step back and just look at it for what it is.

Although Max was the only student who mentioned using gut feelings as part of his process, two other students advised other students to "trust their gut" in their major selection process.

Decision-making is a large part of the undecided student experience and a few students talked about their thoughts about the process of decision-making. In addition to their thoughts about decision-making, a few students talked about the process of elimination as a part of their experience.

### **Process of Elimination**

While few students specifically spoke to their strategy for choosing a major when they entered college, several talked about how they eliminated majors they were considering along the way. Fourteen students talked about eliminating options through

experiences, activities, or information they learned through family or research. Tia described her process of elimination that ultimately led her to select a major in business.

When I started to look at everything . . . engineering wasn't it. Anything in healthcare wasn't it. Anything financially wasn't it. So, I was just crossing things off the list. I was thinking I liked business then I started to look into business. I just ruled out . . . kinda like a process of elimination thing.

Tia did not specifically talk about why she eliminated those options, but she did recognize she used a process of elimination to narrow her choices. Once she narrowed her options, she sought more information about business degrees and found it was a good fit for her goals and interests.

Other students eliminated majors based on information they learned through experiences. Colin applied to the University of Central State as undecided, but had an interest in engineering. However, through a seminar course he learned that none of the engineering majors were of interest.

I did take one specific engineering course. It is a one-credit-hour, like, exploratory engineering. . . . each week, you went over a module that was like, "This is civil engineering, this is electrical engineering," like, step-by-step to see if you liked any kind. And I didn't like any of the options [laughter] they gave, so I didn't think engineering was gonna be for me.

Colin chose to enroll in an introductory engineering seminar course to explore related majors, but found none of the majors in engineering fit his interests and goals. Like other

students mentioned, taking courses in specific areas helped them identify areas or interest and subjects they did not want to pursue.

Other students explored lists of majors to learn about different subjects and narrow the list of options. Renee was anxious about being undecided without a plan for her degree and reviewed the list of majors and major requirements at Midwest State University online.

I literally had a moment in September [first year of college] where I scrolled through the entire list of majors [online] and read every single one. . . . I was looking for things that didn't have strong science and math components. . . . I made it to C, and stopped at City and Regional Planning . . . in our School of Architecture. Um, and I declared that in October of my freshman year. . . . I think I just picked one [laughter]. I think I literally didn't stop after I found city planning 'cause it really did interest me.

Renee had some criteria in mind to narrow the list as she searched majors online, specifically majors with minimal science and math requirements. As she scrolled through the list, she identified an area of interest that met her criteria and she decided to explore further by declaring the major.

Carli described a similar activity she completed in the exploratory seminar course she enrolled in at Midwest State University, described earlier.

And I felt like that was a lot easier for me to do than trying to pick, "Oh, like, maybe I'd want to do this." It was easier to decide, like, I'm definitely not into

arts, or like, music or stuff like that. And so we [Carli and her advisor] got it narrowed down to a lot of science stuff.

Through the activity, Carli narrowed the list of subjects to explore and identified that she was mostly interested in science-related majors. The activity made the process of exploring majors at Midwest State University more manageable by eliminating subjects she was not interested in. Through other activities and conversations with her advisor, she identified her major in molecular genetics.

Students explored and narrowed the list of majors to consider using a variety of strategies and criteria for elimination. Beyond the process of elimination, students' decisions were influenced by family, experiences, courses, and several other components of their environment. The influences students discussed are described in the next section.

### **Proximal Influences on Decision-Making**

Students described a variety of influences that shaped student major selection within their immediate surroundings or relationships. These proximal influences included family, peers, faculty, and university courses. The following influences consisted of regular interactions that shaped students thinking or knowledge of majors and careers, which ultimately influenced their decision-making. A second group of proximal influences focused on experiential learning, such as internships and work experience, which are covered in a subsequent section.

**Family.** As children grow up, they observe family members' work experiences, listen to how family members talk about their work, and they are shaped by family experiences. Fifteen of the 23 students talked about family influences on the selection of

their college major. Students described family influence on their decision making based on work history, job duties, experiences, or guidance to pursue certain majors. Students at all three institutions talked about family in relation to their experience selecting a major, but more students (six of seven students) at Urban Public University talked about the influence of family in their decision making. Colin explored business majors because of his knowledge of his father's work and his perception of the major being versatile:

And then I knew business was always gonna be a possible option for me because my dad does it. It's a good way to just kind of like-- if you're not exactly sure, it's a good general degree to get but I didn't really have any-- many other options that I was thinking of. . . . I mean, seeing him do well and . . . for the most part enjoy what he does [laughter]. I thought that would be a good option for me, too.

Colin talked about the influence his father's work experience had on his own exploration of majors. He was drawn to explore business and ultimately selected a business major with an emphasis in economics. While Colin determined business was a good fit for him, he took time to explore the field as it related to his own strengths and interests. However, he was definitely led to consider that field based on his father's work experience.

In contrast, family work experience could also drive students away from certain careers. Ruth initially avoided pursuing a business degree because of her mother's work experience:

My mom didn't even go to college, so she has been working at the same company for 20 years and she hates it. She just works in a cubicle. And so I think that was kind of why I was apprehensive about business at first because I was afraid . . . I

just had an idea that everyone just works in cubicles and crunches numbers all day, and I really did not want to do that. . . . I think I always kind of knew I wanted to do business, but I was apprehensive about that aspect of it. So then I thought I would go different routes, but ultimately it came back to that.

Ruth avoided declaring a business major because of her perception of the field based on her mother's experience. After she learned more about the variety of business fields through her courses and talking with friends, she recognized the major could be a good fit for her.

Family members also guided students to explore certain majors based on their knowledge of students' interests and personality in an effort to help students explore different options. Kendra was not sure about going to college in general and also uncertain about what major to pursue. She talked with her father about different options and he made a couple of recommendations based on her interests:

And my dad told me I should do marketing or architecture. And architecture did not sound fun, so I was like, "Sure I'll do marketing." I had no decision. He just kind of said, "You should do this," and I was like, "Okay." . . . I think he was just trying to tap into things I'm interested in. I really like social media and art and things like that, and I think he was just kind of looking up things related to that sort of stuff and that's what he came up with.

After talking with her father about a marketing major, she began exploring the field and required curriculum. After conducting her own research on careers in marketing and taking preparatory courses for the degree program, she declared a major in marketing.

Like Colin, her family encouraged her to explore a specific area, but she conducted her own research to verify and confirm her selection.

Five students were drawn to specific fields because of a family connection to an issue or topic. These students talked about family medical/physical conditions that influenced their decision to pursue careers in healthcare. Growing up, Callie saw her mother struggling with multiple medical conditions and that experience ultimately played a role in her major selection.

Um, I think, where I am now, currently, it definitely is very interesting to me but my mom has always had these problems. . . . Um, and I didn't really realize that until I came to college and they were like, "Yes. This disorder is only present among, this percentage of people," and I was like, "That's my mom [laughter]." Um, I think, subconsciously, yes, just because it's interesting but it wasn't necessarily, like, the biggest factor at the time.

Callie planned to pursue a career in medicine and although it was not a big factor at the time she selected her major in physiologic sciences, she recognized that her mother's medical history likely played a role in her experience exploring and selecting a major.

Students described several ways in which family members influenced the exploration and selection of a college major. Family members' work experiences, life experiences, and family suggestions for students to consider were all ways in which family influenced students' major selection. While students did talk with family about work, students also observed family experiences with work. Additionally, family life

experiences with medical conditions also influenced students' decision-making to consider healthcare related fields.

**Peers.** Students described the influence peers had on their major selection. Seventeen students talked about peers as a part of their experience exploring and decision-making. Peers influenced major exploration through information sharing, comparison, and support. Seven of the eight students at Midwest State University talked about peers in their courses or residence hall who influenced their decision-making. Amy talked about the group of peers she identified with as she was exploring majors. As she was exploring different science majors, she realized she knew several students in the neuroscience program at Midwest State University.

I knew a lot of people who were doing neuro and they just seemed like they really liked it. And it's kind of like a good group of people. Like, you get the sense that, like, oh, all these people are, like, really smart. They're very focused which is a good group of people.

Amy knew some other students in the neuroscience major and saw they enjoyed the program. She also liked the idea of associating with a group of students focused on being successful academically. While Amy's experience with peers confirmed her major selection, Julia talked with peers to learn more about different majors offered at the University of Central State. Five of the eight students at the University of Central State referenced peers in their experience as an undecided student. Julia described the influence her sorority involvement had on her major exploration:

Girls in my sorority had so many different majors, so they would recommend classes. So that was something that, like, really shaped my first semester . . . girls in my sorority, and my friends from high school, like, talking to them about their classes and, like, what they enjoy and didn't enjoy, and kind of like aligning my interest with that.

Julia used recommendations from peers to explore different areas as well as learn about different majors.

Similar to Julia's experience learning about majors from other students in her sorority, several students talked about learning about majors from peers in information sessions hosted by the institution. Five (out of the eight) students from Midwest State University described information sessions hosted by different departments for undecided students that included panels of students in the major. The information shared from the perspective of a peer impacted seemed to positively impact student decisions.

For example, Karen specifically traced the discovery of her major to an information session about health sciences.

So I had at this point gone back and forth between nursing and education. And when I went to health sciences, there was an OT [occupational therapy] student there talking about, like, OT and what it was. And then I realized it was a very good mix of what I wanted which would've been, like, teaching and medical field. And if I went through the health sciences program, I could apply to grad school for OT. . . . Um, so that's kinda like how I chose my major through explorations

'cause I, I would've never known what it was unless I went to, like, a lecture like that.

Karen was considering occupations in healthcare, but was not familiar with occupational therapy until she attended the information session. After learning about the field and gaining the perspective of another student, Karen believed it was a good mix of teaching and healthcare. The other four students who mentioned the information sessions had similar experiences with information sessions and described the sessions as very helpful in their decision-making process.

Peers also influenced students to pursue alternative majors that were distinct. A few students (six of 23 across all institutions) talked about not wanting to “do what everyone else was doing” and intentionally sought out majors that were unique. Amy was exploring science-related majors to prepare her for medical school and sought out a major different than her peers pursuing the same medical school path.

And then, um, once I figured, figured out science, I was like, "I don't wanna just do biology," because, like a lot of people that go to med school just choose that.

So I want something a little bit more unique and specific. . . . And then just, like, all the things I heard about neuro, I kinda just went straight there after that.

Amy's experience selecting a major was influenced by a number of her peers who were interested in medicine and pursuing a biology major. She wanted to take a different path in a more specific area of study and ultimately chose to pursue a major in neuroscience at Midwest State University.

Students also talked about relationships with peer mentors that were beneficial relationships as they explored different areas. Four of the five students who talked about having a mentor to help with their decision-making process were from Midwest State University, which had a peer mentor component to their exploratory advising program. Karen had a peer mentor, who had also been an undecided student at one time.

My mentor at first had been an explorations student. . . . I'd say having a peer mentor was a really positive experience for me just to ask someone different questions about scheduling and guidance. A lot of my friends who were already in actual programs or pre-programs didn't necessarily have that. And I think I benefited more from that because I actually had someone to ask other than my adviser. I had an actual student I could talk to.

Karen appreciated having a student who had been undecided as a mentor as she explored majors and navigated the institution as a first-year student. Like the students who talked about information sessions with student panels, the perspective of another student was helpful and impactful. Although students at all three institutions talked about the influence of peers, students at Midwest State University were much more likely to discuss peers in their experience. The exploratory advising program utilized peer advisors as well as peers in information sessions, which clearly impacted student experiences and decision-making based on their comments.

**Faculty.** A few students mentioned the influence of faculty in two ways. Eight students talked about how faculty influenced their decision-making. Specifically, faculty influenced student selection of major through teaching and classroom interactions, as

well as interactions outside of the classroom. Five students stated it was a course instructor, as well as interest in the subject matter, that led them to select a major. Colin enrolled in an economics course based on his interests in engineering and business, but his course experience quickly solidified his decision to major in economics:

Honestly, I took an economics course my second semester freshman year and I had an amazing professor. And I really liked the subject. I really did well in the class. I could see myself doing more with it. And then I took the next-- like, I took Intro to Macro first and Intro to Micro second next semester and I liked that just as much. So that kind of like "Okay, this is what I want to do." And I stuck with it.

Colin enrolled in an economics course during his second semester at the University of Central State and his experience with the course instructor led him to consider the major and take the next course in the sequence. Positive course experiences led students to take additional courses in order to learn more about the subject as well as the curriculum.

Four students related helpful experiences talking with faculty about questions and interests related to their major selection. Heather described her experience meeting with one of her first-year instructors at Urban Public University to learn more about a marketing major.

My marketing class, my professor, I really liked her, so she was one of the people that I met with a couple times to ask what I should do and what she thought major I would be the best fit for. She had talked about the variety of things I could do with a marketing degree and how I can still do art-like things with it.

Heather wanted to incorporate art into her career, but was exploring different ways to use her art skills and identify job opportunities. Meeting with her marketing instructor outside of class provided an opportunity to talk one-on-one about her specific interests and goals.

Faculty influenced students' decision-making as course instructors as well as information sources and advisors. While a small number of students mentioned faculty specifically as influences, many more students talked about the influence of courses and curriculum. Faculty definitely influence course content and curriculum, but students did not associate the influence of courses to faculty specifically in their descriptions of major exploration and selection.

**Courses and curriculum.** Almost all of the students (21) talked about how courses and the major curriculum influenced their decision-making. All of the students at Urban Public University and University of Central State talked about ways in which courses and curriculum influenced their decisions. Six of the eight students at Midwest State University shared experiences related to courses and curriculum.

Course experiences that led to turning points in their decision-making included enjoyment of the material, good instructors, and strong performance in a subject. Maya identified an introductory level communication course at the University of Central State that she completed in her first semester as an experience that led her to learn more about the major:

We have to take these courses or general requirements and I took COMM 101 which was just kind of the base communication class. And I really loved that

class. I loved just, once again, the different avenues that you could take with communications.

Maya enrolled in the course to fulfil requirements for general requirements but instead found that she enjoyed the subject enough to meet with a faculty advisor to learn more about the major. Combined, the course and the meeting with a faculty advisor, solidified her decision to officially declare the major. Similarly, Kira enjoyed her second semester philosophy courses so much that she continued taking courses in that area:

I didn't know what I wanted to do in my future. But I knew that I loved, like, my Philosophy classes. And I'd never taken any Philosophy in high school. So I think it was, like, second semester freshman year, I had at least two Philosophy classes. There was one semester, I think it was sophomore year where I took three Philosophy classes and one English. Like, when I didn't know what classes I would take, I just kinda was like, "Let's do some more Philosophy [laughter]." And, and that ended up working out really well. But at the time, I didn't know that I would major in that subject.

Kira had no experience with the subject before college but enrolled in courses because she was drawn to humanities courses. She did not intend to major in philosophy but continued taking courses because she enjoyed the course content. She eventually declared philosophy as one of her majors at the end of her sophomore year.

Another way that courses shaped the process of major selection was the required courses of within the curriculum. Courses within the curriculum confirmed some students' selections, while deterred other students from some paths. Half of all of the

student participants talked about required courses, but more students at Midwest State University talked about various requirements related to courses that shaped their experience. Students referred to required courses as a means to reach their goal of completing their degree. For Carli, the required courses also helped solidify her decision to declare a major in the sciences:

I think doing well in the, um-- in the biologies and the, the core coursework, I think, kind of helped me be, like, "Okay. I could do this," you know? Because you hear about all those people, like, failing out of chemistry and stuff. And I was like, "Oh. I did okay [laughter]. Like, I think I can do this [laughter]."

As part of the curriculum at Midwest State University, Carli was required to complete course in core science courses, like biology and chemistry. In her experience, doing well in those courses helped confirm the direction she was headed in.

In addition to course content, students reported they were led to select a major because they discovered an aptitude in the subject area. Three students talked about discovering ability in a subject they had not considered as a factor that led them to select a major. Allison started exploring business majors after deciding not to major in music. As part of her exploration she enrolled in an accounting course and did very well. Allison explained that she "took an accounting class. . . . And found I was apparently really good at accounting. And that was, apparently, a weird thing, so I [laughter] contacted the advisers there." Doing well in the course, prompted Allison to learn more about the major and confirmed her thoughts about pursuing a business major.

Not all student course experiences were positive in shaping their major selection. Initially Max was interested in pharmacy as his major, which requires a good amount of chemistry. However, in his first semester he struggled in chemistry and had to reconsider his major selection.

After my first semester, I got a D in basic chemistry. . . . After [that] I knew that chem and that pre-pharmacy wasn't going to work 'cause chemistry wasn't my thing I had to come up with a new plan. So for about two semesters I think, I was officially called an undeclared major.

Max discovered his initial major selection was not a good fit based on his performance in a chemistry course. The discovery led him to change his major to undeclared so that he could explore other majors. Although most students talked about courses as a way to discover an interest area or aptitude, courses also had the potential to influence students away from subjects.

Courses are clearly a significant consideration for students in their process of selecting a major as the majority of students described in their interviews. Course subject matter, instruction and student ability in the course were key factors for the students who talked about courses as experiences that shaped their decision.

Beyond individual courses, students also explored curriculum requirements and plans for majors in order to inform their decision. Ten students, five of which were at the University of Central State, talked about reviewing curriculum and requirements as an action they took to explore majors and make decisions. Julia started exploring online

information about majors immediately after her orientation session when she wanted to change direction and pursue a career in healthcare instead of business.

So that evening, I kind of just started going through majors and different careers and what those curriculums looked like and was kind of just going through stuff and looking at what [Urban Public University] offered for each major. . . . And I looked 'cause they have it all available online which was really awesome just to be able to kind of see what a curriculum looks like before you even dive into it.

Julia used the curriculum information provided online to begin exploring different majors related to healthcare before starting courses. She was grateful that the information was available and provided a preview of course requirements and plan for the major before she began taking courses. For Julia, the information she found helped her identify a major that aligned with her career goal as well as her strengths as a student.

Courses and curriculum played a large role in student major selection based on the number of students who discussed courses as well as amount of time students spent talking about courses and curriculum. Whether courses were part of their exploration plan or not, courses provided students information about majors that influenced decision-making. Similarly, understanding curriculum requirements for majors provided insight into the major that influenced decisions.

### **Influence of Experiential Learning**

Experiential learning is also considered a proximal influence, much like a course. However, experiential learning involves different student interactions with the environment and are in most cases more temporary. In addition, experiential learning is

also tied closely to career exploration and development. Eighteen students talked about experiential learning activities, including job shadowing, internships, paid work experiences, and research. Although students at all three institutions talked about experiential learning activities, more students (seven out of eight students) at Midwest State University participated in such experiences.

**Job shadowing.** Prior to selecting their major, four students shadowed professionals in the field to confirm a major or career path they were considering. Of the four, three were students at Midwest State University. All four students spoke about how significantly job shadowing influenced their decision-making process regarding their major plans. Renee was one of the students at Midwest State University who described her job shadowing experience as part of her major selection process. Renee decided to pursue a major in business but was trying to decide which emphasis area within the major to declare.

So I went and shadowed my mom at work, and I was kind of interested in human resources as well. So I met with some of their HR people and some of marketing people that were in training and development. And I was like, "Well, I'm never interested in marketing," so I declared human resources.

Renee used job shadowing at her mother's place of employment to explore areas within business and determine her emphasis area within her business major.

**Internships.** Students similarly used internships to confirm their major selection and explore career paths related to their selected major. Thirteen students participated in internships during their time in college and several talked about the influence that

experience had on their major selection. Six of the eight students at Midwest State described internship experiences that shaped their major and career plans. Ruth talked about how she used internships to explore different industries and career paths, but she also talked about the pressure she felt from faculty at Midwest State to pursue internships.

I worked in the manufacturing industry. So they made robotics and did die casting and forging . . . it was a last minute decision to find an internship and so I took it. . . . But it is a little bit intimidating because all of your professors are like, "Who has an internship for this summer? Who is looking for an internship?" and I was the only one that was not. So I was like, "Well, maybe I should start looking." But it was a good opportunity, so it was good that I did it.

Although the experience was beneficial, Ruth felt pressured to apply for an internship. Once she secured an internship the experience helped her determine she did not want to work in manufacturing, and instead pursued an internship in another field the following summer.

Students primarily talked about internships as a means to explore different career paths, but three students spoke about internship experiences that shaped their major selection process. Simon talked most extensively about his internship experience and how it confirmed his interest in business:

And what the internship really focused on was teaching, um, students how to manage and run a branch of their own business. . . . we did exterior house painting. . . . And I loved it. I did really good. . . . I really did a lot of work on it.

And I was really passionate it for some reason. Just kind of took me over. It was a really good experience, overall. And it just, like, stuck with me and this is what I wanna do. I wanna be in business.

Simon enthusiastically described his experience and the impact it had on his plans to pursue business and helped him determine his emphasis area within the business major. His experience overseeing a business led him to pursue an operations management emphasis within his major.

**Work experience.** Student descriptions of paid work experience and internship experience were very similar. Students identified both types of experiential education as experiences that confirmed their major selection. Although several students worked while they were a student, six students specifically associated the work experience with their decision-making process. Holly started working after she was dismissed following her first year at Midwest State University. She worked about 25 hours per week while she was taking classes at the community college.

I actually got a job in their HR department. . . . And I don't want to say that was, like, the one point, but that was definitely one of the major landmarks that really changed my, kind of how I went about things and problems. And so I owe a lot to that job, honestly.

Holly did not seek employment as a means to explore career options, but ended up in a position that she enjoyed and the experience led her to pursue majors related to her experience. Both work experience and internships influenced student decision making about majors and career paths.

**Undergraduate research.** Students similarly talked about research as an influential experience as they confirmed their major selection and explored career paths. All three institutions are classified as Very High Research Activity based on the Carnegie Classification of Institutions of Higher Education (n.d.) and only three students talked about participating in research experiences. Amy got involved in research lab during her sophomore year and she enjoyed the experience so much that she reconsidered her career plans.

I definitely am gonna do some sort of grad school but I'm actually thinking, like, more like MD-PhD because I don't know if I wanna practice or if I wanna do research. So this year, I started working in the research lab. I don't get paid, it's volunteer research. I get credit hours, though, so that's cool. . . . I love it. And, like, I never thought I would say, "Oh, I wanna do something other than med," but I might want to do something other than med. So now I'm thinking about getting both degrees and seeing where it takes me.

Amy had selected her major and planned to go to medical school until she got involved in research. Her experience in the research lab provided an opportunity to explore career paths related to her major that she had not considered and ultimately adjusted her post-baccalaureate plans.

Experiential learning influenced major selection decisions for many students. The hands-on information and experience students gained from internships, job shadowing, and other experiences was a significant factor that helped students identify and confirm ideas about majors and careers.

## **External influences**

External influences are ideas, concepts, and forces that indirectly effect how students think about majors and careers. These influences emerged based on the number of students who commented on these issues or perceptions. Students talked about external forces like the influence of finances, finding a job after college, and social perceptions of majors.

**Finances.** Sixteen students talked about financial issues as a force in their decision making, specifically about making money after completing their degree. Students across all three institutions talked about issues related to financial security, but more than half of students at both Urban Public University and University of Central State mentioned money related topics in their responses.

Students were concerned about finances in terms of the financial implications after earning their degree. Students described the value they placed on financial security in a career in their search for a major. Colin talked about his desire that he identify a major that led to a career he liked and assured financial security.

Yeah, so I think the big thing for me was, like, looking to the future. I wanted to make sure it was a major where, like, I wouldn't hate what I was doing but still have a good financial path ahead of me.

Similarly, Max was concerned about financial security but in a different way than Simon. Max was driven to identify a major that led to a lucrative career. Max was interested in marine biology, but recognized the limitations of such a career, but did not talk about liking the field. Instead at the time he applied to Urban Public University he chose to

pursue a pre-pharmacy major because of the job demand and financial rewards once he completed a pharmacy degree.

So I thought, like, "All right, I'm gonna grow up and be a marine biologist." Of course, as you get a little bit older and a little bit more wiser and logical [laughter], you kind of realize, "Huh, man, this ain't gonna work [laughter]. Well, let's see, what's a close second? Oh, well, I'm . . . actually pretty good in science in analytical senses." So I figured, "Mm, which one pays very good [laughter]? Let's go pharmacy."

Max placed a high value on financial security in his search for a career and related major. Finances played a role in the decision-making of undecided students because of the importance students placed on financial security after earning their degree.

**Pressure to get a job after college.** Very closely aligned with students' concern regarding finances was the importance and pressure to find a job after completing their degree. Fifteen of the 18 students who talked about finances also talked about job security. Although students at all three institutions talked about finding a job, all eight students at University of Central State mentioned the importance of finding a job after graduation. The difference for student participants at the University of Central State could be related to socioeconomic differences between student populations at the institutions. After her first year of general coursework, Bianca reviewed the list of available majors at the University of Central State to see what majors and related careers matched her interests and had good career opportunities.

I went back to [the] list of majors and looked to see what I thought I could be able to do, what I thought was interesting, what kind of fit in line with what I was already working on and what there would be job demand for. . . . my mom's always encouraged me to find something that there's gonna be demand for. Um, just in the sense of practicality. And then finances kind of just plays a role into that, where you wanna be in something that's gonna pay off.

After reviewing the list of majors using her criteria of interest and job opportunities, Bianca declared a major in forensic science. However, a year later she realized the career field was more stressful and emotionally challenging than she expected and began exploring other majors and careers.

Similar to Bianca, Steven was very concerned about employment outlook as he explored majors at the University of Central State. He adamantly talked about not wanting to go into a field that he couldn't get a job in immediately after he completed his bachelor's degree. He declared a major in engineering and had a job lined up at least three months before he graduation.

Renee was driven to higher education as a means to pursue job opportunities and that remained her focus throughout her exploration of majors at Midwest State University.

I don't know if it came from my parents or not, but I just felt like everyone talks a lot about how college grads flounder for a career afterwards, and I was like, "I'm not doing that." I feel like I love to work, and I felt like if I could have gotten a job out of high school that would have been satisfying for me that didn't require a

college degree, I absolutely would have done that. I am here [college] for the job opportunities. And obviously, it's giving me a lot of education to help me with them.

If money was not an issue, Renee would pursue a major in French. But she and her family were concerned about job opportunities with such a degree and she ultimately chose to major in business.

Since seven students were in their last semester, finding a job was particularly relevant to those students. Kendra was very focused on finding a job in her last semester at Urban Public University.

I kind of set up my schedule so I would only have to take three classes my last semester so I could really focus on applying for jobs. So I've been applying for a lot of jobs online and just trying to network in general just to get a job.

Kendra had made some connections to alumni as part of her job search, but she was “very stressed” that she did not have a job lined up three months prior to her graduation.

Students described the pressure and stress they felt to identify a major that led to good job prospects. In at least one case, a student was driven to pursue a major based on the job opportunities. Both finances and job opportunities were forces that informed students' exploration and ultimately their selection of a major.

**Social perceptions.** Students talked about social perceptions related to major selection and how such perceptions and messages influenced their experience as an undecided student. Seven students talked about social perceptions related to majors, though almost all of these students attended either Midwest State University (3) or

University of Central State (3). These social perceptions about viable majors and job opportunities with those majors indirectly influenced students' decision making.

When asked what advice she would give undecided students, Kendra specifically talked about the social perceptions of certain majors at Urban Public University:

One thing I think that's hard for a lot of students is sometimes majors and different colleges . . . are judged based on how easy or hard they are. Saying you're a business student, everyone's, "Oh, well, that's so easy," or other things, if you're in health or engineering or something like that, just not limiting yourself to specific things just because of social perceptions, I think, is important.

Kendra advised undecided students starting college not to limit their exploration of majors based on social perceptions.

Social perceptions of humanities majors caused Kira to hesitate to declare a major in humanities.

Kira, University of Central State - And also, like, as someone who's interested in the humanities, sometimes it can be scary to, like, declare a major in those fields when you're, like, uncertain about your career path. So that was, like, another reason I decided to stay undecided because when I was a freshman, I didn't feel as comfortable majoring in the humanities. . . . And I think there's somewhat of a misconception about the viability of career paths.

Kira hesitated to declare a major in the humanities because of the perception that students with humanities majors do not find jobs after college. After she researched career paths and talked with other students and alumnx, she felt more comfortable declaring her

majors in philosophy and English. Although the social perception did cause her to hesitate, the negative association did push her to conduct her own research and identify potential career paths prior to graduation.

Students discussed their ideas about decision-making as well as the many forces that shaped their selection of a college major. Students talked most about the influence of family, peers, courses, experiential learning, and finances. While I was not surprised by the topic of finances as an influence on students' decision-making, I was surprised at the extent to which the topic arose. Concerns about the financial investment and outcomes of higher education clearly impact the student experience, as well as major selection.

### **Major vs. Career**

Another theme that emerged throughout my conversations with students was the relationship between major and career. Almost all of the students (21/23) talked about the relationship of academic major with career. As undecided students, all of them struggled in some way with selecting a major. However, students also clearly wrestled with the relationship of majors with career paths. Students described the differentiation between major and career, as well as indirect pathways to careers. Tia clearly articulated what several students realized in their journey about the relationship between major and career:

And then also, a big important thing is . . . a major doesn't, like, depict your career. . . . Like, you have your whole life to figure something out, and deciding that major is not something that's going to affect you for the rest of your life. . . .

And even a lot of the undergraduate degrees now in today's age, they're really

versatile, and you can use them in certain things. I feel like our careers have a different outlook now than they did before.

Tia realized that her major did not have to be the same as her career path after she completed her own research and internships where she talked with professionals in the field.

Most students talked about the lack of connection between majors and careers as a revelation they were surprised by and did not realize until they talked with people. Ruth described how she learned that her major did not have to match her career path.

It seems like a big decision right now, but I mean, it doesn't mean you're stuck in that job. My dad did animal science and now he runs a tennis center, so no correlation whatsoever. So that kind of just made me a little bit more relaxed about the whole situation. And I mean, a lot of my family members have done the same thing. They graduated with this degree, but are doing something totally different that they like. And so it's kind of just, I think, a process to figure out what it is and this is just part of it.

Ruth realized early that her major did not have to match her career path because members of her family were working in areas that did not specifically match their undergraduate degree. For Ruth, the recognition that her major did not have to match her job after college provided relief from the weight of major selection decision. Four of the five students who talked about discovering that major and career do not have to align selected majors they described as “broad” and could lead to a variety of different pathways.

**Broad majors.** Altogether, 12 students selected majors in subjects they felt were broad and could lead to a variety of pathways. Specifically, the 12 students who spoke to the attraction of a broad major selected majors in business or communications. Ten of the 12 students selected majors in business administration, marketing, economics, or management. Students at all three institutions talked about the benefit or attractiveness of a broad major, though a higher proportion of students at Urban Public University and University of Central State spoke to this idea. Simon was one of the 12 students who was attracted to a major in a business field:

I liked the creative part of it also with the, um, um, just the, yeah, openness of it because, I mean, everything really in America is a business in some way, shape or form. So, I mean, whether it could be non-profit or anything. It's-- it can be applied to anywhere. And I thought it was-- it was good, it was very openminded.

Simon was attracted to a business-related major at Urban Public University because of the applicability of the degree to many different job opportunities. Similarly, Ruth described business as a “safe” major at Midwest State University that provided her with a variety of career options. “I felt like business is a pretty safe option. You can do a lot with it after” (Ruth).

Likewise, one reason Maya selected communication for her major at the University of Central State was that it did not lead her to just one career path.

I didn't wanna pick a major that was like accounting or finance, that would put me in one box. I really wanted to diversify myself and be able to . . . like, our communication tag line is like, "Advocate, negotiate, and relate." So being able to

use those three skills to really sell myself in the job market, whatever I decide to do and not just for one job.

Maya appreciated the variety of skills and applicability of those skills to a variety of different career paths.

The connection between major and career was a topic that students explored and discovered along their journey to select a major. Some students realized the lack of direct connection between major and career, while some students chose to pursue the connection by selecting a “broad” major that provided a variety of career and job opportunities. Further student discussion of major and career involved combining subject area interest or passion with career choices.

**Combining passion and career.** Another element related to the major and career connection that students discussed was the desire to combine passion and career. Students described wanting to enjoy what they do and enjoy the subject they selected as a major. Eleven students talked about combining their passion for a subject and career. Dan best captured this idea about the relationship between students’ passion and work: “I love this and I think I can make a career out of it. . . . What's the old saying? If you love what you do, you'll never work a day in life.” Some students were more driven by an area they were passionate about, while other students were more interested in finding the perfect combination of subject matter interest and viable career path. Maya described her belief in following one’s passion and identifying a major that she enjoys the subject matter.

Um, and as well as just going more by following your passion. . . . the one thing I always ask myself is like, "What can I see myself doing that I don't see as work and that, like, really makes me not think about, you know, like, checking my phone, or looking at the clock, or things like that? Like, what truly, like, gets me excited to talk about school?"

Maya believed that pursuing a major and career should be in an area of strong interest in order to sustain her attention. Similarly, Kira believed that following her passion would lead to a more enjoyable career path:

It's better to be, like, a creative writing teacher or someone who's really passionate about what they do than to be, like, the worst doctor in the hospital, you know. . . . Like, I know I could do science, but I wouldn't love it. And then every day, it would be hard going to work.

While Kira was more driven by passion, other students described their search from a more practical approach with more weight given to the job opportunities and financial implications. Max described his experience of selecting a major combining logic and gut feeling:

Cause I know you have to follow your heart but you also have to use your mind in a sense too because you gotta be kinda real. Because like I said, I love marine biology. . . . But I just didn't see a safe bet coming from that, so. I'd say the first thing you'd want to do is to just gather your information. Once you've got it all laid out in front of you, step back and . . . do some soul searching.

Max weighed his options after exploring different majors and careers. While he loved marine biology, he realized he was more interested in job security. Not all participants had resolved this internal conflict between “head and heart.” One student described her struggle and search to combine interests with career. Renee thought the process of identifying a major would be easier.

So I definitely thought I would be a little more-- like, it just wouldn't be as hard. I wouldn't have to think about so many things. I thought I would just pick what I was interested in. . . . So I feel like my advice is all very conflicting [laughter] 'cause I want people to do what they're most interested in but . . . I want them to do it headfirst, but you kind of have to play it safe because, like, I have, like, a whole semester's worth of credits that I don't apply to my degree at all. So I don't know. And I think I finally had to decide that I'm gonna have a career that I'm okay with, and I'm gonna enjoy the satisfaction of going to work every day and, like, doing well in that but I'm gonna really get my enjoyment from being outside of work and cooking and . . . stuff like that.

Renee had many interests and wanted to combine her interests with her academic and career plans, but struggled to quickly make the connection and resolve the internal conflict she felt between passion and financial security.

Students came to different terms with the idea of major and career, but the connection was clearly something with which students wrestled. Though likely not unique to undecided students, the idea of major, career, and passion for a subject is

another influence on student selection of major and how they think about combining those ideas.

### **Other Findings**

The four overarching themes captured ideas that were discussed by multiple students or emerged in several ways. However, there were a few topics that I was surprised students did not discuss or were only mentioned by one student. Specifically, students did not directly discuss the complexity of degree requirements. In addition, only one student mentioned a resource outside of advising to support their exploration of majors. And, only one student also mentioned the lack of scholarships for undecided students.

Students at all three institutions talked about the number of majors offered at their institution, specific requirements for majors, as well as the pressure to declare a major earlier than later in order to complete their degree in 4 years. Although no student spoke directly to the complexity of degree requirements, their discussion of these topics suggests an unspoken concern about late changes of major due to specific degree requirements and the complexity of degree requirements that make changing majors late in their academic career difficult.

The second interesting omission was the lack of discussion about other resources to support student major selection. Student participants talked extensively about the advising, especially the exploratory advising office at each institution. All three institutions have additional resources for students that could also assist them with major exploration. However, only one student specifically referred to a resource outside of

advising or undecided student services. Kira referred to the career center as a resource she utilized for assistance during her sophomore year:

There's a whole department in the student union called career services that there are specific career coaches . . . So if you don't declare within the first year and a half basically, they put you on the first track of the campus program. . . . But there are three different parts of it to help students along. . . . basically that first part of the compass thing that's where I got pointed in the direction of [career center staff] and the career coaches. . . . [that] helps you make those choices and give you more information.

Kira was connected to the career center services because of an intervention program for sophomore-level students who have not yet declared a major. As part of the program, Kira met with a career coach who helped her learn more about careers related to majors she was considering in the humanities. Kira was one of two students who mentioned the intervention program, but the only student at the University of Central State who used the career center resources. Despite the close relationship of selecting a major and a career, Kira was the only student who described using the career center on her campus.

Finally, despite the various financial concern's students expressed, only one student mentioned the lack of scholarships available to undecided students. Tia articulated one of the negative elements to starting college in an undecided major is the lack of scholarship opportunities.

One of the cons [to being undecided] would be . . . a lot of colleges may offer certain scholarships for some people, and they offer certain scholarships for

certain majors, and when you're undecided, you don't really fall into that bucket. I transitioned into my college [declared a major]. And maybe had I applied there originally and was accepted, I could have been offered admission to the honors program or been offered extra money, but they didn't know about me 'cause I applied undecided.

Tia had a good experience in the undecided major and by working with her advisor she was able to quickly select her major. However, she did wonder about scholarships she may have been eligible for if she had selected a major on her admissions application instead of selecting undecided and declaring her major later. Given students concerns about financial issues, scholarship opportunities could influence student major selection at the time of admission.

Though not larger themes discussed by multiple students, the lack of discussion about the topics in this section provides further insight into experiences and influences on decision-making.

### **Conclusion**

The research questions guided the exploration of qualitative data and development of themes described in this chapter. The analysis of the qualitative interview data led to six overarching themes that described the undecided student experience and influences on major selection. The six overarching themes were: 1) navigating uncertainty, 2) relationships and community, 3) navigating the institution, and 4) decision-making influences and processes.

The first three themes, navigating uncertainty, relationships and community, and navigating the institution, all described elements of how students experienced being undecided and primarily address the first research question regarding student descriptions of their experience of being undecided through to the selection of their academic major. Their experiences moving toward the selection of a major were particularly addressed by the theme about student decision-making. The second research question about influential factors in the process of selecting a major was also addressed by the decision-making theme. The final question about institutional policies and interventions is primarily addressed in the quantitative data, but the student experience of these policies and interventions is addressed in the theme focused on navigating the institution. The next chapter provides further discussion of the research questions and combines that qualitative data found in this chapter with the quantitative data described earlier, as well as a discussion of key findings, implications, and suggestions for future research.

## **Chapter 7: Conclusion**

This study explored the experiences of undecided students and influences on their choice of major. This was a mixed methods study focused on the qualitative interviews of 23 student participants who started college undecided at three different institutions. Quantitative data helped to identify the research sites and further supported the qualitative findings. The purpose of this research was to highlight undecided student experiences and the various influences on their major selection process within an institutional context of policies and interventions. This research has implications for advisors who work with undecided students, as well as institutional leaders who create policies related to major declaration and implement services to support student major exploration. Furthermore, this study has implications for the larger conversations in higher education surrounding the timing of major selection as it relates to student success and timely degree completion.

Understanding the experiences of undecided college students is complicated by variables that make understanding the composition of this population elusive. Gordon and Steele (2015) asserted that “undecided students comprise a complex, heterogeneous group and their reasons for indecision are just as varied” and the research continues to support that assertion. The student participants in this study had various reasons for selecting undecided for their initial major and had a variety of experiences and influences in their path to identify a major.

In this study, students’ described experiences that provide insight into how they navigated their institution and made decisions related to selecting an academic major.

While the findings of this study are not representative of all undecided students, the insights gained contribute to understanding this population, particularly in light of the shared experiences across multiple research sites.

The first part of this chapter provides a summary of the findings and their connection to the literature in order of the four themes described in the previous chapter. After a discussion of implications for theory, I offer suggestions for future research and practice.

### **Findings and Relationship to the Literature**

The results of this study contribute to the literature by updating research on undecided students and providing a qualitative perspective on their experience. Most of the existing research about undecided students was published between 1980 and 2000 with most studies focused on quantitative data and analysis. The results of this study are generally congruent with earlier literature on undecided students (Brown & Strange, 1981; Gordon & Steele, 2015; Hagstrom et al., 1997), but this study adds to the literature by exploring the institutional context in which students are undecided and the manner in which this context informs their experience. This context, in conjunction with the extant literature, highlights some specific areas for further consideration.

Much of the undecided student literature is conducted at a single institution (Anderson et al., 1989; Bullock-Yowell et al., 2014; Hagstrom et al., 1997; Workman, 2015). In this study, cases were drawn from three different institutions. The variations across cases were primarily related to institutional interventions targeting undecided students and student characteristics.

## **Navigating Uncertainty**

The first research question explores undecided student descriptions of their experience being undecided. This study highlights two key experiences of undecided students: the stigma attached to undecidedness and anxiety about the uncertainty. When categorized as undecided, students expressed anxiety about that identity and felt an urgency to move into a decided category. Students expressed anxiety and frustration about answering the “dreaded question,” as it was described by Holly, “what’s your major?.” At a time when students are trying to develop and establish their identity in a new setting, a student’s academic major provides an opportunity for self-expression and self-disclosure. Identifying as undecided was uncomfortable because the category did not describe anything about them to others and required an extended explanation of their reasoning for being undecided. Renee described feeling like she was boring because she had not yet identified a major and could not quickly respond to questions about her major and academic path. This is an insightful comment about student identity and the negative stigma that surrounds being undecided. Lair and Wieland (2012) found that students who were asked the question “what are you going to do with that major?” similarly had strong emotional responses to the question and what the question implied. Several participants in this study were asked the question by family, friends, or in the classroom and how the question implied they should have a specific major selected. Consistent with past research, students felt judged by being asked the question as well as judged for their responses (Lair & Wieland, 2012).

In addition, participants linked being asked, “What’s your major?” to their concerns that “everyone else” had already selected a major. Student participants talked about feeling like they were the only ones who did not know their major and that they should select a major quickly. Although my participants had declared majors, my findings echo the results of Hagstrom et al. (1997) who found that older undecided students felt ashamed and isolated. Student participants in this study echoed similar responses in that they felt like outsiders and were behind their peers.

Across all three research locations, anxiety and pressure to declare a major were consistent experiences of almost all of the research participants. This study found that students were anxious about being undecided and uncertain about their career direction, which supports the existing, though outdated, research about undecided student anxiety related to major and career choice (Brown & Strange, 1981; Brown & Rector, 2008; Saka, Gati, & Kelly, 2008). Specifically, this study supports the findings of Brown and Strange (1981), who found students were anxious about selecting a major as well as identifying a career path. Furthermore, students talked extensively about identifying a career or job goal both when referencing their major selection and once they had declared a major. This suggests that students are more anxious about identifying a career path, which also supports past research by Brown and Strange (1981). Selecting a college major is a difficult and weighty decision for students to make. The decision is made more difficult when students perceive external pressure is being applied to select a singular major and career path without enough information about courses and degree options.

## **Relationships and Community**

Also related to the first research question was the finding that a key component of the undecided student experience includes supportive relationships and community. Students talked a lot about the advising support provided by each institution. Each institution in the study shared similar services, like a specific advising office for undecided students, but each institution varied by some of the services they offered to undecided students. While some students had better experiences than others, the recognition of the role advisors play in the major exploration process was clear.

Students desired a connection with an empathetic advisor in order to discuss personal interests, concerns, and questions, as well as to get recommendations or confirmation of their selection based on a good relationship with their academic advisor. Ellis (2014) found similar results in a study of undecided students' advising experiences in which some students expected advisors to provide genuine comfort and care, as well as information and guidance. Julia maintained a relationship with her advisor upon returning to the university after dismissal. Her advisor was a significant source of guidance on readmission and continued to provide guidance once she was readmitted. Julia developed a relationship with her advisor to the point that she felt more comfortable sharing her concerns related to major selection and academic progress with her advisor than her family. Advising, for some students, is an institutional element of social support that contributes to student success (Tinto, 1993). Social support and sense of belonging as a new student is a critical element that contributes to the retention of students (Hoffman, Richmond, Morrow, & Salomone, 2002; O'Keeffe, 2013).

Students were very aware of different communities during their first year of college. As new students, academic major is a way to define one's self as well as identify belonging to a group and being part of the university community. Undecided students therefore feel isolated, which adds to existing pressure to identify a major sooner than later. Students mentioned programs that enhance community for incoming students, like learning communities and seminar courses. Midwest State University offered a seminar course for undecided students and several students mentioned the benefit of a community of undecided students that this course helped to create. A few students at Urban Public University mentioned learning communities and the desire to participate in one related to majors of interest or for undecided students. Based on the interviews, most students at Urban Public University participated in learning communities as entering students but interview participants indicated that a learning community did not exist for undecided students. My campus contact at Urban Public University said that learning communities were available for undecided students but did not specify how many undecided students participated or how they were structured. Learning communities and first-year seminar courses are associated with integration of student academic and social experiences, as well as enhanced academic performance and satisfaction with the college experience (Zhao & Kuh, 2004). Furthermore, such experiences in the first year provide a means of creating community and belonging for students who might not otherwise identify a group. For the undecided student participants in this study, learning communities and first-year seminar courses provided a means to normalize student experiences as well as connect with the institution.

Students discussed several community-related issues, yet half of the advising survey respondents indicated that they did not perceive undecided students to struggle with finding community on campus. Advisor perception contrasts the findings of this study, as well as existing literature, related to the concerns students expressed related to community and belonging (Hagstrom et al., 1997).

The theme of relationships and community was not surprising based on my experience, but the theme is not found in the existing literature specifically for undecided students. Family support was an important component that allowed students the space and time to explore interests and find the best fit major for themselves. Not all students have the luxury of such support, especially first-generation students whose parents do not have experience with higher education. Support from advisors was also an important component of the student experience. All students, especially of this generation seek personalized and individualized attention, but undecided students are learning about self and desire personal interactions with advisors and others. Finally, finding community helps ease student stress and anxiety as an undecided student and also a component of identifying a major. Given the increased national interest in student retention and the research that indicates community is a key factor in retention, additional research is needed.

### **Navigating the Institution**

Navigating the college environment is part of the college experience. Policies and practices, such as the processes and deadlines for declaring a major, contribute to how students navigate the institution, make decisions, and experience being an undecided

student. Undecided students must navigate the college environment as well as the process of selecting or changing majors. The quantitative data presented earlier highlighted the variety of language, policies, and practices related to undecided students. Limited research exists about institutional policies and practices related to undecided students and major selection (Cuseo, 2005). I only identified two student theses focused on policies at a single institution (Pringle, 2014; Tampke & Durodoye, 2013). The only other specific mention of policies related to major selection was in an institutional survey of first-year student experiences (Upcraft et al., 2004). My study contributes to the literature by incorporating data and discussion of institutional policies and procedures.

Specifically, the third research question explores institutional policies and interventions, and the impact of those policies and interventions on the student experience. Participants from both the quantitative and qualitative portions of the study contributed to findings related to policies and practices surrounding undecided students. For example, data from the quantitative survey of advisors highlight the variety of policies and practices at institutions, as well as the lack of clarity about this population. Advisor responses related to undecided student terminology, policies, and practices were varied – even between advisors at the same institution. Such varied responses within an institution suggest the complexity of institutional processes, as well as the difficulty defining undecided students. If advisors at individual institutions are not on the same page about policies and practices, it is understandable that students find it difficult to navigate these complex systems.

One of the institutional practices identified in the quantitative data is the term used to describe undecided students who have been defined in a variety of ways in the literature, and one of the reasons for the variety of definitions in the literature is the variety of terms used at institutions to describe undecided students (Gordon & Steele, 2015). The quantitative data provided insight into the variety and frequency of terms currently used. Many institutions (31%) use the term *undeclared* to describe undecided students, while *exploring/exploratory* was the second most common response (24%). Exploring or exploratory is considered more positive language that represents what the action a student is taking to identify a major, instead of a state of being undeclared, which implies no action or process (Gordon & Steele, 2015). Student participants used the terms undecided and exploratory interchangeably, but were somewhat more consistent about using *exploratory* or *exploration* at Midwest State University and the Urban Public University. Consistent and positive language about undecidedness can shape the student experience and the stigma surrounding undecided students.

Based on the findings in this study, some policies and interventions shape elements of the student experience. Specifically, students talked about admissions processes, advising and support resources. Because of the variety of experiences and paths, student support from the institution through advising, courses, or other resources was important. Entering and navigating a large, complex institution was challenging in some ways for undecided students. Qualitatively, students described experiences that were related to the processes of gaining admission to or declaration of a major. Such processes were surprisingly consistent across all three institutions and similarly difficult

for students to navigate and understand. The admission process to competitive majors was an area several students described that caused students to reconsider their major selection or hesitate to declare a major because they were denied admission or concerned about fulfilling requirements to be admitted.

One example of this was the process in which students were automatically switched to undecided after not being admitted into their first-choice major at the time of application to the institution. Three student participants, one at each institution, were automatically switched to the undecided major because they were not selected for competitive programs. In one case, the student strongly considered changing her career path simply because she was not admitted into a program and did not understand the admission process at her institution.

A similar lack of knowledge of majors and admissions processes led six students to change their major, one or more times, between the time of application and starting courses. The literature supports this finding that students are uncertain about the college major selection at the time of admission, and two-thirds of entering students change their major in their first 2 years of college (Kramer et al., 1994; Titley & Titley, 1980). In several cases, students submitted applications and then proceeded to do more research about available options, requirements, and interests. The quantitative data supports the range of options available to students at the time of admission. While many options provide a variety of paths for students to consider as they enter college, the range of options could add to student confusion about majors and institutional definitions of undecided.

Advising for undecided students is a key component of student support provided by institutions to support and guide students through the exploration process as well as navigate between different academic departments (Cuseo, 2005; Gordon & Steele, 2015; Tinto, 2004). Further, advising centers specifically designed for undecided students provide the “type and extent of academic and career advising that undecided students require” (Gordon & Steele, 2015, p. 164). The results of this study support the important role advisors play in the experience of undecided students.

The importance of advising for undecided students was further revealed by the survey responses regarding requirements for undecided students. Less than half of respondents indicated students were required to meet with an advisor at least once per term, however, more than three-fourths of respondents believe that advising should be required each term for undecided students. The extent of advising that undecided students need requires specialized knowledge, skills, and time to support their unique needs and concerns (Gordon & Steele, 2015). In describing the advisor-student relationship or the desire for a relationship, student participants in this study acknowledged the advising skills needed as well as the high student-advisor ratios that interfered with their experience. The quantitative data from the advisor survey suggested advisors are more likely to be responsible for less than 150 students, which is lower than the average advising load (296) reported for primary role advisors across all institutional types (Calstrom & Miller, 2013). Advisors with fewer students assigned have more time to spend working with students and providing programs to support the needs of their students.

Students also discussed the ways in which courses were helpful in their process of exploring and deciding. In this study, Midwest State University offered a first-year seminar course, while the other two institutions did not offer such a course. A small number of advisor respondents (11%) indicated their institution required undecided students to complete a face-to-face course, although 43% believed students should be required to complete such a course.

Student descriptions of the course and the way in which they talked about the course suggested they appreciated and benefited from the course and assignments. Students described course activities that specifically aided their exploration process, as well as connecting with their academic advisor. At Midwest State University, students were required to complete a course designed for undecided students to orient them to campus as well as explore majors and careers. First-year seminar courses have generally been found to be beneficial to students (Hunter & Linder, 2005; Porter & Swing, 2006; Tampke & Durodoye, 2013). Focusing the course on undecided students further provides an opportunity to incorporate content from career exploration courses, which was the case at Midwest State University. While career courses are also noted in the literature, there are mixed results regarding the impact of such courses. However, Brown et al. (2003) described five critical ingredients to career interventions, including written reflection, individualized feedback, building support, modeling and gathering career information. Based on the student descriptions from Midwest State University, the seminar course incorporated at least three of the five ingredients. Students described written reflection exercises, building support, and gathering career information. The

literature and findings from this study support first-year seminars for undecided students as a means to explore majors and careers, as well as build community.

### **Decisions, Decisions, Decisions**

Students are undecided for a variety of reasons and therefore are influenced in a variety of ways to ultimately select a major. The second research question inquired about influences on major selection and student participants described many types of influences and rationale for their major selection. While I hoped to see some patterns related to the processes and experiences that students described, none stood out. Students came to their decision in a variety of ways just like they were undecided for a variety of reasons.

Although there were not overarching patterns in how they arrived at their major and several factors that influenced their decision-making, participants talked extensively about financial implications of their decisions. Increasing concerns about student debt and degree outcomes seem to create additional pressures for students to consider in making decisions about career and major. Student participants at all three institutions mentioned finances when they talked about their path from undecided to selecting a major. However, participants from the University of Central State talked more about such concerns than students at the other institutions. Given different institutional student profiles, it is possible that students at the University of Central State were more concerned due to their socioeconomic background. Participants either talked about the financial impact of their decision on the time required to complete their degree or the financial outcome of their major selection.

The financial impact of student decisions about majors caused students to feel anxious and created pressure to select a major quickly. Student participants talked about pressure to declare a major based on concerns about finishing their degree in four years to avoid additional student loan debt. Students believed that starting college undecided could add time to their degree because they did not start on a specific path that incorporates prerequisites and requirements to complete the degree in a timely manner. Underlying this concern is the complexity of degree requirements that do not allow students to declare a major late in their academic career. In addition, students wanted to be sure of their major selection because they did not want to change their major later and, again, lag behind their peers. While participants did not talk about complex degree requirements, they did mention concerns about not being on track to finish their degree in 4 years with their peers and taking extra courses that added to the cost of their degree.

A few students mentioned institutional financial aid policies as an issue that influenced major choice and created pressure to select a major in a timely fashion. For example, Bianca described her experience losing her financial aid because she did not complete courses required for her selected major with high enough grades to maintain her scholarship. Her struggles in the required course and subsequent loss of scholarship funds caused her to reconsider her major selection and explore other options. As part of her decision-making process she considered major degree requirements and their relative challenge to ensure she could maintain her scholarship in her next selected major. Sjoquist and Winters (2015) found scholarships negatively influenced students' interest in pursuing science and engineering majors because students were required to maintain a

high grade point average. Student concerns about maintaining scholarship requirements, such as GPA and finishing in 4 years, influence student exploration and selection of college majors.

The other major financial concern students expressed was the desire to have a job following graduation. Students “heard” other graduates did not have jobs and were concerned about finding a job that would secure financial stability. This mirrors the research by Brown and Strange (1981) that found students were anxious about making career decisions. Further, Montmarquette (2002) found that student major selection was highly influenced by expected earnings and likelihood of success in the field. Most student participants were within a year of earning their degree, and therefore many were focused on making post-graduation plans. All of the participants were satisfied with their selected major, but a few were still trying to figure out what they were going to do with their degree and concerned about the related financial stability.

In addition, students struggled with the pressure to find a job that makes good money combined with the desire to be passionate about their career. Several students considered or selected a major they considered broad so that they had many options for jobs and careers after completing their degree. However, students also wrestled with the idea of making connections between broad degrees, described by students as majors like business or humanities majors, with jobs and careers. More students at Urban Public University and the University of Central State discussed an interest in broad majors, which could be because of the socioeconomic characteristics of students at those institutions compared to the more academically competitive Midwest State University.

Altogether, finances played a significant role in the student experience as well as the exploration of majors and careers.

Students loudly and clearly expressed concerns about financial issues as it related to their major selection process and college experience. This finding is not surprising given larger concerns about student debt, but the complexity of issues related to finances and employment was unexpected. In addition, the finding of significant financial concerns was associated with some of the indirect influences students discussed.

The results of this study and the related existing literature highlights some specific areas that impact the experience of undecided students and influences on their major selection. The rich descriptions provided by students and the quantitative advising survey data sheds light on how students experience being undecided and expands the literature about undecided students in higher education.

### **Implications for Theory**

Bronfenbrenner's bioecological model was used as a conceptual lens to further examine the data collected and provides a good framework to consider influences on the career development of students. Although many of the themes fit within elements of the bioecological model, other themes did not fit well or were lost within the model. For example, the importance of support and the influence of family and peers clearly adhere to the bioecological model micro- and macrosystems that have direct effects on human development. However, the theme of anxiety and uncertainty and the extent of the importance of finances did not fit as well into the model and would have been lost within the complexities of the model.

For the reasons mentioned, I chose to organize the findings in chapter 6 according to the emergent themes in order to highlight the students' experiences and key findings. This section discusses how the themes fit within the bioecological model, as well as the areas that did not fit within the model. This section is organized based on the four key concepts of the bioecological model: person, process, context, and time. Following a review of key findings and their relationship to the bioecological model, I discuss implications for the bioecological model and future research.

The person component of the model incorporates individual attributes that affect the nature and extent of the impact of interactions in the environment (Bronfenbrenner & Morris, 2006; Renn & Arnold, 2003). In this study, the person component was found in the student characteristics and dispositions they bring to their search as they described what they were thinking about when they started college. In addition, person components incorporate student background characteristics that influence their college experience, such as first-generation student status or necessity of working while in college. For example, Mia was a first-generation college student at Midwest State University whose path was somewhat influenced by her parents work experience, which was also where she worked. Her work experiences shaped some of her ideas about career goals. While the person component could be found in the data, it did not emerge as one of the key themes.

The process component of the model involves student interactions with the environment, especially those that become increasingly complex as students develop (Bronfenbrenner & Morris, 2006; Stebleton, 2011). Students described the process aspect of the model as interactions that informed and developed their decisions, such as

advising, courses, job shadowing, work experiences, research experiences, family and peer interactions. Elements of two of the themes fit the process component of the model, specifically the advising support and the influence of experiential learning described earlier.

The context component of the framework refers to the concentric circles that represent spheres of influence (Figure 2). Figure 2 is based on Bronfenbrenner's (1979) model and Renn's (2003) figure. The bioecological model was selected as a framework

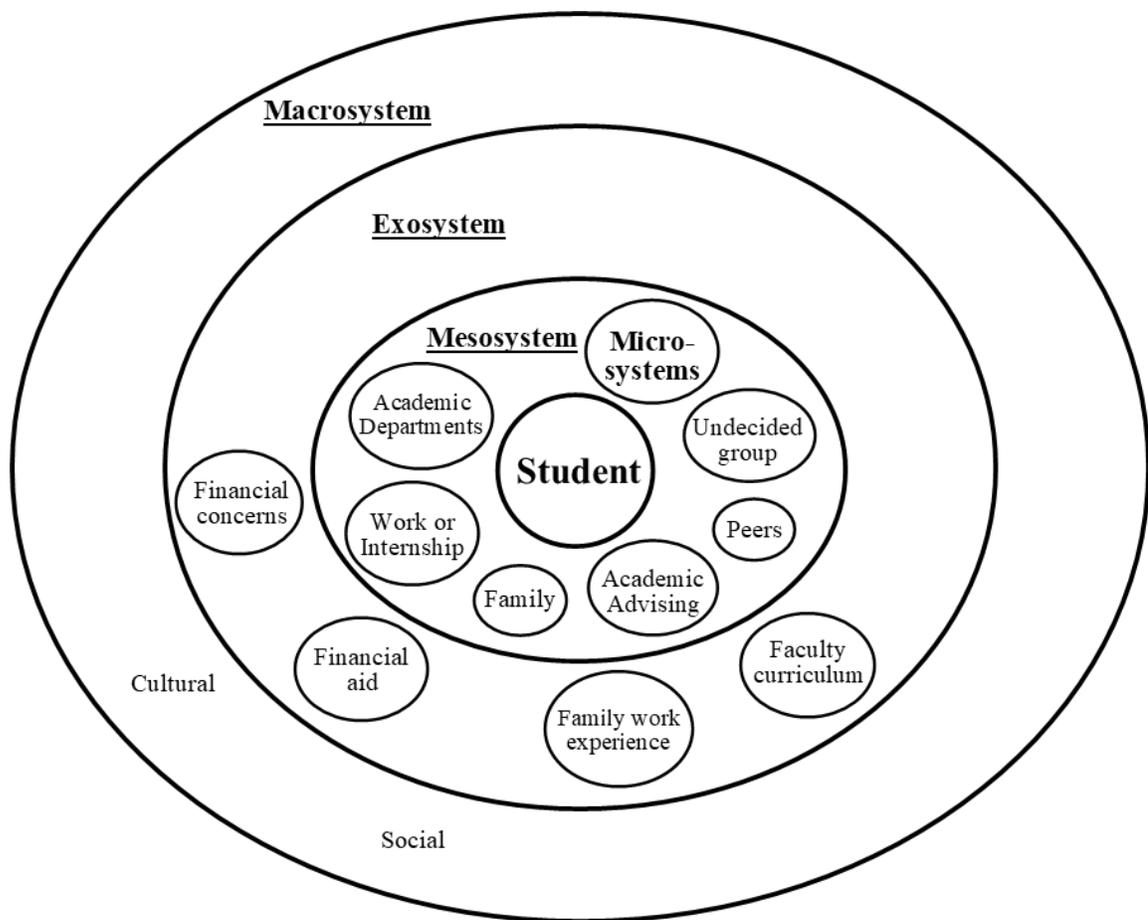


Figure 2. Bioecological model applied to undecided students

for this study because of my interest in the context component and was particularly helpful in exploring and describing the influences on student decision-making. In addition, this component of the model helped explore multiple contexts found at the three institutions included in the study. Surprisingly, there were not significant differences based on the qualitative data collected regarding the different institutional contexts. Similar student policies and experiences were found across institutions. I anticipated the student context would more distinctly and differently influence the student experience at each institution. The similarity could suggest the institutions were more similar than they appeared based on the quantitative data.

Students described microsystems, which have the most immediate and direct effect on students, in terms of interactions with family, peers, experiential learning and others that had a direct influence on their selection of major. While other models combine “university life” to encompass a variety of school related interactions, in this case I see undecidedness as its own microsystem. Mesosystems are the interactions of microsystems that impact student development. Based on this research, I suggest undecided student groups or support units are mesosystems intended to help students transition from the undecided microsystem to the decided microsystem. A few students described interactions between academic credit and work experience, such as internships or job shadowing that shaped their decision making. Several students also discussed conflicting perspectives between different microsystems, such as undecided peers and decided peers. Again, while these ideas were found in the data, themes that emerged did not specifically align with the mesosystem concept.

Exosystems exact an indirect influence on student experiences and career development, but students discussed such influences in significant ways. As described earlier, students discussed financial aid and institutional policies that impacted students, such as a deadline to declare a major and admissions policies. While these institutional influences emerged as part of themes, they did not emerge in a way that described the significance of their impact. While students must navigate these policies, students do not interact or exert any influence over these policies and therefore such policies appear on the outer layers of the bioecological model context. The bioecological model does not appear to take the significance of interactions or influences into consideration because the primary focus is understanding contributing factors in the environment, not which factors are most important to the individual.

Macrosystems include the cultural context that influences the inner layers of the context (Bronfenbrenner, 1979). Young (1983) described several influences from a career development perspective that echo what students described in their interviews. For example, students talked about perceptions of certain majors, the changing work environment, and idea that they are selecting a major that will lead to one job for the rest of their lives. I was surprised to see how influential these macrosystem issues were in the student experience and major selection process. Combined, the context element of the model did help describe and explore influences on student decision-making. Using the model, direct and indirect influences were more apparent because of the different systems described by the model.

The final component of the bioecological model is time. In this study, students described experience across a timespan of one to three years as they entered college and neared the end of their college experience. This component of the model was apparent in the way some students described their experience beginning with anxiety and ending up satisfied with the way things turned out and “happened the way it was supposed to” despite the anxiety and uncomfortableness as undecided students. The time component was particularly relevant to theme in which students reflected on their overall experience from undecided through to the selection of their major. While related, the time theme aims to evaluate development over time, which would have required a longitudinal study.

This study added the application of the bioecological model of human development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006) to undecided student experience of major selection at a large public 4-year university. The model informed interview questions as well as a framework for analysis of the interview data. This model has not previously been applied to undecided college students, though it has been used as a framework for career development and college peer culture research (Cook et al., 2002; Renn & Arnold, 2003; Young, 1983, 1984). In this study, the bioecological model provided a rich framework to understand the direct and indirect influences on the undecided student experience as well as the influences on major selection.

The bioecological framework describes the developmental environment as concentric circles of influential interactions that shape human development (Bronfenbrenner, 1979, 1999). The innermost circles are environments that individuals

interact with the most, such as family, school, and work (Bronfenbrenner, 1999; Renn & Arnold, 2003). Using the bioecological framework to analyze interview data, the model suggests that developmental interactions primarily occur within the immediate microsystem and mesosystem as students are actively interacting with people and objects within those spheres (Bronfenbrenner & Morris, 2006). Participants largely described elements of the immediate environment that shaped their experience and major selection, such as family, peers, and classroom interactions.

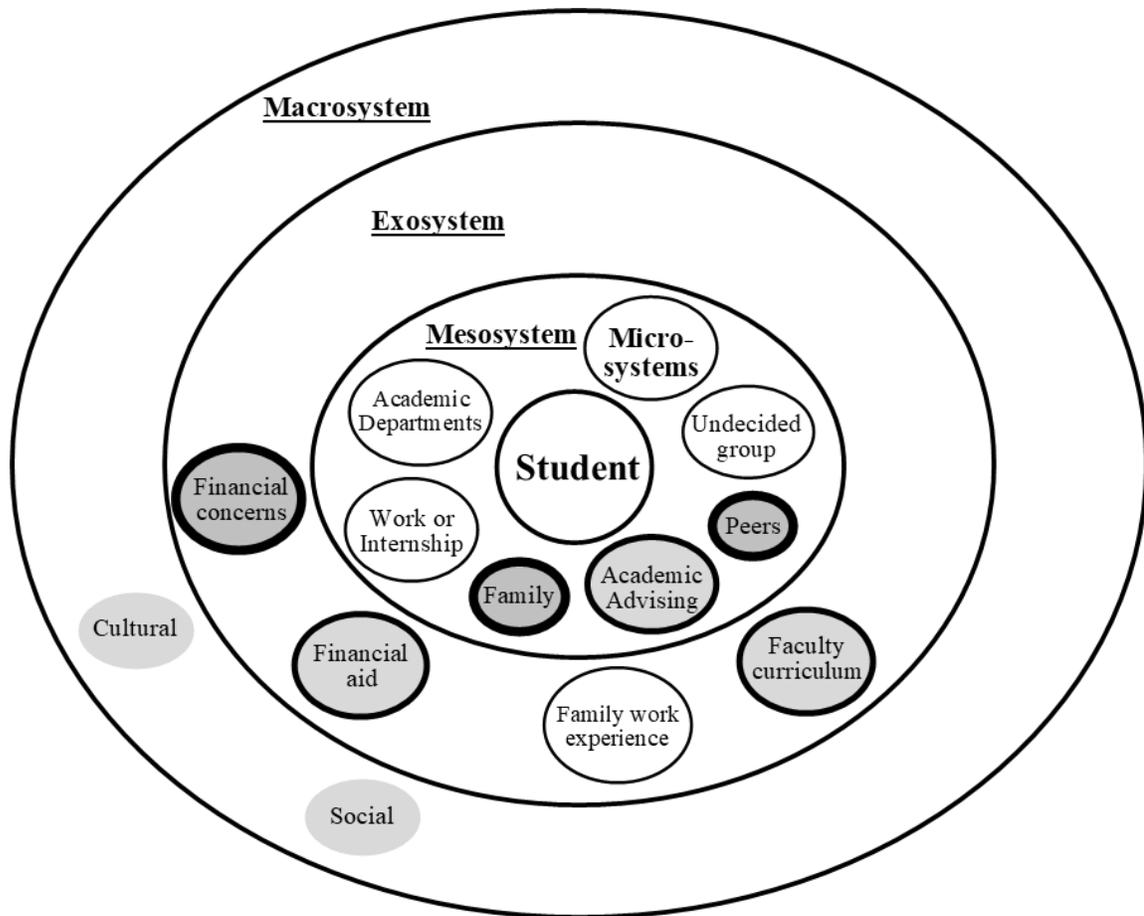
Beyond the immediate environments, the bioecological model describes forces that shape development indirectly as part of the exosystem and macrosystem (Bronfenbrenner, 1979, 1999; Renn & Arnold, 2003). Elements from the exosystem and macrosystem were more present than I expected. Specifically, students discussed financial concerns related to financial aid which is outside of their realm of control (Renn, 2003). Participants also described messages about majors and careers based on societal values that influenced their decisions.

As part of the analysis, codes from the qualitative interviews were created and mapped to the bioecological model. Codes from the qualitative interviews were present in each of the circles of influence described by Bronfenbrenner (1999). I assumed the innermost circles representing the immediate environment of students would be most influential in their experiences and influences on major selection. However, this research suggests exosystem variables, like financial aid policies and societal messages, were often described by participants.

Although helpful to explore elements of the student experience and factors in the decision-making process, the model was difficult to apply. The complexity and difficulty of applying the bioecological model to research is a criticism of the model (Tudge, Mokrova, Hatfield, & Karnik, 2009). The model is difficult to apply because of the multiple components, including person, process, context, and time, as well as the interactions between components. However, Tudge et al. (2009) noted that in describing the model, Bronfenbrenner never suggested that every aspect of the model be incorporated within any study. The bioecological model is most often used to explore contextual influences, which is the case in my study (Tudge et al., 2009). I also allude to the areas in which proximal processes, interactions through which individuals make sense of their world, such as advising and peer groups, though do not go into as much depth as the model suggests (Bronfenbrenner & Morris, 2006; Tudge et al., 2009). Therefore, the bioecological model guided elements of my study but did not incorporate all elements of the model. My study used the bioecological model to guide the interview protocol, as well as some of the data analysis.

As I moved through different cycles of coding the qualitative data, I also did not believe the model highlighted key elements of the student experience enough. The complexity of the model seemed to bury key findings, such as the anxiety students experienced as undecided students and the magnitude of the impact of finances on their experience. Using the model as a guide, I expected microsystems, such as family, that appear closer to the center of the contextual model would have more impact because of their proximity to the student at the center. However, elements found in the exosystem or

macrosystem, such as the meaning of work, seemed to have significant impact on the student experience. Since one of the goals of the study was to highlight the student experience in the literature, I wanted their stories of significant influences and experiences to dominate the results. The lack of emphasis given to some of my key findings could be considered a limitation of the model. However, the model could be improved by incorporating a way to show the significance of elements within the context. By identifying elements of the context that seem to have greater emphasis from the perspective of the participant, or student in my study, shows a clearer picture of important influences on development. Once identified in the research, contextual elements that are emphasized and recognized could guide practice through interventions that better shape and support human development. Figure 3 provides an example of how elements within the context could be highlighted in a revised model.



*Figure 3.* Revised bioecological model for undecided students

In the future, the bioecological model could be used to further explore undecided student experiences with a specific focus on the processes that occur within the context. For example, a study focused on the process and content of advising interactions that inform student decision-making since that appeared as a key interaction for several students in this study. Understanding processes within a context illuminates other factors that may shape key interactions, as well as how the context could be altered to better support developmental interactions.

Additionally, the bioecological model could be useful to research that explores the interactions and interrelationships within mesosystems that inform the undecided student experience and development, which is similar to Young's (1983) recommendation to explore the mesosystem from a career development perspective. A modified model that incorporates areas of emphasis could further highlight key interactions, instead of suggesting each microsystem that interacts within the mesosystem is equally influential in the student experience. Understanding key microsystem interactions that positively influence student and/or career development could better support practice to guide students to key resources or interactions.

### **Implications for Research**

My study reaffirmed that undecided students are a complex population that necessitates further study. In general, the literature about undecided students is dated and updated research is needed to confirm or counter prevailing ideas about undecided students. Overall, this population is an important population to study because there are many students who are either in an undecided major or unsure of their academic and career plans. Further research leads to better understanding of undecided and unsure students, as well as informs practice to support this student population.

This study included participants from three large, public high research activity institutions in the Midwest. Large institutions have been the focus of several studies (Gordon & Steele, 2003; Hagstrom et al., 1997; Spight, 2019) and therefore additional research should focus on undecided student experiences at different institutional types. In addition, the group of participants in this study were predominantly white women.

More studies are needed to explore the experiences of undecided students from underrepresented, first-generation, and different socioeconomic backgrounds, especially given the financial concerns and support necessary to navigate the exploration and major selection process. In addition, this study found that undecidedness was a component of identity for undecided students. Further research on additional layers of identity in undecided students contributes to larger understanding of the intersectionality of student identities.

Beyond participant and institution characteristics, several other questions emerged as a result of the data collected during this study. There are three areas in which additional research could add to literature and identify effective strategies for working with undecided students. The three areas are: institutional policies, financial influences on major selection, and interventions for undecided students.

### **Institutional Policies**

This study explored some elements of institutional practices on the student experience, like deadlines to declare majors and policies related to major declaration. While some data related to institutional practices emerged, few students specifically described concerns related to institutional policies or procedures. Students did not refer to such policies as barriers that impeded their progress, but instead referred to policies as hurdles to overcome that were innate to the process. However, student descriptions of their experiences highlighted two policy areas that could be explored in future research. Three participants in this study selected competitive majors on their admissions application and were not admissible to their desired major. These students were

automatically switched to undecided to begin their college career. Participants in this study had mixed reactions to the experience of automatically switching to undecided. Future research could more deeply explore the qualitative perspectives of these students, as well as quantitatively explore major changes, retention, and graduation rates of students who are denied admission to their first choice major.

Further research is also needed to explore student major changes between the time of application and the first term of enrollment. Multiple students in this study described changing their major or direction in the time before classes begin. I was surprised by the number of students who selected a major for their application and changed based on additional information from orientation and websites. The changes suggest students do not have the necessary information to make an appropriate selection at the time they submit college applications and/or are not committed to their selection. Research in this area could explore this phenomenon and contrast student experiences at institutions that do not allow students to select a major on their application. In addition, research could further explore sources of information and support for students at this time in the college-going process. Beggs et al. (2008) suggested similar research to explore how students find and use information about majors and careers. Such studies could guide better support for students entering higher education.

In a related area, little research exists as it relates to the timing of major selection. Several scholars argue that students should have time to explore academic majors before making a selection (Beggs et al., 2008; Cuseo, 2005; Spight, 2019). Some research has explored retention and graduation rates for undecided students and major changers

(Kramer et al., 1994; Lewallen, 1993; Spight, 2019). However, the literature does not specifically explore *when* students select a major. Further, additional research is needed to understand how the timing of major selection or major changes impacts student time to degree. Such research could guide best practices in the creation of major selection policies and is especially important given concerns about student debt and finishing degrees in four years (Rabovsky, 2012).

### **Financial Concerns**

Many of the student study participants discussed issues related to finances during college and financial stability after college. Some research has explored the relationship between financial aid and major selection and found that students may avoid certain majors in order to maintain scholarship requirements, like GPA (Sjoquist & Winters, 2015; Stater, 2011). Such findings have a critical impact on programs designed to encourage underrepresented groups to pursue certain majors, like science and engineering. However, further research is needed to understand the impact on major selection, as well as the impact on increasing underrepresented groups' participation in specific majors.

Additional research is also needed to explore the relationship between major selection and financial outcomes after college. Again, some research has explored this topic (Berger, 1988; Montmarquette, 2002), but more is needed to better understand major choice and student knowledge of career outcomes, as well as the sources of information for students and parents.

## **Interventions**

Most importantly, research is needed to inform practices related to serving undecided students. Student participants talked about some interventions, like advising and first-year seminar courses, that positively influenced their experience. Existing research supports advising and first-year seminar courses as beneficial (Gordon & Steele, 2015; Tampke & Durodoye, 2013; Tinto, 2004), but the research is needed to further understand the specific content of advising appointments and courses that positively impacts student career development and persistence.

Additional interventions should examine practices that increase undecided students' sense of belonging and community building. This study found that undecided students experienced feelings of isolation and lacked community support. Hagstrom et al. (1997) found that older undecided students felt isolated because they had not yet selected a major. Further research is needed to understand undecided student feelings about community and belonging, as well as practices to increase student sense of belonging in institutional settings.

Several of the student participants worked as peer mentors for undecided students after they declared their major. All of the student participants at Midwest State University were peer mentors who participated in the first-year seminar course and were assigned a small group of first-year undecided students to mentor. Although Tampke and Durodoye (2013) focused on a first-year seminar course and learning community for undecided students, they found positive outcomes for a seminar course that incorporated peer mentors. Additional research supports the use of peer mentors for first year students

(Yomtov, Plunkett, Efrat, & Marin, 2017), but limited research exists focused on the specific needs of undecided students.

The results of this study highlighted three main areas for further research: institutional policies, financial concerns, and student interventions. Overall, further research is needed to better understand the needs of undecided students and, more importantly, guide practices to support the unique needs of undecided students.

### **Implications for Policy and Practice**

Several potential implications for policy and practice emerged from this study. Most importantly institutions are responsible for creating a welcoming and supportive context for undecided students, as well as students who are declared yet unsure of their selection, to explore major and career options in a transparent and guided way. This research afforded the opportunity to hear about the student experience directly from students who experienced starting college as an undecided student. Participants identified interactions with stakeholders through first-hand accounts of their experience, as well as through their own recommendations for other undecided students. The following implications and recommendations are organized based on key stakeholders in the experience of undecided students. Specifically, I address students, advisors and advising leadership, and academic leadership. Appendix I highlights key recommendations for enrollment management and advising leaders. Appendix J summarizes recommendations for institutional leaders.

## **Students**

As students discussed their experience, they mentioned several things they wished they had done differently or learned earlier. Specifically, students encouraged other undecided students to try new things in order to explore academic and career options. Several student participants described experiences trying new courses that eventually led them to pursue a major or minor. The advice students provided for other undecided students is linked to Galotti (1999), who found that students tend to narrow the number of choices to avoid cognitive overload and suggested that support resources, like advisors and counselors, should help students expand their options to avoid eliminating too many options early. Other students described experiential learning opportunities that allowed them to see what work looks like in a particular field and informed their major selection. Students should be open to trying new subjects and take advantage of opportunities to gain experience in different work environments.

Many students also talked about the stress and pressure they felt while they were an undecided student. In retrospect, several students wished they had been less stressed about starting college undecided and selecting a major. They realized that through the natural progression of college experiences in courses, experiential learning, and talking with other students and staff, that they were able to identify a major and complete their degree without delays. Several students talked about the process of identifying their major after starting college undecided developing over time and unfolding in a way that made sense in retrospect. Cassandra was one of the students that described the process of finding her major required pieces falling into place over time. I was surprised by the

number of students, like Cassandra, who said that finding their path developed with time and the process unfolded exactly the way it needed to for them to find the right major for them. As many of the student participants were peer mentors, passing on the message that being undecided was a good experience and that the process of identifying a major worked itself out in time.

Although students might benefit from accepting the uncertainty and enjoying finding their path, that burden actually falls on the institution and support staff to create an environment in which students feel comfortable and are appropriately guided through the process. As students in this study described, advisors play a key role in creating the environment, providing support and guidance.

### **Advisors and Advising Leadership**

Advising was a key component of the student experience and influence on their decision-making process that participants described during interviews. Advisors play a key role in shaping the student experience and supporting their exploration of academic and career interests.

Students in this study specifically talked about empathy as an important characteristic of an academic advisor. Kira, for example, recognized the role her advisor should play in guiding her exploration with empathy for her experience and the struggle to identify her major as a new student to the institution. Other students mentioned not feeling like a number and providing meaningful and personal feedback about ideas and choices during the advising process. The role of an undecided academic advisor is to

support students through the exploratory process, which includes helping students gather information as well as process it in an empathetic way (Gordon & Steele, 2015).

Undecided academic advisors support students exploring majors throughout an institution, and therefore must know policies and processes for all majors and departments. In addition to relationship building skills, interviewing skills, referral skills, undecided advisors must have a vast knowledge of the institution. The results of the advisor survey in this study highlighted the lack of clarity about institutional policies and procedures. If advisors are confused about institutional policies and procedures, the information they provide to students will further make it difficult to navigate the system. Therefore, ongoing training and development about policy changes, institutional procedures, career development, and relationship building is critical. According to Steele (2003), advisors who work with undecided students need specialized skills and training to support students with a wide range of concerns and issues. Consistent and ongoing training requires institutional commitment of resources, like time, as well as designated staff responsible for providing the training. If advisors from within the institution do not have the information or understand policies and practices, how can we expect students to navigate such a system as an outsider.

While the advising support can come in a variety of formats, such as one-on-one meetings and workshops, students in this study seemed to benefit from the first-year seminar course and specific activities within the course designed to guide their exploration and reflection.

Literature supports the use of first year seminar courses for undecided students (Cuseo, 2005; Tampke & Durodoye, 2013). Specific course activities students mentioned included activities to help them narrow their choices. Several students mentioned an activity in which they were given a list of academic majors that they crossed out majors they were not interested in and circled majors they wanted to learn more about. Such an activity speaks to two concerns undecided students identified: a lack of information about their options and being overwhelmed by the number of options they had. Similarly, Galotti (1999) suggested institutional support staff, such as advisors and counselors, should help students expand their knowledge and exposure to a range of degree options because students tended to narrow options related to their major. In addition, the activity addresses both concerns and matches a portion of the advising process suggested by Gordon and Steele (2015). Gordon and Steele (2015) outlined seven tasks for advisors to work through with students, including organizing a plan for exploration, which is addressed by the activity students described.

The other key activity students described was interaction with possible areas of study, which also matches the tasks outlined by Gordon and Steele (2015). Several students mentioned advisor guided assignments or course activities to gain experience with a subject or career field. Gordon and Steele (2015) consider interaction with possible areas of study as part of the information gathering process that advisors help by helping students create action steps, facilitate referrals, help students develop questions, and reflection on the experience. Advisors play a critical role in the undecided student experience and decision-making process. Empathy and relationship-building are key

skills for advisors to develop, in addition to a vast knowledge of the institution and specific activities to support student decision-making.

There were several policies and procedures that were highlighted by this study. Given increases in attention to retention and graduation rates at many institutions, policies can be the target of review and revision to eliminate student barriers and inconsistent policies (Alexander, 2000). As part of the quantitative survey, participants were asked about policies related to the timing of major declaration. Thirty-three percent of respondents indicated their institution did not have a deadline for students to officially declare a major. According to the survey and interviews with institutional contacts, all three of the institutions represented through student participants also indicated there was not an institutional deadline for students to identify their major. Allowing students to accumulate credit hours without a specific academic plan in place could be detrimental to student accumulation of degree applicable credit and therefore, degree completion timelines (e.g. 4-year graduation rates).

Student participants thought the deadline to declare a major was at the end of their sophomore year, however, the advising survey and conversations with advisors at each participating campus indicated there was not an enforced institutional deadline. The results of this study indicate students should take the first year to explore majors and careers before being forced to make a selection, which is also consistent with the research (Beggs et al., 2008; Cuseo, 2005). Advisors and advising leadership should educate students and parents about the relevant milestones to stay on track to complete their degree, including a deadline in which they should be confident in their major selection.

Instead, all three of the advising offices for undecided students included in this study had implemented interventions that mandated advising to provide directed support for students who had earned 30 credit hours or more and not yet selected a major. Most of the students that participated in this study selected their major following their first year of coursework. Advisors and advising offices should monitor student progress, including major selection, and intervene with clear milestones or deadlines with support and guidance after students have some time to explore and make decisions.

### **Academic Administrators**

Though advisors and advising leadership shape the immediate experiences of undecided students, larger policy and process considerations are shaped by academic administrators. Based on the results of the qualitative and quantitative portions of the study, several recommendations for academic administrators emerged related to the institutional environment, advising, pre-enrollment advising, resources, and introductory courses.

One of the important takeaways from this study is the role the institutional environment plays in shaping the undecided student experience as it relates to major exploration and selection. Based on the student descriptions in this study, undecided students interact with the institutional environment through policies and advising. How policies and advising support is delivered is based on the institutional perspective on student undecidedness and willingness to invest resources in supporting these students. Each of the institutions that participated in this study invested some resources in supporting undecided students, through the development of centralized departments for

advising with specialized advising support as well as courses or events. Although the number of students who identify as undecided as first-time students is low, the research supports a much larger number of students who need additional support for major and career decision making (Anderson et al., 1989; Theophilides et al., 1984; Titley & Titley, 1980). Given the results of this study, the investment in undecided student advising and support is important to the student experience.

Part of the student environment is created by language. Students also described the negative association with being undecided. However, the quantitative advising survey indicated that advisors believed there was neither a negative or positive connotation to the term used for undecided at their institution. Qualitative data from students who started college with an undecided major indicated they had ideas and interests they wanted to explore. Students were not completely undecided about their direction, they were exploring and deciding. Language that better describes the positive and active role students are taking in their academic planning could create a more welcoming and accepting environment for students, as well as moves away from the deficit model associated with student undecidedness (Anderson et al., 1989; Danis, 1989). Changing the official term used to describe these students, as well as the official name of the major, from *undecided* to *exploratory*, *exploring* or *deciding* could begin to shift student perception, and others perceptions, away from a negative perception to a positive and hopeful perspective.

The environment for undecided students was also influenced by a curriculum designed around students who enter in a specific major and stay in the same major

through to completion. However, the majority of students change their major from their initial choice, much like undecided students who declare a major after taking time to explore (Kramer et al., 1994). Student participants in this study were more concerned about getting behind based on the curriculum than they were concerned with academic deadlines. In order for students to truly have time to explore, learn, and confirm their major selection, the curriculum must provide an opportunity. Lockstep degree requirements that begin early in the degree program make it difficult for students to explore without the penalty of getting behind. According to Titley and Titley (1980) inflexible curricula creates an environment that restricts exploration and implies students should be able to make a decision quickly. Institutions should find ways to allow students curricular flexibility to make progress as well as explore areas of interest. Meaningful learning outcomes and objectives should guide what should be included in the curriculum and what content can be flexible. Transparent and less cumbersome degree requirements early in the curriculum could also improve student and advisor understanding of institutional policies and processes. Curricular flexibility combined with guided exploration in seminar or introductory courses could create a system in which all students, undecided and declared, explore major and career options and confirm goals that enable them to persist and complete their degree in 4 years.

As mentioned in a previous section, advisors play a key role in the undecided student experience. As such, student to advisor ratios are an important consideration to provide support to undecided students. A few students recognized the large number of students that advisors were assigned to support. The most recent survey of advising

conducted in 2011 indicates that the median advising load for advisors at public doctoral granting institutions was 285 students per advisor (Calstrom & Miller, 2013). However, Robbins (2013) recognized the unique institutional settings, policies, and unique needs of specific student groups that should impact advising load considerations. Undecided students are one of those unique groups that necessitate lower advising loads in order to provide enough time for intentional one-on-one interactions, as well as programmatic interventions and courses. Timely, extended one-on-one interactions with students through advising provides more opportunities to discuss interests, goals, and action plans surrounding the exploration and decision-making process.

As part of the undecided advising process, students should have access to pre-enrollment advising and student-friendly information at the time of application and through the admission process. Several participants described their experience of confusion about different majors when they applied. In addition, three students were automatically shifted to an undecided major after not being selected for a competitive major at the time of admission. In both cases, students could have benefited from advisors to discuss options and navigate institutional language.

In addition, resources to get additional information about majors, careers, and curriculum requirements in a consistent, jargon-free, and easily accessible format could have helped students make more informed decisions before orientation and enrollment, as well as in the first year. Beggs et al. (2008) found that course and major attributes were key factors in student major selection, however, the source of information about courses and majors was unknown. Students referenced websites as sources of information about

majors that they used to learn more about degree options and related degree requirements. Students are clearly seeking information about majors, careers, and curriculum, and providing such information in a way that all students, including first-generation students who lack knowledge of institutional systems and language, could benefit the overall student experience, and especially that of undecided students.

In addition to information about majors, students were also influenced by introductory courses. Several students talked about the influence of introductory courses and course instructors in their confirmation and selection of major. Academic departments would therefore benefit from a focus on introductory courses as a means to influence student decision making and increase interest in specific fields. Student participants also struggled to connect majors with careers, as well as the related concern about financial security in their chosen career. Academic departments could further benefit from helping students make connections between majors and careers in a variety of ways, including introductory course content and connecting students with other students or alumni in the department.

### **Conclusion**

Undecided students continue to be an intriguing and complex population to study. This study contributes to the long history of research about undecided students using a new perspective of the bioecological model and with the hope of positively impacting institutional and advising support provided to this population.

Though there were many interesting data points, my study highlights key student concerns about identity and community as it relates to undecidedness, as well as

challenges navigating complex institutional policies and processes. Academic advising was a key resource that students described as a support resource they relied on or desired support from to navigate their concerns and challenges. Institutional complexity was further highlighted by the difficulty advisors and other institutional representatives had defining undecided students within institutions, as well as related policies and processes. Such components, advising and policies, are part of the institutional context that shapes the student experience and require investment to support low advising loads, informational resources, advising training, and creating a culture that welcomes exploration.

Another significant finding was the influence of finances on the student experience and decision making. Students were very concerned about the financial implications of being undecided in terms of the monetary cost of taking extra courses not needed for the degree they ultimately selected, as well as taking longer to complete their degree due to a late decision. In addition, students were concerned about the financial consequences of their major selection as it related to job opportunities after graduation and financial security. This finding requires additional research to better understand the impact on major selection, as well as the ideal timing of major selection.

This research is important because it adds the student voice to the undecided student literature, as well as data specifically related to the institutional environment. Furthermore, this population of students is important because are many more students beyond undecided students who are unsure of their major and career goals. Findings from this study inform ways in which research about undecided student can be expanded

as well as ways in which the student experience could be supported and improved. Improvements to support this population of students and other students unsure of their academic and career goals could lead to improved retention and graduation outcomes for a good number of students. Given this population is also often considered at risk, this study also offers the student perspective on experiences, challenges, and helpful resources to improve institutional practices and policies. Most specifically, enhancements and support for advising, seminar courses for undecided students, and training related to undecided and major changing policies and procedures.

## Appendix A

### Advisor Survey Instrument

#### **NACADA Member Survey**

**Title:** Exploring College Major Selection Practices

#### **Respondent data**

Please complete the following questions based on your current situation and institutional affiliation.

Which of the following best describes your primary role at your institution?

- Faculty advisor (primary role teaching or research)
- Academic advisor/counselor/coach (primary role advising)
- Career counselor/advisor
- Advising administrator
- Administrator with responsibilities over several areas, one of which is advising
- Institutional position that supports advising (Registrar, admissions, financial aid, etc.)
- Affiliated with a college or university but not in any of the roles previously listed
- Not affiliated with an institution of higher education

Your institution would best be described as:

- Public
- Private (nonprofit)
- Private (for profit)
- Employed by agency or firm; primary income is not from an institution of higher education
- Not currently employed
- Other

The highest degree granted by your institution:

- Technical (vocational) certificate
- Associates degree
- Bachelor's degree
- Master's degree
- Specialist
- Ph.D., Ed.D., or professional degrees, (i.e. M.D., J.D., D.D.S., etc)
- Not applicable

Institutional size (total number of students enrolled)

- Less than 2,500

- 2,500 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 – 29,999
- 30,000 – 39,999
- More than 40,000
- Not applicable

Institutional region

Region Northeast Region (ME, VT, NY, NH, MA, RI, CT)  
 Mid-Atlantic (PA, NJ, DE, MD, VA, DC)  
 Mid-South (WV, KY, TN, NC, SC)  
 Southeast (MS, AL, GA, FL, Caribbean)  
 Great Lakes (WI, IL, MI, IN, OH)  
 North Central (NE, IA, SD, ND, MN, MT)  
 South Central (KS, MO, OK, AR, TX, LA)  
 Northwest (AK, WA, OR, ID, MT)  
 Pacific (CA, NV, HI)  
 Rocky Mountain (AZ, CO, NM, UT, WY)

What is the name of your current institution?

How many years have you been advising?

- Less than 1 year
- 1 year but less than 3 years
- 3 years but less than 5 years
- 5 years but less than 10 years
- 10 years but less than 15 years
- More than 15 years
- Not applicable

Are you responsible for advising undecided students in your current role?

- Yes
- No

If yes: How many undecided students do you advise?

Less than 50  
 50 – 149  
 150 – 249  
 250 – 349  
 350 – 449  
 450 – 549

- 550 – 649
- 650 – 749
- 750 – 849
- 850 – 949
- More than 950

### **Institutional policies and practices**

Please complete the following questions based on your current institutional affiliation.

What is the official designation used for undecided students at your institution?

- Undeclared
- Undecided
- Exploring/Exploratory
- Open/Open option
- This is not an official major at my institution
- Other (please explain)

Is the term you selected above used in advising practice?

- Yes, the term selected is used in practice.
- No, the term selected is not used in practice.

If No: Please explain how the term you selected is used in advising practice.

What support is available to new students about major selection prior to enrollment?

- Website(s)
- Assessment(s)
- Pre-enrollment advising
- Career Services
- Other (please explain)
- N/A

What types of majors are available for entering first year students to select at admission?

(Select all that apply)

- Undecided/Exploratory (generally undecided)\*
- Undecided/undeclared within an academic division/department
- Pre - (insert major(s))\*
- Specific majors
- Meta majors, major clusters or focus areas\*
- They are not permitted to select an official major
- Other (please explain)

If Undecided/Exploratory selected:

Which unit advises **undecided/exploratory (generally undecided)** students? (Select all that apply)

- Centralized unit/advising center
- A single academic unit or department
- Distributed to multiple units or departments
- Other (please explain)
- If multiple, please explain.

Who advises **undecided/exploratory (generally undecided)** students? (Select all that apply)

- Faculty
- Full-time/part-time advisors
- Graduate students or paraprofessional advisors
- Peer advisors
- Clerical or non-teaching staff
- Other (please explain)

How often are **undecided/exploratory (generally undecided)** students required to meet with an advisor?

- Never
- Once per year
- Once per semester
- 2-3 times per semester
- More than 4 times each semester
- Other (please explain)
- Not sure

What are the requirements for **undecided/exploratory (generally undecided)** students? (Select all that apply)

- Must meet with an advisor each semester
- Face-to-face course
- Workshops
- Online course
- Self-assessments
- No requirements
- Other (please explain)
- Not sure

If pre-(insert major(s)) is selected:

Which unit advises pre-(insert major(s)) students? (Select all that apply)

- Centralized unit/advising center
- A single academic unit or department
- Distributed to multiple units or departments

Other (please explain)  
If multiple, please explain.

Who advises pre-(insert major(s)) students? (Select all that apply)

Faculty  
Full-time/part-time advisors  
Graduate students or paraprofessional advisors  
Peer advisors  
Clerical or non-teaching staff  
Other (please explain)

If meta majors, major clusters or focus areas is selected:

Which unit advises students in meta majors, major clusters or focus areas? (Select all that apply)

Centralized unit/advising center  
A single academic unit or department  
Distributed to multiple units or departments  
Other (please explain)  
If multiple, please explain.

Who advises students in meta majors, major clusters or focus areas? (Select all that apply)

Faculty  
Full-time/part-time advisors  
Graduate students or paraprofessional advisors  
Peer advisors  
Clerical or non-teaching staff  
Other (please explain)

At your institution, are there restrictions about who can select undecided? (for example, students must have less than 60 credit hours, no transfer students, etc.)

- Yes
- No

If yes: Please provide examples of restrictions about who can select undecided/exploratory majors.

If entering first year students are not allowed to select a major, who advises them? (Select all that apply)

- Faculty
- Full-time/part-time advisors
- Graduate students or paraprofessional advisors
- Peer advisors

- Clerical or non-teaching staff
- Other (please explain)

When are students required to officially select a specific major?

- Fewer than 30 credit hours (please specify):
- 30 credit hours
- 45 credit hours
- 60 credit hours
- More than 60 credit hours (please specify):
- No deadline
- Based on criteria other than credit hours (please specify)?

Do all units or departments have the same requirement?

- Yes
- No (please explain)
- Unsure

If No: Please provide examples of different requirements for major declaration on your campus.

Have any policies or practices related to undecided students or major declaration changed in the last 3 years at your institution?

- Yes
- No

If yes: Please describe any policies or practices related to undecided students or major declaration that have occurred within the last 3 years at your institution.

What additional policies or practices exist on your institution about major declaration? (i.e. credit hour minimum for major selection, selective admissions, etc.)

### **Personal advising perspective**

The following questions are intended to understand how undecided students are viewed from an advising perspective.

In your opinion, does the official designation for undecided students at your institution have a positive or negative connotation?

- Extremely positive
- Slightly positive
- Neither positive nor negative
- Slightly negative
- Extremely negative

When I advise undecided students, I encourage them to:

- Declare a major as soon as possible even if it changes later
- Declare when they seem certain their choice won't change
- Declare a major only after a certain amount of time
- Declare a major only after they have had certain experiences
- Do as they wish—I have no opinion about when or why they declare a major
- N/A

Undecided students are better off in the long run because they have considered what they really want to do early in their college career.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Undecided students struggle to make connections on campus.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Undecided students should be encouraged to delay college enrollment until they have a better sense of what they want to study.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Students who start college undecided should be the norm; Students should not be able to declare a major right away.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Undecided students should be required to do the following to help with their decision making:

(Select all that apply)

- Must meet with an advisor each semester
- Face-to-face course
- Workshops
- Online course
- Self-assessment
- No requirements
- Other (please explain)

In your opinion, to what extent are students at your institution encouraged to declare a major at your institution?

At your institution, at what point are students disadvantaged if they have not declared a major?

What are the advantages of being an undecided student at your institution?

What are the challenges of being an undecided student at your institution?

If I have additional questions about undecided/undeclared advising processes and policies on your campus, could I contact you for further information?

Yes

No

If yes: Thank you for your willingness to be contacted for further information. Please include your name, email and phone number below.

## Appendix B

### Email Invitation for Advisor Survey

From: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Respond to: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Subject: NACADA sponsored-survey: Exploring college major selection practices

Dear \_\_\_\_\_,

You are invited to take part in a research study, approved for distribution to NACADA members by NACADA's Research Committee and sponsored by the University of Missouri to learn more about undecided/exploratory students and major selection. This study is being conducted by Rachael Orr, [orrre@missouri.edu](mailto:orrre@missouri.edu), Assistant Dean, University of Missouri. This research is part of her doctoral dissertation and sponsored by her faculty advisor, Dr. Casandra Harper Morris, [harpercas@missouri.edu](mailto:harpercas@missouri.edu), Associate Professor, Department of Educational Leadership and Policy Analysis, University of Missouri.

If you agree to participate in this study, you will be asked to complete a web-based questionnaire pertaining to undecided/exploratory student policies, procedures, and perceptions. Participation in this study will involve 10 minutes of your time to complete the questionnaire. Although you will receive no direct benefits, this research may help the investigator better understand how institutions support undecided/exploratory students.

Confidentiality of your responses will be strictly maintained. The questionnaire does not ask for any personally identifiable information and therefore your response will be anonymous.

At the end of the survey you will be asked if you are interested in participating in a follow-up study. If you choose to provide contact information such as your phone number or email address, your survey responses may no longer be anonymous to the researcher. However, no names or identifying information would be included in any publications or presentations based on these data, and your responses to this survey will remain confidential.

Participation in this study is voluntary and there will be no penalties for not participating in the research. You may refuse to participate or withdraw at any time without penalty. You have the right to skip or not answer any questions you prefer not to answer.

For questions about the content of the questionnaire or technical questions about the survey instrument, please contact Rachael Orr at [orrre@missouri.edu](mailto:orrre@missouri.edu). For questions about your rights as a research participant, you may contact the University of Missouri Campus Institutional Review Board at (573) 882-9585 or [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu).

Please print a copy of this consent e-mail for your records.

If you consent to participate in this study you may access the questionnaire [here](#) or paste the following link into your browser:

[https://missouri.qualtrics.com/jfe/form/SV\\_6Wq1dh9xoV9ibFX](https://missouri.qualtrics.com/jfe/form/SV_6Wq1dh9xoV9ibFX).

NACADA: The Global Community for Academic Advising

Kansas State University

2323 Anderson Avenue, Suite 225

Manhattan, KS 665062

T: 785/532-5717

F: 785/532-7732

E: [nacada@ksu.edu](mailto:nacada@ksu.edu)

W: [www.nacada.ksu.edu](http://www.nacada.ksu.edu)

## Appendix C

### Reminder Email for Advisor Survey

From: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Respond to: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Subject: NACADA sponsored-survey reminder: Exploring college major selection practices

Dear \_\_\_\_\_,

This is a reminder about the research study survey you are invited to take part in, approved for distribution to NACADA members by NACADA's Research Committee and sponsored by the University of Missouri to learn more about undecided/exploratory students and major selection. This study is being conducted by Rachael Orr, [orrre@missouri.edu](mailto:orrre@missouri.edu), Assistant Dean, University of Missouri. This research is part of her doctoral dissertation and sponsored by her faculty advisor, Dr. Casandra Harper Morris, [harpercas@missouri.edu](mailto:harpercas@missouri.edu), Associate Professor, Department of Educational Leadership and Policy Analysis, University of Missouri.

If you agree to participate in this study, you will be asked to complete a web-based questionnaire pertaining to undecided/exploratory student policies, procedures, and perceptions. Participation in this study will involve 10 minutes of your time to complete the questionnaire. Although you will receive no direct benefits, this research may help the investigator better understand how institutions support undecided/exploratory students.

Confidentiality of your responses will be strictly maintained. The questionnaire does not ask for any personally identifiable information and therefore your response will be anonymous.

At the end of the survey you will be asked if you are interested in participating in a follow-up study. If you choose to provide contact information such as your phone number or email address, your survey responses may no longer be anonymous to the researcher. However, no names or identifying information would be included in any publications or presentations based on these data, and your responses to this survey will remain confidential.

Participation in this study is voluntary and there will be no penalties for not participating in the research. You may refuse to participate or withdraw at any time without penalty. You have the right to skip or not answer any questions you prefer not to answer.

For questions about the content of the questionnaire or technical questions about the survey instrument, please contact Rachael Orr at [orrre@missouri.edu](mailto:orrre@missouri.edu). For questions about your rights as a research participant, you may contact the University of Missouri

Campus Institutional Review Board at (573) 882-9585 or  
[umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu).

Please print a copy of this consent e-mail for your records.

If you consent to participate in this study you may access the questionnaire [here](#) or paste the following link into your browser:

[https://missouri.qualtrics.com/jfe/form/SV\\_6Wq1dh9xoV9ibFX](https://missouri.qualtrics.com/jfe/form/SV_6Wq1dh9xoV9ibFX).

NACADA: The Global Community for Academic Advising

Kansas State University

2323 Anderson Avenue, Suite 225

Manhattan, KS 665062

T: 785/532-5717

F: 785/532-7732

E: [nacada@ksu.edu](mailto:nacada@ksu.edu)

W: [www.nacada.ksu.edu](http://www.nacada.ksu.edu)

## Appendix D

### Email for Institutional Contact Outreach

From: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Respond to: [orrre@missouri.edu](mailto:orrre@missouri.edu)

Subject: Follow-up to NACADA survey about major selection policies

Hello (first name),

I appreciate your response to my survey sponsored by NACADA about major selection policies last month and your willingness for me to follow-up with you. I am particularly intrigued by your response to \_\_\_ and would like to learn more about your responses. Would you be available to schedule a time for us to talk in the next few weeks?

Again, thank you so much for your willingness to help with my research!

Rachael Orr  
College of Arts & Science  
University of Missouri

## Appendix E

### Email for Student Recruitment of Participants

Subject: How did you find your major path? – seeking research study participants

Dear \_\_\_\_\_,

I'd like to learn about your story of selecting your major as part of a research study about undecided/exploratory students and major selection. The study involves a short online survey and, if selected, a 60-minute interview scheduled at your convenience. Participants who complete both the survey and interview will receive an Amazon.com gift card worth \$20.00.

To take the survey and learn more, go [here](#) or past the following link into your browser.

[https://missouri.qualtrics.com/jfe/form/SV\\_82O2Ebg4yZnJ92Z](https://missouri.qualtrics.com/jfe/form/SV_82O2Ebg4yZnJ92Z)

I appreciate your help in this research and look forward to hearing your exploration journey.

Thank you!

Rachael Orr  
University of Missouri  
Doctoral candidate  
[orrre@missouri.edu](mailto:orrre@missouri.edu)

## Appendix F

### Prospective Student Interview Survey

This is for a research study about undecided/exploratory students and major selection. The study involves a short online survey and, if selected, a 60-minute interview scheduled at your convenience. **Participants who complete the survey and interview will receive an Amazon.com gift card worth \$20.00.**

Additional information about the research study is below, followed by the short survey. Thank you in advance for your help!

Participation in this study is voluntary and there will be no penalties for not participating in the research. You may refuse to participate or withdraw at any time without penalty. You have the right to skip or not answer any questions you prefer not to answer.

Confidentiality of your responses will be strictly maintained. The questionnaire asks for contact information in order to schedule an interview, but any personally identifiable information will be stored separately from interview data. No names or identifying information would be included in any publications or presentations based on these data, and your responses to this survey will remain confidential.

This study is being conducted by Rachael Orr as part of her doctoral dissertation at the University of Missouri and sponsored by her faculty advisor, Dr. Casandra Harper Morris, Associate Professor, Department of Educational Leadership and Policy Analysis, University of Missouri.

For questions about the content of the questionnaire or technical questions about the survey instrument, please contact Rachael Orr. For questions about your rights as a research participant, you may contact the University of Missouri Campus Institutional Review Board at (573) 882-9585 or [umcresearchcibr@missouri.edu](mailto:umcresearchcibr@missouri.edu).

What is the name of your current institution?

What is your current major?

What is your intended graduation date? (Select from the options below)

- a) May 2019
- b) Summer/August 2019
- c) December 2019
- d) May 2020
- e) Summer/August 2020
- f) December 2020

- g) May 2021
- h) Summer/August 2021
- i) Please indicate intended graduation date, if not listed above.

When did you declare your current major? (i.e., second semester sophomore year, beginning of third year, etc.)

How many times did you change your major before your current selection?

- a) Only changed my major once to declare my current major
- b) Changed major twice
- c) Changed major three times
- d) Changed major more than three times (Please indicate number of changes)

If changed major more than once, what other majors did you declare before you selected your current major?

Rank the top three key influences on the selection of your current major.

- Match with interests/interest in subject
- Aptitude in subject
- Job characteristics
- Major attributes
- Psycho/social benefits in future
- Financial success/level of compensation
- Information search – influenced by direct or indirect recommendations
- Parent/guardian
- Instructors or faculty
- Advisors or counselors
- Potential job opportunities
- Potential for career advancement
- Introductory courses
- Activity or club
- Discussion with other students
- Work experience or internship

If applicable, please list any primary factors for your major selection not included above.

Please provide your contact information.

- First and last name
- Email address
- Phone number

What is your preferred method of contact

- Email

Text message  
Voice phone call

## Appendix G

### Undecided Student College Major Selection Interview Consent Form

You are being asked to take part in a research study about undecided student experiences and college major selection. I am asking you to take part because you entered college as an undecided/undeclared/exploratory student. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

**What the study is about:** The purpose of this study is to learn about student experiences as an undecided student and what influences student major selection. You must have entered college in an undecided/undeclared/exploratory major and have earned at least 60 credit hours to take part in this study.

**What we will ask you to do:** If you agree to be in this study, I will conduct an interview with you. The interview will include questions about your college experiences and influences on your major selection. The interview will take about 60 minutes to complete. With your permission, I would also like to tape-record the interview.

**Risks and benefits:** I do not anticipate any risks to you participating in this study other than those encountered in day-to-day life. There are no benefits to you. I hope to learn more about undecided students and influences on your major selection in order to inform policies and practices in higher education.

**Compensation:** If you complete the interview, you will receive a \$20 Amazon.com gift card. This will be sent to you electronically after the conclusion of the interview.

**Your answers will be confidential.** The records of this study will be kept private. In any sort of report we make public we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records. If we tape-record the interview, the electronic file will be kept in a locked file with other research records.

**Taking part is voluntary:** Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide not to take part or to skip some of the questions, it will not affect your current or future relationship with your institution. If you decide to take part, you are free to withdraw at any time.

**If you have questions:** This study is being conducted by Rachael Orr, orrre@missouri.edu, Assistant Dean, University of Missouri. This research is part of her doctoral dissertation and sponsored by her faculty advisor, Dr. Casandra Harper Morris, harpercas@missouri.edu, Associate Professor, Department of Educational Leadership and Policy Analysis, University of Missouri. For questions about your rights as a

research participant, you may contact the University of Missouri Campus Institutional Review Board at (573) 882-9585 or [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu).

Please ask any questions you have now. You will be given a copy of this form to keep for your records.

Please provide your information.

First name

Last name

Date

What is your gender identity?

Man

Woman

Another gender identity, please specify.

I prefer not to respond

What is your racial or ethnic identification? (Select all that apply)

American Indian or Alaska Native

Asian

Black or African American

Hispanic or Latino

Native Hawaiian or Other Pacific Islander

White

Other

I prefer not to respond

Enter your year of birth (e.g., 1996).

I have read the above information, and have received answers to any questions I asked.

Yes, I consent to take part in the study.

No, I do not consent to take part in the study.

In addition to agreeing to participate, I also consent to having the interview recorded (audio and/or video).

Yes, I consent to having the interview recorded.

No, I do not consent to having the interview recorded.

## Appendix H

### Interview Protocol

**We will start this interview looking back on your experiences as you entered X college.**

Reflect back to the time you decided to attend college.

Can you tell me about this? Why X college?

What made you select “undecided/undeclared” as your initial major at the time?

Do you feel that the services provided to you at X college have helped you determine your major? Policies or procedures?

**The next section will be about the events, experiences, etc. that brought you to your decision.**

Can you describe some of your experiences that led you to select your major?

What was the turning point for you in selecting your chosen major?

Which factors have played a larger role in declaring your major?

How have friends influenced your selection? Family? Courses? Experiences?

Interests? Values? Other sources of information?

What campus experiences prepared you for your choice?

What other majors did you consider? If yes, why were those majors ultimately not the major for you?

What was the process of declaring a major like for you?

What significant messages have you received in your life that influenced your decision about your major?

**The last section is about your satisfaction with your major selection.**

What messages would you give to other deciding students who are in the process of choosing a major?

What messages would you give to advisors, faculty, or administrators about helping students select a major?

On a scale of one (not sure) to ten (very sure) how sure are you now about this chosen major?

Why?

Are you overall satisfied in your decision to declare your major?

## Appendix I

### Summary of Key Recommendations for Enrollment Management and Advising Practice

The purpose of this study was to understand how the relationship between undecided student experiences and institutional factors. Based on the qualitative and quantitative findings, the following are recommendations for leadership in enrollment management and advising:

#### **Enrollment Management Leadership**

##### Pre-enrollment advising

Several participants described their experience of confusion about different majors when they applied. Students should have access to knowledgeable advisors to discuss options and informational resources about majors to navigate institutional language.

##### Major information accessible to students

Informational resources about majors, careers, and curriculum requirements in a consistent, jargon-free, and easily accessible format would help students make more informed decisions before orientation and enrollment, as well as in the first year.

#### **Advisors and Advising Leadership**

##### Empathetic advising

Students in this study specifically talked about empathy as an important characteristic of an academic advisor. Other students mentioned not feeling like a number and providing meaningful and personal feedback about ideas and choices during the advising process.

##### Advising training and development

This study highlighted the lack of clarity about institutional policies and procedures. Academic advisors must hone several skills, including relationship building skills, interviewing skills, referral skills, and knowledge of policies and procedures. Undecided advisors, specifically, must know policies and processes for all majors and departments.

##### Major declaration timeline

The results of this study indicate students should take the first year to explore majors and careers before being forced to make a selection. Advisors and advising leadership should educate students and parents about the relevant milestones to stay on track to complete their degree in 4 years, including a deadline in which they should be confident in their major selection.

#### Undecided student seminar course

While the advising support can come in a variety of formats, such as one-on-one meetings and workshops, students in this study seemed to benefit from the first-year seminar course and specific activities within the course designed to guide their exploration and reflection.

## Appendix J

### Summary of Key Recommendations for Institutional Leadership Practice

The purpose of this study was to understand how the relationship between undecided student experiences and institutional factors. Based on the qualitative and quantitative findings, the following are recommendations for institutional leaders:

#### Invest in undecided resources

Institutions are responsible for creating a welcoming and supportive environment for undecided students, as well as students who are declared yet unsure of their selection, to explore major and career options in a transparent and guided way. Based on the student descriptions in this study, the investment in undecided student advising and support is important to the student experience and decision-making.

#### Positive language to describe undecided

Language that better describes the positive and active role students are taking in their academic planning could create a more welcoming and accepting environment for students, such as *exploratory*, *exploring*, or *deciding*.

#### Low advising loads

Undecided students are one of those unique groups that necessitate lower advising loads in order to provide enough time for intentional one-on-one interactions, as well as programmatic interventions and seminar courses.

#### Curricular flexibility

Student participants in this study were more concerned about getting behind based on the curriculum than they were concerned with academic deadlines. In order for students to truly have time to explore, learn, and confirm their major selection, the curriculum must provide an opportunity. Institutions should find ways to allow students curricular flexibility to make progress as well as explore areas of interest.

#### Strong introductory courses and instructors

Several students talked about the influence of introductory courses and course instructors in their confirmation and selection of major. Academic departments would therefore benefit from a focus on introductory courses as a means to influence student decision making and increase interest in specific fields. Academic departments could further benefit from helping students make connections between majors and careers in a variety of ways, including introductory course content and connecting students with other students or alumni in the department.

## References

- Alexander, F. K. (2000). The changing face of accountability: Monitoring and assessing institutional performance in higher education. *The Journal of Higher Education*, 71(4), 411-431.
- Allan, K. (2011). Structuring class: Pierre Bourdieu. In *Contemporary social and sociological theory* (pp. 167-187). Thousand Oaks, CA: Sage Publications.
- Allen, J., & Robbins, S. B. (2008). Prediction of college major persistence based on vocational interests, academic preparation, and first-year academic performance. *Research in Higher Education*, 49(1), 62-79.
- Allen, J., & Robbins, S. B. (2010). Effects of interest–major congruence, motivation, and academic performance on timely degree attainment. *Journal of Counseling Psychology*, 57(1), 23.
- Anderson, B. C., Creamer, D. G., & Cross, L. H. (1989). Undecided, multiple change, and decided students: How different are they? *NACADA Journal*, 9(1), 46-50.
- Arcidiacono, P. (2004). Ability sorting and the returns to college major. *Journal of econometrics*, 121(1-2), 343-375.
- Arcidiacono, P., Aucejo, E. M., & Spenner, K. (2012). What happens after enrollment? An analysis of the time path of racial differences in GPA and major choice. *IZA Journal of Labor Economics*, 1(1), 5.
- Ashby, J. D., Wall, H. W., & Osipow, S. H. (1966). Vocational certainty and indecision in college freshmen. *Personnel and Guidance Journal*, 1037-1041.

- Bailey, T. R., Jaggars, S. S., & Jenkins, D. (2015). *Redesigning America's community colleges: A clearer path to student success*: Harvard University Press.
- Baird, L. L. (1969). The undecided student—How different is he? *The Personnel and Guidance Journal*, 47(5), 429-434.
- Bazeley, P. (2003). Computerized data analysis for mixed methods research. In C. Teddlie & A. Tashakkori (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 385-422). Thousand Oaks, CA: Sage Publications.
- Beggs, J. M., Bantham, J. H., & Taylor, S. (2008). Distinguishing the factors influencing college students choice of major. *College Student Journal*, 42(2), 381-394.
- Berger, M. C. (1988). Predicted future earnings and choice of college major. *ILR Review*, 41(3), 418-429.
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative research*, 15(2), 219-234.
- Bettinger, E. P., & Long, B. T. (2005). Do faculty serve as role models? The impact of instructor gender on female students. *American Economic Review*, 95(2), 152-157.
- Betz, N. E. (2008). Advances in vocational theories. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (Vol. 4, pp. 357-374).
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. In S. L. Friedman & T. D. Wachs (Eds.), *Measuring*

*environment across the life span: Emerging methods and concepts* (pp. 3-28).  
Washington, DC: American Psychological Association.

- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner (Ed.), *Handbook of child development: Vol. 1. Theoretical models of human development* (6th ed., pp. 793-828). Hoboken, NJ: Wiley.
- Brown, G. S., & Strange, C. (1981). The relationship of academic major and career choice status to anxiety among college freshmen. *Journal of Vocational Behavior*, *19*(3), 328-334.
- Brown, S. D., Krane, N. E. R., Brecheisen, J., Castelino, P., Budisin, I., Miller, M., & Edens, L. (2003). Critical ingredients of career choice interventions: More analyses and new hypotheses. *Journal of Vocational Behavior*, *62*(3), 411-428.
- Brown, S. D., & Rector, C. C. (2008). Conceptualizing and diagnosing problems in vocational decision making. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (Vol. 4, pp. 392-407).
- Bubany, S. T., Krieschok, T. S., Black, M. D., & McKay, R. A. (2008). College students' perspectives on their career decision making. *Journal of Career Assessment*, *16*(2), 177-197.
- Bullock-Yowell, E., McConnell, A. E., & Schedin, E. A. (2014). Decided and undecided students: Career self-efficacy, negative thinking, and decision-making difficulties. *NACADA Journal*, *34*(1), 22-34.

- Cabrera, A. F., Nora, A., Terenzini, P. T., Pascarella, E., & Hagedorn, L. S. (1999).  
Campus racial climate and the adjustment of students to college: A comparison  
between White students and African-American students. *The Journal of Higher  
Education, 70*(2), 134-160.
- Calstrom, A. H., & Miller, M. A. (Eds.). (2013). *2011 NACADA National Survey of  
Academic Advising* (Vol. Monograph No. 25). Manhattan, KS: National  
Academic Advising Association.
- Carduner, J., Padak, G. M., & Reynolds, J. (2011). Exploratory honors students:  
Academic major and career decision making. *NACADA Journal, 31*(1), 14-28.
- Cho, J. Y., & Lee, E. H. (2014). Reducing confusion about grounded theory and  
qualitative content analysis: Similarities and differences. *The qualitative report,  
19*(32), 1-20.
- Chuang, N., Walker, K., & Caine-Bish, N. (2009). Student perceptions of career choice:  
The impact of academic major. *Journal of Family and Consumer Sciences  
Education, 27*(2), 18 - 29.
- Cohen, A. M. (1998). *The Shaping of American Higher Education: Emergence and  
Growth of the Contemporary System*. San Francisco, CA: Josey-Bass Publishers.
- College Complete America. (2017). *New rules: Policies to meet attainment goals and  
close equity gaps*. Retrieved from College Complete America:  
<https://completecollege.org/wp-content/uploads/2017/06/New-Rules-2.0.pdf>

- Conner, T. W., & Rabovsky, T. M. (2011). Accountability, affordability, access: A review of the recent trends in higher education policy research. *Policy Studies Journal, 39*, 93-112.
- Cook, E. P., Heppner, M. J., & O'Brien, K. M. (2002). Career development of women of color and white women: Assumptions, conceptualization, and interventions from an ecological perspective. *Career Development Quarterly, 50*(4), 291-305.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five designs* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Cuseo, J. (2005). Decided, undecided, and in transition: Implications for academic advisement, career counseling, and student retention. In R. S. Feldman (Ed.), *Improving the first year of college: Research and practice* (pp. 27-48). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Danis, E. J. (1989). Exploring the uncertain but hopeful future. *NACADA Journal, 9*(1), 3-4.
- Davies, S., & Guppy, N. (1997). Fields of study, college selectivity, and student inequalities in higher education. *Social forces, 75*(4), 1417-1438.
- Dawson-Threat, J., & Huba, M. E. (1996). Choice of major and clarity of purpose among college seniors as a function of gender, type of major, and sex-role identification. *Journal of College Student Development, 37*(3), 297-308.

- Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development, 46*(3), 223-236.
- Dickson, L. (2010). Race and gender differences in college major choice. *Annals of the American Academic, 627*, 108-124.
- Duffy, R. D., & Dik, B. J. (2009). Beyond the self: External influences in the career development process. *The career development quarterly, 58*(1), 29-43.
- Eagan, M. K., Stolzenberg, E. B., Ramirez, J. J., Aragon, M. C., Suchard, M. R., & Rios-Aguilar, C. (2016). *The American freshman: Fifty-year trends, 1966-2015*. Retrieved from Higher Education Research Institute, Graduate School of Education & Information Studies, University of California, Los Angeles.: <https://heri.ucla.edu/the-american-freshman-fifty-year-trends-1966-2015/>
- Ellis, K. C. (2014). Academic advising experiences of first-year undecided students: A qualitative study. *NACADA Journal, 34*(2), 42-50.
- Evans, N., Forney, D., & Guido-DiBrito, F. (1998). *Student development theory in college: Theory, research, and practice*: San Francisco: Jossey-Bass.
- Falconer, J. W., & Hays, K. A. (2006). Influential factors regarding the career development of African American college students: A focus group approach. *Journal of Career Development, 32*(3), 219-233.
- Feldman, K. A., Smart, J. C., & Ethington, C. A. (1999). Major field and person-environment fit. *Journal of Higher Education, 70*(6), 643-669.

- Finlay, L. (2002). Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative research*, 2(2), 209-230.
- Foote, B. (1980). Determined and Undetermined major students: How different are they? *Journal of College Student Personnel*, 21(1), 29-33.
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The qualitative report*, 20(9), 1408.
- Galotti, K. M. (1999). Making a "major" real-life decision: College students choosing an academic major. *Journal of Educational Psychology*, 91(2), 379.
- Gati, I., Gadassi, R., Saka, N., Hadadi, Y., Ansenberg, N., Friedmann, R., & Asulin-Peretz, L. (2011). Emotional and personality-related aspects of career decision-making difficulties: Facets of career indecisiveness. *Journal of Career Assessment*, 19(1), 3-20.
- Gianakos, I., & Subich, L. M. (1988). Student sex and sex role in relation to college major choice. *Career Development Quarterly*, 36(3), 259-268.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-606.
- Gordon, V. N. (1985). Students with uncertain academic goals. In L. Noel, R. Levitz, & D. Saluri (Eds.), *Increasing Student Retention: Effective Programs and practices for Reducing the Dropout Rate* (pp. 116-137). San Francisco, CA: Jossey-Bass.
- Gordon, V. N. (1998). Career decidedness types. *Career Development Quarterly*, 46, 386-403.

- Gordon, V. N., & Steele, G. (2003). Undecided first-year students: A 25-year longitudinal study. *Journal of the First-Year Experience & Students in Transition*, 15(1), 19-38.
- Gordon, V. N. (2006). *Career advising: An academic advisor's guide*. San Francisco, CA: John Wiley & Sons.
- Gordon, V. N. (2007). *The undecided college student*. Springfield, IL: Charles C. Thomas.
- Gordon, V. N., & Steele, G. E. (2015). *The Undecided College Student: An academic and career advising challenge* (4th ed.). Springfield, IL: Charles C. Thomas.
- Graunke, S. S., Woosley, S. A., & Helms, L. L. (2006). How do their initial goals impact students' chances to graduate? An exploration of three types of commitment. *NACADA Journal*, 26(1), 13-18.
- Greene, J. C., & Caracelli, V. J. (2003). Making paradigmatic sense of mixed methods practice. In C. Teddlie & A. Tashakkori (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 91-110). Thousand Oaks, CA: Sage Publications.
- Grites, T. J. (1981). Being "undecided" might be the best decision they could make. *The School Counselor*, 29(1), 41-46.
- Habley, W. R., & Morales, R. H. (1998). Current Practices in Academic Advising: Final Report on ACT's Fifth National Survey of Academic Advising. *National Academic Advising Association Monograph Series*(6).

- Hackett, G., Esposito, D., & O'Halloran, M. S. (1989). The relationship of role model influences to the career salience and educational and career plans of college women. *Journal of Vocational Behavior, 35*(2), 164-180.
- Hagstrom, S. J., Skovholt, T. M., & Rivers, D. A. (1997). The advanced undecided college student: A qualitative study. *NACADA Journal, 17*(2), 23-30.
- Hannah, L. K., & Robinson, L. (1990). Survey Report: How College Help Freshmen Select Courses and Careers. *Journal of Career Planning and Employment, 50*(4), 53-57.
- Heppner, P. P., & Heppner, M. J. (2004). *Writing and publishing your thesis, dissertation, and research: A guide for students in the helping professions*. Belmont, CA: Brooks/Cole Cengage Learning.
- Hesse-Biber, S. N. (2010). *Mixed methods research: Merging theory with practice*. New York, NY: Guilford Press.
- Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating “sense of belonging” in first-year college students. *Journal of College Student Retention: Research, Theory & Practice, 4*(3), 227-256.
- Holland, J. E. (1985). *Making vocational choices: A theory of vocational personalities and work environments* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Holland, J. L., & Holland, J. E. (1977). Vocational indecision: More evidence and speculation. *Journal of Counseling Psychology, 24*(5), 10.
- Hunter, M. S., & Linder, C. W. (2005). First-year seminars. In M. Upcraft, J. Gardner, B. Barefoot, & Associates (Eds.), *Challenging and supporting the first-year student:*

*A handbook for improving the first year of college* (pp. 275-291). San Francisco, CA: Jossey-Bass.

Johnson, B., & Turner, L. A. (2003). Data collection strategies in mixed methods research. In C. Teddlie & A. Tashakkori (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 297-319).

Johnson, M. K., & Mortimer, J. T. (2002). Career choice and development from a sociological perspective. In D. Brown (Ed.), *Career choice and development* (4th ed., pp. 37-81).

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*(2), 112-133.

Jones, S. (2015). The game changers: Strategies to boost college completion and close attainment gaps. *Change: The Magazine of Higher Learning, 47*(2), 24-29.

Kelly, K. R., & Lee, W.-C. (2002). Mapping the domain of career decision problems. *Journal of Vocational Behavior, 61*(2), 302-326.

Kelly, K. R., & Pulver, C. A. (2003). Refining measurement of career indecision types: A validity study. *Journal of Counseling & Development, 81*, 445-454.

Kramer, G. L., Higley, H. B., & Olsen, D. (1994). Changes in Academic Major among Undergraduate Students. *College and University, 69*(2), 88-96.

Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research*. Thousand Oaks, CA: Sage Publications.

- Lair, D. J., & Wieland, S. M. (2012). "What are you going to do with that major?" Colloquial speech and the meanings of work and education. *Management Communication Quarterly*, 26(3), 423-452.
- Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education*, 60(2), 73-85.
- Lee, H.-Y., & Hughey, K. F. (2001). The relationship of psychological separation and parental attachment to the career maturity of college. *Journal of Career Development*, 27(4), 279-293.
- Legutko, R. S. (2007). Influence of an academic workshop on once-undeclared graduates' selection of a major. *College Student Journal*, 41(1), 93-99.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122.
- Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. In D. B. a. Associates (Ed.), *Career choice and development* (Vol. 4, pp. 255-311).
- Lent, R. W., Brown, S. D., Talleyrand, R., McPartland, E. B., Davis, T., Chopra, S. B., . . . Chai, C. (2002). Career choice barriers, supports, and coping strategies: College students' experiences. *Journal of Vocational Behavior*, 60, 61-72.
- Leppel, K., Williams, M. L., & Waldauer, C. (2001). The impact of parental occupation and socioeconomic status on choice of college major. *Journal of Family and Economic issues*, 22(4), 373-394.

- Leppel, K. (2001). The impact of major on college persistence among freshmen. *Higher Education, 41*, 327-342.
- Leslie, L. L., McClure, G. T., & Oaxaca, R. L. (1998). Women and minorities in science and engineering: A life sequence analysis. *The Journal of Higher Education, 69*(3), 239-276.
- Levinson, B. A. (2011). Symbolic domination and the reproduction of inequality: Pierre Bourdieu and practice theory. In B. A. w. J. G. Lemert, C. Hanks, J. H. Dadds, K. Kumasi, J. Link, & J. Metro-Roland) (Ed.), *Beyond critique: Exploirng critical social theories and education* (pp. 113-138). Boulder, CO: Paradigm Publishers.
- Lewallen, W. C. (1993). The impact of being " undecided" on college-student persistence. *Journal of College Student Development, 34*, 103-112.
- Lewallen, W. C. (1994). A profile of undecided students. In V. N. Gordon (Ed.), *Issues in Advising the Undecided College Student* (Vol. 15): National Resource Center for the Freshmen Year Experience, University of South Carolina.
- Lewallen, W. C. (1995). Students decided and undecided about career choice: A comparison of college achievement and student involvement. *NACADA Journal, 15*(1), 22-30.
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 163-188). Thousand Oaks, CA: Sage Publications.

- Lipka, S. (2012, August 26). As Portrait of Typical Student Changes, so Do Worries about Costs. *Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/article/As-Portrait-of-Typical-Student/133930>
- Ma, Y. (2009). Family socioeconomic status, parental involvement, and college major choices—gender, race/ethnic, and nativity patterns. *Sociological Perspectives*, 52(2), 211-234.
- Malamud, O. (2011). Discovering one's talent: learning from academic specialization. *Industrial and Labor Relations Review*, 64(2), 375-405.
- Malgwi, C. A., Howe, M. A., & Burnaby, P. A. (2005). Influences on students' choice of college major. *Journal of Education for Business*, 80(5), 275-282.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Miles, M., Huberman, A., & Saldaña, J. (2013). *Qualitative data analysis: A methods sourcebook*. In (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Miller, A. D., & Rottinghaus, P. J. (2014). Career indecision, meaning in life, and anxiety: An existential framework. *Journal of Career Assessment*, 22(2), 233-247.
- Montmarquette, C., Cannings, K., & Mahseredijan, S. (2002). How do young people select college majors. *Economics of Education Review*, 21, 543- 556.
- Morgan, S. L., Gelbgiser, D., & Weeden, K. A. (2013). Feeding the pipeline: Gender, occupational plans, and college major selection. *Social Science Research*, 42(4), 989-1005.

- Morse, J. M. (2003). Principles of Mixed Methods and Multimethod Research Design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189-208). Thousand Oaks, CA: Sage.
- Mullen, A. L. (2014). Gender, social background, and the choice of college major in a liberal arts context. *Gender & Society*, 28(2), 289-312.
- NACADA Career Advising Survey. (2007). Retrieved from <https://nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Career-advising-resources.aspx>
- Nardi, P. M. (2014). *Doing survey research: A guide to quantitative methods* (3rd ed.). New York, NY: Routledge.
- National Academies of Sciences Engineering and Medicine. (2019). *The Science of Effective Mentorship in STEMM*. Washington, DC: The National Academies Press.
- Newman, I., Ridenour, C. S., Newman, C., & DeMarco, G. M. P., Jr. (2003). A typology of research purposes and its relationship to mixed methods. In C. Teddlie & A. Tashakkori (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 167 - 188). Thousand Oaks, CA: Sage Publications.
- O'Keeffe, P. (2013). A sense of belonging: Improving student retention. *College Student Journal*, 47(4), 605-613.
- Onink, T. (2010, Dec. 16, 2010). Bad College Advice - the Undeclared major. *Forbes Magazine*. Retrieved from

<http://www.forbes.com/sites/troyonink/2010/12/16/bad-college-advice-the-undeclared-major/#16fdb4441e88>

- Orndorff, R. M., & Herr, E. L. (1996). A comparative study of declared and undeclared college students on career uncertainty and involvement in career development activities. *Journal of Counseling & Development, 74*(6), 7.
- Osipow, S. H. (1999). Assessing career indecision. *Journal of Vocational Behavior, 55*, 147-154.
- Pearson, C., & Dellman-Jenkins, M. (1997). Parental influence on a student's selection of a college major. *College Student Journal, 31*(3), 301-313.
- Policy Center for the First Year of College. (2000). *National survey of first-year curricular practices*. Brevard, NC: Author.
- Porter, S. R., & Swing, R. L. (2006). Understanding how first-year seminars affect persistence. *Research in Higher Education, 47*(1), 89-109.
- Porter, S. R., & Umbach, P. D. (2006). College major choice: An analysis of person-environment fit. *Research in Higher Education, 47*(4), 429-449.
- Pringle, E. J. (2014). *The Unintended and Unexpected Outcomes of a Major Selection Policy*. (Doctor of Philosophy Dissertation). Kent State University,
- Rabovsky, T. M. (2012). Accountability in higher education: Exploring impacts on state budgets and institutional spending patterns. *Journal of Public Administration Research and Theory, 22*(4), 675-700.

- Rask, K. N., & Bailey, E. M. (2002). Are faculty role models? Evidence from major choice in an undergraduate institution. *The Journal of Economic Education*, 33(2), 99-124.
- Reardon, R., & Fiore, E. (2014). *College career courses and learner outputs and outcomes, 1976-2014 (Technical Report No. 55)*. Retrieved from <https://diginole.lib.fsu.edu/islandora/object/fsu%3A553104/datastream/PDF/view>
- Reardon, R. C., & Lenz, J. G. (1999). Holland's theory and career assessment. *Journal of Vocational Behavior*, 55, 102-113.
- Reay, D. (2004). Education and cultural capital: The implications of changing trends in education policies. *Cultural trends*, 13(2), 73-86.
- Renn, K. A. (2003). Understanding the identities of mixed-race college students through a developmental ecology lens. *Journal of College Student Development*, 44(3), 383-403.
- Renn, K. A., & Arnold, K. D. (2003). Reconceptualizing research on college student peer culture. *The Journal of Higher Education*, 74(3), 261-291.
- Robbins, R. (2013). Implications of advising load. *2011 National Survey of Academic Advising*. Retrieved from NACADA Clearinghouse of Academic Advising Resources website <http://www.nacada.ksu.edu/tabid/3318/articleType/ArticleView/articleId/94/article.aspx>.
- Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology*, 11(1), 25-41.

- Saka, N., Gati, I., & Kelly, K. R. (2008). Emotional and personality-related aspects of career-decision-making difficulties. *Journal of Career Assessment, 16*(4), 403-424.
- Saldaña, J. (2015). *The coding manual for qualitative researchers* (3 ed.). Los Angeles, CA: Sage Publications.
- Scharen, R. (2010). *Making a major decision: Undeclared student retention and the process of choosing an academic major at Rowan University*. (Unpublished master's thesis). Rowan University, Glassboro, NJ.
- Schoonenboom, J., & Johnson, R. B. (2017). How to construct a mixed methods research design. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie, 69*(2), 107-131.
- Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (2nd ed.). New York, NY: Teachers College Press.
- Sharp, J. L., Mobley, C., Hammond, C., Withington, C., Drew, S., Stringfield, S., & Stipanovic, N. (2012). A mixed methods sampling methodology for a multisite case study. *Journal of Mixed Methods Research, 6*(1), 34-54.
- Shaw, E. J., & Barbuti, S. (2010). Patterns of persistence in intended college major with a focus on STEM majors. *NACADA Journal, 30*(2), 19-34.
- Simon, C. C. (2012, Nov. 2, 2012). Major Decisions. *New York Times*. Retrieved from <https://www.nytimes.com/2012/11/04/education/edlife/choosing-one-college-major-out-of-hundreds.html>

- Simpson, J. C. (2001). Segregated by subject: Racial differences in the factors influencing academic major between European Americans, Asian Americans, and African, Hispanic, and Native Americans. *The Journal of Higher Education*, 72(1), 63-100.
- Sjoquist, D. L., & Winters, J. V. (2015). State merit aid programs and college major: A focus on STEM. *Journal of Labor Economics*, 33(4), 973-1006.
- Spight, D. B. (2013). Simply declaring a major early equals timely graduation, right. *Academic Advising Today*, 36(1). Retrieved from <https://www.nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Simply-Declaring-a-Major-Early-Equals-Timely-Graduation-Right.aspx>
- Spight, D. B. (2019). Undeclared Versus Declared: Who Is More Likely to Graduate? *Journal of College Student Retention: Research, Theory & Practice*, 1-20.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.
- Stake, R. E. (2013). *Multiple case study analysis*. New York, NY: Guilford Press.
- Staniec, J. F. O. (2004). The effects of race, sex, and expected returns on the choice of college major. *Eastern Economic Journal*, 30(4), 549-562.
- Stater, M. (2011). Financial aid, student background, and the choice of first-year college major. *Eastern Economic Journal*, 37(3), 321-343.
- Stebbleton, M. J. (2011). Understanding immigrant college students: Applying a developmental ecology framework to the practice of academic advising. *NACADA Journal*, 31(1), 42-54.

- Steele, G. (2003). A research-based approach to working with undecided students: A case study illustration. *NACADA Journal*, 23(1-2), 10-20.
- Straumsheim, C. (2016, August 24, 2016). Decision time. *InsideHigherEd.com*. Retrieved from <https://www.insidehighered.com/news/2016/08/24/study-finds-students-benefit-waiting-declare-major>
- Swanson, J. L., & Tokar, D. M. (1991). College students' perceptions of barriers to career development. *Journal of Vocational Behavior*, 38(1), 92-106.
- Tampke, D. R., & Durodoye, R. (2013). Improving academic success for undecided students: A first-year seminar/learning community approach. *Learning Communities: Research & Practice*, 1(2).
- Tashakkori, A., & Teddlie, C. (2003). Handbook on mixed methods in the behavioral and social sciences. In: Thousand Oaks, CA: Sage Publications.
- Taylor, K. M. (1982). An investigation of vocational indecision in college students: Correlates and Moderators. *Journal of Vocational Behavior*, 21, 318-329.
- Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22(1), 63-81.
- Teddlie, C., & Tashakkori, A. (2003). Major issues in the use of mixed methods in the social and behavioral sciences. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in the behavioral and social sciences* (pp. 3-50): Thousand Oaks, CA: Sage Publications.

- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Los Angeles, CA: Sage Publications.
- Theophilides, C., Terenzini, P. T., & Lorang, W. (1984). Freshmen and sophomore experiences and changes in major field. *Review of Higher Education*, 7(3), 261-278.
- Thomas, S. L., & Zhang, L. (2005). Post-baccalaureate wage growth within four years of graduation: The effects of college quality and college major. *Research in Higher Education*, 46(4), 437-459.
- Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition* (2nd ed.). Chicago, IL: University of Chicago Press.
- Tinto, V. (2004). *Student Retention and Graduation: Facing the Truth, Living with the Consequences. Occasional Paper 1*. Retrieved from <https://eric.ed.gov/?id=ED519709>
- Titley, R. W., & Titley, B. S. (1980). Initial choice of college major: Are only the undecided undecided? *Journal of College Student Personnel*, 21(4), 5.
- Tudge, J. R., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review*, 1(4), 198-210.
- U.S. Department of Education. (2018). National Center for Education Statistics, Integrated Postsecondary Education Data System (Data set). Retrieved from <https://nces.ed.gov/ipeds/use-the-data>. from <https://nces.ed.gov/ipeds/use-the-data>

- Upcraft, M. L., Gardner, J. N., & Barefoot, B. O. (2004). *Challenging and Supporting the First-Year Student: A Handbook for Improving the First Year of College*. Indianapolis, IN: Jossey-Bass.
- Upcraft, M. L., Gardner, J. N., & Barefoot, B. O. (2005). *Challenge and support: Creating climates for first-year student success*. San Francisco, CA: Jossey-Bass.
- Venit, E. (2016). *How late is too late? Myths and facts about the consequences of switching college majors*. Retrieved from Education Advisory Board: Student Success Collaborative: <https://www.eab.com/technology/student-success-collaborative/members/white-papers/major-switching>
- Walck, D., & Hensby, S. (2003). Career and degree choice at transition to university. *Australian Journal of Career Development, 12*(3), 64-71.
- Wang, X. (2013). Why students choose STEM majors: Motivation, high school learning, and postsecondary context of support. *American Educational Research Journal, 50*(5), 1081-1121.
- Ware, N. C., Steckler, N. A., & Leserman, J. (1985). Undergraduate women: Who chooses a science major? *The Journal of Higher Education, 56*(1), 73-84.
- Workman, J. L. (2015). Parental influence on exploratory students' college choice, major, and career decision making. *College Student Journal, 49*(1), 23-30.
- Xiao, J. J., Newman, B. M., & Chu, B.-s. (2018). Career preparation of high school students: A multi-country study. *Youth & Society, 50*(6), 818-840.
- Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed. Vol. 5). Los Angeles, CA: Sage Publications.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.).  
Los Angeles, CA: Sage Publications.

Yomtov, D., Plunkett, S. W., Efrat, R., & Marin, A. G. (2017). Can peer mentors improve  
first-year experiences of university students? *Journal of College Student  
Retention: Research, Theory & Practice*, 19(1), 25-44.

Young, R. A. (1983). Career development of adolescents: An ecological perspective.  
*Journal of youth and adolescence*, 12(5), 401-417.

Young, R. A. (1984). Toward an ecology of career development. *Canadian Journal of  
Counselling and Psychotherapy/Revue canadienne de counseling et de  
psychothérapie*, 18(4).

Zhao, C.-M., & Kuh, G. D. (2004). Adding value: Learning communities and student  
engagement. *Research in Higher Education*, 45(2), 115-138.

## VITA

Rachael Elizabeth Orr is a native of Missouri, where her interest in higher education emerged from her own experience as an undergraduate student trying to find her path. She earned her Bachelor of Arts degree in Biology at Central Methodist University. While exploring different employment options after completing her undergraduate degree, she contacted her alma mater to suggest they create a career services office to help students like herself identify career paths and employment prior to graduation. Her letter prompted a job offer to develop a career services office at Central Methodist, while also serving as a residence hall coordinator. That opportunity ignited her passion for helping students and her career in higher education. While working at Central Methodist, she earned her Master of Arts degree in Educational Leadership and Policy Analysis from the University of Missouri. While at Central Methodist, she met her husband, Brandon, who coached football for the Central Methodist Eagles. After four years at Central Methodist, she took a position at the University of Missouri as an academic advisor for undecided students and continued to work with that population for 14 years throughout different roles at the University of Missouri. During that time, her husband was also working for the University of Missouri and began working on his Ph.D. in Health Promotion. Inspired by his efforts and her own passion for learning, she began her doctoral studies in Educational Leadership and Policy Analysis. Through balancing full-time work, professional development, and family, Rachael completed a Ph.D. in Educational Leadership and Policy Analysis with a concentration in Higher Education

Administration (to be conferred in May 2020). She currently lives in San Antonio, Texas, with her husband, two dogs, and cat.

Her specialties include: Career Advising; Career Development; Academic Advising; and Interventions and Support of At-Risk Students.