

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

Reproductive Goals and Academic Goals: Knowledge, Attitudes, and Perceptions of Women in  
Community College

A dissertation submitted in partial fulfillment of the requirements  
For the degree of Doctor of Education in Educational Leadership

By

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DEDICATION

For my son, Liam.

You are my sunshine!

Learning is not attained by chance;  
it must be sought for with ardor and diligence.

-Abigail Adams

Hope lies in dreams, in imagination, and in the courage of those who  
dare to make dreams into reality.

-Jonas Salk

It's supposed to be hard. If it wasn't hard, everyone would do it.

The hard ... is what makes it great.

-Jimmy Dugan

We can do hard things.

-Mom and Auntie Julie

## Table of Contents

Signature page	iii
Acknowledgements	iv
Dedication	vi
List of Tables	ix
Abstract	x
Chapter 1: Introduction	1
Statement of the Problem	1
Purpose	3
Research Questions and Hypotheses	4
Theoretical Framework	6
Overview of Methodology	7
Limitations and Delimitations	8
Organization of the Dissertation	9
Chapter 2: Literature Review	10
Community College Students	12
Academic Goals and Success	13
Pregnant and Parenting College and University Students	16
Sexual and Reproductive Health of College Students	19
Reproductive Goals Counseling	24
Summary of the Literature	32
Chapter 3: Methodology	34
Introduction	34

Research Design	37
Research Setting and Context	38
Research Sample and Data Sources	39
Variables and Operational Definitions	41
Instruments and Procedures	45
Data Collection	47
Data Analysis	48
Summary	50
Chapter 4: Results	52
Quantitative	52
Qualitative	70
Summary	98
Chapter 5: Discussion	100
Summary of the Study	100
Discussion	106
Implications for Practice	113
Recommendations for Future Research	115
Conclusion	116
References	118
Appendix A: Survey instrument	129
Appendix B: Interview Protocol	138
Appendix C Table 3	142

## List of Tables

Table 1	Survey Participant Characteristics (N= 210)
Table 2	Reproductive Goals of Women (18-29 years old) Enrolled in Community College
Table 3	PATH Questions Analysis
Table 4	Attitudes and Perceptions Regarding Pregnancy and Academic Goals
Table 5	Interview Participant Characteristics
Table 6	Reproductive Goals and Use of Contraception Among the Participants

## Abstract

### Reproductive Goals and Academic Goals: Knowledge, Attitudes, and Perceptions of Women in Community College

By

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Doctor of Education in Educational Leadership

The three main intentions of this mixed methods study were to examine the reproductive goals of women (ages 18-29) enrolled in community college, to investigate what relationship, if any, exists between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, and to explore the attitudes and perceptions about pregnancy as they relate to reproductive goals, academic goals, and reproductive goals counseling. One-on-one semi-structured interviews were conducted along with a survey administered on-line to collect data. This study produced many noteworthy results. First, a strategy for conducting reproductive goals counseling was found to be feasible and acceptable to the target population. Second, the investigation into how women in community college view their own reproductive goals and how these relate to academic goals and in context with attitudes and perceptions about pregnancy found that the women in this study largely report wanting to have children or more children at some point (parenting/pregnancy attitude). The question of timing was varied and multi-faceted with many women reporting desiring pregnancy/parenting at some point in the future and not in

the immediate future. Very often women cited wanting to finish school or career preparation before having children or more children. Most women also reported that preventing pregnancy (until their desired timeline) was very important. In the qualitative portion of the study women expressed concern or worry about how a pregnancy might impact their academic goals and saw pregnancy as potential hindrance to reaching their academic goals. Women in the study did report using contraception (primarily tier two and three methods) with fewer women stating the use of LARC or tier one methods. Community colleges may want to consider reproductive goals along with academic goals when thinking about the resources and environments that are needed to ensure academic success. Institutions of higher education are potential resources for informing and supporting students on these issues. Advocating for students to identify their reproductive goals and academic goals and creating environments that assist students in creating plans to achieve both may be beneficial in holistically meeting student needs.

## **Chapter I: Introduction**

The teen pregnancy, birth, and abortion rates in the United States are at historic lows according to the Guttmacher Institute (2016a). A Morbidity and Mortality Weekly Report (MMWR) from the Centers for Disease Control and Prevention (CDC), (2016) states that between 1991 and 2014, the birth rate among teens aged 15–19 years in the United States declined 61%, from 61.8 to 24.2 live births per 1,000, the lowest rate ever recorded. Despite this impressive progress, challenges related to unintended pregnancy, particularly among older teens and women in their twenties, persist. Continued research and further efforts are critical to understand and address the social, educational, and health implications of unintended pregnancy.

### **Statement of the Problem**

According to Trieu, Bratton, and Marshak, (2012) college students are a sexually active population, with 86% having had intercourse in their lifetime and 68% reporting current sexual activity, defined as sexual intercourse during the 3 months preceding the survey. College students also tend to have multiple partners, frequently change partners, and inconsistently use condoms. Additionally, unintentional pregnancy is a concern, as data from the National Survey of Family Growth (NSFG) show that college-age women 18 to 24 years old experienced the highest rate of unintended pregnancy; 60% of pregnancies among 20- to 24-year-olds and 79% of pregnancies among 18- to 19-year-olds reported as unintended (Finer & Henshaw, 2006).

The Guttmacher Institute (2019) defines an unintended pregnancy as one that occurred when a woman wanted to become pregnant in the future but not at the time she became pregnant (“wanted later”) or one that occurred when she did not want to become pregnant then or at any time in the future (“unwanted”). All other pregnancies are often termed “intended,” including those that were desired at the time they occurred or were wanted sooner than they occurred

(“then or sooner”). At the national level, pregnancies to women who were indifferent or unsure about becoming pregnant are typically combined with pregnancies that were wanted then or sooner. In 2011, nearly half (45%, or 2.8 million) of the 6.1 million pregnancies in the United States were unintended. Specifically, 27% of all pregnancies were “wanted later” and 18% of pregnancies were “unwanted (Finer & Zolna, 2016).

Reducing unintended pregnancy is a stated national priority through the Healthy People initiative. Healthy People 2020 is a 10-year national plan that seeks to improve the health and well-being of all Americans. Healthy People 2020 identifies a broad range of health topics and subject matters as a focus for research, program development, and policy interventions in order to reach objectives for improvement in health status. Among these health priorities is family planning and the goal for this topic area is to improve pregnancy planning and spacing, and prevent unintended pregnancy. Furthermore, a primary objective for this topic area is to increase the proportion of pregnancies that are intended (Office of Disease Prevention and Health Promotion [ODPHP], n.d.a).

Outcomes and the impacts associated with unintended/unplanned pregnancy are complex and wide-ranging however two main issues will be highlighted in this study and will serve as a basis for this research; the impact of pregnancy on academic goals (success and persistence), and unintended pregnancy as a public health issue. First, unintended pregnancy has a significant impact on a woman’s ability to finish a college degree. According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2010), now renamed Power to Decide: The Campaign to Prevent Unplanned Pregnancy, unplanned pregnancy increases the risk of dropping out of college—61% of women who have children after enrolling in community college fail to finish their degree, which is 65% higher than the rate for those who didn’t have children. Second,

unintended pregnancy has many potential public health implications. While research is mixed in terms of the exact relationship between unintended pregnancy on pregnancy and birth outcomes, what seems clear is that the risk of unintended pregnancy and risk of adverse pregnancy and birth outcomes can be examined from the Determinants of Health framework and a myriad of social, physical, political, educational, and health care environments may have associations with unintended pregnancy and adverse pregnancy and birth outcomes (Aiken & Cason, 2018; Office of Disease Prevention and Health Promotion [ODPHP], n.d.b).

While the meaning and impact of unintended pregnancy is a topic that poses significant challenge to researchers, educators, policy makers, payers, and health care providers alike, the main focus of this research is to further understand the connection between reproductive goals, reproductive health behaviors, attitudes and perceptions about pregnancy and academic goals for community college students particularly women between the ages of 18 and 29. Variables that will be examined as part of this inquiry include reproductive goals, contraceptive use, attitudes and perceptions about pregnancy, and academic goals. Academic goals will refer to the student's primary educational goal. Reproductive goals refer to personal aspirations about pregnancy and include attitudes about having or not having children or more children, thoughts about timing, and how important it is to the individual to prevent pregnancy until the desired time. By understanding an individual's reproductive goals, health care providers and health educators can better assist women by offering patient-centered contraceptive counseling and preconception care counseling to support women in reaching their goals.

### **Purpose**

The purpose of this research study was to explore the reproductive goals of women (ages 18-29) enrolled in community college, to investigate what relationship, if any, exists between

reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, and to explore the attitudes and perceptions of the target population related to reproductive goals, academic goals, and reproductive goals counseling.

The primary goal of this research is to use the results of this study to plan, implement, and evaluate a multi-strategy intervention at community colleges to encourage the creation and implementation of reproductive goals counseling and education in order to support all students in achieving their academic goals and reproductive goals.

### **Research Questions and Hypotheses**

The topic that is central to this study is the high rate of unintended pregnancy among women in their twenties and the high community college dropout rate that is associated with pregnancy that occurs when a woman is a community college student. The research questions related to the quantitative portion of this study are; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to

academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

Due to the exploratory nature of some of the questions, not all will have an associated null hypothesis. The null hypothesis for research question (b) is there is no relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college. The alternative hypothesis is there is a relationship between reproductive goals and academic goals for women between the ages of 18-29 enrolled in a community college.

The null hypothesis for research questions (c) is there is no relationship between attitudes and perceptions about pregnancy and academic goals. And, there is no relationship between attitudes and perceptions about pregnancy and reproductive goals. The alternative hypothesis for these is there is a relationship between attitudes and perceptions about pregnancy and academic goals, and reproductive goals.

The null hypothesis for research question (d) is there is no relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perceptions about pregnancy. The alternative hypothesis is there is a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy.

Variables included in this study related to four main areas. First, academic goals and status such as enrollment status, grade point average [GPA], and academic goals. Second, reproductive goals, defined as three separate measures; parenting/pregnancy attitude, timing, and the importance of pregnancy prevention. Third, contraceptive use and method. Finally, several measures connected to attitudes and perceptions related to pregnancy, reproductive goals, and academic goals.

## **Theoretical Framework**

The theoretical foundations for this study come chiefly from the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB). In this study, select constructs from HMB and TPB guided how variables of attitudes and perceptions about pregnancy and reproductive goals, the utilization of contraceptive methods, and self-efficacy are measured and examined.

The Health Belief Model (HBM) is a well-known and widely used theory that is used to attempt to explain and predict the adoption or implementation of health behaviors (Champion & Skinner, 2008). A main construct associated with the HBM is perception of threat (which is comprised of the constructs perceived susceptibility and perceived seriousness). Perceived susceptibility (am I at risk?) and perceived seriousness (if I experienced “X” health outcome, how serious would it be?) are the foundation for the measures related to pregnancy likelihood and feeling about pregnancy in the next year. The appraisal of the recommended health behavior is done by examining the perceived benefits and barriers associated with the recommended health behavior. The HBM suggests that a person may not adopt the recommended behavior unless he/she perceives the action as potentially beneficial by reducing the threat (Champion & Skinner, 2008). For example, if the health behavior in question is utilization of contraception, perceived barriers to accessing and using contraception may be cost or concern about confidentiality, whereas perceived benefits may be prevention of pregnancy and/or non-contraceptive benefits such as fewer menstrual cramps or improved menstrual cycle control. Self-efficacy is a construct that appears in several theories of health behavior. Self-efficacy is the confidence in one’s ability to perform a skill or task and the confidence to overcome barriers. When a person seeks to adopt or implement a health behavior there will inevitably be barriers such as cost (real or theoretical), perceptions of pain or discomfort, lack of support, or fear of

adverse side effects. Increasing self-efficacy is important in making sure individuals have the skills needed to implement a behavior and have the confidence to experience the barriers but not have them prevent the individual from taking the recommended health action. Self-efficacy is the basis for the questions in the qualitative portion regarding perception of how pregnancy or parenting might impact academic goals, and impact a student's ability to attend classes, complete coursework, and reach academic goals.

The Theory of Planned Behavior (TPB) also informs this study. TPB constructs are concerned with individual motivational factors as determinants of the likelihood of performing a specific behavior (Montano & Kasprzyk, 2008). Constructs of the theory suggest that the implementation of health protective behaviors are a function of attitudes and perceptions of that behavior, the norms related to that behavior, and the perception of control that one has over the ability to do the behavior. These constructs serve as the foundation for questions in the study regarding attitudes toward pregnancy, reproductive goals, contraception, and academic goals. The Theory of Planned Behavior (TPB) was used previously (Hanson, Nothwehr, Yang, & Romitti, 2012) to examine the theory's utility in explaining why a woman may or may not use birth control.

### **Overview of Methodology**

This mixed methods study was conducted among women between the ages of 18-29 enrolled at Los Angeles Mission College (LAMC). The study began with a survey to assess descriptive data including reproductive goals (attitude about parenting/pregnancy, pregnancy timing intentions, perception of the importance of pregnancy prevention), and academic goals. Descriptive statistics were used to report on frequencies, measures of central tendency (mean, median, mode), measures of variability (range and standard deviation) of all variables. A

correlational design (inferential statistics) was used to search for the evidence of a relationship between variables. Chi square analysis was used to determine if a relationship exists between the variables.

Subsequently, one-on-one, semi-structured interviews were conducted to explore perceptions and attitudes of the population concerning reproductive goals, academic goals, and reproductive goals counseling. Thematic analysis was applied to identify emergent themes.

Recruitment for both the survey and interviews took place on the Los Angeles Mission College (LAMC) campus in partnership with the Health and Physical Education department, the student health center, and with the support of faculty throughout the college.

### **Limitations and Delimitations**

Limitations included sample size, the survey and interviews are being administered at one community college campus which limits the generalizability to institutions with similar characteristics, and survey instrument validity and reliability. Self-reported data may be a limitation since despite assurances and measures taken to preserve confidentiality some respondents may not answer truthfully or may answer in a way that they perceive to be more acceptable. Furthermore, this study is not a randomized, controlled study but based on a convenience sample. Last, the quantitative analysis will only determine correlation and not causation.

Delimitations refer to the scope of the research such as actions that the research has chosen not to engage in. An important delimitation to consider for this study may be the exclusion of men from the study. Another delimitation is the age specifications of the sample and the exclusion of women of child-bearing age outside of the target age range of 18-29 years of age.

## **Organization of the Dissertation**

This research project is organized into five chapters; introduction, review of the literature, methodology, results and findings, and discussion and conclusions.

In the review of the literature, the topic of the study will be placed in context with previous research. A critical analysis of the existing literature will be presented including relevant research on the various themes and variables that are included in this study. An argument will be presented on the need for this study and the gaps the study is addressing will be identified.

In the methods chapter, the methodological approach for this study will be presented along with rationale for the approach. The research setting, population, sample, data collection instruments and plans for data analysis will be discussed.

The results and findings section will detail the results of the study including a description of the statistical analysis used. Presentation of the data will be described as well as exhibited in various charts and tables.

The discussion chapter will provide interpretations and inferences that can be taken from the data analysis. This section will also propose several recommendations for practice, policy, programming, and procedures, related to the research questions.

## Chapter II: Literature Review

There are three main intentions of this mixed methods study. First, to examine the reproductive goals of women (ages 18-29) enrolled in community college. Second, to investigate what relationship, if any, exists between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college. Last, to explore the attitudes and perceptions of the target population related to reproductive goals, academic goals, and reproductive goals counseling.

The problem that is significant to this study is the high rate of unintended pregnancy among women in their twenties and the high community college dropout rate that is associated with pregnancy that occurs when a woman is a community college student.

The research questions related to the quantitative portion of this study are; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to

academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

The review of the literature will provide context for the main topics related to the proposed research and will determine the gaps in which this study may be situated. There are several topics that will be addressed as part of this literature review; an overview of community college students, particularly women, in the United States, academic goals and success of community college students, the particular challenges and needs of pregnant and parenting college and university students, sexual and reproductive health of college students, and reproductive goals counseling.

At first glance, the topics that will be addressed in this study; academic goals and success of college students, pregnancy, sexual and reproductive health (knowledge, attitudes, behaviors, and perceptions) of college students, may seem well researched and in some cases, there is a wealth of evidence that already exists. However, there do not appear to be any studies that look at the intersectionality of these topics in a community college setting among women ages 18-29. Studies can be found where research was conducted primarily with a university population, or include men and women, or a different age group but there is an absence of knowledge and paucity of data on how these topics relate specifically to community college women. Furthermore, while leading medical organizations, federal and local public health agencies, and medical, nursing, and public health associations all endorse the concept of conducting counseling related to pregnancy intention and planning, there is little data on the best approach to implementing such programs.

There are two main reasons, along with strong evidence, that research should be conducted among this population. First, the rate of unintended pregnancy is highest among

women 18-24 years of age (Finer & Henshaw, 2006). Second, unplanned pregnancy and births have a significant impact on a student's ability to complete a college degree. Approximately six percent of male and female community college students have children while enrolled, and half of those students subsequently drop out and unplanned births account for nearly one in ten community college dropouts among female students and seven percent of dropouts among community college students overall (Prentice, Storin, & Robinson, 2012). Community college settings have strong potential, but are an underutilized resource, for improving women's knowledge and use of contraception, providing opportunities for women to examine their own reproductive goals and how those relate to academic goals and success, and for the prevention of unintended pregnancy which have the potential to prevent dropout.

### **Community College Students**

Women enrolled in community college are of interest for this study since most of the existing research related to the topic is focused on adolescents and students (men and women) enrolled in four-year universities and colleges or focuses on adults of all ages. Also, among studies conducted at four-year institutions, the majority of participants are full-time students which is not as common among community college students. There is a need to examine knowledge, attitudes, behaviors, and perceptions among the specific population of women, ages 18-29, enrolled in community college.

American students are commonly utilizing community college at some point during their academic journeys. According to the National Student Clearinghouse Research Center (2017), among all students who completed a degree at a four-year college in 2015–16, 49% had enrolled at a two-year college in the previous 10 years.

Per the California Community Colleges Chancellor's Office (2018), there were over 2 million (2,376,415; duplicated numbers) community college students enrolled in the state of California for the 2016-2017 academic year. Of those, just over 53% (1,273,579) are female students. Approximately 26% of female students are 19 years of age or younger, 30% are 20-24 years of age, and 14% are 25-29 years of age. Los Angeles Mission College (LAMC), which is one of the nine colleges that comprise the Los Angeles Community College District (LACCD) reported 16,254 enrolled students for the 2016-2017 academic year of which just over 61% (10,042) are female students. Approximately 29% (2,870) of the female students are 19 years of age or younger, 28% (2,850) are 20-24 years of age, and 14% (1,442) are 25-29 years of age.

According to the LAMC Office of Institutional Effectiveness (2017) for fall 2016, the majority (72.9%) of students enrolled at LAMC attend school on a part-time basis (taking under 6 units or 6-11.5 units). The National Center for Education Statistics (NCES) (n.d.) states that the retention rate at LAMC, which is defined as the percentage of students who began in the fall and returned in fall of the following year, for the years 2014 and 2015 was 69% for full time students and 49% for part time students.

### **Academic Goals and Academic Success**

Academic success can have many different definitions and may be measured in a variety of ways. The California Community Colleges Student Success Task Force (2012) recommends that the system define success using the following metrics; percentage of community college students completing their educational goals, percentage of community college students earning a certificate or degree, transferring, or achieving transfer-readiness, number of students transferring to a four-year institution and number of degrees and certificates earned.

According to the U.S. Department of Education, only 20% of young people who begin their higher education at two-year institutions graduate within three years (Johnson, Rochkind, Ott, & DuPont, 2011). In California, a report from the Institute for Higher Education Leadership and Policy at California State University, Sacramento, Moore and Shulock (2010), found that six years after enrolling, 70% of degree-seeking, community college students had not completed a certificate or degree and had not transferred to a university (about 75% of black students and 80% of Latinos). Most of the students had dropped out; only 15% of the non-completers were still enrolled. A much different picture emerges when looking at the graduation rate at four-year institutions in the United States. According to a report from the National Center for Education Statistics, Kena et al. (2016) found that the six-year graduation rate for first-time, full-time undergraduate students who began their pursuit of a bachelor's degree at a 4-year degree-granting institution in fall 2008 was 60%. In California, the six-year graduation rate in 2013 for bachelor's degree-seeking students was 64% (Chronicle of Higher Education, n.d.).

Community colleges and four-year colleges and universities differ in many ways; the cost of attendance, perhaps class size, the number of full-time versus part-time faculty, and the availability of student housing. Other important differences, according to Baime and Baum (2016), include community college students tend to be older, are more likely to be first-generation college students (36%), and be low income. Furthermore, community colleges tend to enroll a higher percentage of female, and minority students than any other sector of nonprofit higher education (Baime & Baum, 2016). These suggest that community college students are facing particular challenges when it comes to degree or program completion. The following portion of this chapter will examine the factors that contribute to non-completion at community colleges.

First, community college students tend to meet the “non-traditional” student criteria more often than students attending a four-year institution. A non-traditional student is identified as the presence of one or more of the following seven characteristics: delayed enrollment into postsecondary education, attended part time, financially independent, worked full time while enrolled, had dependents other than a spouse, was a single parent, or did not obtain a standard high school diploma (Horn, 1996). Non-traditional students are generally more likely than their counterparts without the above characteristics to depart without a credential within three academic years.

*With Their Whole Lives Ahead of Them*, a report published by Public Agenda, explores why students fail to finish college by identifying common misconceptions and exposing the realities that community college students face today as they pursue higher education (Johnson, et al., 2011). Contributing factors to non-completion may include the rising cost of tuition, the need or desire to work while attending college, and the high levels of stress associated with the demands of attending classes while balancing a demanding work schedule, and parenting.

According to Callan (2008), in the last 25 years, college costs have increased more than 400 percent and college tuition continues to outpace family income and the price of other necessities, such as medical care, food, and housing. These trends are placing higher education beyond the reach of many Americans and are contributing to the debt burdens of those who do enroll.

The number one reason students give for leaving school is that they had to work and go to school at the same time (Johnson, et al., 2011). Among those attending community colleges, 6 in 10 work more than 20 hours a week, and more than a quarter work more than 35 hours a week (Johnson, et al., 2011). Students cite balancing work and school as an even bigger barrier to

persistence and completion than finding money for tuition. Those who dropped out are almost twice as likely to cite problems such as balancing work and school as their main problem as they are to blame tuition bills (54% to 31%) (Johnson, et al., 2011). Data suggests that the first year of school is often when students experience this challenge and among those who fail to graduate six in ten students report that trying to do both work and school is “too stressful” (Johnson, et al., 2011). Furthermore, work is the top reason young adults give for not returning to college once they leave. More than a third (36%) of those who left school say that even if they had a grant that fully paid for tuition and books, it would be hard to go back (Johnson, et al., 2011).

While the findings by Public Agenda demonstrate the many challenges that today’s students face, one additional consideration for understanding the factors that contribute to completion is the role that having a specific goal or purpose may play as opposed to attending college and classes for vague reason such as the hope for a “better future.” The study by Public Agenda and others have shown persuasively that most young people acknowledge that having a college degree will have personal benefit, yet the findings suggest that young people who leave college before finishing are somewhat less likely to hold these views passionately. That is, as a group they are less likely to strongly agree that their parents always instilled in them the importance of college, less likely to strongly agree that people who have a college degree make more money and less likely to say they would still go to college if they knew they could get a good job without a degree.

### **Pregnant and Parenting College and University Students**

Completing their education is essential to the economic security and stability of the 4.8 million postsecondary education students in the United States who are parents, yet student

parents often face a range of challenges that make it difficult for them to finish their degrees (Schumacher, 2015).

Twenty-three percent of college students have dependent children (Johnson, et al., 2011) and women are disproportionately likely to be balancing college and parenthood, many without the support of a spouse or partner. According to Miller, Gault, & Thorman (2011) both single and married parents say they spend a great deal of time caring for dependents; Sixty-eight percent of married parents and 56% of single parents report spending 30 hours a week or more on dependent care. Among parents attending community colleges, mothers spend more time than fathers caring for dependents. Sixty-eight percent of mothers reported spending 30 hours a week or more caring for dependents, compared to 42% of fathers. Fathers are twice as likely (15%) as mothers (seven percent) to say they spend none of their time caring for dependents.

Women make up 71% of all student parents, and roughly 2 million students, or 43% of the total student parent population, are single mothers (Institute for Women's Policy Research, 2014). Approximately 2.1 million student parents attend 2-year institutions, representing 30% of the entire community college student body. An additional 1.1 million student parents attend four-year institutions (public and private not-for-profit), representing 15% of the total four-year undergraduate student body, and 1.2 million student parents attend for-profit institutions, making up 51% of the student body at for profits. The remaining 371,207 student parents attend other institutions or more than one institution (Institute for Women's Policy Research, 2014).

While as noted, more than 20% of all students are raising children, the portion of women (32%) doing so is much higher than the portion of men raising children (18%), and women of color are the most likely students to be raising children while pursuing a postsecondary degree. Additionally, women of color are disproportionately likely to be mothers while in college; nearly

half of all black women in college have dependent children (47%), and 31.6% of Hispanic women as compared to White women (29%) (Noll, Reichlin, & Gault, 2017).

Among single student parents, 42% say that it's likely or very likely that they might need to withdraw due to responsibilities for dependent care compared to 40% of married parents and 23% among non-parents (Miller et al., 2011). Student parents who leave school are more likely than non-parents to state that a lack of finances contributes to their decision to withdraw (55% compared to 49%) (Institute for Women's Policy Research, 2013). Student parents are more likely than non-student parents to leave school without a degree. After six years of enrollment, 52% of parents left without a degree, compared to 32% of non-parents. Among student parents who leave with no degree, 40% hold educational debt, and the average debt for these students is \$8,138 (Institute for Women's Policy Research, 2013). Student parents are more likely than their counterparts without children to have low-incomes and higher levels of debt. Sixty-one percent of all student parents have no money to contribute to college expenses, meaning that they have an Expected Family Contribution of \$0 (per the Federal application for student aid, FAFSA). Among single students with children, 88% have incomes at or below 200 percent of poverty. Student mothers' average undergraduate debt one year after graduation is approximately \$3,800 more than that of female students with no children, and nearly \$5,000 more than that of male students with no children (Institute for Women's Policy Research, 2014).

In the Public Agenda study, the overwhelming majority of student parents who dropped out of college, (97%) say that they will encourage their own children go to college (Johnson, et al., 2011). Completing school is beneficial for the children of parenting students, the Pew Charitable Trusts report on economic mobility, *Does America Promote Mobility as Well as Other Nations?* (2011), indicated that in the United States, there is a stronger link between

parental education and children's economic, educational, and socio-emotional outcomes than in any other country investigated.

### **Sexual and Reproductive Health of College Students**

**Knowledge and Perception.** The majority of the research on knowledge of college students focuses on students attending four-year institutions, focus on sexually transmitted diseases/infections, or are topic specific, meaning that only one specific area is measured (such as knowledge of Human Immunodeficiency Virus [HIV], or Herpes). This exclusion of community college students presents an opportunity to study a significant segment of the students in higher education and a population that experiences a high rate of unintended pregnancy.

Research suggest that young adults have limited knowledge regarding effective use of contraception. Almost half of all pregnancies in the United States are unintended and the rate is highest among women 18-24 and most of these unintended pregnancies result from failure to use or the ineffective use of contraceptives. Existing evidence points to a general lack of knowledge and low perceptions of risk of pregnancy and sexually transmitted infections among college and university students. Research done by Toews and Yazedjian (2012) examined gender differences among college students in knowledge, attitudes, and sexual behaviors. Just over 1,000 college students were surveyed, the sample was predominately heterosexual, female and with an average age of 20.6. The majority of the sample failed a contraceptive knowledge test. The survey intended to measure knowledge about topics such as sexually transmitted disease, contraception, and fertility awareness. For example, the survey showed that when asked how likely it was for a sexually active woman who uses no birth control to become pregnant, 82.4% of respondents incorrectly answered the question.

Another study by Volck, Ventress, Herbenick, Adams Hillard, and Huppert (2013) showed low levels on knowledge on anatomy and contraception among U.S. college students (men and women) despite the relative simplicity of the survey's knowledge items. Hall et al. (2016) found that knowledge of Long Acting Reversible Contraception (LARC), such as the Intrauterine Device (IUD) and contraceptive implants, methods that are highly recommended and most effective at preventing pregnancy, among women at a large mid-western university to be exceedingly low.

A study by Hickey and Cleland (2012), examined sexually transmitted infection (STI) risk perception and the authors found evidence that among women enrolled at a private university there was a low perception of STI risk. Frost, Lindberg, and Finer (2012), conducted a study among 18-29 year old men and women and found low levels of contraceptive knowledge but also found that perceptions of social norms that undervalue the importance of contraception, pregnancy ambivalence, and perception of contraceptive side effects were associated with non-adherence to a chosen contraceptive method or non-use.

**Contraception.** There is a wide range of contraceptive options available today. This section will explore the existing research about the choice and use of contraception, and the knowledge about contraception, and attitudes related to pregnancy and use or nonuse of contraception.

Finer and Henshaw (2006) found that most unintended pregnancies among adults of all ages are not a result of contraceptive failure rather they are an outcome of inconsistent use or nonuse of contraceptives. There are many factors that may contribute to use or non-use of contraception.

One important factor is the perception of adverse side effects or complications that may occur while using contraception. Research conducted by Nelson, Shabaik, Xandre, & Awaida, (2016) found that women generally overestimate the risks of using contraception and underestimate the risks associated with pregnancy.

Data also indicate that many women who experience an unintended pregnancy were using some form of contraception when the pregnancy occurred this may be attributed to imperfect use of selected contraceptive methods for example, previous research indicate that college students often use oral contraceptive pills or condoms yet these methods are not the most effective due to high rates of user error. Trieu et al. (2012), note that among California community college students, condoms were the most common method of birth control used followed closely by birth control pills. These students also experience more than twice the rate of unintentional pregnancy within the last school year compared to the American College Health Association (ACHA) National College Health Assessment reference group (5.3 percent vs 2.4 percent) and this group reported using emergency contraception within the last school year at 1.5 times the rate of the reference group (19.8% vs 14%).

Additionally, many women discontinue their birth control methods even though they do not desire pregnancy. For example, in one analysis (Brown, Ottney, & Nguyen, 2011) 46% of women included in the study had discontinued at least one method of contraception due to dissatisfaction. Research from Frost, Singh, and Finer (2007) further suggest that patient satisfaction with a selected method is critical for consistent and correct use. Their study found that women who were neutral about or dissatisfied with their method had nearly seven times the odds of having changed methods or stopped or started method use during the year compared with those who were very satisfied.

Ambivalence about pregnancy may also play a role in inconsistent or nonuse of contraceptives. Some studies (Higgins, Popkin, & Santelli, 2012; Schwartz, Lohr, Gold, & Gerbert, 2007) found that ambivalence towards pregnancy was significantly associated with use of less effective methods of contraception. Furthermore, some studies (Higgins et al., 2012; Zabin, Huggins, Emerson, & Cullins, 2000) have found that there are many factors that can shape a person's feelings and perceptions about pregnancy and behaviors such as partner, time periods, and life events.

Another factor to consider is the availability, accessibility, and correct and consistent use of highly effective methods of contraception. One of the factors contributing to unintended pregnancy is related to contraceptive choice. Research from Moreau, Hall, Trussell, and Barber (2013), suggests the need for improved health education and counseling focusing on long-acting, reversible contraception (LARC) methods. Results of their study indicated that only a small proportion of women relied on IUDs or implants and data also showed that young women who unequivocally wished to avoid pregnancy showed inconsistent contraceptive use. Many women choose methods with higher failure rates such as oral contraceptives and condoms (Spies, Askelson, Gelman, & Losch, 2010). Long-acting reversible contraception (LARC) methods, including intrauterine contraceptives and implants, are alternative options for women. LARCs have been found to be effective and convenient. These methods depend less on user adherence and have been associated with lower discontinuation rates than other methods (Spies et al., 2010). These methods of contraception have significant potential women who wish to prevent or postpone pregnancy and therefore it is critical that women be well informed and empowered to access and utilize these options. Long acting, reversible, contraception, particularly in California, is affordable and available widely however, many student health centers may not offer these

methods, particularly at community college student health centers. In one study, Habel et al. (2018) found that there are considerable differences between services offered at community college student health centers and those at four-year universities. For example, 70.1% of student health centers at four-year universities versus 46.4% of community college student health centers offer contraceptive services. When looking at just LARC services, a higher percentage of four-year institution student health centers (22.7% versus 7.3% at two-year colleges) offered long-acting reversible contraceptives.

Several studies (Frost et al., 2007; Jones, Lindberg, & Frost, 2015) recognize the importance of and need for improved counseling to assess pregnancy intentions or reproductive goals as a strategy for addressing contraceptive needs, and inconsistent contraceptive use. The findings of this section further highlight the need to shift thinking about an individual's attitudes or intentions about pregnancy away from dichotomous or binary measures and suggest that contraceptive counseling and assessment of an individual's attitudes and intentions about pregnancy and fertility take place regularly at any reproductive or sexual health care visit.

**Unintended pregnancy and community college students.** The research is clear that unintended pregnancy, sexual and reproductive health, contraceptive use, and sexual health knowledge are important topics for college students, yet many students are uninformed or underinformed on these critical subjects. Furthermore, we know that pregnant and parenting students face challenges at two and four-year institutions; pregnant and parenting students are more likely to drop out, experience difficulty with persistence and retention, and find it problematic to return to complete a degree after long absences.

Generally, college students are sexually active, with 86% having had sexual intercourse in their lifetime and 68% reporting current sexual activity which the Centers for Disease Control

and Prevention (CDC) defines as sexual intercourse in the last three months. Further college students tend to have multiple partners, changing partners frequently, and having sex without condoms. Additionally, unintended pregnancy is a concern; college-age women (18 to 24 years) experience the highest rate of unintended pregnancy (Trieu et al., 2012).

Unintended pregnancy has a significant impact on a woman's ability to finish a college degree. Per the National Campaign to Prevent Teen and Unplanned Pregnancy (2010), unplanned pregnancy increases the risk of dropping out of college—61% of women who have children after enrolling in community college fail to finish their degree, which is 65% higher than the rate for those who didn't have children.

In a study of university students, Brown and Nichols (2012) noted that nontraditional students, but particularly pregnant and parenting (P&P) students face unique challenges to achieving academic success. First, the most common barrier cited was the ability to manage school, familial, and work responsibilities. Additionally, structure, policies, and lack of specific support services at the university were also cited. In fact, it was noted that the change in enrollment has not always been met by a change in resource and program allocations to meet the unique needs of this population. Other issues described include a mismatch between pedagogical strategies used within classrooms, such as group work or attendance to outside programs, and the schedules and time demands inherent in the lives of parenting students, overall lack of program flexibility, lack of available housing for pregnant and parenting students, lack of lactation facilities on campus, and the difficulty in obtaining childcare for young children (Brown & Nichols, 2012).

### **Reproductive Goals Counseling**

The United Nations (n.d.) identifies sexual and reproductive health and rights under the umbrella of human rights. While not representing an official position by the World Health Organization (WHO), deciding whether or not, and when to have children is part of a working definition related to sexual rights. This definition also includes the right to the highest attainable standard of sexual health, including access to sexual and reproductive health care services, and to seek and receive information related to sexuality and sexuality education.

**Trends in intended and unintended pregnancies.** The most influential survey in the U.S. and the source of national statistics about unplanned pregnancy is the federally-sponsored National Survey of Family Growth (NSFG). Despite the well-established nature of the NSFG questions to assess unplanned pregnancy, there has been a growing awareness of the limitations of these (and similar) questions. There is a growing consensus that there is a need for a more accurate measure of pregnancy intendedness, and a particular need for a way to measure the more nuanced feelings and behaviors related to pregnancy, and parenthood (Morofl et al., 2012). In fact, the Guttmacher Institute, a leading research organization on topics related to sexual and reproductive health acknowledge these limitations in their definition of unintended and unplanned pregnancy and in the way the most current research is conducted and presented saying that the current approach “does not capture the complexities of women’s and couples’ desires, their experiences prior to pregnancy or the context in which a pregnancy occurs” (Guttmacher Institute, 2019). The data presented here reflect this limited approach.

Often when one thinks of unplanned or unintended pregnancy, the image of a teenager comes to mind. In fact, the adolescent pregnancy rate in the United States has declined considerably (by 51%), from a peak of 117 per 1,000 women aged 15–19 in 1990 to a 30-year low of 57 in 2010. However, the United States still has one of the highest known rates of

adolescent pregnancy and births in developed regions (Guttmacher Institute, 2015). Also, while the teen pregnancy rate is at the lowest rate in four decades, the unintended pregnancy rate among women in their 20s has increased. According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2012), (since renamed Power to Decide: The Campaign to Prevent Unplanned Pregnancy) in 2008, more than half (55%) of all unplanned pregnancies occurred to women in their twenties, while teens accounted for less than 20%. In California, as of 2010, 48% of all pregnancies were unintended (Kost, 2015). Los Angeles County reports a similar percentage of unintended pregnancies; in 2012, 47% of all live births were unintended (Los Angeles County Department of Public Health, 2012).

Research by Finer and Zolna (2014) describes the shifts in intended and unintended pregnancies in the United States by age, race and relationship status, income, educational attainment, race, and religious affiliation. Of the nearly 6.6 million pregnancies that occurred in 2008, 51% were unintended and women 18 to 24 years old had the highest rates of unintended pregnancy and unintended pregnancy ending in birth (Finer & Zolna, 2014). In 2008, the proportion of pregnancies among married women that were unintended was less than half that of unmarried women (Finer & Zolna, 2014). There was a large disparity in pregnancy rates by women's income level. The total pregnancy rate for poor women was more than 3 times that of women in the highest income category, and their unintended pregnancy rate was more than 5 times that of the same group (Finer & Zolna, 2014). The proportion of pregnancies that were unintended was lower among women with a college degree compared with women with less than a college degree (measures are for women aged 20 years and older). Women who had not completed high school had the highest rates of unintended pregnancy (Finer & Zolna, 2014). Finally, Finer and Zolna (2014) found that the rates of unintended pregnancy and unintended

birth among minority women were more than twice the rates for White women. Black women had the highest unintended pregnancy rate, whereas Hispanic women had the highest rate of unintended births.

Pregnancy intention is multifaceted and includes perception of risk of pregnancy, attitude toward pregnancy and contraception, and behaviors such as actual utilization of contraception. According to Brown and Eisenberg (1995), many women who say that they do not wish to become pregnant are not using contraception. The explanation for the non-use of contraceptives is complex and may reflect apathy or ambivalence about pregnancy, and since financial and medical barriers to contraceptive use exist, one cannot assume that non-use of birth control is the same thing as wanting to become pregnant. In fact, Aiken and Cason (2018) identify reasons such as changes in relationship status, health status, and life opportunities as reasons that pregnancy intentions may fluctuate and for these reasons, Jones, Tapales, Lindberg, and Frost (2015) suggest that a single or one-time measurement of pregnancy intentions may not be sufficient to addressing an individual's dynamic contraceptive needs.

A long-standing aim of U.S. public health policy has been to reduce the number of unintended pregnancies (Morofl et al., 2012) and as a result, organizations such as the Centers for Disease Control and Prevention (CDC), Oregon Foundation for Reproductive Health, and Envision Sexual & Reproductive Health (SRH) have created approaches to provide reproductive goals counseling with the intention of having conversations with patients about their own goals and to develop strategies to achieve those goals. Approaches for providing this type of counseling include Reproductive Life Planning (RLP) from the Centers for Disease Control and Prevention (CDC), One Key Question from the Oregon Foundation for Reproductive Health, and PATH questions from Envision Sexual and Reproductive Health.

**Reproductive Life Planning.** The Centers for Disease Control and Prevention (CDC) recommends that every individual be encouraged to develop a personal reproductive life plan (RLP). Defined as a set of personal goals regarding the conscious decision about whether or not to bear children, a reproductive life plan also outlines a plan to achieve those goals. According to the Office of Population Affairs (2018), encouraging individuals to formulate a reproductive life plan may help decrease the incidence of unintended pregnancies (nearly one-half of all pregnancies in the United States occur unintentionally) and may provide the opportunity to discuss contraception or pre-conception care. Questions associated with the RLP approach include; (1) do you have any children now, (2) do you want to have (more) children, and (3) how many (more) children would you like to have and when?

Having an RLP allows individuals to reflect on personal goals for childbearing (including how many children the person might want as well as spacing of pregnancies) and to seek preconception health care (Files, Frey, David, Hunt, Noble, & Mayer, 2011). Furthermore, according to the United States Department of Health and Human Services (HHS), Office of Population Affairs (2016), having an RLP can be beneficial in identifying a need for contraceptive services which may be particularly important given the rate of unintended pregnancy in the United States.

The importance of optimizing preconception health to decrease poor health outcomes for women and infants has been recognized by multiple medical and health policy organizations, including the Centers for Disease Control and Prevention (CDC), the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), the American Academy of Family Physicians (AAFP), and Healthy People 2020. Furthermore, the Patient Protection and Affordable Care Act of 2010 highlights the importance of preconception

health in women by providing a range of covered preventive services such as well-woman exams, contraceptives, HIV and HPV screening and gestational diabetes screening. One aspect that seems to be missing in the discussion on the value of reproductive life planning and preconception care is the important role that preventing pregnancy can have in the achievement of one's academic and career goals (Kransdorf et al., 2016).

Research conducted by Cheney et al. (2014) among students attending a northeastern 4-year university suggests that many female students perceived an unintended pregnancy as the greatest barrier to achieving their goals; their perceptions of sexual risk were informed by values related to personal responsibility and an emphasis on getting an education and achieving life goals.

One important aspect of reproductive life planning is that an RLP not only has the potential to assist a woman in creating a strategy to prevent pregnancy but also to help her optimize her health in preparation for a pregnancy. Therefore, preconception care and counseling are as much a part of RLP counseling as is contraceptive counseling. Research by Frey and Files (2006) indicates that while the overwhelming majority of women (98.6%) realized the importance of optimizing their health prior to pregnancy only 39% could ever recall their physician discussing preconception health. Further, the majority of women who were interested in preconception health education preferred the information prior to pregnancy (74.8%) and when asked their preferences for sources of such information the majority preferred their physician (primary care or OBGYN) (Frey & Files, 2006). However, research by Borrero et al. (2015) suggests that discussing preconception health and pregnancy intentions may vary by demographics (income level, race) of the population.

**One Key Question.** One Key Question (OKQ) was developed by the Oregon Foundation for Reproductive Health as a means of operationalizing the paradigm shift from prenatal to pre-pregnancy care. OKQ calls for routine integration of proactive screening for pregnancy intention by asking “Would you like to become pregnant in the next year?” during all clinic visits. This question is intended to ask a woman to consider and respond based on her personal desires, rather than what she plans, in order to more accurately identify the preventive reproductive health services she needs (Allen, Stranger Hunter, Wood, & Beeson, 2017).

**Challenges Related to Reproductive Life Planning Approaches.** While major public health and medical organizations have endorsed reproductive life planning as an approach to improve pregnancy and birth outcomes, and to reduce the unintended pregnancy rate in the United States, it is unknown at this time which approach (OKQ, RLP questions from the CDC, or another approach) is most acceptable, meaningful, and effective in reaching those goals. Callegari, Aiken, Delendorf, Cason, and Borrero (2017), have identified several salient points that maybe limitations to reproductive life planning strategies.

First, an emerging consensus of researchers and practitioners now challenge the concept that pregnancy intention as binary and dichotomous. Rather, (Callegari et al., 2017) suggest that pregnancy intention be viewed as a continuum shaped by a complex set of personal, social, and cultural factors. Second, while women value conversations about their reproductive goals, their preferences for information vary based on their intentions and feelings about future pregnancy (Callegari et al., 2017). Third, planning pregnancy may not be a meaningful or attainable goal for some women since pregnancy intentions exist on a spectrum, therefore making a concrete plan regarding pregnancy can be seen as difficult or undesirable (Callegari et al., 2017).

**Patient Centered Approach to Reproductive Goals Counseling.** As a result of the research that indicates women have complex feelings, behaviors, and thoughts about pregnancy and pregnancy prevention and taking into consideration the evolving thoughts that pregnancy intention is not a dichotomous option, Envision Sexual and Reproductive Health offers a new approach to reproductive goals counseling called PATH (Pregnancy/parenthood Attitude, Timing, and How important is pregnancy prevention). PATH offers a patient centered approach to reproductive goals counseling that builds on existing and evolving research to offer a more nuanced and comprehensive approach to counseling and discussing reproductive goals with women. The PATH approach (Callegari et al., 2017) focuses on exploring parenting/pregnancy attitudes, pregnancy timing, and addresses the importance of prevention to each individual client. PATH questions include; (1) do you think you might like to have (more) children at some point, (2) if women are considering future parenthood: When do you think that might be, (3) how important is it to you to prevent pregnancy (until then)?

Since this approach to counseling is relatively new, limited research exists on, acceptability to women, implementation, and evaluation. This approach will be the foundation for the research conducted in this study. Given the high rate of pregnancy among women in their twenties, and the high rate of community college non-completion, applying the PATH approach to this population is the foundation for this study.

**Pregnancy intention and academic goals.** Only one study emerged as having significant parallels with the focus of this research. “Pregnancy Intentions, Contraceptive Knowledge and Educational Aspirations Among Community College Students” was a qualitative study conducted among community college students (male and female) in three community college settings in San Francisco Bay Area of California. The study explored students’ contraceptive

knowledge and pregnancy intentions and how these related to educational goals. Cabral et al. (2018) conducted 57 interviews with students aged 18-25 of all genders. Some of the themes that emerged from this study include pregnancy desire and perceived risk, educational goals, contraceptive knowledge and perceptions. The researchers found that all of the participants reported not wanting to have children in the next year but did express desire to have children in the future (Cabral et al., 2018). Also, all of the participants expressed that their academic goal included completing a degree or transfer to a four-year institution with many students reporting plans to pursue a graduate degree. When put in context with academic goals, participants voiced concern about how a pregnancy would impact their lives, educational goals, and career goals. Cabral et al. (2018) also found that students were not familiar with the full range of contraceptive methods that are available and were under or misinformed about their overall knowledge and understanding of contraceptives and their effectiveness, mechanism of action, side effects, and potential benefits and risks.

### **Summary of the Literature**

While research has been conducted related to the topics of this study, it is not apparent if any one study has examined reproductive goals, attitudes and perceptions about parenthood and pregnancy, reproductive goals counseling, and academic goals among women in a community college population. The literature is clear that this is a population that has a high rate of unintended pregnancy and that pregnancy often leads to the discontinuation of an academic program. Current trends in public health education and practice suggest that increasing reproductive goals counseling, addressing beliefs and attitudes associated with reproductive goals, empowering women to adopt the health behaviors needed to achieve their goals through improved accessibility, availability of reproductive health care services, and client-centered

counseling on pre-conception care and contraception, has the potential to decrease the unintended pregnancy rate and improve pregnancy and birth outcomes. Many studies seem to study one or two of these but often in a clinical setting with a wide range of ages, or among university students and yet there are not any studies that bring these concepts together in the context of community colleges. This study seeks to fill a gap in the knowledge that would benefit both higher education as well as public health.

## Chapter III: Methodology

### Introduction

The challenge that concerns both public health and higher education is the high rate of unintended pregnancy among women, 18-29 years of age. Aside from the various potential health implications, unintended pregnancy has a significant impact on a woman's ability to complete a college degree. Per the National Campaign to Prevent Teen and Unplanned Pregnancy (2010), unplanned pregnancy increases the risk of dropping out of college—61% of women who have children after enrolling in community college fail to finish their degree, which is 65% higher than the rate for those who didn't have children. There are three main intentions of this mixed methods study. First, to examine the reproductive goals of women (ages 18-29) enrolled in community college. Second, to investigate what relationship, if any, exists between reproductive goals, and academic goals among women (18-29 years of age) enrolled in community college. Lastly, to explore the attitudes and perceptions of the target population in relation to reproductive goals, pregnancy, academic goals, and reproductive goals counseling.

There are several objectives for this chapter. First, an overview of the organization of the chapter will be presented. Next, the research questions and corresponding hypotheses will be stated. Third, a description of the research approach will be highlighted along with rationale for using this approach to address the research questions. Fourth, an explanation of the research setting and justification for the selection of this setting will be described. Additionally, a description of the sample that was used, how participants were selected, as well as sampling procedures will be detailed. Next, a narrative of the rights and protection of participants including an overview of the steps taken to secure approval from the Institutional Review Board (IRB) at California State University (CSUN) will be specified. Afterward, the variables will be

identified and will be operationally defined. Then, an account will be made of the instruments and procedures that were used including an explanation of how the instrument was developed, the pilot test process, and what changes were made because of the pilot test. Finally, there will be a description of the data collection methods that were used as well as justification for the methods and tools that were used for analysis.

**Research questions and hypothesis.** The research questions posed in this study are separated by methodological approach. The research questions related to the quantitative portion of this study were; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

Research question (a) does not have a hypothesis because this question is exploratory and descriptive in nature. The variables will be presented in a descriptive analysis and include age, community college enrollment status, grade point average, educational goals, measures related to

reproductive goals (using the PATH framework), measures related to pregnancy attitudes and intentions, and self-efficacy. It is important to ask these questions to develop a knowledge base about women, ages 18-29, enrolled in community college since many studies that focus on pregnancy (knowledge, attitudes, and behaviors), academic success, reproductive goals, and pregnancy prevention, have not included this particular population. These prior studies have often focused on students (men and/or women) in four-year college/university settings, focused narrowly on one aspect of sexual and reproductive health, or focused exclusively on adolescents under the age of 20. Furthermore, it appears that no study has included this population and the specific topic of academic goals and success and reproductive goals.

For research question (b), The null hypothesis is there is no relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college. The alternative hypothesis is there is a relationship between reproductive goals and academic goals for women between the ages of 18-29 enrolled in a community college. Academic goals will be measured by asking participants to identify their primary academic goal with options defined as earn an Associate's degree, completion of a Career Technical Education (CTE) certificate, transfer to a four-year institution, taking courses for professional development, or taking courses for personal development.

The null hypothesis for research questions (c) is there is no relationship between attitudes and perceptions about pregnancy and academic goals. And, there is no relationship between attitudes and perceptions about pregnancy and reproductive goals. The alternative hypothesis for these is there is a relationship between attitudes and perceptions about pregnancy and academic goals, and reproductive goals.

The null hypothesis for research question (d) is there is no relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perceptions about pregnancy. The alternative hypothesis is there is a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy.

Research questions (e), (f), (g), and (h) are associated with a qualitative methodology and will be used to explore themes related to the topic of attitudes and perceptions about academic goals pregnancy, and reproductive goals.

### **Research Design**

The methodology used in this research project was a mixed method design and incorporated quantitative data collection using surveys and qualitative data collection via semi-structured one-on-one interviews. An explanatory sequential approach was used with quantitative data collection and analysis occurring first followed by qualitative data collection and analysis.

**Quantitative.** The research approach that was used for the quantitative aspect of this study was a non-experimental, cross-sectional study and provided both descriptive and inferential statistics. Descriptive statistics were used to report on frequencies, measures of central tendency (mean, median, mode), measures of variability (range and standard deviation) of the variables. Inferential statistics, such as chi square analysis, were used to search for the evidence of a relationship between variables.

**Qualitative.** For the qualitative portion of this study, a thematic analysis was applied using a phenomenological approach. Thematic analysis is the process of identifying patterns or themes within qualitative data (Maguire & Delahunt, 2017). Given the paucity of data related to

the topics explored in this study, a thematic analysis was the most appropriate approach for analysis since this method provided an opportunity to examine seemingly unrelated concepts and material and systematically gain knowledge and understanding about the experiences, attitudes, and perceptions of the population. Thematic analysis allowed the researcher to define broad patterns related to the topics of this study.

### **Research Setting and Context**

The setting for this study was Los Angeles Mission College (LAMC) located in Sylmar, California. LAMC was established in 1975 and is one of the nine community colleges in the Los Angeles Community College District (LACCD). LAMC offers many associate degree programs, a variety of courses in general education as well as preparation for transfer to four-year institutions, and Career Technical Education (CTE) programs (Los Angeles Mission College [LAMC], 2016). The California Community College Chancellor's Office (2017) reports that 16,254 students enrolled at LAMC for the 2016-2017 academic year of which just over 61% (10,042) are female students. Approximately 29%, 2,870, of the female students are 19 years of age or younger, 28%, 2,850, are 20-24 years of age, and 14%, 1,442, are 25-29 years of age.

LAMC reports that approximately 77% of students identify as Hispanic, 11% identify as White, 3.2 percent identify as Black and 5 percent identifying as Asian (LAMC, 2016). This data also indicates, almost 70% of LAMC students are attending college part-time (6 to 11 units) and about 23% are enrolled full-time (12 or more units) and seven percent are enrolled in noncredit courses (LAMC, 2016).

Los Angeles Mission College was selected as the setting for this study for two main reasons. First, the population of interest is women, ages 18-29, who are enrolled in a community college and second, this community college is convenient and familiar to the researcher and

therefore access to the student population was expected to be facilitated due to numerous staff, administration, and faculty contacts at the institution. Furthermore, this community college setting was ideal for this study because the majority of community college students at LAMC are between the ages of 18 and 29, which is also the age group with the highest rate of unintended pregnancy. This is of concern for community college students because women who experience pregnancy after enrolling in community college drop out of school at a much higher rate than women who did not get pregnant (National Campaign to Prevent Teen and Unplanned Pregnancy, 2010). Four-year college and university students are not included in this study's population since research exists on the sexual and reproductive knowledge and behaviors of these populations.

### **Research Sample and Data Sources**

**Quantitative.** The population was currently enrolled female LAMC students, 18-29 years of age. The sample for the survey portion of the study was selected via convenience sampling. With the support of various college administrators and the department chair of Health and Physical Education, faculty in departments across the college were asked to send an email to their classes inviting the students to participate in the survey. The survey was conducted via Survey Monkey, an internet-based survey software company.

The total number of female students, 29 years of age and younger, enrolled at Los Angeles Mission College was used to calculate the sample size needed for this survey using a power calculation online tool. The age breakdown reported by the college is 19 and younger, 20-24, and 25-29. This study excluded female students who are under the age of 18 but students under 18 were included in the population size (7,162) for the purposes of calculating the sample size. In this case, with a 95% confidence level, and a confidence interval of 3 was used to

determine that the sample size is 929. When changing the confidence interval to 5, a sample size of 365 is given.

Each potential participant was given a chance to read about the purpose of the study. Each participant was provided information on the possible risks and benefits of their participation and was asked to give their consent prior to beginning the survey. Participants were informed that their participation is voluntary and that they have the right to decline to participate. Participants were notified that their responses are confidential and anonymous and no identifying data, such as their name, student identification number, or social security number would be collected. As an incentive, at the end of the survey, participants were given the option to register for a drawing for a gift card. Participants were notified that their voluntary participation qualifies them for entry into a drawing for a \$25 gift card to Amazon. A total of 10 gift cards were available via the drawing. At the completion of the survey, if they wished to register for the drawing, the student needed to provide an email address and/or mobile phone number. Potential participants were informed that the email address/mobile phone number would not be kept with the survey data. All data collected via the survey is stored electronically at SurveyMonkey, in hard copy in a locked locker, and stored electronically in MyCSUNBox, password protected cloud storage provided by the California State University, Northridge (CSUN), in accordance with CSUN's IRB requirements. Furthermore, all participants were screened for inclusion and exclusion criteria to determine which students may participate in the study.

**Qualitative.** Individual one-on-one, semi-structured interviews comprised the qualitative method in this study. An explanatory sequential approach was used with quantitative data collection and analysis happening first followed by qualitative data collection and analysis. While it was initially unknown how many interviews would be conducted, the researcher

estimated that 10-15 interviews would be needed to reach saturation. Interviews were conducted with participants recruited from LAMC and the interviews took place on campus in the Health, Fitness, and Athletics Complex (HFAC). The population was currently enrolled female LAMC students, 18-29 years of age. Recruitment for the interviews was conducted through flyers that were posted on campus, classroom announcements, direct one-on-one outreach conducted by an undergraduate student assistant hired by the researcher, and through a partnership with the LAMC student health center. Students were asked to contact the researcher via phone or to send an email to indicate their interest in participating in the interview. In some cases, the participants indicated their interest via a sign-up sheet and the researcher reached out to the students via phone or email to schedule an interview time. Refreshments (snacks and beverages) were provided for each participant and each woman received a \$15 gift card (choice of Starbucks or Target was offered) as an appreciation of their time and contributions to the research.

### **Variables and Operational Definitions**

Variables and the operational definitions of variables are necessary for the research questions. The research questions related to the quantitative portion of this study were; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

**Academic status and goals.** For the purposes of this study, three variables were used to measure academic goals and status; enrollment status, grade point average (GPA), and academic

goal. To determine enrollment status, participants were asked if they are enrolled in classes on a part time or full-time basis. Part time enrollment was defined as taking under 6 units or 6- 11.5 units whereas full time enrollment was defined as taking 12 or more units. Grade point average was measured by asking students to provide their approximate community college GPA. Students were instructed to put zero if this is their first semester enrolled in community college. Academic goal was defined as a participant's primary educational goal. Students were asked to select one response from a list of 5 options plus "other" where participants could add a qualitative response. The response options included; taking classes for personal development/enrichment, taking classes to enhance job skills or required for employment, earn a certificate (Career Technical Education certificate), earn an Associate's degree, to be able to transfer to a 4-year institution, and other (please indicate your primary educational goal: \_\_\_\_\_)

**Reproductive goals.** Three variables were used to measure reproductive goals. These variables originate from the PATH questions created by Envision Sexual and Reproductive Health. These will be referred to as PATH- 1, PATH-2, and PATH-3.

First, parenting/pregnancy attitudes (PATH-1) was measured by asking if the woman thinks she might like to have (more) children at some point. Respondents were asked to indicate yes, no, or "I don't know"/maybe. If the answer is "no" the woman will be directed to question 3.

Second, pregnancy timing intentions (PATH-2) was measured. If a woman answers other than "no" in PATH-1 (parenting/pregnancy attitudes) she will be asked when she might like to have (more) children. This question was an open-ended question where the participants were asked to provide a qualitative response.

Third, the importance of pregnancy prevention (PATH-3) was measured by asking each respondent “how important is it to you to prevent pregnancy (until then)”. The response will be measured by using a five-point Likert-type scale with anchors of “not important” to “very important.”

**Contraceptive use.** Participants were asked about implementation of certain health behaviors such as contraceptive use. Participants were asked to select from a list of options, the birth control method they currently use or used at last vaginal intercourse. Answer options will include all current FDA approved methods of contraception (prescription and over-the-counter products), and other options such as natural family planning, no method, and have never used a birth control method. Based on current approaches to contraceptive counseling from the Centers for Disease Control and Prevention [CDC] (2018) and Hatcher et al. in *Contraceptive Technology* (2018), methods of contraception are often grouped by similar failure rates and can be referred to by “tiers of effectiveness.” Tier one methods are those options which have the lowest failure rates with perfect and typical use (less than 1 pregnancy per 100 women in a year). Tier one methods include permanent contraception or sterilization for both males and females (vasectomy, Essure, tubal ligation), and long-acting reversible contraceptive methods also known as LARC methods which include implants, copper intrauterine contraception/devices, and hormonal intrauterine contraception/devices (IUC/IUD).

Tier two methods have a higher failure rate with typical use, 4-7 pregnancies per 100 women in one year. Tier two methods include injectable contraception, oral contraceptives (both combined hormonal and progestin-only), the transdermal patch (birth control patch), and birth control ring.

Tier three methods have the highest failure rates with typical use, more than 13 pregnancies per 100 women in one year and include male condom (sometimes now referred to as an external use condom), female condom (also known as an internal use condom), fertility awareness-based methods, diaphragm, contraceptive sponge, spermicide, and withdrawal.

For the purposes of this study, birth control use was examined in two ways. The first variable is named “birth control methods” and includes a comprehensive list of the possible contraceptive options available. The second variable “birth control groups” was used to reflect the tiers of contraceptive effectiveness described above. The groups that used include tier one methods (LARC, and sterilization methods), tier two (hormonal, not LARC methods), tier three methods (such as male and female condoms, spermicide, withdrawal, natural family planning), abstinence, and no method/never used a method.

**Attitudes and perceptions about pregnancy and academic goals.** Attitudes and perceptions regarding pregnancy and how these relate to academic goals were measured via the survey. Attitudes and perceptions were examined using six measures. First, participants were asked about the likelihood of pregnancy. Likelihood of pregnancy will be measured by asking “if you were not to use birth control, how likely do you think it is that you would become pregnant during the next year” with answer options on a Likert-type scale ranging from very unlikely to very likely.

Second, participants were asked to consider statements about how she might feel about becoming pregnant within the next year. Participants were asked to select one statement that best represents how she might feel and the options are; it would be the worst thing that could happen to me, it would be very bad, it would be sort of bad but not terrible, it would be OK, it would be

sort of good but not terrific, it would be very good, it would be the best thing that could happen to me.

The final four measures of attitudes and perceptions were measured by asking participants to indicate the degree to which they agree with the following statements using a five-point Likert-type scale anchored by strongly agree and strongly disagree; “I am confident that I will achieve my academic goal”, “it’s important to reach my academic goals before having a child (having more children)”, “preventing pregnancy right now is important for me so that I can meet my academic goals”, and “I can have a baby and still complete my educational goals”.

### **Instruments and Procedures**

**Quantitative.** The instrument that was used in this study was designed by the researcher with elements adapted from previous research (Appendix A). To develop the instrument that was to be used as part of the dissertation research project, several sources were consulted including the California Community Colleges Student Success Task Force report, Envision Sexual and Reproductive Health, and the Handbook of Sexuality-Related Measures. Each of these sources helped to identify how topics related to academic goals and success, reproductive goals and various health behaviors have been measured.

To establish content validity, the instrument was tested with members of the population via a pilot test. A pilot test of the survey instrument was conducted at Los Angeles Mission College (LAMC) in a morning section of Health 11- Principles of Healthy Living. The instructor allowed the pilot to take place at the end of one class session. Since the population of interest is women, between the ages of 18-29, enrolled in community college, the male students were excused, and the female students were asked to stay. For the purposes of the pilot, volunteers were not screened for age. All the participants were women and were enrolled at LAMC. The

students were asked for their feedback on a survey instrument that is intended to be used among community college women for the purposes of dissertation research. The students were informed that their actual personal responses on the survey were not needed and that they could take the survey and answer from any perspective they wished. Additionally, students were asked to read the survey for clarity, flow, ease of understanding, suitable answer options, and general format. Students were provided a paper copy of the instrument and were asked to make notes and give suggestions and feedback directly on the page. Additionally, as the students returned the survey, they were asked if they had any particular feedback or comments they wanted to point out or clarify and many did verbally point out aspects of the survey that caused confusion, or where they offered recommendations. A total of 9 students and the course instructor took the survey and provided comments. Students took about 10-15 minutes to complete the survey and provide comments. Dr. Sloane Burke-Winkelman, dissertation chair for this research project also reviewed the instrument for face validity and provided guidance on areas for improvement. Her feedback mainly had to do with the order of responses in the Likert-type scale questions.

After conducting the pilot test, each question was reviewed for comments and feedback. A separate sheet of paper was numbered to make a list of the comments collected for each survey item. Comments from the pilot test were primarily about the use of certain words that were unclear to the students or about answer options. In some cases, the questions were edited based on the suggestions.

Based on the pilot test, and in consultation with the dissertation committee, the final survey instrument was crafted. A brief introduction to the survey was included along with information about voluntary participation and confidentiality. Six questions were asked to obtain informed consent to participate and to ensure that inclusion and exclusion criteria were met.

Questions eight through 15 were based on the progression metrics outlined in the California Community Colleges Student Success Task Force report and inquired about academic status and goals. Questions 16 (with five items) and 24 (with 6 items) were based on concepts of subjective norm from the Theory of Planned Behavior, and self-efficacy and perception of threat from the Health Belief Model, which serve as theoretical frameworks for the research. Questions 17-19 inquired about reproductive goals (PATH questions) and were created by Envision Sexual and Reproductive Health for the purposes of conducting reproductive goals counseling. Questions 20 and 21 were taken from The Contraceptive Utilities, Intention, and Knowledge Scale in the Handbook of Sexuality-Related Measures. Question 22 inquired about current sexual activity and question 23 asked about current contraceptive use. Questions 25 and 26 were used to collect demographic data. Finally, there was one item that collected contact information from the participant if they wish to be entered into a drawing for an incentive of an Amazon gift card in thanks for their contributions to the study.

**Qualitative.** The interview protocol that was used in this study was designed by the researcher. The interview protocol began by thanking the participant. The participant was informed about the purpose of the study and the interview. The participant was given information about confidentiality, informed consent was obtained, and the researcher asked for permission to record the interview. Initial questions were asked to encourage the participant to be comfortable and then questioning proceeded to cover topics such as academic goals, attitudes and perceptions about pregnancy, reproductive goals and reproductive goals counseling, and perceptions about how pregnancy and reproductive goals relate to academic success and academic goals. See Appendix B for the interview protocol.

## **Data collection**

**Quantitative.** Data was collected via a survey that was administered electronically via the online company, Survey Monkey. The survey was administered during the spring 2018 semester. An email was sent to faculty, staff, and administrators asking for their assistance in distributing the survey to their classes and student groups. The faculty, staff, and administrators were sent the survey invitation with a survey link and, in turn, the campus representative emailed the survey to students. To encourage participation, students were informed that participants who complete the survey can choose to enter a drawing for one of 10, \$25 gift cards.

**Qualitative.** Data was collected from one-on-one, semi-structured interviews that were conducted at LAMC. Originally the researcher estimated needing 15-20 interviews to reach saturation. With participant consent, the interview audio was recorded and transcribed. Participants were offered a \$15 gift card in appreciation of their time as well as refreshments. The interviews took 25-45 minutes to complete. A total of 11 interviews were conducted.

### **Data analysis**

**Quantitative.** The research questions related to the quantitative portion of this study were; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

The null hypothesis for research question (b) is there is no relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in

community college. The alternative hypothesis is there is a relationship between reproductive goals and academic goals for women between the ages of 18-29 enrolled in a community college.

The null hypothesis for research questions (c) is there is no relationship between attitudes and perceptions about pregnancy and academic goals. And, there is no relationship between attitudes and perceptions about pregnancy and reproductive goals. The alternative hypothesis for these is there is a relationship between attitudes and perceptions about pregnancy and academic goals, and reproductive goals.

The null hypothesis for research question (d) is there is no relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perceptions about pregnancy. The alternative hypothesis is there is a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perceptions about pregnancy.

Analytical software, Statistical Package for the Social Sciences (SPSS) was used for analysis. Descriptive statistics were used to report on frequencies, measures of central tendency (mean, median, mode), measures of variability (range and standard deviation) of all variables. A correlational design (inferential statistics) was used to search for the evidence of a relationship between variables. Chi square analysis was used. These statistical tests will allow the researcher to examine possible relationships among groups.

Chi square analysis was conducted for each variable; reproductive goals (PATH questions), academic goals, attitudes and perceptions about pregnancy, contraceptive method, age, enrollment status.

**Qualitative.** The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and

success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

To analyze the data, the interview recordings were transcribed and then analyzed for themes, common characteristics, and a range of responses from the participants. The qualitative approach in this study is exploratory in nature using a thematic analysis and therefore a more in-depth analysis will not be conducted.

### **Summary**

This mixed methods study utilized surveys and one-on-one, semi-structured interviews to address the research questions. Descriptive and inferential statistical analysis were used to answer the research questions; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals?

Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

Thematic analysis was conducted to explore the research question that corresponds with a qualitative approach: (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about

pregnancy and reproductive goals as these relate to academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

In the next chapter, results from this survey study will be presented along with the statistical analysis.

## Chapter IV: Results

### Quantitative

The research questions related to the quantitative portion of this study were; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

**Description of the sample.** Participants who were eligible to contribute to this study were women, between the ages of 18 and 29, enrolled in community college, with the ability to read and write in English. After removing surveys that were incomplete, or those that were terminated due to exclusion criteria (being concurrently enrolled in high school, being concurrently enrolled in a 4-year institution) a total of 210 surveys were deemed usable.

The age of the participants (n=199) ranged from 18-29 years of age with a mean age of 22.29, a median age of 21. Age groups were used as variables in analysis. Groups include participants 18 and 19 years of age (n=39 or 18.6%), 20-24 years of age (n=106 or 50.5%), and 25-29 years of age (n=54 or 25.7), with 11 missing responses.

Part time and full-time students were included in the study with 103 (49%) participants reporting part time enrollment status and 106 (50.5%) participants enrolled as full time students. Participants (n=204) reported a mean grade point average (GPA) of 2.78, and a median GPA of 3.00. The researcher asked women to indicate their primary, immediate, academic goal. Among the 209 responses, seven (3.3%) reported taking classes for personal development/enrichment,

two (1%) participants indicated taking classes to enhance job skills or as a requirement for employment, five (2.4%) respondents stated taking classes to earn a certificate (such as a Career Technical Education certificate), 44 (21%) described earning an Associate's degree as their primary goal, and 16 (7.6%) indicated "other" which usually meant that the participant stated more than one of these option. The majority (n=135, 65%) of participants reported being able to transfer to a 4-year institution as their main academic goal.

Additional demographic information on race (n=208) and relationship status (n=208) was collected. The majority of participants (160 or 76.2%) self-identified as Hispanic/Latina, 8.6% (18) identified as White or Caucasian, 13 (6.2%) identified as "multi-racial", nine (4.3%) selected Asian or Asian American, four (1.9%) described themselves as Black or African American, two (1%) stated "other", one participant (.5%) identified as American Indian or Alaska Native, and one (.5%) responded as Native Hawaiian or other Pacific Islander. Eighty-six participants (41%) report being in a relationship (not married, not living together), 75 (35.7%) stated being single, 31 (14.8%) were in a relationship (not married, living together), with 14 (6.7%) being married, and two (1%) selected "other". See table one for participant characteristics.

**Research question one: What are the reproductive goals of women (ages 18-29) enrolled in community college?** To learn about reproductive goals of women in community college, participants were asked a series of questions about pregnancy attitudes, preferences or desires about pregnancy timing, and about their perceptions on how important it is to prevent pregnancy (until that time). These questions, also called PATH, referred to here as PATH-1, PATH-2, and PATH-3, are said to indicate a person's reproductive goals. PATH-1 asks "Do you want to have children (or more children) at some point?" Participants who answer "yes",

“maybe”, or “I don’t know” were then asked PATH-2, when do you think that might be? All participants were then asked PATH-3, how important is it to prevent pregnancy (until then)? See table two describing the sample’s reproductive goals.

When asked about their attitude towards having children or more children in the future (PATH-1), 140 participants (66.7%) stated “yes”, 35 respondents (16.7%) said “maybe/I don’t know”, and 33 (15.7%) said “no”.

PATH-2 was asked as an open-ended question with qualitative responses given by the participants. Nine concepts were initially identified; now/soon, in five years or less from now, more than five years from now, anytime/no timeline/no preference, “when I finish school”, with financial stability, with job or career security/stable job, a certain age was identified, when married or in the “right relationship” with many participants listing more than one response. When participants listed more than one response nearly all of the responses reflected the main themes listed above. Responses (n=210) were then re-coded into five categories; less than five years, more than five years, anytime/no timeline/no preference, life event, and, more than one response given, with 37 missing responses. The researcher decided to recode responses into five categories in order to streamline responses into fewer similar categories and because the responses tended to reflect similar themes of prioritizing a timeline or life event when thinking about pregnancy timing.

PATH-3 was a five-point Likert-type scale anchored by not at all important and extremely important. Two hundred and eight responses (2 missing) were collected with 105 participants (50%) indicating that preventing pregnancy is extremely important, 57 (27.1%) respondents stated very important, 28 (13.3%) participants stated somewhat important, while six (2.9%) reporting not so important, and 12 (5.7%) stating not at all important. This item was then

Table 1

*Survey Participant Characteristics (N=210)*

Characteristic	%
Age	
18-19 years	19 (39)
20-24	51 (106)
25-29	26 (54)
Relationship status	
Single	36 (75)
In a relationship (not married, not living together)	41 (86)
In a relationship (not married and living together)	15 (31)
Married	7 (14)
Other	1 (2)
Race/ethnicity	
White/Caucasian	9 (18)
Black or African American	2 (4)
Hispanic/Latino	76 (160)
Asian or Asian American	4 (9)
American Indian or Alaska Native	.5 (1)
Native Hawaiian or other Pacific Islander	.5 (1)
Other	1 (2)
Multi-racial	6 (13)
Enrollment status	
Part time	49 (103)
Full time	51 (106)
Academic goal	
Taking classes personal development	3 (7)
Job skills/employment	1 (2)
Earn certificate	2 (5)
Associate's degree	21 (44)
Prepare to transfer	64 (135)
Other	7.6 (16)
GPA Range	
4.0+	3 (7)
3.00-3.99	50 (104)
2.00-2.99	34 (72)
1.00-1.99	4 (8)

Totals may not equal 100 due to rounding or missing data.

collapsed into a three-point scale with the options not important (8.6%) somewhat important (13.3%), and very important (77.1%). The rationale for condensing categories from five to three is that it was deemed that extremely important and very important were similar and not different enough to keep these items separate. Also, the number of responses in both not so important and very important were determined to be small enough to combine in order to make the number of responses greater in few numbers of categories.

Table 2

*Reproductive Goals of Women (18-29 years old) Enrolled in Community College*

PATH Questions	%
PATH-1 (pregnancy attitude)	
Yes	67 (140)
No	16 (33)
Maybe/I don't know	17 (35)
PATH-2 (pregnancy timing)	
<5 years	18 (37)
>5 years	14 (30)
Life event	31 (64)
Anytime/no preference	1 (2)
More than 1 response	17 (35)
PATH-3 (how important is pregnancy prevention)	
Not important	9 (18)
Somewhat important	13 (28)
Very important	77 (162)

Totals may not equal 100 due to rounding.

***Age groups and reproductive goals.*** The age groups used in this analysis include participants ages 18 and 19, 20- 24, and 25-29. These groups are used because these age ranges are regularly used in reporting pregnancy and birth rates. The researcher wanted to know if a relationship exists between participant age groups and attitudes toward pregnancy (PATH-1). A chi square analysis  $X^2(4, N = 211) = 10.88, p = 0.28$  revealed that there is a difference in attitudes toward pregnancy among different age groups. For 18 and 19-year-old students (n=38), 3 (7.9%) reported not desiring children (more children) in the future whereas 34 (89.5%) indicated that

yes, she desires children (more children) in the future, and 1 (2.6%) participant said maybe or I don't know. For women between the ages of 20-24, n=106, 17 (16%) students indicated no children or no additional children were desired, 69 (65.1%) women said "yes" she would desire children or more children, and 20 (18.9%) indicated maybe or I don't know. Finally, for women between the ages of 25-29 years of age, n=54, 10 answered no to the question would you like to have children (more children) in the future, while 32 (59.3%) answered yes, and 12 (22.2%) answered maybe or I don't know. There was no significance between these age groups and pregnancy timing (PATH-2) and perception of how important it is to prevent pregnancy until the desired timeframe (PATH-3).

***Student characteristics (enrollment status and GPA range) and reproductive goals.***

Two student characteristics were used in analysis to further expand understanding of reproductive goals of women in community college; enrollment status and self-reported grade point average (GPA). Enrollment status was measured by asking students if they were enrolled on a part time (taking under 6 units or 6- 11.5 units) or full time (taking 12 or more units) basis. Grade point average was measured by asking students to report their approximate community college GPA entering the current semester in which they were taking the survey. Students who were in their first semester of community college were asked to indicate zero. Responses were then categorized into ranges; "A" average (4.0+), "B" average (3.00-3.99), "C" average (2.00-2.99), and "D" average (1.00-1.99).

The researcher was interested in examining GPA and all three PATH questions to determine if a relationship exists. Chi square  $X^2(12, N=152) = 24.71, p = .016$  analysis revealed that a significant relationship between GPA and perceptions regarding pregnancy timing (PATH 2) indicating that there is a difference in perceptions about pregnancy timing between various

GPA ranges. The majority of students (90.8%) report a “B” or “C” average and are mixed in terms of thinking about pregnancy timing. No significance was found between GPA and PATH-1 or PATH-3.

The researcher also used enrollment status and all three PATH questions to determine if a relationship exists. There was no significance between enrollment status and any of three PATH questions.

**Research question two: Is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college?** The researcher was interested in determining if a relationship between academic goals and reproductive goals (PATH questions) exists. The null hypothesis is there is not a relationship between reproductive goals and academic goals.

Academic goals were determined by asking participants to identify their primary academic goals from a list of five options (taking classes for personal development, taking classes to enhance job skills/required for employment, taking classes to earn a certificate, to obtain an Associate’s degree, transfer to 4-year institution) plus the option “other” where the participants added a qualitative response.

***Academic goals and reproductive goals.*** Chi square analysis was conducted with the variables academic goal and all three PATH variables. Through chi square analysis, a significant relationship between academic goals and parenting/pregnancy attitudes (PATH-1)  $X^2(10, N=208) = 21.81, p = .016$  was found. There was no significance between academic goals and pregnancy timing (PATH-2) and perception of how important it is to prevent pregnancy until that desired time (PATH-3).

Regardless of academic goal, the majority (67.3%) of participants indicated that they desire children or more children at some point with an additional 16.8% saying maybe or “I don’t know” with 15.9% indicating that they do not desire children or more children. However, when looking at academic goals and pregnancy attitudes (PATH-1), see table three in Appendix C, chi square analysis revealed that there is a difference in attitudes toward parenting among groups with different academic goals. Among participants who report transfer to a 4-year institution as their primary goal (n=134), 68% also indicated an intention to have children or more children at some point with 14% and 18% indicating maybe/“I don’t know” or “no”, respectively.

To address the research question, it is reasonable to conclude that based on the results from this study, a relationship appears to exist between academic goals and reproductive goals and therefore the null hypothesis can be rejected. However, since the variable reproductive goals is comprised of three measures, where the relationship exists must be identified. Based on the results of this study there does not appear to be a relationship between academic goals and perceptions of pregnancy timing (PATH-2) or between academic goals and perceptions of the importance of pregnancy prevention (until the desired time) (PATH-3). There is a significant relationship between academic goals and parenting attitude (PATH-1).

**Research question three: Is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals?** The researcher wanted to examine the possible relationship between perceptions and attitudes of women in community college about parenting/pregnancy and how these perceptions and attitudes relate to both reproductive goals (PATH questions), and academic goals. The null hypothesis is there is no relationship between attitudes and perceptions about parenting/pregnancy and academic goals.

Also, the null hypothesis is there is no relationship between attitudes and perceptions about parenting/pregnancy and reproductive goals.

PATH questions and academic goals (described earlier) were used along with variables that measured attitudes and confidence about the participant's ability to reach academic goal, confidence in one's ability to reach academic goal after having a baby, assessment of importance of reaching academic goals before having children (more children), importance of preventing pregnancy in order to reach academic goals, feeling about pregnancy (how a woman might feel about pregnancy within the next year), and pregnancy likelihood (perception of the likelihood that pregnancy would occur in the next year if no method of contraception is used). Variables such as confidence in reaching academic goal, confidence in ability to reach academic goal after having a baby, importance to reach academic goal before having children or more children, and the importance of preventing pregnancy in order to reach academic goal were all measured through a five-point Likert-type scale anchored by strongly agree and strongly disagree. A description of the participant's response to the variables that measured attitudes and perceptions can be found in table four.

*Attitudes and perceptions about pregnancy and academic goals.* In order to determine if a relationship exists between academic goals and attitudes and perceptions related to pregnancy, a series of analyses were conducted using chi square analysis. Variables used were academic goals and feeling about pregnancy within the next year, perception of the likelihood of pregnancy in the next year if no method of birth control is use, perception of how important it is to reach academic goals before having children (more children), perception about the importance of pregnancy prevention in order to reach academic goals, and perception of a participant's ability to reach academic goal if she were to have a baby.

Table 4

*Attitudes and Perceptions Regarding Pregnancy and Academic Goals*

Variable	%
I am confident that I will achieve my academic goal	
Strongly disagree	8 (17)
Disagree	1 (3)
Neither agree nor disagree	5 (11)
Agree	32 (68)
Strongly agree	51 (108)
It is important for me to reach my academic goals before having (more) children	
Strongly disagree	7 (15)
Disagree	2 (4)
Neither agree nor disagree	7 (15)
Agree	18 (37)
Strongly agree	65 (137)
I can have a baby and still reach my academic goals	
Strongly disagree	16 (33)
Disagree	19 (39)
Neither agree nor disagree	25 (53)
Agree	20 (42)
Strongly agree	20 (41)
Preventing pregnancy right now is important in order to reach my academic goals	
Strongly disagree	8 (16)
Disagree	2 (5)
Neither agree nor disagree	6 (13)
Agree	21 (43)
Strongly agree	62 (131)
Feeling about pregnancy	
It would be the worst thing that could happen to me	25 (52)
It would be very bad	23 (48)
It would be sort of bad not terrible	24 (50)
It would be ok	10 (21)
It would be sort of good but not terrific	8 (17)
It would be very good	3 (7)
It would be the best thing that could happen to me	5 (11)
Pregnancy likelihood	
Very unlikely	24 (51)
Unlikely	21 (43)
Neither likely nor unlikely	16 (34)
Likely	19 (40)
Very likely	19 (40)

Totals may not equal 100 due to rounding

*Academic goals and feeling about pregnancy.* Women were asked about their academic goals and about how they would feel about getting pregnant in the next year. Categories associated with the variable academic goals included; taking classes for personal development/enrichment, taking classes to enhance job skills or required for employment, earn a certificate (Career Technical Education certificate), to earn an Associate's degree, to be able to transfer to a 4-year institution, and other (participants were asked to provide an explanation.) The question about feeling about getting pregnant was used from the Handbook of Sexuality-Related Measures (Davis, Yarber, Bauserman, Schreer, & Davis, 1998) and included the response items; it would be the worst thing that could happen to me, it would be very bad, it would be sort of bad but not terrible, it would be ok, it would be sort of good but not terrific, it would be very good, it would be the best thing that could happen to me.

For this analysis, women who responded by indicating "it would be the worst thing that could happen to me" and "it would be very bad" will be assessed as having a generally unfavorable or negative view of pregnancy in the next year. Women who selected "it would be very good" or "it would be the best thing that could happen to me" will be counted as having a generally favorable or positive view of pregnancy in the next year. Women who indicated "it would be ok" are said to be indifferent about pregnancy in the next year while responses "it would be sort of bad but not terrible" or "it would be sort of good but not terrific" are viewed as having ambivalent feelings toward pregnancy in the next year.

Chi square analysis revealed a statistically significant relationship ( $X^2[30, N= 206] = 48.27, p = .019$ ) between the variables academic goal and feeling about pregnancy; there is a difference in how women might feel about getting pregnant in the next year based on academic goal. Of all the participants (n=206), most had an unfavorable view of pregnancy taking place in

the next year with 18 (nine percent) saying that it would be the best thing that could happen or that pregnancy would be very good and 100 (49%) indicating that it would be the worst thing that could happen or it would be very bad.

The majority (65%) of respondents report that their academic goal is to transfer to a 4-year college or university. Among the 133 women who indicated that transfer was their academic goal, 10 (eight percent) reported feeling generally positive or favorable about pregnancy in the next year, with 14 (11%) saying it would be “ok”, and the majority (70 or 53%), indicating a generally negative or unfavorable perception of pregnancy (answering it would be the worst thing that could happen to me, it would be very bad).

Based the research conducted in this study there was no significance found between academic goal and perception of likelihood of pregnancy if no birth control method is used in the next year, perception of confidence in one’s ability to reach academic goal, perception of being able to reach academic goal after having a baby, perception of importance to reach academic goal before having children or more children, or the perception of the importance to prevent pregnancy in order to reach academic goal. Therefore, the null hypothesis is retained. Since there is a relationship between the feeling about pregnancy in the next year and academic goals, the null hypothesis is rejected.

*Attitudes and perceptions about pregnancy and reproductive goals.* In order to determine if a relationship exists between reproductive goals and attitudes and perceptions related to pregnancy a series of analyses were conducted using chi square analysis. The null hypothesis is there is no relationship between attitudes and perceptions about pregnancy and reproductive goals.

Variables used were reproductive goals (PATH questions) and feeling about pregnancy within the next year, perception of the likelihood of pregnancy in the next year if no method of birth control is use, perception of how important it is to reach academic goal before having children (more children), perception about the importance of pregnancy prevention in order to reach academic goals, and perception of a participant's ability to reach academic goal if she were to have a baby.

*Feeling about pregnancy and reproductive goals.* Feeling about pregnancy and reproductive goals were examined. Chi square analysis between feeling about pregnancy and PATH-1, PATH-2, and PATH-3 revealed that there appears to be a difference in how a participant might feel about pregnancy in the next year based on reproductive goals: pregnancy attitudes ( $X^2[12, N= 205] = 46.13, p < .001$ ), pregnancy timing ( $X^2[24, N= 167] = 59.16, p < .001$ ), and how the importance of preventing pregnancy (until the desired time) ( $X^2[12, N=206] 45.05, p < .001$ ).

The majority (67%) of participants desire children or more children at some point and an additional 17% indicated maybe or I don't know and among these groups, 36% perceive pregnancy in the next year as generally unfavorably. When looking only at the women who indicated "yes" to PATH-1, 51 (37%) hold a generally negative or unfavorable view of pregnancy in the next year, 15 (11%) expressed indifference, 56 (40%) expressed ambivalence, and 17 (12%) report feeling generally positive or favorable about pregnancy in the next year.

When asked about a timeline for when a participant might like to have children or more children, very few participants reported now or soon (approximately 4%) with the majority of participants thinking about pregnancy a bit farther in the future with the most common responses being less than 5 years, more than 5 years, or in context with a life event such as finishing

school, having a secure or stable job/career, being financially stable, or being married or in the “right” relationship. Regardless of personal timeline, 72 (43%) report feeling generally negative or unfavorably about pregnancy in the next year, 19 (11 %) expressed indifference, 59 (35%) report feeling ambivalent, with 17 (10%) answering that they view pregnancy in the next year as favorable or generally positive.

Among women who report that preventing pregnancy until their desired timeline is very important (n=160), 92 (58%) indicated an unfavorable or generally negative view of pregnancy in the next year. Among all responses (n=206), regardless of personal perception of the importance of preventing pregnancy, most women 100 (49%) held an unfavorable or generally negative view of pregnancy in the next year, 21 (10%) were indifferent, 67 (33%) expressed ambivalence, with 18 (nine percent) holding favorable or generally positive views about pregnancy in the next year.

*Importance of preventing pregnancy in order to reach academic goal and reproductive goals.* Perceptions of the importance to prevent pregnancy right now in order to reach academic goals and reproductive goals were examined. Chi square analysis between importance of preventing pregnancy right now in order to reach academic goal and PATH-2 and PATH- 3 revealed that there appears to be a difference in how a participant might feel about the importance of preventing pregnancy in order to reach her academic goal based on PATH-2 (pregnancy timing) ( $X^2[16, N= 168] = 50.04, p < .001$ ), and PATH-3 (how the importance of preventing pregnancy until the desired time) ( $X^2[8, N=208] = 95.77, p < .001$ ).

When looking at PATH-2, regardless of personal timeline, the majority (83%) of the 168 respondents either strongly agreed or agreed with the statement “preventing pregnancy right now

is important for me so that I can meet my academic goals.” When examining the same statement with PATH-3, most of the respondents (174/208, 84%) strongly agreed or agreed.

Analysis revealed no significance between the perception of how important it is to prevent pregnancy in order to reach academic goal and PATH-1 (parenting/pregnancy attitudes).

*Important to reach academic goal before having children or more children and reproductive goals.* The perception of the importance of reaching academic goals before having children or more children and reproductive goals were examined. Chi square analysis between perception of the importance of reaching academic goals before having children or more children and PATH-1, PATH-2, and PATH-3 revealed that there appears to be a difference in how a participant might feel about perception of the importance of reaching academic goals before having children or more children based on reproductive goals: pregnancy attitudes ( $X^2[8, N=207] = 20.41, p = .009$ ), pregnancy timing ( $X^2[16, N= 168] 30.68, p = .015$ ), and how the importance of preventing pregnancy (until the desired time) ( $X^2[8, N=208] = 49.83, p < .001$ ).

Among the participants who indicated that they desire children or more children at some point (140), 79% strongly agreed or agreed with the statement, “it’s important to reach my academic goals before having a child (having more children.” Regardless of the timeframe the participants indicated in PATH-2, the majority (138 out of 168) also strongly agreed or agreed with the same statement. Finally, when examining PATH-3, out of 208 responses, most (84%) strongly agreed or agreed with the statement regardless of personal perception of how important it is to prevent pregnancy.

*Can have a baby and reach academic goal and reproductive goals.* The perception of ability to reach academic goal after having a baby and reproductive goals were examined. Chi

square analysis between perception of ability to reach academic goal after having a baby and PATH-1, PATH-2, and PATH-3 revealed that there appears to be a difference in how a participant might feel about the perception of ability to reach academic goal after having a baby based on reproductive goals: pregnancy attitudes ( $X^2[8, N= 207] = 60.81, p < .001$ ), pregnancy timing ( $X^2[16, N= 168] = 29.71, p = .020$ ), and how the importance of preventing pregnancy (until the desired time) ( $X^2[8, N=208] = 30.45, p < .001$ ).

Among those who indicated “yes” to PATH-1 (n=140), 50% strongly agreed or agreed with the statement “I can have a baby and still complete my educational goals.” With PATH-2, regardless of personal timeline 46% of respondents strongly agreed or agreed with the statement. Finally, regardless of the participant’s perception of how important it is to prevent pregnancy, 40% strongly agreed or agreed with the statement.

*Other variables and reproductive goals.* Chi square analysis conducted with each of the three PATH questions and pregnancy likelihood and the participant’s perception of confidence in one’s ability to reach academic goal revealed that there is not a significant relationship, respectively. Additionally, there was no significance between pregnancy attitudes (PATH-1) and a participant’s perception of the importance of preventing pregnancy right now in order to reach academic goal. Therefore, the null hypothesis is accepted for pregnancy likelihood and reproductive goals, confidence in ability to reach academic goals and reproductive goals and importance of preventing pregnancy right now in order to reach academic goals and PATH-1.

The null hypothesis is rejected for reproductive goals (all three PATH questions) and feeling about pregnancy in the next year, perception of importance of reaching academic goals before having children or more children, and perception of confidence in one’s ability to reach academic goals after having a baby. Additionally, the alternative hypothesis is accepted for

PATH-2 and PATH-3 and perception of importance in preventing pregnancy right now in order to reach academic goal.

**Research question four: Is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?**

The variable birth control method was measured on the survey using a comprehensive list of available methods of contraception. Ultimately, the variable “birth control groups” was used.

The groups that were used include tier one methods (long-acting reversible contraception [LARC], and sterilization methods), tier two (hormonal, not LARC methods), tier three methods (such as male/external and female/internal condoms, spermicide, withdrawal, natural family planning), abstinence, and no method/never used a method. The use of these tiers is consistent with current literature and practice related to contraceptive counseling.

The null hypothesis is there is no relationship between contraception (choice and use) and academic goals. The null hypothesis is there is no relationship between contraception (choice and use) and reproductive goals. The null hypothesis is there is no relationship between contraception (choice and use) and attitudes and perception about pregnancy.

***Birth control groups and reproductive goals.*** Analysis was done to determine if a relationship exists between birth control groups and reproductive goals (PATH questions). Chi square analysis revealed a statistically significant relationship between birth control groups and PATH-3 (importance of preventing pregnancy until desired timeline) ( $\chi^2[10, N=206] = 36.27, p < .001$ ) meaning that there is a difference in birth control method selection and use based on how important it is to prevent pregnancy until the desired time.

PATH- 3 asks “how important is it to you to prevent pregnancy...” and a total of 160 participants indicated “very important.” Among those 45% report using no method or have never

used a method, or a tier 2 or 3 method. Twenty-eight women in the survey reported using a LARC method and among the women who said that preventing pregnancy is very important, 26 are LARC users.

There was not a statistically significant relationship found between birth control groups and PATH-1 and PATH-2.

The null hypothesis is accepted for PATH-1 and PATH-2 and birth control groups, as there is no relationship. The null hypothesis is rejected, and the alternative hypothesis is accepted for PATH-3 and birth control groups as there is a relationship between these variables.

***Birth control groups and attitudes and perceptions about pregnancy.*** The researcher wanted to examine a possible relationship between birth control groups and attitudes and perceptions about pregnancy (pregnancy likelihood, feeling about pregnancy in the next year, perception of importance of preventing pregnancy in order to reach academic goal, importance of reaching academic goal before having children or more children, and perception of ability to reach academic goal after having a baby). A significant relationship was found between birth control groups and perception of the likelihood of pregnancy in the next year if no method of contraception is used ( $X^2[20, N=206] = 72.67, p < .001$ ). Therefore, the null hypothesis was rejected for pregnancy likelihood and birth control groups. Among the 206 responses, 45% indicated that pregnancy would be very unlikely or unlikely with 38% indicating likely or very likely. Among the 28 LARC users, 22 said that pregnancy would be very likely or likely.

There was no significance found between birth control groups and any of the remaining variables; feeling about pregnancy in the next year, perception of importance of preventing pregnancy in order to reach academic goal, importance of reaching academic goal before having

children or more children, and perception of ability to reach academic goal after having a baby. Therefore, the null hypothesis is accepted for birth control groups and these variables.

*Birth control groups and academic goals.* There was not a significant relationship between birth control groups and academic goals or between birth control groups and perception of confidence in reaching academic goals. The null hypothesis is retained

### **Qualitative**

The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about parenting/pregnancy and reproductive goals as these relate to academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

To collect qualitative data, one-on-one semi-structured interviews were conducted. The purpose of the interviews was to explore the attitudes and perceptions of community college women regarding academic goals, pregnancy, and reproductive goals. Also, the researcher was interested in determining the acceptability and feasibility of a particular approach to reproductive goals counseling called PATH (pregnancy and parenting attitudes, timing, and how important is it to prevent pregnancy), a technique developed by Envision Sexual Health, as this approach had not yet been researched in this population. Furthermore, the researcher was interested to understand the women's perceptions of pregnancy and reproductive goals as these relate to and impact academic goals.

**Participant characteristics.** Eleven female students participated in the research study which began at Los Angeles Mission College in May 2018 (see table five). All the participants were between the ages of 18 and 29. At the time of the interviews, one student was 27 years old, two were 24 years old, one was 21 years old, three women were 20 years old, and four were 19 years old. The majority of the participants (n=9) self-identified as Hispanic/Latino, with one participant identifying as Asian, and two participants identifying as White. One participant indicated that she is a mother (of one child) while the other women are nulliparous. None of the participants reported being married or living with a partner. Five women reported being single and six reported being in a relationship, not living together. As part of a pre-interview survey, the participants were also asked to report if they are currently sexually active (defined as having vaginal sexual intercourse within the last three months), five women indicated that they are not currently sexually active (with three of the five reporting never having had vaginal sexual intercourse) while six reported that they are currently sexually active. The women were also asked to indicate which method of contraception they use or used the last time they had vaginal sexual intercourse. Three women reported never having used a method of contraception and these are the same women who reported no current or previous vaginal sexual intercourse. One woman reported not using any method or coitus interruptus (withdrawal), one participant reported using male condoms only, three women use(d) oral contraceptives only, and three women reported using an oral contraceptive and a male condom jointly. Several of the participants (n=5) cited completing an associate degree, transfer to a 4-year university, and completion of a bachelor's degree as their primary academic goal. Three participants have the added goal of completing a master's degree. Two students are seeking an associate degree with a

certification as their academic goal. Finally, one student did not mention a goal of completing an associate degree, rather she only talked about transferring to begin work on a bachelor's degree.

Table 5

*Interview Participant Characteristics*

Participant	Age	Race	Parenting status	Relationship status	Currently Sexually Active	Contraception	Academic Goal
1	19	Asian	No children	In a relationship, not married/living together	No	Never used	AA with certificate
2	20	Hispanic/Latino	No children	In a relationship, not married/living together	Yes	Oral contraceptive plus male condom	AA/Transfer (BA)
3	20	White	No children	Single	No	Oral Contraceptive plus male condom	AA/Transfer (BA) and MA
4	27	Hispanic/Latino	No children	In a relationship, not married/living together	Yes	No method/coitus interruptus	MA
5	20	Hispanic/Latino	No children	Single	No	Oral contraceptive	AA/Transfer (BA)
6	24	Hispanic/Latino	No children	In a relationship, not married/living together	Yes	Oral contraceptive	AA/Transfer (BA)
7	19	Hispanic/Latino	No children	In a relationship, not married/living together	Yes	Oral contraceptive plus male condom	AA/Transfer (BA)
8	21	Hispanic/Latino	No children	Single	Yes	Male condom	Transfer (BA)
9	19	Hispanic/Latino	No children	Single	No	Never used	AA/Transfer (BA)
10	19	White	No children	In a relationship, not married/living together	No	Never used	AA/Transfer (BA) and MA
11	24	Hispanic/Latino	Parenting	Single	Yes	Oral contraceptive	AA with certificate

Note. Currently sexually active is defined as having vaginal sexual intercourse within the last three months. AA= Associate degree, BA= Bachelor's degree, and MA= Master's degree

**Data collection and coding.** The interviews were conducted at Los Angeles Mission College in a private conference room or in a classroom that was not in use. The interviews were conducted by the researcher using an interview guide and open-ended questions created by the researcher.

The participants were given time prior to the interview to read the consent form and to ask for clarification on any aspect of the study that was unclear. The women were given an opportunity to ask questions before the interview began. As part of the consent process, the women were asked to consider allowing the researcher to record the interview. If they agreed, they indicated their consent on the interview consent form. Also, prior to the interview, the participants were asked to complete a brief paper survey that collected demographic data and asked about current sexual activity and if their contraceptive usage.

All the women consented to an audio recording of the interview. The interviews were audio recorded using the iPad app Temi for ease of recording and transcribing. Temi records the audio and then for a fee (ten cents per minute) transcribes the recording. The turnaround time to receive a transcript is very fast, typically within a matter of minutes for an interview lasting 45 minutes or less. All of the interviews lasted between approximately 25 and 45 minutes. The transcript was delivered to the Temi account and could then be downloaded as a Word or PDF file. The researcher first downloaded the document as it was originally transcribed to preserve a version without edits. While the transcripts were completed fairly accurately, the researcher read the transcript while listening to the recording and made edits when an error occurred, most often when a segment of speech was attributed to the wrong speaker. Also, edits had to be made when the participant was inaudible or when the rate of speech made the content difficult for the app to

decipher. Once the transcripts were edited for clarification, the researcher downloaded the edited transcripts in both Word and PDF versions.

Next, following the steps for data analysis and interpretation described by Creswell (2003), the researcher closely read the transcripts looking for themes and commonalities between the responses. The researcher added notes and comments on each transcript to begin identifying topics and themes. To organize the data, the researcher first placed the questions in an Excel spreadsheet arranged by colors; green font indicated questions related to academic goals, blue font indicated questions related to reproductive life plan and reproductive goals counseling, and pink font corresponded with perceptions related to pregnancy and academic goals. The questions were placed at the top of the sheet in columns and the answers to each question were placed by participant in rows below. Through reading the transcripts and by reviewing the responses one question at a time, themes began to emerge. Once themes were identified, main ideas were placed in a table in a Word document with quotes and passages from the interviews to support the themes.

**Overview of data analysis.** The interviews were based on questions to explore four main research questions and therefore the data analysis will be presented by research question, followed by a presentation of the main topics or concepts that were identified during the interviews, followed by a discussion of the themes that emerged during data analysis.

For research question one, how do women (18-29 years of age) enrolled in community college define academic goals and success, there are three topics; academic goals and benefits to reaching academic goals, how the women defined academic success, and reaching academic goals and ensuring success. The themes that emerged from this line of questioning include

stability/better life, role model: help family and others, personal development and fulfillment, career prospects, doing your best, and support.

Research question two, how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals, had two main topics, reproductive life plan and reproductive goals, and knowledge, attitudes, and behaviors related to pregnancy and prevention of pregnancy. The themes that surfaced include pregnancy attitudes and timing, mixed feelings and discrepancies (between reproductive life plans/goals and contraception), uninformed or underinformed.

Research question 3, what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college regarding pregnancy and reproductive goals as these relate to academic goals, had two main topics, perception of pregnancy impact on academic goals, and influence of family, friends, partner. Themes that developed from these questions include disappointment, worry and concern, and hindrance.

Finally, research question four sought to explore perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling. The main topic was the acceptability and feasibility of PATH questions for reproductive goals counseling and the themes that emerged include helpful for community college women.

**Research question one: How do women (18-29 years of age) enrolled in community college define academic goals and success?** To explore the topics related to question one, the researcher asked the participants to consider how she would describe her academic goal, to identify some things that she is doing to ensure that she reaches her academic goal, to consider the benefits to reaching her academic goals, what resources she needs to reach her academic goals, and how she defines academic success. The themes that emerged from this line of

questioning include stability/better life, role model: help family and others, personal development and fulfillment, career prospects, doing your best, and support.

*Stability or better life.* Wanting a “better life” and financial and career stability seemed to be a motivating factor for the participants. The women often cited their financial situation growing up or currently as they considered the benefits to reaching their academic goals. Participant six shared that her family often couldn’t do certain things or that they had to go without certain necessities and desires and that memory encourages her to achieve her goal. She stated, “Just to have a better life... [I] just grew up with a lot of...we don't have money right now...we have to wait or we couldn't do certain things...it was a time where we had to put stuff aside, like fun to focus on whatever was priority and my parents had always taught me you could have that, but if you work hard, you know, you won't have to choose between fun or...your rent, you know? So that was making me reach my goal. I could have a better life for myself but for my family that they gave me a really good life and I would like to do that in return.”

Participant two echoed the sentiment of stability and a better life and she used words such as “struggle” to describe what she would like to avoid and “provide” when discussing what she would like to be able to do for herself and her family. The memory of her mother’s effort seems to have shaped her thinking about her own success when she says “I saw my mom struggle a lot, so I want to be in a place where I don't have go through [that]. She struggled with paying rent, paying for bills...just even paying for school things for us...materials and supplies for school. I want to be able to provide that for myself, for my family in the long run.”

Participant four who has already earned a bachelor’s degree and is taking prerequisites for a graduate program also focused on and used the word “stability” and stated that education

and achieving her academic goal is something of a safety net. She used the phrase “fall back on” when explaining why achieving her goals and education in general is important to her. She said, “I think stability is...the main thing for me, an important thing knowing that I have a career that I can fall back on. Knowing that I have that education.”

***Role model: Help family and others.*** Many participants seemed to feel internal or external pressure to reach her academic goals not simply for her own personal benefit but because she wanted to help her family or be a role model for others in her family. This seemed particularly true when speaking about siblings.

Participant 11, who is the youngest in a family of six, expressed that she feels a responsibility to be a role model of sorts for her five older brothers. If this woman completes her degree she will be the first in her family to reach this milestone and she used words like, “can do it” when describing the message she would be sending to her family should she reach her academic goals. She believes it just takes one person to show her family that they “can do it”. She stated, “Education is very important and you know, it just takes that one person to show...everyone okay, I could do it and then you guys [siblings] can do it, [it] doesn't matter how we grew up, how much money we grew up with, where we grew up.”

The desire to help family financially appeared to be a motivating factor for many of the women. Participant three also used the word “stable” and went on to say, “Really I just want to make sure I'm stable because I also want to be able to take care of my dad when he's older because I know how much he's done for me and so when I get older I want to be able to do the same for him.”

Several of the participants also stated the sentiment of “wanting to give back” to family, particularly parents, through the achievement of academic goals and they used words such as

“sacrifice” when discussing their family’s experiences. Participant nine said, “So having my parents come from another country, you know, sacrificing, sacrificing, like where they grew up and not seeing their families for a very long time. Like I think that's what pushed me to, you know, and that's what I want to do for them. Get that degree, get a house, you know, have them live with me, take care of them, you know?”

Sacrifice was a concept reiterated by participant four and she also mentioned hard work by her parents to help make her education a priority. This woman talked about her successes also belonging to her parents and family when she said, “I think it's going to benefit my whole family. I don't think it's just something that I think [about] for myself. I think of my success as it being my parents’ success too because it's been through their sweat, through their tears, and their long nights too, of like working and helping us get through our higher education.”

***Personal development and fulfillment.*** The women in this study seemed to see education and achievement of their academic goals as a means to increasing self-confidence, pride, and personal development.

Participant 11, who is the mother of a two year old son, used the phrase “never give up” when she described the message she wants to give her son about education but she also used the word “confident” when she described how reaching her academic goal will benefit her. She said, “I feel like [education] makes me feel more confident if I have it. And...to show my son as well too, that education is important and to show him that, you know, you never give up on what you want and believe in, and what you want to be. [You] can be anything, you know, when you grow up, just got to pursue it and be persistent, persistent, you know.”

Participant seven expressed her desire to “grow as a person” and she saw this as a benefit to achieving her academic goals. Participant 10 seemed to share this thought in fact she reported

seeing changes in herself in the short time that she has been in college and said, “I know the last year, I've only been in college a year and you know, it's had a huge impact on my academic and personal development, so I think I'm sure that the next six or seven years of school will do that as well.”

Some women used the word “proud” when describing potential academic accomplishments and saw succeeding in education as something that they would feel proud of. Participant one stated this sentiment as a benefit to reaching her academic goals, “because it would help me to get the career that I want and to feel like I've achieved something.” She went on to say, “I think that the path I'm going towards, it's something that I can be proud of.”

*Career prospects.* The women who participated in this study seemed to have a clear association between educational achievement and improved career prospects. The women seemed to believe that a career through achieving their academic goals was a way to attain stability and a better paying job.

Three participants specifically mention the importance of having a better paying job as a benefit to achieving their academic goals. Participant 11 said, “I think it's helpful for me... I feel like education is really important. [T]hese days you need some kind of AA or some kind of education to get a good paying job.” Participant two stated, “I feel like just the pay, if I'm being honest, I know the pay is really good as a registered nurse.” Participant nine said, “I think it would benefit me in a lot of ways like career wise, moneywise, everything revolves around money. That's kind of sad, but it's true, you know.”

Participant 10, who expressed a high level of motivation to achieve a graduate degree, saw the achievement of her academic goal as the way to be successful and prepared for a meaningful career. She focused on having a “career” as opposed to having a job and said, “I

think in the field I'm pursuing, the higher the degree I have, the more competitive I'll be in the job market...I think it'll give me a competitive edge..."

Women in this study also seemed motivated to have a stable career which includes having a sincere interest in their chosen field, helping others, and gaining personal satisfaction. They expressed ideas such as "make a change" and "help them" when describing how achieving the academic goals and having a career can help others. Participant 11 expressed, "I want this to be a career someday. I would like to have a career and a set job in that career...to make a change in some of these kids' lives." Participant six stated, "I want to reach that goal...[to] learn how I can help them, not just myself. Eventually when you do get a career you are able to take care of yourself and your family. Also, with your job, I feel like you need to have a heart and patience to help these people, but I feel like I have all of that so I know I will be able to help them."

Women also conveyed an interest in seeking personal development and gratification and saw this as a benefit to reaching their academic goal. Participant five articulated, "First of all, I think that if you find a job that doesn't feel like a job, then you're already winning in life. Right now I'm really stressed, but I think...if I'm in my dream job, I'm not going to be this stressed, I'm going to be actually loving what I do." Participant seven spoke similarly saying, "...when I look at it, like how I want my life to be, I don't want to be stuck doing something I don't want to do, so I want to go into something I'm really interested in. I want something that will make my life kind of easier in a way."

***Doing your best.*** There are many definitions of academic success that have been used in academia and in research that center around markers such as completing a certain number of units, grade point average, or enrolling in courses from one semester to the next. While some of the women of this study identified success as earning a certain GPA, the majority of the

participants discussed academic success in broader, less tangible terms such as effort, “doing your best”, and that real success lies in the achievement of their long-term goals.

Participants used adjectives such as “best”, and “big deal”, and “make a difference” in their responses. Participant 10 stated, “I would define it as doing your best and working hard and working to the best of your ability. Always challenging yourself and trying to learn more.”

Participant 11 shared that she has experienced challenges in school and used the phrase “try really hard” as she described what she does to do well in her classes. She said, “you know, going to class every day, paying attention and trying your hardest exams. Asking questions, ...even if you just don't know, don't be embarrassed, try hard as you can in the class. You know, I feel like for me personally I haven't been to school in a while so I feel like this time, me going to school, it's like a really big deal... I think graduating, it's a really big deal and [it's] important, you know, to have more than a high school diploma on your shoulders to show other kids.”

“Making a difference” was seen as a high priority by participant six. While others focused on having a better playing job, she emphasized making a difference in the lives of the people she wants to work with when she starts her career. She said, “And to me it's like I want to do that, you know, like I don't need to get paid crazy amount of money. But like I know if I reach one kid. Like I reached my academic goal. I want to make a difference and I don't care like where I live, what I drive, what money I make...I just want to make a difference in someone else's life.”

**Support.** When asked about what resources they need to reach their academic goals, every woman in the study talked about support in some way. A few times the women discussed support from faculty and in-class support but more frequently the women spoke about the need for support from the campus community in terms of outside the classroom support such as

financial aid, tutoring services, internship or volunteer opportunities relevant to their areas of study, services from the transfer center, and academic counseling. Also mentioned was logistical support such as transportation, more options for buying, renting textbooks, getting laptop computers to be able to complete schoolwork, and internet access at home in order to complete homework, attend on-line classes, and studying. Participant one said, "I guess just opportunities, you know? In terms of like externships and volunteer work, anything to get me in that field. Financial aid. I suppose, transportation is a big thing but not for me because I have like a car." Participant three stated, "Definitely the learning center. I get tutoring a lot there and it's been so helpful. Oh my gosh. Without that I'd be worrying a lot in some of my classes, especially that biology class. Oh my gosh, that was very killer." Participant 11 said, "I've been currently looking for a job in order to pay all these expenses for school. I'm making sure my son has daycare in order because if I don't have daycare then I can't come to school or attend these classes that I'm paying for. You know, I need transportation. I've been saving up to buy a laptop for school...everything's basically online now. I've learned in this short amount of weeks that I've started school that everything's on the Internet and um, I don't have a laptop or Internet home. So, I've been trying to figure out a way to get internet at my house or to get a laptop. Um, and then it's just basically, um, you know, having a clear conscience I guess in order to come to school and be ready to learn every day. You know, sometimes I think about other things other than school, like the laundry needs to be done, you know, like what am I going to make for dinner? And, you know, I feel like I need to have like a clear mind when I come to school. There's just a lot of things going on. Like when you have kids and you know, with no income coming in, so it's like there's a lot that I need in order to achieve it, but I know I'm gonna I know

I'm going to get through it and I know I'm going to get all these resources. It's just gonna take time.”

A few women mentioned emotional support from family and friends for managing stress and one mentioned the importance of mental health services offered on campus. Participant four indicated, “services here on campus to support students. So like the student health center, the mental health counseling and care that's offered here.”

The women seem to believe that a more holistic approach to support as they make their way through their academic programs would be beneficial. Other than one mention of mental health services, the students did not bring up sexual and reproductive health or any other health service or health care.

**Research question two: How do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?** To address research question two; how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals, women were asked to reflect on a number of questions related to reproductive life planning and pregnancy. To discover the perceptions and knowledge of the participants regarding reproductive life planning and reproductive goals, the women were asked if they had ever heard of the concept. Also, the women were asked questions to explore their reproductive goals. This line of questioning called PATH (pregnancy and parenting attitudes, timing, and how important is pregnancy prevention) is a specific approach to reproductive goals counseling. The themes that emerged include uninformed or underinformed about reproductive life planning and contraception, and mixed feelings or inconsistencies related to their own reproductive life plans and use of contraception.

Before exploring the themes associated with question two, it is helpful to first explain how the women identified their own reproductive life plans/goals. Participants were asked to consider questions related to examining a reproductive life plan (RLP) or reproductive goals. The questions asked to understand the women's reproductive goals were developed by Envision Sexual Health and are referred to as PATH questions. PATH stands for pregnancy/parenting attitudes, timing, and how important is pregnancy prevention (until then). The PATH questions are; do you think you might like to have (more) children at some point? If the answer is anything other than "no", then participants are asked, when do you think that might be? The last question is how important is it to prevent pregnancy (until then)?

The reproductive goals of the women in this study are highlighted in table six. All the participants except one answered with a clear "yes" to the question "do you think you might like to have children (more children) at some point?" with one participant indicating maybe. Participants had a range of responses to the question "when do you think that might be" with some participants giving an age, some giving some number of years in the future, and a couple giving life events or accomplishments as indicating their timeline. All the participants indicated that preventing pregnancy until then was very important or really important.

***Pregnancy attitudes and timing.*** The participants often indicated specific considerations or factors that contributed to their thinking on the questions related to pregnancy attitudes and timing. Notably when it came to the consideration on how important it is to prevent pregnancy (until then), the women often cited the idea that having a baby is a big responsibility and that they don't feel ready or prepared to take on that life event at this time. Participants also frequently used the words "very important" to describe preventing pregnancy at this point in their lives. Participant five said, "Very important. I already have enough on my plate and I feel

like to raise a kid. It's not just to have a kid, but actually nurturing it enough to where it's, it could stand on its own. You get me? This is not the time for it. There [is] more life to live.” Participant seven said, “For sure after I finished school, I would want to have everything settled down already to have a kid. I wouldn't want to have a kid and not be able to support them.”

Timing was also a topic that the women seemed to have certain considerations about. The women cited a few reasons they wanted to delay pregnancy with common responses being wanting to be stable and wanting to finish academic preparation or establish a career. Participant four said, “talking about maybe like five years from now. I see myself being done with my master's maybe in three years. I want to be able to start working, you know, and kind of feel established somewhere before I do have a child or if we adopt...but I would want to be stable and made sure that I'm like done with my career [preparation], done with all my licensing exams, like done with all of that before I bring more stress into my life because I know it's not going to be easy.” Participant eight said, “I want to have children when I'm in my thirties, you know, because I want to experience life. I really want to focus on my career. Um, and yeah, it's just, I'm in no rush. I'm in no rush.”

*Inconsistencies and mixed feelings.* While the women in the study seemed to be clear about their desire to postpone pregnancy, none of the participants indicated that they desired pregnancy presently, there were significant inconsistencies in the approaches or strategies that the women were using to prevent pregnancy. Three of the women are not presently sexually active so their use of abstinence is consistent with their reproductive goals. Most women who are sexually active and who also report that it is very important to prevent pregnancy are using methods that have a moderate or high failure rate such as oral contraceptives or male condoms.

One woman is stating that preventing pregnancy for the next five years is very important and reports using no method of contraception or that her partner uses withdrawal.

An example comes from participant eight who reports not wanting children until she is in her 30s and states that preventing pregnancy is very important and she also states, “if it happens, it happens. Um, I'm very open to it. It's okay if like if I have to take a year, stop a year for, for my degree, it's okay.”

Table 6

*Reproductive Goals and Use of Contraception Among the Participants*

Participant	PATH-1	PATH-2	PATH-3	Method of Contraception
1	Yes	Age: 24-26	“Very important”	Abstinence
2	Yes	Age: 28-29	“Really, really, really important”	OC, MC and spermicide
3	Yes	Age: 30	“Very important”	MC and OC
4	Yes (own or adopt)	Life event: 5 years (after completion of master’s degree)	“Very important”	NM or W
5	Yes	Age: late 30s	“Very important”	OC
6	Yes	Time: 2-3 years	“Really strong”	OC
7	Maybe	Life event: After finishing school	“Really important”	MC and OC
8	Yes	Age: 30s	“Very important”	MC
9	Yes	Age: 28-30	“So important”	Abstinence
10	Yes	Life event: after settled in career, stability	“Probably very important, yeah definitely.”	Abstinence
11	Yes (would like to have more children)	Time: Within 5 years	“Very important”	OC

Note. Contraceptive method at last sexual intercourse. Reproductive goals responses are answers based on the PATH questions; do you think you might like to have (more) children at some point, when do you think that might be, and how important is it to prevent pregnancy (until then)? OC= oral contraceptive, MC= male condom, NM= No method, W= withdrawal

*Uninformed and underinformed.* There was quite a range of attitudes, experience, and knowledge regarding contraception. Three of the participants had never had vaginal sexual

intercourse and had never used a method of contraception and yet their perception about accessing contraception varied widely.

Some participants mentioned potential barriers of income and accessibility. When asked if she thought accessing contraception is difficult participant 10 said she believes that access should be far more widespread, “Um, I haven't heard from any women that it is, but I, my personal opinion is that like we should have, they should be far more accessible than they are and even like the way we have like tampons in bathrooms to have condoms, have bathrooms, have contraceptives, just super easily accessible, I think that would decrease, um, unwanted pregnancies and then determination of those pregnancies. Yeah.” She went on to describe what she believes are barriers for women accessing and using contraception such as stigma or judgement saying, “how do I put it into words? Um, that they are, there's something less, I don't know how to articulate it, that they are somehow less valuable because they are sexually active. That's something I've heard from the culture I grew up in that's a super big attitude that they have towards women who are sexually active. It's not something I agree with, but I think that would be some [barriers] because I grew up in that culture. It's always been in the back of my mind if I were to purchase contraceptives outside of marriage.”

Most of the women seemed to have misinformation or incomplete information about contraception. Participant 11 said, “I know the plan B, it does cost money like 50 bucks even if you have Medi-Cal, just depends where you go...and I think it's like 18 or older. I'm not sure if underage women can get that. Maybe it's not difficult in some ways, but it can be, it just depends on your situation.”

Participant four expressed concern about information that she heard from a trusted source regarding side effects of contraception that may not be accurate saying, “my sister sends me all

these things of like, um, birth control is leading to depression and birth control is leading to all of these other health issues and I'm like, I dunno." Misinformation or attitudes toward contraception based on incomplete or inaccurate information seem pervasive. Participants at times seemed unable to fully articulate their rationale rather they are influenced by hearsay or assumptions. Participant six said, "sometimes I guess my, my body frame I'm really like, always been a kind of anemic, always been really thin. I feel like sometimes it's a little strong for me." Participant four captures common concerns or fears about the risks of contraception when she says, "I don't use a lot of methods of protection and I think it's due to fear of maybe not being able to get pregnant later on."

Participant eight seems to capture the complex and personal nature of contraception when she talks about the ease of getting contraception but then starts to recall some of the barriers or difficulties. She says, "No. It's very easy. Um, income, income is one [barrier], um, income is the only barrier that stops people from getting it. And laziness and procrastination and, um, maybe the partner, you know, if they're in that relationship, telling them not to. Oh, another one, yes, weight gain. And self-esteem issues or you know, insecurities, things like that. Oh, and misguided information. That's big because these contraceptives, they tend to um, make it females gain weight and mood swings. And yeah, the risks as in like headaches, blood clots, all of that."

A lack of knowledge or inadequate awareness and facts seems prevalent and persistent among these respondents.

**Research question three: What are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to academic goals?** The third research question focused on the perceptions of women (18-29 years of age) enrolled in community college regarding pregnancy and

reproductive goals as these relate to academic goals. Questions used to address these topics included asking the women how they might feel about getting pregnant within the next year, how getting pregnant might affect their academic goals, and how getting pregnant might impact the important people in their lives. Themes that surfaced included seeing pregnancy as a hindrance on achieving their academic goal and simultaneously not letting it “ruin” academic goals. Also, disappointment, and concern or worry came up a lot in reference to themselves but also with regard to family, friends, and partners.

***Disappointment.*** When asked about their emotions and thoughts about a potential pregnancy taking place within the next year, women in this study frequently mentioned disappointment. Participants mentioned that they would feel disappointment in themselves and expressed distress about the possibility of disappointing the important people in their lives. The women seemed to place more emphasis on family rather than friends and peers when assessing how the important people in their life might respond to the women getting pregnant/having a baby within the year. Family appears to play a significant role in how the women think about their academic goals and also in their consideration about a potential pregnancy happening in the near future.

Participant 11 stated, “I would personally, I would feel disappointed in myself, um, because...my first child was very surprised [and] when I had him, um, I decided to not go to school and just raise him until he goes into daycare and I feel like it took a lot of time out of my education, you know, that I could have been doing schoolwork, you know, but instead I had to a bear a child and that's, that was my responsibility.”

Participants also mentioned parents and siblings when they considered their perceptions. Participant five used words such as “disappointed” and “letting them down” when describing

how her parents might feel about a potential pregnancy. She also expressed worry over appearing to her family to have done something irresponsible or “bad”. She stated, “First off, I think my parents would be very disappointed in me. Yeah. Would be disappointed in me because they think, they know that I have things under control and I have a plan and they would be like, why would you let this happen to you? I'm okay with taking care of kids, but my parents letting them down, that's like the worst thing I could do at this point.” This woman went on to say, “They always see me as like the person who has [it] together...because I've talked to my parents frequently about my plans and my ambitions, so I feel like they trust me enough to know that I wouldn't do certain things to get pregnant or to get into drugs or do stuff like that, bad things like that.”

Participant four expressed concern about the example she is for your younger sister and used words such as “disappointed” but also said that she wouldn't want her sister to think it's ok (to get pregnant in the next year). “I think my little sister would probably be disappointed in me if I got pregnant. Especially right now that I'm not married. Um, I dunno, like I wouldn't want her to think that it's okay for her to do it. So I think I do consider her thoughts or her perception of me.”

***Worry and concern.*** The women in this study expressed a wide range of reasons or factors that would cause them worry or concern over the prospect of getting pregnant in the near future.

Financial concern was prominent in their consideration. Participant 11 who is already a mother said that the financial strain that another child would bring would be “terrifying” and said, “Um, it is terrifying to think about that because financially I cannot afford another child at all.”

Participant seven, expressed financial concern but also worry over the uncertainty a pregnancy would bring. Asking about how she would feel about a pregnancy in the next year, it seemed to bring up more questions and in this hypothetical situation her thought process started to jump from one worry to the next. She said, “I would feel worried. How I would financially support a baby? And how things would work out? Because like, I don't know, it's like one of those things where like a lot of factors come in. Will I be able to still live with my parents? Because like I live with my parents...it would be like an impact on my family? I wouldn't want that. Then you have to take the aspect of my partner if I have a partner at the time, like what will happen and what would they decide? So that's the part that I would be scared of. So I feel like there's a lot of aspects to it that I would freak out about. But yeah, mainly like how to take care of these. I feel like I'm decent at taking care of these, but it's like 24 hours. Like that's a big thing.”

Another factor that caused worry had to do with feeling stressed with the possibility of pregnancy. Many of the women talk about the responsibility that comes with pregnancy and possible parenting. Participant 10 said, “Probably pretty scared and stressed out. Um it's a huge responsibility raising a child and, or having to make decisions about whether or not you want to raise that child and um, so that. And then yeah, that was just caused me a lot of stress making decisions like that and figuring out what I was gonna do.” Participant two used the word “shocked” and “stressed” when she thought of the possibility of a pregnancy in the next year and mentioned that she feels a high level of stress right now just dealing with school. She said, “Oh, I think it would be a really big shock to me. Um, I honestly don't know how I would do it. My friend right now has a kid, she's my age and I don't know how she does it. She goes to school, she stays up really late with her baby and it just sounds really stressful and I'm already stressed

as it is and I don't even have a job. I'm only focusing on school right now. So I don't know how a baby would play into my plans right now.”

*Hindrance.* Participants tended to have similar thoughts on how getting pregnant now or (within the year) would impact their ability to complete their academic goal. The women tended to believe that a pregnancy would “throw me off” or “slow me down” and yet simultaneously believe that they can still reach their academic goals. The responses seem to indicate mixed feelings about how pregnancy could potentially impact their ability to attend classes, complete coursework, and reach their academic goal.

Almost all the women (n=8) expressed that pregnancy would in some way hinder their ability to complete their academic goals. Participant four said, “I know everybody's journey is different and I just see my journey and finishing school and not having a child within the next year. So I think it would throw me off.” Participant eleven indicated, “I feel like it really slow it down and pushed me back because then I would have to go to work, find a job rather than go to school, so that would really, really impact my academic[s], like really bad.”

Participant four also expressed that having a pregnancy soon might impact the way she sees herself and worries that she might feel less “proud”. She said, “The fact that it's a baby, I think you'd be happy, but I know that he [partner] knows how important school is for me, so he knows that that would probably not make me feel very proud of myself in a sense. Like it would take some sense of pride from who I am and what I set myself to.”

Participant one not only seemed to express that she might be disappointed, but she seemed to also convey that should she become pregnant that her life choices would now become very limited, that the pregnancy would lead to not only discontinuation of her academic program and goals but that her partner’s plan would now become what would happen in her life. She said,

“I asked it jokingly, as a hypothetical questions but like I talked about it with my boyfriend and he said that if I were to somehow get pregnant, um, that we'd get married and we move to [removed for privacy] with his family...he has already had job offers from people there because [of] his dad, so like he already has a plan so that would like very much affect my academic goals because everything that I want to do is here and I'd have to like move my life if I were to get pregnant.”

Sometimes the women would express mixed feelings about the ability to complete their academic goals. Participant six said, “I don't think I'll put them on hold. It was just, I feel it would slow down the process. So I feel like it was slow it down and it would slow down the pace that I would like to be in, not ruin it...I'm not saying that but it would just make it really hard and I feel like it would slow down.”

Occasionally, the women would make seemingly contradictory statements. For example, participant one who said that if she got pregnant that she would have to move with her boyfriend and be unable to complete her academic program also said, “And if we were to, you know, I wouldn't say that getting pregnant is a mistake...you know, it would be a hindrance to achieving the goals that I want later on.” Another woman who said that she does not desire pregnancy anytime soon also says, “It will only, how do I say this? Like um, pause it, pause it, put it on hold. Maybe, you know. Yeah, pause it and it will kind of take a longer time. But if anything would motivate me to get it done ultimately. Ultimately get it done for my child.” Participant two stated, “Yeah, maybe sad because like I'm like, you think about all the plans you have and maybe they might not be ruined. I don't think they would be ruined, but it would definitely be more difficult. And maybe prolong your plans that you had. Um, maybe happy because like I'm having

a kid, I guess I don't know what my emotions would be like then, but from what I've heard, people seem happy when they have kids.”

**Research question four: What are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?** The fourth research question focused on the perceptions of women (18-29 years of age) enrolled in community college regarding the acceptability and feasibility of the PATH questions. The women were asked about their perceptions about the PATH questions and how (if at all) the questions impacted their thinking and consideration of reproductive life planning and if reproductive goals counseling could benefit community college women in some way. The main theme that emerged is the belief that the PATH approach to reproductive goals counseling would be helpful for community college women.

*Helpful for community college women.* None of the women of this study had ever heard the term reproductive life plan or reproductive goals counseling yet some of them had in the course of their life had considered the ideas in some way. For example, almost all stated clearly that they want to have children or more children in the future. When asked if a more formal or deliberate approach to reproductive goals counseling would be beneficial all the women said they believed it would be helpful for community college women to some extent. The women of the study mentioned factors such as thought-provoking, easy to answer, and empowering to describe why using the PATH questions to do reproductive goals counseling for community college women would be beneficial.

Participant four talked about the PATH questions as helpful because they encouraged her to think about these topics in a more concrete way. She said, “so I think it does trigger [thinking]...what am I going to do to prevent [pregnancy] before I reach my next goal?”

Participant 11 discussed that she was never given an opportunity to think through the questions and expressed feeling unprepared when she experienced an unintended pregnancy. She stated that she believes education on reproductive goals is important to do proactively. She said, “I do, I think it is important. Um, I feel like everyone should think about education before starting his family. Maybe it all depends on the person though, you know, but things happen, mistakes happen. So it's all, it's really up to them. The female, what they want to do, it's their own body and they have full control of it. Um, so I, I do think women in college should think about that because I would've thought about that, you know, if someone asked me those questions five years ago, you know, coming out of high school and, you know, getting into things that I wasn't ready to take on.”

Participant three also brought up the value of women her age in having access to education and the opportunity to think through the PATH questions saying, “Oh yeah, definitely. I feel like a lot of people my age don't really think about these things in the long term. And then they get surprised and it comes up and they don't know what to do.”

Participant nine brought up the fact that many young people do not receive comprehensive sex education in school and often have limited access to sexual health information in their family and home environments. She said, “I think it will just save them a lot of benefit of the doubt, you know what I mean? Um, I, I think it's very important and actually a lot of us...never really got to learn about our body that way. You know, high school health [it's] just regular health, you know, it's basic health. You don't dive into your body and how important you really are, like even on the inside, you know.” She went on to say, “I think it would be super helpful because they'll have a chance to learn more, you know, it'll break the ground, it'll break the silence because honestly women and their sexual like all of that. I don't know how to put it in

words. I'm so sorry. But all of that is very hidden and it's very taboo [inaudible] for some reason, you know? And I think that's so that's so childish. It should be open and spoke up about because there are women having sex unprotected and or not having birth control or nothing and they're getting pregnant or they have sexually transmitted disease and all because they don't have the right knowledge about what's going to happen. So that's very beneficial.” Participant four reiterated this when she said, “I think it would be very helpful. It's funny, I was talking to...my boyfriend's sister and she was like, my parents never talked to us about that stuff. I think having this dialogue, you know, I think a lot of these girls coming into community college, um, never had a conversation about this or have an open conversation with a family member with somebody like that can help you.” She went on to say, “It can really help somebody picture their future.”

Some participants talked in terms of empowerment. They discussed the importance of women being able to have self-determination when it comes to their academics, careers, and their fertility. Participant 10 said, “I can't speak for other women, but I think it's, it's nice to know that you're going to have children at some point, but that doesn't have to be now. And it also knowing when at one point in your life you want to have kids can help you be either make decisions in terms of academically where I like, oh, I can pursue these things. Even a bachelor's degree, a master's degree even because I know I'm not going to have to be struggling with finances and stress of raising a child at the same time. Um, and then those things don't happen by chance. They happen by choice and you know exactly when things are gonna happen and you're in a little more control of your life rather than things just happening to you by chance.”

Participant two seemed to make a connection between having an academic plan to having reproductive goals and having the opportunity to think through those goals and desires. She said,

“Maybe like really set out their path...like how long will it take for them to finish school? Do they want a kid before, after they finished school? Do they want the kid at all or do they want one when they're in their career or like later, later down the line. Um, I feel like it would really help them plan out a timing for that.”

## **Summary**

This mixed methods study yielded many noteworthy results. The study was helpful in examining how women in community college view their own reproductive goals and how these relate to academic goals and in context with attitudes and perceptions about pregnancy. Also, this study was unique in that the researcher was able to discuss a strategy for conducting reproductive goals counseling with participants to learn about feasibility and acceptability.

Reproductive goals, comprised of 3 components; attitude about pregnancy and parenting, timing, and how important pregnancy prevention is until that time were examined in the quantitative and qualitative portions of this study. A statistically significant relationship was found between PATH-1 and three variables measuring attitudes and perceptions about pregnancy and academic goals; feeling about pregnancy in the next year, “it’s important to reach my academic goals before having a child (having more children)”, and “I can have a baby and still complete my educational goals”.

A statistically significant relationship was found between PATH-2 and GPA and four variables about attitudes and perceptions about pregnancy and academic goals; feeling about pregnancy in the next year, “it’s important to reach my academic goals before having a child (having more children)”, “preventing pregnancy right now is important for me so that I can meet my academic goals”, and “I can have a baby and still complete my educational goals”.

Finally, a statistically significant relationship was found between PATH-3 and birth control groups and four variables about attitudes and perceptions about pregnancy and academic goals; feeling about pregnancy in the next year, “it’s important to reach my academic goals before having a child (having more children)”, “preventing pregnancy right now is important for me so that I can meet my academic goals”, and “I can have a baby and still complete my educational goals”.

In terms of attitude, the women in this study largely report wanting to have children or more children at some point. The question of timing was varied and multi-faceted with many women reporting desiring pregnancy/parenting at some point in the future and not in the immediate future. Very often women cited wanting to finish school or career preparation before having children or more children. Most women also reported that preventing pregnancy (until their desired timeline) was very important. In the qualitative portion of the study women expressed concern or worry about how a pregnancy might impact their academic goals and saw pregnancy as potential hindrance to reaching their academic goals. Women in the study did report using contraception (primarily tier two and three methods) with fewer women stating the use of LARC or tier one methods.

## Chapter V: Discussion

This chapter will provide an interpretation and discussion of the results of the study within the framework of the existing literature and the research questions that guided this study. This section will also include recommendations for policy, programming, and practice within public health and higher education settings.

### Summary of the Study

**Overview of the problem.** Despite this impressive progress, challenges related to unintended pregnancy rates, particularly among older teens and women in their twenties persist. The Guttmacher Institute (2016b) defines unintended pregnancy as one that was either mistimed or unwanted (45% of pregnancies). The most recent National Survey of Family Growth (NSFG) show that college-age women 18 to 24 years old experienced the highest rate of unintended pregnancy: 60% among 20- to 24-year-olds and 79% among 18- to 19-year-olds (Trieu et al., 2012).

There are a number of reasons why unintended/unplanned pregnancy may be a concern however two main issues were highlighted in this study; academic success and persistence, and unintended pregnancy as a public health issue. First, unintended pregnancy has a significant impact on a woman's ability to finish a college degree. According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2010), now renamed Power to Decide: The Campaign to Prevent Unplanned Pregnancy, unplanned pregnancy increases the risk of dropping out of college—61% of women who have children after enrolling in community college fail to finish their degree, which is 65% higher than the rate for those who didn't have children. Second, there are several social, environmental, educational, and health care related factors that may have

associations with unintended pregnancy that may in turn lead to adverse pregnancy and birth outcomes.

**Purpose of the study.** While unintended pregnancy is a significant challenge and related to both academic success as well as public health outcomes, the main focus of this research is to further understand the connection between reproductive goals, reproductive health behaviors, attitudes and perceptions of pregnancy as these relate to academic goals and community college students particularly women between the ages of 18 and 29.

**Research questions.** The research questions associated with this study are separated by methodological approach.

The research questions related to the quantitative portion of this study are; (a) what are the reproductive goals of women (ages 18-29) enrolled in community college, (b) is there a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college, (c) is there a relationship between attitudes and perceptions about pregnancy and academic goals? Reproductive goals? (d) is there a relationship between contraception (choice and use) and academic goals, reproductive goals, or attitudes and perception about pregnancy?

The research questions for the qualitative portion of the study were; (e) how do women (18-29 years of age) enrolled in community college define academic goals and success?; (f) how do women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals?; (g) what are the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to academic goals; and (h) what are the perceptions of women (18-29 years of age) enrolled in community college regarding reproductive goals counseling?

**Methodology.** The methodology used in this research project was a mixed method design and incorporated quantitative data collection through the use of surveys and qualitative data collection via semi-structured, one-on-one interviews. An explanatory sequential approach was used with quantitative data collection and analysis happening first followed by qualitative data collection and analysis.

**Summary of major findings.** An overview of the major research findings will be discussed based on methodological approach and will attempt to address the research questions from a broad perspective.

**Quantitative questions.** Research question one sought to gather exploratory data about reproductive goals of women (ages 18-29) enrolled in community college using the PATH framework; do you want to have children (more children) at some point, when do you think that might be, and how important is it to you to prevent pregnancy until then? The majority of women in the sample indicate that they wish to have children or more children in the future and there were some interesting differences among the age groups that were used. More eighteen and nineteen year old students reported wanting children or more children than the other age groups. Women cited a variety of considerations when thinking about pregnancy timing (PATH-2) but the most common responses included reaching life events (finishing school, having job/career stability, financial stability, marriage or “right” relationship, and/or age), a particular timeline (most often framed as less than 5 years or more than five year from now), with few women indicating that they have no timeline/preference. What was interesting was the number of women who gave more than one response further exhibiting the complexity and multifaceted feelings women may have about pregnancy. The majority of women in the sample also reported that preventing pregnancy (until their desired time) is very important. These findings about how

women are considering their pregnancy intentions and timing are consistent with those found by Cabral et al. (2018) however their study was conducted with all genders and had a narrower age range.

Research question two asked if there is a relationship between reproductive goals and academic goals among women (18-29 years of age) enrolled in community college. A significant relationship was found between PATH-1 and academic goals but there is not a significant relationship between academic goals and PATH-2 and 3. The majority of women in the study aspire to earn an Associate's degree, transfer in order to earn a Bachelor's degree (or other advanced degree) or said "other" which largely indicated both earning an Associate's degree and Bachelor's degree and/or earning some type of graduate degree. The educational aspirations of the women in this study were like those found in the study conducted by Cabral et al. (2018) where the majority of respondents indicated a desire to complete a degree at a community college and/or to transfer. However, the Cabral study only gathered data through interviews whereas this study found similar academic goals among the participants in both the qualitative and quantitative portions of the study. Also, in this study, via the survey, we can see that those who cited these academic goals largely also said that they desire children or more children at some point.

Research question three examined if a relationship exists between attitudes and perceptions about pregnancy and academic goals and attitudes and perceptions about pregnancy and reproductive goals. Attitudes and perceptions about pregnancy were measured using five variables; perception of feeling about pregnancy in the next year, perception of how likely pregnancy is if no method of contraception is used, perception of how important it is to reach academic goal before having children or more children, perception of how important it is to

prevent pregnancy right now in order to reach academic goals, and perception of confidence in ability to reach academic goals after having a baby. There is a significant relationship between attitudes and perceptions about pregnancy and reproductive goals (all 3 PATH questions) with the exception of PATH-1 and “preventing pregnancy right now is important in order to reach academic goals” Women who report wanting to have children or more children in the future largely reported a less than favorable feeling about a pregnancy that would happen in the next year. The majority of women who indicated that they desire children or more children in the future also tended to agree with the statement “it’s important to reach academic goals before having children or more children but interestingly also agreed or strongly agreed that they could have a baby and still reach academic goals.

There were several measures that made up attitudes and perceptions about pregnancy. There was one statistically significant relationship found when looking at academic goals and attitudes and perceptions about pregnancy; there is a significant relationship between academic goals and feeling about pregnancy within the next year. No relationship was found between academic goals and the other measures that comprised attitudes and perceptions about pregnancy.

Research question four asks if there is a relationship between contraception (choice and use) and academic goals, reproductive goals, and attitudes and perception about pregnancy. No relationship was found between contraceptive choice and use and PATH-1 and 2 however a significant relationship was found with PATH-3. Even among women who indicated that preventing pregnancy (until the desired time) was very important, a majority report using no method/never used a method, or tier three methods. However, among the minority of women

who report using tier one methods, the majority of these women also report that preventing pregnancy is very important.

No relationship was found between birth control groups and academic goals. No relationship was found between attitudes and perceptions of pregnancy and contraception with the exception of the perception of pregnancy likelihood if no contraception is used over the course of a year.

*Qualitative questions.* Research question one wanted to explore how women (18-29 years of age) enrolled in community college define academic goals and success. Women largely thought about academic success as reaching their academic goal but expanded on this by indicating that success is having stability/better life, being able to be a role model for others, and doing your best in school. They saw their academic goals like those in the quantitative portion of the study; mainly seeking to transfer (seeking B.S. or advanced degree) but added that an extension of their academic goal was to achieve personal development and fulfillment, and to enhance career prospects.

Research question two investigated how women (18-29 years of age) enrolled in community college perceive their own reproductive life plan/reproductive goals? Consistent with findings in quantitative portion of the study, most women answered that they desire children or more children at some point. Participants largely identified a certain number of years or life event when thinking about pregnancy timing, and all of the participants said that preventing pregnancy (until then) was very or really important.

Research question three considered the attitudes and perceptions of women (18-29 years of age) enrolled in community college about pregnancy and reproductive goals as these relate to academic goals. Themes that surfaced included seeing pregnancy as a hindrance on achieving

their academic goal and simultaneously not letting it “ruin” academic goals. Women expressed seemingly incongruous viewpoints. Also, disappointment, and concern or worry came up a lot in reference to themselves but also with regard to family, friends, and partners.

Research questions four sought to investigate the perceptions of the participants about reproductive goals counseling, particularly the PATH framework. Women in the study found the PATH questions helpful for community college women. None of the women of this study had ever heard the term reproductive life plan or reproductive goals counseling yet some of them had, in the course of their life, considered the concepts in some way. For example, almost all stated clearly that they want to have children or more children in the future. When asked if a more formal or deliberate approach to reproductive goals counseling would be beneficial, all of the women said they believed it would be helpful for community college women to some extent. The women of the study mentioned factors such as thought-provoking, easy to answer, and empowering to describe why using the PATH questions to do reproductive goals counseling for community college women would be beneficial.

## **Discussion**

Interpretations and analysis of the findings of this study will be presented by the main topics or themes that contributed to this study and will conclude by bringing these seemingly unrelated topics together. The topics from this study that will be placed in context with previous research and the literature include academic goals and success, and how pregnancy and parenting impacts degree completion, sexual and reproductive health of community college students, and reproductive life planning and reproductive goals counseling. Finally, the theoretical constructs that informed this study will be revisited.

*Academic goals and success.* We know that American students are very likely to utilize community colleges at some point during their academic careers and while reaching academic goals and student success is often the stated top priority for institutions, we also know that there are varying levels of success among groups of students when it comes to a common measure of success, degree completion. One group that faces challenges in achieving the common measures of success are so called non-traditional students. The term “non-traditional student” can encompass a wide range of student characteristics and in the context of this study being a student parent is most relevant. While this study did not specifically include or exclude student parents and in fact, the parenting status of participants was not investigated, the academic goals and success of this group is relevant because this study was interested in examining the attitudes and perceptions of the sample regarding pregnancy, and reproductive goals as these relate to academic goals.

First, much of the literature and existing research about how goals and success are defined focus on metrics such as those identified by the California Community Colleges Student Success Task Forces (2012) and include transfer readiness, persistence, and degree completion. While the women of this study largely cited the desire to transfer to a four-year institution to complete a bachelor’s degree or beyond, the participants also expressed success and goals in broader terms. In both the quantitative and qualitative segments of this study student were very likely to identify their goals as being able to transfer to a four-year institution and as degree completion. In the qualitative portion of this study women also defined academic goals and success in terms that are potentially less measurable such as doing your best, being a role model for others, having a better life, and feeling proud of yourself, your work and accomplishments. This study suggests that students may respond favorably to community colleges that approach

the conversation about goals and success in a more holistic way. While community colleges may be motivated to only think in terms of persistence, transfer and degree completion, students may relate more to what they can do to feel proud of themselves, be an educational role model for others, and to do their best.

*Impact of pregnancy on academic goals.* While the statistics illustrate the difficulty and barriers that student parents, particularly women, have in terms of degree completion (Institute for Women's Policy Research, 2013; Johnson et al., 2011; Miller et al., 2011; Schumacher, 2015) and women in this study largely recognize that parenting as a student would be problematic and would likely impede their progress, students were likely to minimize the risk of drop out or non-completion by saying that pregnancy might slow them down but that it wouldn't stop them from earning a degree. The students sometimes expressed an optimism and self-confidence and unfortunately the literature suggests that this narrative is, for the most part, not consistent with the experiences of women who do become pregnant and begin parenting as a student. The task for institutions of higher education and especially community colleges becomes how to engage students in conversations about the reproductive goals and place these in context with their academic goals in a way that is patient centered, respectful, culturally competent and to find ways to support students in reaching their academic goals and of their personal reproductive goals regardless of what those goals might be.

*Resources needed to reach academic goals.* Previous studies (Institute for Women's Policy Research, 2013; Johnson et al., 2011; Miller et al., 2011) state that the challenges facing parenting and other non-traditional students are numerous and include the need to work, lack of financial support for academics, and the need to care for dependent children. These concerns were echoed by the participants in the one-on-one interviews as general needs facing students

today. When asked what resources they need to reach their academic goals, students often mentioned three categories of needs; logistic needs, campus centered needs, and abstract needs. Logistic needs include the desire for financial aid, scholarships, or free tuition programs that are starting to gain momentum in cities across the nation, as well as vouchers or resources for course materials such as textbooks. Students also cited the need for flexible class schedules and course formats such as traditional, in-person classes and online and hybrid offerings to accommodate their need to work. One parenting student said daycare was critical to her being able to attend classes and she stated the need for a laptop and Internet access at home to be able to complete her course requirements. Lastly, the participants mentioned several other resources needed to reach their academic goals such as employment opportunities and transportation.

Campus centered needs include utilizing the tutoring or learning center, access to academic counseling, volunteer and internship opportunities, workshops and programs offered by the college to help students gain skills, but also to provide opportunities for students to be engaged on campus and to stay motivated.

Abstract needs were comments that students made in terms of needing support (in and outside of the classroom, from peers, family, and from the campus community in general), having a “clear mind,” “keep my head in the game,” or “strong mind” which meant everything from being able to put aside other responsibilities and being ready to learn, being focused, not giving up.

Interesting to note was the lack of recognition about healthcare and student health services as a resource or need in terms of reaching academic goals. In fact, only one student mentioned the student health center and it was in context of needing “support” for mental health.

Also, given the context of this study there was no mention of reproductive and sexual health, including contraception as a resource needed to reach academic goals.

***Sexual and reproductive health of community college students.*** Previous studies (Cabral et al., 2018; Toews & Yazedjian, 2012; Trieu et al., 2012; and Volck et al., 2013) have demonstrated that college students are largely a sexually active population, are often uninformed or underinformed about sexual and reproductive health, and that they primarily rely on methods of contraception that have higher failure rates (oral contraceptives, condoms) which may be a contributing factor to a higher percentage unintended pregnancy among community college students, and a high rate of noncompletion or dropout. This study had similar findings in terms of knowledge and attitudes about contraception and similar patterns in terms of which methods were reported most frequently. Participants in the qualitative portion of this study, like the participants in Cabral et al. (2018) sometimes cited misinformation or incomplete knowledge or expressed concerns about the use of contraception that reflected common inaccuracies such as fears about infertility, serious side effects, and cost.

***Reproductive life planning and reproductive goals counseling.*** The Centers for Disease Control and Prevention, the American College of Obstetricians and Gynecologists, other public health and women's health organizations recommend reproductive life planning counseling or reproductive goals counseling, yet little research has been done to identify the approach that would be feasible, acceptable, inclusive, and applicable in a variety of settings. This particular aspect of sexual and reproductive health seems to be evolving as there was initially emphasis on RLP from the CDC, and then OKQ and even though practitioners are being asked to incorporate counseling in sexual and reproductive health care settings, research on implementation and evaluation is missing. Based on the research in this study, PATH seems to be a valid, reliable

measure of reproductive goals. This study suggests that the PATH framework is an effective, feasible, and patient and provider/educator friendly approach to beginning a discussion about reproductive goals and reproductive life planning among this population and in this setting. PATH questions were asked in both the qualitative and quantitative portion of the study and students seemed to understand questions and had similar responses therefore suggesting a broad utility in this approach.

*Reproductive goals.* Only one study (Cabral et al., 2018) has significant parallels with the focus of this research and was published as the writing of this study was already underway. While the study by Cabral et al. (2018) examined perceptions of pregnancy risk and intentions, what has not been studied and what this research wanted to investigate is the specific reproductive goals of women in community college using a distinct approach to reproductive life/goals counseling. Also, a main philosophical difference between the two studies was the measure of intentions versus goals. The PATH framework, created by Envision Sexual & Reproductive Health (SRH) is based on the belief that engaging individuals in discussions about their reproductive goals is potentially more inclusive than asking about pregnancy intentions.

Using the PATH framework, the majority of women in the sample want to have children with 18 and 19 year old students having the highest percentage of those who indicated yes to PATH-1. The women who indicated “yes” to PATH-1 also had some type of timeline in mind when considering when they might like to have children or more children. For most of the sample, that timeline was based on a life event (primarily reaching their academic goal, having financial or career stability, or a certain age) or a certain number of years in the future (often stated as within five years or more than five years from now). Very few said that they desire pregnancy now, or that they had no preference, or stated an openness to having a pregnancy

“anytime.” These findings are consistent with the Cabral et al. (2018) study in which all of the participants in that study indicated that they did not want a pregnancy in the next year but did desire children in the future.

Lastly, the community college women in this study (all participants from the qualitative portion and the majority from the quantitative portion) indicated that preventing pregnancy (or until the time they identified in PATH-2) was very important with a small percentage of women in the quantitative portion saying that preventing pregnancy is not at all important.

Conversations with the women in this study and based on the results from the survey, this research suggests that the PATH framework is a tool that can be used as an opportunity to support women in reaching academic and reproductive goals. There may be an opportunity to frame reproductive goals and contraception as a means to achieving academic goals.

*Discrepancy in goals versus practice.* Students in the qualitative and quantitative portions of this study indicated a desire to have children or more children at some point, rarely said that they desired children now or soon or had no preference or set timeline for pregnancy, and largely stated that preventing pregnancy is very important yet, consistent with the literature (Moreau et al., 2013; Spies et al., 2010; Trieu et al., 2012), few of these respondents indicated use of highly effective forms of contraception. This suggests that there is a discrepancy in goals versus practice or behaviors. The findings of this study echo some of the findings in Cabral et al. (2018); participants may be uninformed or underinformed about contraceptive effectiveness (typical versus perfect use rates, range of effectiveness based on actual method), contraceptive options, safety, benefits, and availability. This hints at opportunities for interventions aimed at increasing knowledge and awareness regarding contraceptive options, norms, availability and accessibility, and benefits. Benefits (contraceptive and non-contraceptive benefits) that can be

emphasized include empowerment, healthy birth and pregnancy outcomes, and contraception as a resource to support students in reaching academic goals.

***Contribution to the field.*** This study was significant because it is the first known use of the PATH framework or any reproductive life planning/counseling approach among a community college population. The study participants viewed reproductive goals counseling using the PATH framework as feasible and potentially helpful. Some of the women in the qualitative portion of the study saw the PATH framework as a useful tool, a way to start the conversation. One participant said that asking these questions, “gets you to think”.

***Limitations.*** This study had several important limitations. First, due to the small sample size the results are limited in terms of generalizability. Also, the sample was not wholly representative of the community college population. For example, in this study there was a near equal number of part time versus full time students whereas the college population where the study was implemented is overwhelming attending school on a part time basis. Another limitation is that this was not a randomized, controlled study but based on a convenience sample. An additional limitation is the narrow data analysis that was conducted; the quantitative analysis was only able to determine correlation and not causation. Further, the data reflect a snap shot of the attitudes and perceptions of the participants in the given moment and are not necessarily indicative of what participants might feel in the future. Finally, there are limitations due to the study’s dependence on self-reported data.

### **Implications for Practice**

Just as colleges encourage students to have academic plans and resources available to assist students in reaching their educational aspirations, colleges may want to consider reproductive goals along with academic goals when considering the resources and environments

that are needed to ensure academic success. Institutions of higher education are potential resources for informing and supporting students on these issues. Advocating for students to identifying their reproductive goals and academic goals and creating environments that assist students in creating plans to achieve both may be beneficial in holistically meeting student needs. Social marketing campaigns, peer education programs, specific training for counselors and faculty to encourage students to consider their reproductive goals along with the academic goals may be seen as support by the students of the college.

A main resource for engaging students about reproductive goals could be student health centers. Specific reproductive goals counseling using the PATH framework in student health centers may be helpful in starting the conversation with students. The requirements to implement such service may be significant and include intensive training of licensed and non-licensed health center staff, the ability to provide wide a range of contraceptive services, or the ability to provide a feasible, acceptable referral to a close by partnering health provider. This strategy may need general campaigns to raise awareness of the presence and services of a student health center. Colleges may also consider the hiring of Health Education Specialists to increase awareness of the presence and services of student health centers, and to manage the implementation of health activities and health programs on campus such as peer health education and e-health options that incorporate technology-assisted health counseling.

Faculty may want to include reproductive goals counseling in health courses particularly women's health classes. This will also involve specific and robust training faculty and the availability of appropriate educational materials. One aspect of the PATH framework that should be taken into consideration is the intensive training and coaching of practitioners and health educators that would be needed to ensure that counseling conducted as a result of asking the

PATH questions is in fact done from a lens of patient empowerment, shared decision making, advancing reproductive rights/justice, and respect for patient autonomy.

Furthermore, community colleges and four-year institutions must consider adequate support systems for community college students who are or become parents to prevent drop out. Affordable childcare centers with flexible hours and policies (such as the ability to ‘drop in’), expanded health care services, and lactation rooms/pods seem like immediate needs that should be addressed.

Outside of the college setting, this study seems to suggest the on-going need for comprehensive sexual and reproductive health education particularly in schools. The Sexuality Information and Education Council of the United States (2004) believes that school-based sexuality education is vitally important to the health and well-being of our nation’s youth and states that the primary goal of sexuality education is to promote adult sexual health by assisting young people in developing a positive view of sexuality, providing them with information they need to take care of their sexual health, and helping them acquire skills to make decisions now and in the future. Despite research that demonstrates the value of providing comprehensive sex education, less than 40% of U.S. high schools and just 14% of middle schools provide all of the 19 topics identified by the Centers for Disease Control and Prevention (CDC) as critical sexual health information (Brener et al., 2017).

### **Recommendations for Future Research**

There are several potential areas for future research. First, since the PATH framework was designed to be inclusive of all persons and to be a tool for counseling and education for a broad range of reproductive goals, it seems logical that a future study include male participants, particularly men in all higher education settings.

It may also be interesting to examine the reproductive goals and academic goals and success of community college students as they compare to students at four-year colleges and universities. Another student population that would be a valuable source of information would be individuals who were parents or became parents while enrolled in community college or at a four-year institution. It would be interesting to learn about the outcomes of their academic journeys, and their opinions about what resources and information they had or would have liked to have had in support of reaching their academic goals.

In this study, participants often reported that pregnancy prevention is very important and yet many students also reported using methods of contraception that tend to have higher failure rates with typical use. Research on the processes and strategies that community college women use in selecting a method of contraception may be helpful in gathering data that could shape and inform strategies, health education, counseling interventions related to reproductive goals and behaviors.

Based on the recommendation to implement reproductive goals counseling in community college health center settings a potential future study could be an evaluation of an intervention that implements PATH.

Finally, an evaluation of a multi-leveled pilot intervention in a community college setting based on the PATH framework would be innovative. Ideally, a prospective study would follow a cohort of community college students over time to completion of initial academic goal.

## **Conclusion**

Institutions of higher education but particularly community colleges must recognize that reproductive goals and comprehensive reproductive health services may be a means to reaching academic goals. The challenge that faces community colleges is how to support students in

reaching their academic goals and the reproductive goals. Community college settings are uniquely positioned to; provide opportunities for women to gain knowledge about reproductive health, assist women in examining their own reproductive goals, support women in their use of contraception, with the aim of empowering and inspiring women to reach their reproductive goals and to achieve academic goals and success.

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## Appendix A

### **Reproductive Goals and Academic Goals: Knowledge, Attitudes, Behaviors, and Perceptions of Women in Community College.**

Dear Los Angeles Mission College Student,

As a current female student at Los Angeles Mission College, you are being asked to participate in a study on academic goals and reproductive goals.

This study will allow the researcher to better understand the perceptions, attitudes, and knowledge of community college students on issues related to reproductive goals and pregnancy and how these relate to academic goals.

Participation in this survey is completely voluntary and there are no known risks to participating. No identifying information will be asked, and all individual survey results will be kept confidential.

If you agree to participate, please continue to the survey via the link below. At any time, you can decide to not continue with the survey and your answers will not be submitted. The survey will take approximately 10 minutes.

At the completion of the survey you will be given the option to enter a drawing for one of 10, \$25 gift cards to Amazon. Entry in the drawing is voluntary, and your contact information for the drawing will not be linked to your survey responses in any way.

If you have any questions about this survey, please contact the researcher, Carla Valdez, at valdezmc@lamission.edu.

Thank you in advance for your help!

## **Informed Consent (Used in Web-based Survey)**

Reproductive Goals and Academic Goals: Knowledge, Attitudes, Behaviors, and Perceptions of Women in Community College.

**As a current female student at Los Angeles Mission College, you are being asked to participate in a study on academic goals and reproductive goals.** This study will allow the researcher to better understand the perceptions, attitudes, and knowledge of community college students on reproductive goals and pregnancy and how these relate to academic goals. Please read the information below and ask questions about anything that you do not understand before deciding if you want to participate.

**Participation in this survey is completely voluntary and it will take approximately 10 minutes.**

The possible risks and/or discomforts associated with the procedures described in this study include boredom and mild emotional discomfort. To minimize these risks, you have the option of discontinuing the survey at any time. This study involves no more than minimal risk. There are no known harms or discomforts associated with this study beyond those encountered in normal daily life.

**You may decide to enter a drawing at the end of the survey to win one of 10, \$25 gift cards to Amazon.** This is not required. You will not be paid for your participation in this research study. There is no cost to you for participation in this study.

**Confidentiality will be maintained** because no identifying data will be collected as part of the survey. At the completion of the survey participants will have the option to register for a drawing for an incentive and in that case some information (first name, email address, and contact phone number) will be collected but will be kept separately from survey results and will not be utilized other than for the drawing.

The electronic survey and data will be kept on Survey Monkey and only the researcher will have the log in credentials. Additionally, the survey, data and analysis will be kept on MyCSUNbox, cloud-based storage offered by CSUN. Only the researcher will have the log-in credentials. Analysis will be done via SPSS and this program will be on a laptop that is password protected. Data and analysis will be maintained for three years after the conclusion of the study and will then be destroyed.

Under California law, the researcher is required to report known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder, including, but not limited to, physical, sexual, emotional, and financial abuse or neglect. If any researcher has or is given such information, she may be required to report it to the authorities.

If you have concerns or complaints about the research study, research team, or questions about your rights as a research participant, please contact Research and Sponsored Projects, 18111

Nordhoff Street, California State University, Northridge, Northridge, CA 91330-8232, or phone 818-677-2901.

Voluntary Participation Statement: You should not agree to participate unless you have read it and been given a copy of it to keep. Participation in this study is voluntary. You may refuse to answer any question or discontinue your involvement at any time without penalty or loss of benefits to which you might otherwise be entitled. Your decision will not affect your relationship with California State University, Northridge. Your participation (by clicking “agree” below) indicates that you have read the information in this consent form and have had a chance to ask any questions that you have about the study.

**If you have any questions about this survey, please contact Carla Valdez at [valdezmc@lamission.edu](mailto:valdezmc@lamission.edu) or 805-380-5075.**

Thank you!

**1. Please indicate:**

- I agree to participate.
- I do not wish to participate (Note: If the student does not consent, student will exit the survey.)

- 2. Are you currently enrolled at Los Angeles Mission College (LAMC)?**
- Yes
  - No (Note: If no, student will exit the survey.)
- 3. Are you:**
- Female
  - Male (Note: If male, student will exit the survey.)
- 4. Are you concurrently enrolled (enrolled at the same time) at Los Angeles Mission College (LAMC) and high school?**
- Yes (Note: If yes, student will exit the survey)
  - No
- 5. Are you concurrently enrolled (enrolled at the same time) at Los Angeles Mission College (LAMC) and at a 4-year college or university (such as Cal State Northridge, Cal State Los Angeles, UCLA, USC, etc.)**
- Yes (Note: If yes, student will exit the survey)
  - No
- 6. How old are you?**
- Under 18 (Note: If under 18, student will exit the survey)
  - 18-24
  - 25-29
  - 30 and older (Note: If 30 and older, student will exit the survey)
- 7. How old are you? (open-ended question)**
- 8. What is your enrollment status?**
- Part time (taking under 6 units or 6- 11.5 units)
  - Full time (taking 12 or more units)
- 9. What semester was your first semester at LAMC?**
- Fall
  - Spring
  - Summer
  - Winter
- 10. What year was your first semester at LAMC? (open-ended question)**
- 11. From your first semester, have you been enrolled (at least part time) in every consecutive semester (fall or spring)?**
- Yes
  - No

**12. If you have not been enrolled in consecutive semesters, what was the reason that you did not enroll?**

- This is my first semester.
  - Financial reasons.
  - I only take classes for personal development and do not enroll each semester.
  - Job conflict; My work schedule did not allow me to enroll in classes.
  - Pregnancy; I took time off because I was pregnant.
  - Family obligations; I had to take time off due to a family obligation. (caring for a family member, family member experienced illness, death of a family member, etc.)
  - I experienced a health problem that required me to miss a semester or more.
  - Other:
- 

**13. Before starting the Spring 2018 semester, approximately how many units have you completed? (Do not include the units you are taking in Spring 2018.) If this is your first semester, you can put 0. Please include units taken at LAMC or any other community college. (open-ended question)**

**14. What is your approximate community college GPA? If this is your first semester, you can put 0. (open-ended question)**

**15. What is your primary educational goal? Primary educational goal means your ultimate academic goal. (Please check one)**

- Taking classes for personal development/enrichment
- Taking classes to enhance job skills or required for employment
- Earn a certificate (Career Technical Education certificate)
- Earn an Associate's degree
- To be able to transfer to a 4-year institution
- Other (please indicate your primary educational goal: \_\_\_\_\_)

**16. Please indicate the extent to which you agree or disagree with the following.**

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
Doing well in my classes is important to me.					
Having an academic goal is important to me.					
My family/friends think it is important for me to do well in my classes.					
My family/friends think it's important to reach my academic goal.					
I am confident that I will achieve my academic goal.					

**17. Do you think you might like to have children (or have more children) at some point?**

- Yes (Note: If yes, student will be directed to question 18.)
- No (Note: If no, student will be directed to question 16.)
- Maybe/I don't know (Note: If maybe/I don't know, student will be directed to question 18.)

**18. You answered that you want or might want to have children (or more children). When do you think that might be? Any answer is fine. For example: "When I finish school", "Now", "In 10 years", etc. (open ended question)**

**19. How important is it to you to prevent pregnancy (until then)?**

- Not at all important
- Not so important
- Somewhat important
- Very important
- Extremely important

**20. If you were NOT to use birth control, how likely do you think it is that you would become pregnant during the next year?**

- Very unlikely
- Unlikely
- Neither likely nor unlikely
- Likely
- Very likely

**21. Below are a number of statements about how you might feel about becoming pregnant within the next year. Please check the one that best represents how you feel. (Please select only one.)**

- It would be the worst thing that could happen to me.
- It would be very bad.
- It would be sort of bad but not terrible.
- It would be OK
- It would be sort of good but not terrific.
- It would be very good.
- It would be the best thing that could happen to me.

**22. Have you had vaginal sexual intercourse within the last 3 months?**

- Yes
- No

**23. What birth control method do you currently use? (used the last time you had vaginal sexual intercourse)**

- Abstinence (I am not sexually active)
- Have never used a birth control method
- No method
- A permanent birth control method used by myself (having your tubes tied, Essure)
- A permanent birth control method used by my partner (vasectomy)
- IUD (intrauterine device such as Mirena, Liletta, Skyla, Kyleena, Paragard)
- Implant (Nexplanon)
- Birth control shot (Depo-Provera)
- Birth control patch
- Birth control ring (NuvaRing)
- Birth control pill
- Diaphragm
- Male condom
- Female condom
- Spermicide (foam, jelly, film, suppository)
- Natural family planning
- Withdrawal
- Other (please specify: \_\_\_\_\_)

**24. Please indicate the extent to which you agree or disagree with the following.**

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
It's important to reach my academic goals before having a child (having more children).					
Preventing pregnancy right now is important for me so that I can meet my academic goals.					
I can have a baby and still complete my educational goals.					
I have control over if I get pregnant.					
I am confident in my ability to use birth control every time I have vaginal sexual intercourse.					
I am confident in my ability to use birth control correctly.					

**25. What is your current relationship status?**

- Single
- In a relationship (not married, not living together)
- In a relationship (not married, living together)
- Married
- Divorced or separated
- Widowed
- Other (please specify: \_\_\_\_\_)

**26. Which category best describes you?**

- White or Caucasian
- Black or African American
- Hispanic or Latino
- Asian or Asian American
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Other (please specify)

**27. Thank you for your help! If you would like to be included in a drawing for a chance to win one of 10, \$25 Amazon gift cards, please provide a mobile number and an email address. This is optional. Your contact information will not be associated with your responses.**

## Appendix B

### Interview Protocol

**Date:**

**Time:**

**Location:**

**Participants:**

Participants were recruited and selected because they are women, ages 18-29, enrolled at Los Angeles Mission College.

**Notes:**

- Welcome participant
  - Offer refreshments
  - Thank participant
- Informed consent
  - Ask permission to record
- Remind participant that this data is collected as part of a dissertation study
- Participants will be identified as “Participant A”, “Participant B”, and so on.
- Let participant know that at the completion of the interview they will be given their choice of gift card as a “thank you” for their time.
- Reminders:
  - Be yourself
  - A variety of opinions and viewpoints are welcome
  - Feel free to ask for clarification

**Purpose of Interview:**

- Explore the perceptions of participants on topics such as:
  - academic goals and success
  - pregnancy
  - Reproductive goals and reproductive goals counseling

**Pre-interview Mini Survey**

- Prior to the interview the participants will be asked to complete a brief survey with demographic questions, and a few questions regarding contraceptive use.

## Survey Prior to Interview:

How old are you?

What is your current relationship status?

- Single
- In a relationship (not married, not living together)
- In a relationship (not married, living together)
- Married
- Divorced or separated
- Widowed
- Other (please specify: \_\_\_\_\_)

Which category best describes you?

- American Indian or Alaska native
- Asian
- Black or African American
- Hispanic, Latino, or Spanish origin
- Middle Eastern or North African
- Native Hawaiian or other Pacific Islander
- White
- Other race or ethnicity

Have you had vaginal sexual intercourse within the last 3 months?

- No
- Yes (if yes, please answer the following question)

What birth control method do you currently use? (used the last time you had vaginal sexual intercourse)

- A permanent birth control method used by myself (having your tubes tied, Essure)
- A permanent birth control method used by my partner (vasectomy)
- IUD (intrauterine device such as Mirena, Liletta, Skyla, Kyleena, Paragard)
- Implant (Nexplanon)
- Birth control shot (Depo-Provera)
- Birth control patch
- Birth control ring (NuvaRing)
- Birth control pill
- Diaphragm
- Male condom
- Female condom
- Spermicide (foam, jelly, film, suppository)
- Natural family planning
- Withdrawal
- No method
- Have never used a birth control method
- Other (please specify: \_\_\_\_\_)

## Interview Questions:

1. Opening Question:
  - a. Tell me a little about what you most enjoy doing when you are not in class or working.
2. Introduction Question:
  - a. Where do you see yourself in 2-3 years? (Working? What type of job? Have you transferred? To what school?)
3. Transition Question:
  - a. How would you describe your academic goal?
  - b. What are some things that you do to ensure that you reach your academic goal?
4. Key Questions:
  - a. What are the benefits to reaching your academic goals? (certificate/degree completion, transfer, etc.) (Why is it helpful or beneficial to reach your academic and career goals?)
  - b. What do you need (resources) to reach your academic goals?
  - c. Have you heard of a Reproductive Life Plan (RLP)? What do you think an RLP is? Do you have an RLP?
  - d. PATH questions:
    - i. Do you think you might like to have children (or have more children) at some point?
    - ii. When do you think that might be?
    - iii. How important is it to you to prevent pregnancy (until then)?
  - e. How was it, answering these (PATH) questions?
  - f. In what way did the PATH questions impact the way you consider your reproductive goals, if at all?
  - g. How could it help community college women to think about these questions or receive reproductive goals counseling?
  - h. How you might feel about becoming pregnant within the next year?
  - i. How might becoming pregnant or having a baby impact your academic goals? Your ability to attend classes? Complete coursework? Reach your academic goals? (Ask why/expand)
  - j. How might becoming pregnant or having a baby impact your friends, parents, siblings, or others? How might these individuals feel about it?
  - k. Do you find accessing and using contraception difficult? What are the barriers, if any? What are the disadvantages, if any?
5. Ending Questions:
  - a. How do you define academic success?
  - b. What advice would you give to new students about achieving academic success at LAMC?

- c. Is there anything that you want to mention that you haven't had a chance to say or that I didn't ask about?

Appendix C

Table 3

PATH Questions Analysis

	PATH 1			p	PATH 2			p	PATH 3			p		
	Yes %	No %	Maybe/Don't know %		<5 years	>5 years	Life event		Anytime	1+ response	Very Imp.		Somewhat Imp.	Not Imp.
Age				.028						.148				.807
18-19	90 (34)	8 (3)	3 (1)		23 (8)	26 (9)	31 (11)	3 (1)	17 (6)		80 (31)	15 (6)	5 (2)	
20-24	65 (69)	16 (17)	19 (20)		15 (13)	20 (17)	42 (36)	0 (0)	22 (19)		80 (84)	11 (12)	9 (9)	
25-29	59 (32)	19 (10)	22 (12)		34 (14)	7 (3)	39 (16)	2 (1)	17 (7)		74 (40)	15 (8)	11 (6)	
Academic goal				.016						.319				.063
Taking classes for personal development	100 (7)	0 (0)	0 (0)		33 (2)	17 (1)	50 (3)	0 (0)	0 (0)		71 (5)	0 (0)	29 (2)	
Enhance job skills/required for employment	0 (0)	100 (2)	0 (0)		-	-	-	-	-		100 (2)	0 (0)	0 (0)	
Earn certificate	60 (3)	0 (0)	40 (2)		0 (0)	25 (1)	75 (3)	0 (0)	0 (0)		40 (2)	20 (1)	40 (2)	
AA degree	71 (31)	9 (4)	21 (9)		35 (13)	24 (9)	22 (8)	3 (1)	16 (6)		75 (33)	14 (6)	11 (5)	
Transfer to 4-year university/college	68 (91)	18 (24)	14 (19)		17 (18)	18 (19)	41 (44)	1 (1)	24 (26)		78 (104)	16 (21)	7 (9)	
Other	50 (8)	19 (3)	31 (5)		31 (4)	0 (0)	46 (6)	0 (0)	23 (3)		100 (16)	0 (0)	0 (0)	
Enrollment status				.345						.382				.054
Part time	63 (65)	17 (17)	20 (21)		26 (21)	20 (16)	38 (31)	0 (0)	17 (14)		71 (73)	18 (18)	12 (12)	
Full time	71 (75)	15 (16)	13 (14)		19 (16)	16 (14)	38 (33)	2 (2)	24 (21)		85 (89)	10 (10)	6 (6)	
GPA				.333						.016				.140
4.0	57 (4)	14 (1)	29 (2)		0 (0)	0 (0)	67 (4)	0 (0)	33 (2)		3 (5)	8 (2)	0 (0)	
3.00-3.99	64 (66)	21 (22)	15 (16)		23 (18)	30 (23)	24 (19)	1 (1)	22 (17)		57 (85)	32 (8)	63 (10)	
2.00- 2.99	70 (50)	11 (8)	18 (13)		22 (13)	7 (4)	52 (31)	0 (0)	20 (12)		35 (52)	60 (15)	33 (5)	
1.00- 1.99	63 (5)	0 (0)	38 (3)		0 (0)	13 (1)	50 (4)	0 (0)	38 (3)		5 (7)	0 (0)	6 (1)	
Feeling about pregnancy in the next year				<.001						<.001				<.001
It would be the worst thing that could happen to me	35 (18)	37 (19)	29 (15)		10 (3)	23 (7)	26 (8)	0 (0)	42 (13)		96 (50)	0 (0)	4 (2)	

It would be very bad	71 (33)	13 (6)	17 (8)		7 (3)	29 (12)	37 (15)	0 (0)	27 (11)		88 (42)	8 (4)	4 (2)
It would be sort of bad but not terrible	80 (40)	8 (4)	12 (6)		21 (9)	11 (5)	50 (22)	2 (1)	16 (7)		78 (39)	14 (7)	8 (4)
It would be ok	71 (15)	5 (1)	24 (5)		32 (6)	16 (3)	42 (8)	0 (0)	11 (2)		62 (13)	29 (6)	10 (2)
It would be sort of good but not terrific	94 (16)	6 (1)	0 (0)		53 (8)	13 (2)	20 (3)	0 (0)	13 (2)		59 (10)	29 (5)	12 (2)
It would be very good	100 (7)	0 (0)	0 (0)		83 (5)	17 (1)	0 (0)	0 (0)	0 (0)		29 (2)	43 (3)	29 (2)
It would be the best thing that could happen to me	91 (10)	0 (0)	9 (1)		27 (3)	0 (0)	64 (7)	9 (1)	0 (0)		36 (4)	27 (3)	36 (4)
Pregnancy likelihood				.291						.888			.417
Very unlikely	54 (27)	24 (12)	22 (11)		23 (8)	26 (9)	40 (14)	0 (0)	11 (4)		80 (41)	8 (4)	12 (6)
Unlikely	72 (31)	7 (3)	21 (9)		21 (8)	15 (6)	41 (16)	3 (1)	21 (8)		77 (33)	12 (5)	12 (5)
Neither likely or unlikely	68 (23)	18 (6)	15 (5)		26 (7)	7 (2)	37 (10)	4 (1)	26 (7)		68 (23)	24 (8)	9 (3)
Likely	70 (28)	18 (7)	13 (5)		22 (7)	22 (7)	31 (10)	0 (0)	25 (8)		83 (33)	10 (4)	8 (3)
Very likely	78 (31)	10 (4)	13 (5)		20 (7)	17 (6)	40 (14)	0 (0)	23 (8)		80 (32)	18 (7)	3 (1)
Confident that I will achieve my academic goal				.476						.269			.568
Strongly disagree	65 (11)	29 (5)	6 (1)		9 (1)	9 (1)	64 (7)	9 (1)	9 (1)		9 (14)	4 (1)	11 (2)
Disagree	67 (2)	33 (1)	0 (0)		50 (1)	50 (1)	0 (0)	0 (0)	0 (0)		1 (2)	4 (1)	0 (0)
Neither agree or disagree	55 (6)	18 (2)	27 (3)		0 (0)	13 (1)	50 (4)	0 (0)	38 (3)		6 (9)	4 (1)	6 (1)
Agree	65 (44)	13 (9)	22 (15)		23 (13)	19 (11)	32 (18)	0 (0)	26 (15)		36 (58)	21 (6)	22 (4)
Strongly agree	71 (77)	14 (15)	15 (16)		24 (22)	18 (16)	39 (35)	1 (1)	18 (16)		48 (77)	68 (19)	61 (11)
Important to reach academic goal before having children/more children				.009						.015			<.001
Strongly disagree	87 (13)	0 (0)	13 (2)		14 (2)	14 (2)	36 (5)	50 (1)	29 (4)		73 (11)	13 (2)	13 (2)
Disagree	100 (4)	0 (0)	0 (0)		75 (3)	0 (0)	25 (1)	0 (0)	0 (0)		25 (1)	25 (1)	50 (2)
Neither agree or disagree	87 (13)	7 (1)	7 (1)		50 (6)	8 (1)	42 (5)	0 (0)	0 (0)		27 (3)	47 (7)	27 (4)
Agree	87 (32)	5 (2)	8 (3)		33 (11)	18 (6)	36 (12)	50 (1)	9 (3)		62 (23)	24 (9)	14 (5)
Strongly agree	58 (78)	21 (29)	21 (29)		14 (15)	20 (21)	39 (41)	0 (0)	27 (28)		90(123)	7 (9)	4 (5)

Preventing pregnancy right now is important in order to reach academic goals				.177						<.001			<.001
Strongly disagree	88 (14)	6 (1)	6 (1)		21 (3)	14 (2)	36 (5)	7 (1)	21 (3)		69 (11)	12 (2)	19 (3)
Disagree	80 (4)	0 (0)	20 (1)		100 (5)	0 (0)	0 (0)	0 (0)	0 (0)		0 (0)	20 (1)	80 (4)
Neither agree or disagree	77 (10)	8 (1)	15 (2)		70 (7)	10 (1)	20 (2)	0 (0)	0 (0)		15 (2)	62 (8)	23 (3)
Agree	79 (34)	7 (3)	14 (6)		18 (7)	16 (6)	55 (21)	3 (1)	8 (3)		61 (26)	28 (12)	12 (5)
Strongly agree	60 (78)	21 (27)	19 (25)		15 (15)	21 (21)	36 (36)	0 (0)	29 (29)		94 (123)	4 (5)	2 (3)
Can have a baby and still reach academic goal				<.001						.020			<.001
Strongly disagree	30 (10)	55 (18)	15 (5)		7 (1)	29 (4)	43 (6)	0 (0)	21 (3)		97 (32)	3 (1)	0 (0)
Disagree	59 (23)	10 (4)	31 (12)		15 (5)	21 (7)	27 (9)	0 (0)	38 (13)		88 (34)	10 (4)	3 (1)
Neither agree or disagree	71 (37)	14 (7)	15 (8)		19 (8)	19 (8)	37 (16)	0 (0)	26 (11)		85 (45)	9 (5)	6 (3)
Agree	76 (32)	5 (2)	19 (8)		26 (10)	8 (3)	49 (19)	0 (0)	18 (7)		69 (29)	21 (9)	10 (4)
Strongly agree	93 (38)	2 (1)	5 (2)		34 (13)	21 (8)	37 (14)	5 (2)	3 (1)		54 (22)	22 (9)	24 (10)
Birth control groups				.970						.092			<.001
Abstinence	66 (31)	17 (8)	17 (8)		13 (5)	21 (8)	42 (16)	0 (0)	24 (9)		83 (39)	13 (6)	4 (2)
No method/never used a method	74 (26)	14 (5)	11 (4)		43 (12)	4 (1)	43 (12)	0 (0)	11 (3)		58 (21)	17 (6)	25 (9)
Tier 3 methods	66 (33)	14 (7)	20 (10)		26 (11)	19 (8)	30 (13)	5 (2)	21 (9)		68 (34)	22 (11)	10 (5)
Tier 2 methods	68 (28)	12 (5)	20 (8)		14 (5)	29 (10)	43 (15)	0 (0)	14 (5)		93 (38)	7 (3)	0 (0)
Tier 1 methods	64 (18)	21 (6)	14 (4)		20 (4)	10 (2)	30 (6)	0 (0)	40 (8)		93 (26)	7 (2)	0 (0)
Other	75 (3)	0 (0)	25 (1)		0 (0)	33 (1)	33 (1)	0 (0)	33 (1)		50 (2)	0 (0)	50 (2)

Note. Using chi squared analysis, the researcher compared PATH questions with characteristics of the sample, attitudes and perceptions about pregnancy, academic goals, and choice and use of contraception. For PATH 2: <5= Less than 5 years from now, >5= more than five years from now, Life event= finish school, stable job, married/right relationship, Anytime= no preference/timeline/anytime, 1+ response= more than one response given. May not equal 100 due to rounding. Dashes indicate no responses.