

Project Entrepreneurship: A Study of the Influence of Peer Mentorship on
Entrepreneurship

by

Lauren Dunning

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Graduate Supervisory Committee:

Ray R. Buss, Chair
Lisa McIntyre
Garret Westlake

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ABSTRACT

The purpose of this action research study was to understand better student perceptions of entrepreneurship opportunities, with a particular focus on exploring how a peer-mentor might play a helping role supporting the entrepreneurial activities of their peer students in a college environment. This action research study focused on the experience of a five-week, virtual mentorship program. The theoretical perspectives guiding the research included the work of Ajzen, Bandura, and Stets and Burke. In this mixed method study, quantitative data were collected for three constructs—self-efficacy, entrepreneurial identity, and entrepreneurial mindset. Quantitative data were gathered using pre- and post-intervention surveys. Qualitative data were gathered through written journal reflections and semi-structured interviews at the end of the study. Participants were undergraduate students serving as mentors and first-year, full-time students engaging as mentees. The study was conducted during the fall 2020 semester and occurred in a fully, virtual format in response to COVID-19 public health considerations. Modest increases in levels of agreement with entrepreneurial self-efficacy and relational support for entrepreneurship were indicated from the analysis of the quantitative results. A slight decline for entrepreneurial identity also occurred. Qualitative data provided richer understandings of student perspectives. Themes around the perception of self, relationship with others, entrepreneurial focus, and feelings towards entrepreneurship emerged from the mentee’s qualitative data. Central themes for the mentor data included helping, focusing on the college experience, and feelings as a mentor. The perspectives of mentors and mentees were also explored in analysis of journal entries. Students indicated they valued entrepreneurial activity and mindset, with the majority expressing future

goals relevant to entrepreneurship. The discussion focused on the complementarity of the data, connection of the outcomes to the theoretical frameworks, personal lessons learned, limitations of the study, and implications for research and my own practice.

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CHAPTER 1

LEADERSHIP CONTEXT AND PURPOSE OF THE STUDY

When people can start their own businesses, it helps individuals and families succeed. It can make whole communities more prosperous and more secure. It offers a positive path for young people seeking the chance to make something of themselves, and can empower people who have previously been locked out of the existing social order—women and minorities, others who aren't part of the “old boys” network— give them a chance to contribute and to lead. And it can create a culture where innovation and creativity are valued—where we don't just look at the way things have always been, but rather we say, how could things be? Why not? Let's make something new. – President Barack Obama, Global Entrepreneurship Summit (U.S. Office of the Press Secretary, 2016).

National Context

Entrepreneurship has been and continues to be essential to the economic health and future of the United States of America (USA). Because of the importance of entrepreneurship, the USA has organized its own government offices to encourage and support entrepreneurial activity. The role of small business owners and entrepreneurs has often been framed as being vital to both the economic success of our communities, and a reflection of the ideal American dream. For example, the value of entrepreneurship for the nation has been demonstrated in the work of the Office of Commercial and Business Affairs (CBA), which has had a goal of promoting a vibrant ecosystem for entrepreneurship and innovation (U.S. Department of State, n.d.). Further, within the U.S. Economic Development Administration (EDA), the Office of Innovation and Entrepreneurship was established in 2010 because of the America Competes Reauthorization Act and has fostered innovation for the economic benefit of the United States through commercialization of products, services and technology (U.S. Economic Development Administration [EDA], n.d.). Within this office, there have been a national

advisory council and more specific regional innovation strategies programs. One of the goals of the National Advisory Council on Innovation and Entrepreneurship has been “enabling entrepreneurs and firms to successfully access and develop a skilled, globally competitive workforce” (U.S. EDA, n.d.).

Entrepreneurship Education. As of 2015, 42 states had K-12 standards, guidelines, or proficiencies in entrepreneurial education, more than doubling the 19 reported in 2009 (Junior Achievement, n.d.). The Council for Economic Education created a set of voluntary national content standards with respect to economics. Within these standards, by the fourth grade, students were expected to identify entrepreneurs as “individuals who are willing to take risks, to develop new products, and start new businesses” and recognize being innovative as a way to “attempt to solve problems” (Council for Economic Education, 2010, p. 33). The Kauffman Foundation, based on its research and additional U.S. census data, has shown evidence for a steady decline of entrepreneurship. In particular, “younger entrepreneurs (ages 20 to 34) have been on the decline, down from 34.3 percent of all new entrepreneurs in 1996 to 24.4 percent in 2016” (Ewing Marion Kauffman Foundation, 2017, p. 5). This decline in entrepreneurial activity has been disconcerting and a policy priority for many, including higher education, to consider how to support young adults in the creation of new business.

Within higher education, the role of entrepreneurship has continued to become more prevalent, with increased demand for entrepreneurial ability (Donnellon, Ollila, & Williams, 2014). The Kauffman Campuses Initiative, which launched in 2003 and included 18 universities, has been shaping entrepreneurship education programs throughout American colleges and universities. These grants went beyond informing

entrepreneurship education; funding recipients suggested the grants were transformative with respect to their campus culture, creating opportunities for student and faculty members engagement, and building a critical foundation for all future entrepreneurship efforts within their communities (Torrance et al., 2013). Although considerable research has been conducted to inform entrepreneurship education, the primary focus has been on value creation through interdisciplinary project-based learning and class-based learning.

Local Context

Arizona State University (ASU) is a large, public institution with over 100,000 enrolled students (University Office of Institutional Analysis, 2018). The mission statement of the university described the institution as a

comprehensive public research university, measured not be whom it excludes, but by whom it includes and how they succeed ... [further, the university is accountable for] assuming fundamental responsibility for the economic, social, cultural, and overall health of the community it serves (Office of the President, n.d.).

At ASU, it is a strategic goal to create an “ecosystem for promotion of innovation and entrepreneurship activities” (strategic report, p. 3). Notably, for the past five consecutive years, U.S. News and World Report has recognized ASU as being the most innovative university in the nation (Faller, 2019). This ranking, widely touted by the university, has helped cultivate the norm of ASU as being a place to innovate. ASU has established a goal to “become a leading American center for innovation and entrepreneurship at all levels” by the year 2025 (Office of the President, n.d.). No single operating definition of entrepreneurship has been established to identify activities that meet this directive at

Arizona State University. Broadly, the term entrepreneur at ASU has been intended to be inclusive of

a student ... a scientist ... a technologist ... change agent with big ideas that will change the world. Entrepreneurship is the key to our future, finding solutions to challenges ... entrepreneurship is more than a skill. It's a mindset requiring creativity, collaboration, innovation. (ASU Research, 2014)

In 2006, ASU was one of a select few institutions awarded \$5 million dollars by the Kauffman Foundation to advance entrepreneurship efforts across the university (Keeler, 2006). A decade later, ASU was recognized as the "Entrepreneurial University" at the Deshpande Symposium on Innovation and Entrepreneurship in Higher Education, a separate national convening of higher education practitioners with a focus on entrepreneurship and innovation (Guidicessi, 2016). At ASU, students have been afforded opportunities to engage in entrepreneurship activity inside and outside the classroom. For example, multiple academic majors specifically focus on entrepreneurship, during a typical school year more than 100 classes were offered related to the topic of entrepreneurship, and a range of extracurricular events, communities, and other resources were offered to students. Additionally, ASU's Ira A. Fulton Schools of Engineering has been a collaborative partner within the Kern Entrepreneurial Engineering Network. Together they have worked to develop engineering graduates with an entrepreneurial mindset (Kern Family Foundation, 2017). This was just one example of how ASU's academic colleges have been integrating entrepreneurship as a key part of the student experience.

In 2010, ASU became the first university in the southwestern United States to receive an Ashoka Changemaker Campus designation, reflecting the university's commitment to social innovation. Ashoka is an organization focused on social entrepreneurship and change making. Bill Drayton, who popularized the concept of social entrepreneurship and establishing a venture to solve a community issue, founded this organization. Ashoka U was an extension of Ashoka, with a particular focus on higher education. ASU's recognition suggested, among other things that ASU modeled "...campus-wide excellence in social innovation and changemaking" (Ashoka U Changemaker Campus, n.d.). Although not limited to entrepreneurship, ASU's Changemaker Campus designation resulted in the creation of a resource at all ASU locations—aptly named Changemaker Central—that was a student driven community space and series of programs focused on engaging students in creating solutions to local, national or global challenges (Changemaker Central, n.d.). Changemaker Central is a student employer on campus, offering both stipend and hourly student positions. Many of these student roles included responsibilities towards promoting and encouraging entrepreneurial behavior, specifically as it has been related to positive community change (Changemaker Central, n.d.). Additional student employment opportunities have been available within Entrepreneurship + Innovation and the Fulton Schools of Engineering, where student catalysts were encouraged to promote resources around entrepreneurship. These students also engaged in providing peer-coaching oriented conversations to support students who were not already involved in entrepreneurship activities or who wanted feedback regarding an initial idea. Taken together, this evidence suggested ASU has an advanced ecosystem, which actively supported student entrepreneurship.

Situational Context

Since January 2015, I have worked at Entrepreneurship + Innovation to identify new pathways to conduct outreach and engage students with entrepreneurship opportunities. As a unit, Entrepreneurship + Innovation has provided direct influence on entrepreneurship through its own programs while it also provided ongoing support and service to a variety of units and schools at ASU. Entrepreneurship + Innovation, which was not housed within any specific academic college, has been organized around a support services model to infuse entrepreneurship opportunities across the entire university and its multiple campus locations. As a Senior Program Manager for Student Outreach and Engagement, I have been responsible for advancing a series of projects and experiences that encouraged awareness of and engagement within extracurricular opportunities relating to the entrepreneurial mindset. As an organization, the Entrepreneurship + Innovation staff often has framed entrepreneurship as a mindset rather than limiting it to a particular career pathway. Within this mindset, we have prepared student participants with key components including value creation, curiosity, making connections, and finding new or innovative approaches to solving problems. Despite this broader framework, we have often heard students suggest they were not entrepreneurial.

Importantly, I was focused as a researcher more on entrepreneurial thinking than entrepreneurship as a specific and limited career path. Patel and Mehta (2016) defined entrepreneurial thinking as “a mindset that emphasizes recognizing opportunity and learning to capitalize on it in a manner unique to the situation” (p. 518). They went on to suggest that the primary tenets that make entrepreneurial thinking unique include value

creation, collaboration, resilience, and a discovery-driven process, all of which were opportunistic (Patel & Mehta, 2016). Krueger (2007) suggested that to understand an entrepreneur, one must have evaluated their beliefs, attitudes and intentions. Krueger suggested role identity had implications in both entrepreneurship pedagogy and research, particularly as it was related to whether someone perceived themselves to be an entrepreneur. Pruett and Şeşen (2017) suggested entrepreneurship education benefitted when it moved away from economic outcomes towards a sense of self-identity and ability to be successful as an entrepreneur. Although valuing entrepreneurship has been a broad design aspiration for Arizona State University, the focus of my work as a Sr. Program Manager, was specifically to support students and their development as learners and entrepreneurial thinkers.

These and other variables served as symptoms of a larger problem: students not participating in Entrepreneurship + Innovation programs often did not express confidence in their ability to be entrepreneurial, both now and in the future. High levels of risk, a lack of a clear ‘idea,’ and discouragement by family were some of the barriers mentioned by students about why they would not engage in entrepreneurial activity. By comparison, those highly engaged with Entrepreneurship + Innovation programs expressed a value towards entrepreneurial activity being a key part of their learning experience. Nevertheless, most of these students suggested that their peers did not see a clear benefit in such participation. Moreover, the language of entrepreneurship may have created a barrier for student participation. Even students who were actively involved, several of whom were student employees, seemed to share a lack of connection to the idea of being an entrepreneur, connected more so to being a problem solver or creative thinker and

shared they would not call themselves an entrepreneur. Faculty members also suggested that by utilizing formal terms of entrepreneurship, the learning experience is not as approachable as it could be. Entrepreneurship is a vehicle for economic mobility, community progress, and social innovation. In increasingly uncertain times, it is beneficial for graduates of ASU to believe in their capacity for entrepreneurial thinking, and by extension, their possible identity as an entrepreneur.

Intervention—a Brief Introduction

As an action-researcher, I facilitated a group peer-mentorship program focused on encouraging entrepreneurial mindsets among participants. The peer-mentorship experience occurred during five weeks of the fall 2020 semester and engaged first-year freshmen in relationships with upper-class students who were already participating in entrepreneurial activities at Arizona State University. Peer leaders (mentors) were supported with both direct training and individual coaching throughout the experience. Participants (mentees) met with their peer-mentors in small group settings bi-weekly throughout the course of the five-week experience, meeting individually with their mentor on the alternate weeks. The intervention occurred in a fully, virtual format in response to COVID-19 public health considerations.

Purpose of the Study and Research Questions

Thus, the purpose of this project was to increase students' entrepreneurial self-efficacy through Project Entrepreneurship, a newly created peer mentorship program that provided the intervention for this research study. A goal of this research study was to understand better student perceptions of entrepreneurship opportunities, with a particular focus on the role of peer leaders within a university entrepreneurial eco-system.

For the purpose of this study, entrepreneurial mindset was defined as a process of both opportunity-identification and creative problem solving to support value creation (Baggen et al., 2017). Activities within the intervention focused on supporting the development of motivation, skill, and belief in an ability to be entrepreneurial beyond a specific career context. The following research questions guided the conduct of the study.

RQ1: How, and to what extent, did participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' entrepreneurial self-efficacy?

RQ2: How, and to what extent, did participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' identity?

RQ 3: How did student participants in an entrepreneurship-focused extracurricular, peer-mentorship program define and develop narratives about the concept of entrepreneurial mindset as part of their college experience?

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

To understand how a mentorship program embedded within a collegiate environment can advance entrepreneurial self-efficacy, I have discussed the literature, which informed this research project. As a researcher and practitioner, I was motivated to understand better student perceptions of entrepreneurship, how students created meaning around the concept of entrepreneurial mindset, and its relevance to their collegiate experience.

First, I have explained the Theory of Planned Behavior (TPB), which was utilized as a framework to address attitudes, beliefs, and perceptions related to entrepreneurship opportunities. Next, I discussed Albert Bandura's theory of self-efficacy and additional literature that extended this focus to entrepreneurial self-efficacy in particular. Following that, I discussed social cognitive career theory (SCCT), developed by Lent, Brown, and Hackett (1994), which was based upon Bandura's general social cognitive theory. Although the focus of my research study extended beyond career aspirations, it has been most common for entrepreneurial behavior to be considered within the context of career and therefore it was important to include SCCT as a perspective.

Next, I have discussed the concept of mentorship, both generally as a learning-experience and specific to advancing entrepreneurship education. Finally, I have included information on Social Identity Theory, with a particular focus on belongingness. As a practitioner scholar, I have worked to advance student entrepreneurship opportunities. Thus, it was critical for me to consider each theory within the larger context of advancing students as learners and potential entrepreneurs. Because

entrepreneurship education was an essential perspective of my research study, it was threaded throughout the presentation of the frameworks rather than a standalone component of my literature review.

Theory of Planned Behavior

Icek Ajzen developed the Theory of Planned Behavior (TPB) to explain connections between beliefs and actions. Ajzen (1991, n.d.) focused TPB on behavioral intention and suggested future behaviors were predicted based on attitudes, norms, and perceptions of behavior control. Intention to engage in a behavior has been shown to be a critical component of TPB and was described to be the key from a motivational perspective, allowing insight into how much effort an individual was willing to exert to perform a particular behavior. Simply put, “the stronger the intention to engage in a behavior, the more likely should be its performance” (Ajzen, 1991, p. 181). As depicted in the figure below, intention was influenced by three different factors: (a) attitude towards the behavior, (b) subjective norm, and (c) perceived behavioral control.

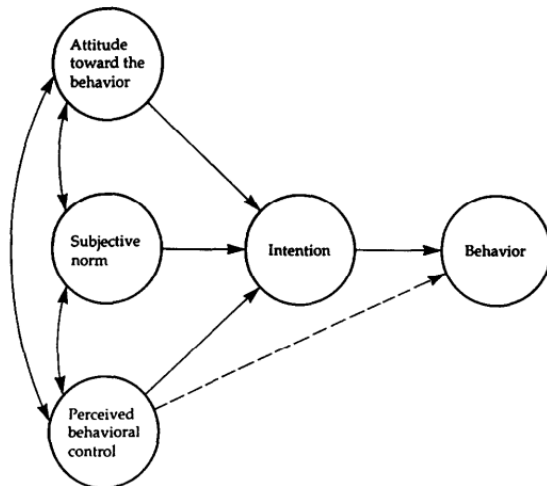


FIG. 1. Theory of planned behavior.

Figure. 1. Theory of planned behavior Retrieved from Ajzen, 1991, p. 182.

This theory suggested when a person had the necessary opportunities and resources, coupled with the intent to behave in a certain way the individual should be successful in performing the behavior. Perception of behavioral control was particularly critical in the theory, and it was what extended the TPB model as compared to previous motivational theories. “Perceived behavioral control refers to people’s perception of the ease or difficulty of performing the behavior of interest” (Ajzen, 1991, p. 183). Individual confidence and sense of control in being able to influence or control the task or outcome related to performing specific behaviors were related directly to the likelihood the behavior occurred. Within the TPB, three primary concepts determined intention: attitude toward the behavior—how favorably the individual looked upon a behavior, subjective norms—how much social pressure existed as it related to the specific behavior, and perceived behavioral control—the perception of the level of difficulty associated with the particular task, which was related to the perceived abilities to perform the task.

In a subsequent elaboration of the model, behavioral beliefs were a person’s beliefs as it related to the consequences of performing the behavior (Ajzen, 1991, n.d.). It was how an individual associated the behavior of interest to expected outcomes and experiences. If one associated positive outcomes with a potential behavior, it was more likely that they had a positive attitude towards the behavior. Notably, this was the individual’s perception of how the behavior would have a positive or negative effect if it were executed from their personal perspective.

Normative beliefs extended beyond individual perspectives and moved toward the expectations of others. Particularly, they focused on other community members, such as

family, friends or classmates, and their perceived behavioral expectations (Ajzen, n.d.). Normative beliefs were particularly influential when the individual wanted to comply with the desired behavior of others. This belief was connected to determining the subjective norm, which was a perceived social pressure to engage—or not—in a particular behavior.

Control beliefs were perceptions of factors that may have facilitated or limited performance of their behavior (Ajzen, n.d.). These could be environmental and conceptually related to the concept of self-efficacy. These three beliefs were said to have a direct influence on human behavior. Respectively, behavioral beliefs were linked to attitudes toward the behavior, normative beliefs informed the subjective norms, and control beliefs connected to perceived behavioral control (Ajzen, n.d.). Together, these beliefs and attitudes influenced intention, which was an antecedent to actual behavior.

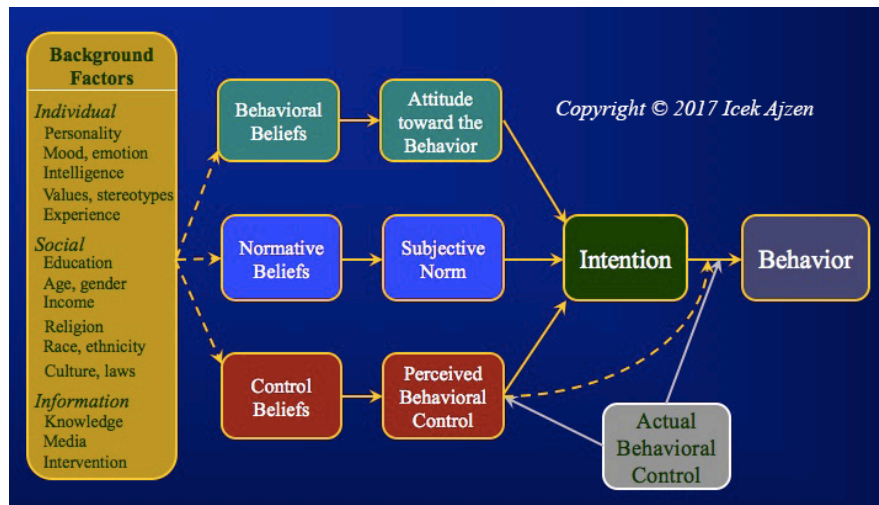


Figure 2. Theory of Planned Behavior with Background Factors. Retrieved from <http://people.umass.edu/aizen/tpb.background.html> and used by permission of the author.

Notably, the TPB took account of other predictors (Ajzen, 1991, n.d.). As shown in the Figure 2, the TPB model also recognized the importance of background factors in

informing behavioral beliefs, normative beliefs, and control beliefs. Considerations like gender and race were explicitly identified suggesting those can inform behavior beliefs, normative beliefs, and control beliefs, which then influenced individual intention and, inevitably, behavior. As a theory, TPB has had important influence and experienced some criticism. In particular, there have been limitations of predictive validity of TPB, particularly because the presence of intention did not always lead to action (Sniehotta, Presseau & Araújo-Soares, 2014). This criticism was important to note, however TPB has remained a well-documented theoretical approach that has been utilized, particularly within entrepreneurship education.

Connection to entrepreneurship education. TPB was well represented in entrepreneurship literature. According to Lortie and Catagiovanni (2015), almost all entrepreneurship scholars have incorporated the TPB into their research, because the decision to be entrepreneurial, particularly as it related to business creation, was an intentional act. Put simply, “entrepreneurship is an intentional process in which individuals cognitively plan to carry out the behaviors of opportunity recognition, venture creation, and venture development” (Lortie & Catagiovanni, 2015, p. 936). Further, entrepreneurship education scholarship has focused on entrepreneurial intention, examining whether and how entrepreneurial intention was informed by the three factors of attitude, perceived social norms, and perceived behavioral control (Bae, Qian, Miao, & Fiet, 2014). Research results on entrepreneurial intention have consistently suggested an intention to engage with an entrepreneurial behavior was a strong predictor of future engagement with entrepreneurship (Obschonka, Silbereisen, & Schmitt-Rodermund, 2010).

Although most scholarly research on entrepreneurship education has been focused on using an in-classroom perspective, Padilla-Angulo (2017) studied involvement with student associations as a way to understand students' entrepreneurial intention. Padilla-Angulo applied Ajzen's TPB as a guiding framework and found student involvement was correlated with increased entrepreneurial attitudes among first-year students. Smith, Sardeshmukh, and Combs (2016) expanded upon existing scholarship and focused on examining gender and creativity and their relations to entrepreneurial intention. In an entrepreneurial setting, results showed identifying and making the focus on creativity encouraged female students to have increased entrepreneurial intention. Additionally, Joensuu, Viljamaa, and Varamaki (2013) examined gender differences related to entrepreneurial intention and found men exhibited more entrepreneurial intent than women. Although such results have been used as evidence to suggest men had a greater entrepreneurial disposition, likening it to some sort of biological trait, it was apt to consider it from perspectives of construction and social norms. Ahl (2004) critiqued existing definitions of entrepreneurship, suggesting that the concept itself was male gendered and not neutral, limiting the overall voice of women within the discussion.

Implications. The Theory of Planned Behavior has substantial and widespread implications within entrepreneurship education literature. This is particularly true when considering the formation of entrepreneurial intention as it relates to the learning experience. In considering my research project, the TPB has implications with respect to both self-confidence and attitudes towards entrepreneurial behavior. By employing the proposed intervention, entrepreneurial engagement may increase because subjective norms will be affected through social interaction via peer relationships.

Self-Efficacy

Self-efficacy has referred to individuals' beliefs in their abilities to manage a situation based on their actions (Bandura, 1997). Belief in capability directly influenced the goals individuals set for themselves and their commitment to such goals, particularly in times of difficulty (Bandura, 2015). Further, Bandura noted those who possessed higher self-efficacy were willing to set higher goals for themselves. Notably, self-efficacy has been focused on individual motivation and action rather than community behavior. Both the TPB and self-efficacy have been regularly utilized as frameworks for understanding individual behavior and psychology. As discussed by Bandura (2005), "there is no group mind that believes" and the focus of self-efficacy is on individual human behavior rather than being a measure of a group or society (p. 27).

Self-efficacy has been shown to directly affect individuals' selection of tasks or goals, which they attempted, and what they tried to avoid, as well as ongoing commitment and task-intensity level (Bandura, 1997). Those with low self-efficacy were less likely to believe in their ability to overcome challenges, and therefore they were less likely to create a challenging goal in the first place. People's beliefs in their capabilities have been developed in four key ways through mastery experiences, social modeling, social persuasion, and physical and emotional states (Bandura, 2011), which has been portrayed in Table 1. See Table 1.

Table 1

Four Sources of Self-Efficacy Information

Four ways in which people’s self-efficacy is developed (Bandura, 2011, p. 13)	
Factor	Explanation of Concept
Mastery Experience	Overcoming an obstacle through effort with perseverance
Social Modeling	Seeing others similar to oneself overcome an obstacle
Social Persuasion	Persuading others to believe in themselves more
Physical and Emotional States	Strengthening efficacy when feeling physically and emotionally strong, including reduction of anxiety and/or depression

Individuals’ chances of success have been minimized without positive self-efficacy, reinforcing potential limited beliefs. To enhance it, interventions have been developed to increase self-efficacy in a variety of fields. Such interventions have ranged from the use of simulation activities with novice nurses (Franklin & Lee, 2014) to action planning and direct instruction to change/influence physical activity and behavior (Williams & French, 2011). Results have shown that interventions increased levels of self-efficacy *and* resulted in changed behavior or intent, which has been relevant to a variety of educational efforts. A meta-analysis was conducted to evaluate the relation between self-efficacy beliefs and academic performance and found the relation was statistically significant across a wide array of subjects, designs, and methods (Multon, Brown & Lent, 1991). Notably, in a study designed to foster entrepreneurial self-efficacy, Bosma, Hessels, Schutjens, Praag, and Verheul (2012) found role models were of great importance for fostering entrepreneurial intention, which was consistent with Bandura’s social modeling approach as a means to develop and enhance self-efficacy.

Connection to entrepreneurship education. Smith, et al. (2016) reviewed existing entrepreneurship research and found entrepreneurial self-efficacy was a key factor that influenced individuals' pursuit of entrepreneurship as a pathway. In a similar study, Culbertson, Smith, and Leiva (2010) focused on the role of goal orientation and self-efficacy in predicting entrepreneurial career choice. Working with over 100 undergraduate students, Culbertson et al. established that generalized self-efficacy played an important role in facilitating entrepreneurial intention. Bae et al. (2014) conducted a meta-analysis of 73 studies that focused on entrepreneurship education and entrepreneurial intention. Self-efficacy was utilized as a key framework in multiple studies to discuss entrepreneurial intent and was described as being a "well known" trigger for entrepreneurial intention (Bae et al., 2014, p. 220). Entrepreneurial self-efficacy (ESE) has been established within scholarly research as a construct that measures a person's belief in their ability to successfully launch an entrepreneurial venture. ESE is particularly useful since it incorporates personality as well as environmental factors, and is thought to be a strong predictor of entrepreneurial intentions and ultimately action (McGee, Peterson, Mueller, Stephen, & Sequeria, 2009, p. 965).

Tsai, Chang, and Peng (2014) worked to extend the understanding of the relation between intention and entrepreneurial self-efficacy by proposing a new model. Within their work, they suggested entrepreneurial motivation was directly influenced by the relational other, and that social norms had an influence. Within their proposed model for entrepreneurial self-efficacy, they suggested intention relations played a mediating role. This was further illustrated in Figure 3, below. In the model, Tsai et al. suggested there

was a link between intention and entrepreneurial self-efficacy, which was supported by their research findings. Moderating factors included subjective norms, as well as intentions, and attitudes specifically towards entrepreneurship. Their research results supported a peer approach to encouraging entrepreneurial behavior, in part, because subjective norms were shown to influence attitudes towards and future intention for entrepreneurship.

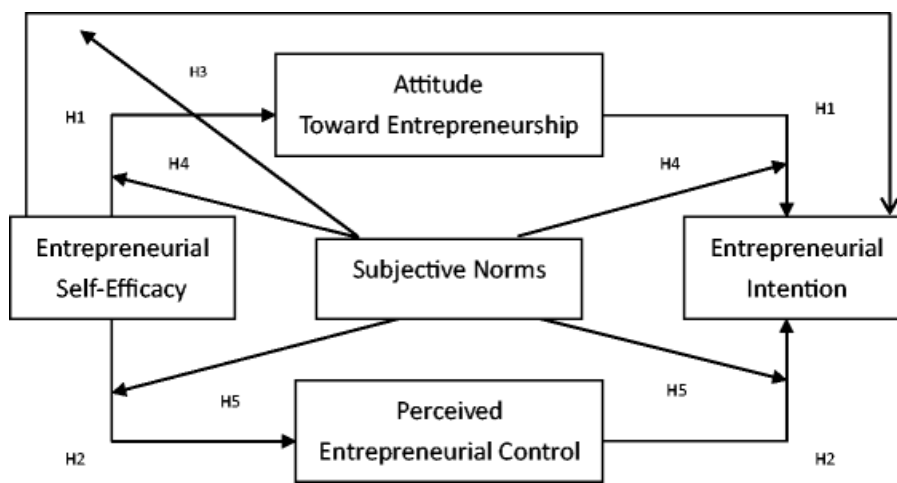


Figure 3. A moderated mediated framework linking entrepreneurship self-efficacy and intention (Tsai, Chang & Peng, 2014).

Dempsey and Jennings (2014) investigated whether factors related to self-efficacy, specifically mastery experiences, vicarious experiences, physiological arousal, and verbal persuasion explained gender differences. Lower entrepreneurial self-efficacy was found among women and was attributed to a variety of factors including the suggestion that perceived social norms for women were different with respect to entrepreneurship, which tended to favor traits and behaviors that were more masculine. As a practitioner, I found this scholarship to be challenging, particularly when encouraging all students to believe in their entrepreneurial abilities. García Escribano

and Casado (2016) discussed the role of gender stereotype and assumptions as it was related to entrepreneurship, while also discussing the role of family and culture. In particular, they suggested that entrepreneurial behavior was still limited by patriarchal norms and assumptions of innate biological dispositions. Further, Ahl (2006) was critical of research on women entrepreneurs, suggesting that the current discourse continued to treat women entrepreneurs as other, reinforcing patriarchal assumptions. Although gender was not the primary focus of my research study, it was important to note the ongoing discussion of social construction as it related to gender differences and entrepreneurship.

Implications. Utilizing self-efficacy as a potential measure to assess student intent associated with future entrepreneurship activity is well established within entrepreneurship education scholarship (McGee et al., 2009; Tsai et al., 2014). Further, self-efficacy is particularly suitable when considering a short-term intervention focused on the development of students while they were still in college. Although some students directly pursue a career pathway while enrolled as students, many others are considering their careers in a future context, making the concepts of perceived self-efficacy and behavioral intent all the more relevant.

Social Cognitive Career Theory

Social cognitive career theory (SCCT) has been used as a theory of career development, with a specific focus on three interrelated aspects. These aspects were “(1) how basic academic and career interests develop, (2) how educational and career choices are made, and (3) how academic and career success is obtained” (Lent, Brown & Hackett, 2002, p. 750). SCCT was first developed by Lent et al. in 1994, and was based on

previous work by Albert Bandura that linked the ideas of self-efficacy, beliefs, expectations, and goals (Lent, Brown & Hackett, 2002).

Within SCCT, goals were specifically defined as choice goals and performance goals. Proponents of SCCT sought to explain the development of career and academic interests, connecting them to choice and performance. This was evident in their work when they suggested, “Arising largely through self-efficacy and outcome expectations, career-related interests foster particular educational and occupational choice goals (e.g., intentions to pursue a particular career path)” (Lent et al., 2002, p. 752). The SCCT performance model has focused on the levels of success individuals experienced within their career and educational pursuits, and the degree to which they persisted in the face of obstacles.

Connection to entrepreneurship education. Within my work context, we have spoken about entrepreneurship in a broad context, defining it both as a career and more often as a mindset. That being said, the decision to be an entrepreneur and start one’s own business venture has been inherently career oriented. Tran and Von Korfflesch (2016) utilized SCCT to explain intention to become an entrepreneur, particularly within the context of pursuing social entrepreneurship opportunities. Given its link to self-efficacy and intention, the researchers found specific implications for entrepreneurship education. Tran and Von Korfflech (2016) asserted,

the more sufficient and productive entrepreneurship programs are, the higher the capacity and ability in addressing all challenges or uncertainty of society issues people have. In turn, they will believe more in the better consequences of what

they do, and then, they are more highly intent on being social entrepreneurs. (p. 31)

Tran and Von Korflech created a conceptual model, based on SCCT, to address entrepreneurial intention specific to social entrepreneurship. They identified SCCT as an emergent, inclusive framework for intention that could be further grounded and adapted.

Liguori, Bendickson, and McDowell (2017) also advocated for a SCCT approach to entrepreneurial intentions, suggesting that it served as a robust framework to study and explain entrepreneurial behavior and career interest. In particular, Liguori et al.'s work suggested SCCT was important in predicting entrepreneurial intention and provided a conceptual scheme that also accounted for person inputs, such as gender, and environmental background as important, influential variables (Liguori et al, 2017, Fig. 1, p. 72). Notably, their theory has not yet been empirically tested. Segal, Borgia, and Schoenfeld (2002) explored SCCT as a method to predict goals of self-employment among undergraduate students. Segal et al. hypothesized that participants would form entrepreneurial goals if they demonstrated high levels of self-efficacy and expected the outcome of such behavior to be positive. This prediction was consistent with their research findings, which suggested that outcome expectations mattered and influenced potential future career intentions and decisions.

Implications. Contextually, I consider entrepreneurship in terms broader than a career orientation. The implications from SCCT are still important to this research, particularly from a practical standpoint that future career aspirations could encourage, or discourage, entrepreneurial activities while in college. Understanding the choice goals associated with SCCT and entrepreneurial activity is particularly relevant from my

position, which has an extracurricular focus. Although my current research focuses on student participants who are actively choosing entrepreneurship opportunities, understanding the connection within a career-focused context does have benefit, particularly if one is trying to influence the behavior of those who are not already engaged.

Mentorship Models

In 1983, Kathy Kram suggested the value of a mentor relationship was mutually beneficial for both the mentee and mentor, enhancing career development and other social skills. When examining mentorship over a multi-year timeframe, Kram identified multiple stages of a mentorship relationship that included initiation, cultivation, separation, and redefinition. Notably, she elaborated this perspective by providing examples of how these relationships developed over time, resulting in the potential that peer status was eventually achieved between the two groups.

Galbraith and Cohen (1996) defined mentoring as “a process of intellectual, psychological, and affective development based on meetings of relative frequency scheduled over a reasonably extended time-frame. Mentors accept personal responsibility as competent and trustworthy nonparental figures for the significant growth of other individuals” (p. 3). As a personal, educational, and potentially professional relationship, mentorship was seen as a complex relationship that had practical implications for the learning and development of all individuals involved. Further, Galbraith & Cohen were able to identify six behavioral functions associated with the mentor role. These functions were relationship emphasis, information emphasis, facilitative focus, confrontive focus, mentor model, and mentee vision.

With respect to the relationship emphasis, there was a focus on understanding and development of trust. For the information emphasis, conversations occurred around plans and progress as it related to goals. The mentor often guided these conversations by asking questions. The facilitative focus allowed exposure to new options and alternative views, encouraging expanded learning and perspectives. The confrontive focus “respectfully challenges mentees’ explanations for or avoidance of decisions and actions relevant to their development as adult learners in the educational setting” (Gailbraith & Cohen, 1996, p. 7). The mentor model allowed for deeper personalization and shared life experiences from the mentor that were motivational and specific, often creating increased levels of intimacy. As explained by Gailbraith and Cohen, the final function of mentee vision was encouraged to inform mentees’ goals and future by encouraging mentees to take increased ownership in their present and future career and individual goals, while also encouraging them to develop the talents necessary to pursue such dreams. Although mentorship was not always linear and mentors may not have always completed all the functions identified by Gailbraith and Cohen, this framework provided a sound conceptual understanding of the developmental relationship and transitions that occurred within a dyadic mentorship relationship.

Mentorship has been conducted between junior and senior individuals, or among peers of differing knowledge levels. As a developmental relationship, mentors focused on providing feedback, coaching, and new perspectives to those involved. The goal and value of mentorship has been tied to learning; “what begins as a transactional [relationship]... ultimately concludes as a transformational process in which teacher and student collaborate, exchanging information useful to both and making the learning

experience mutually enriching” (Matheson Connell, 2007, p. 229). Mentorship has been carried out within a group or team setting, which allowed a cohort of individuals to engage with an assigned mentor on a regular basis. Group mentoring meetings provided for connections with the mentor and other members, furthering a sense of community and connectedness (Haring, 1997; Smith, 2001).

Mentorship has also been implemented online. Kang, Yoo, and Park (2012) identified key strategies to facilitate an easy mentorship experience, focused on the phases of preparing, matching, mentoring and ending the relationship. Online mentorship was advantageous in several ways, allowing greater access to exceptional mentorship when confronted with challenges of time and mobility (Stoeger et al., 2013). Notably, a described limitation of online mentorship was the suggestion that physical distance limited the authenticity of the interaction (Dorner, Misic & Rymaerenko, 2020). Nevertheless, online implementation of a mentorship program was not necessarily a determinant of satisfaction with the experience, with an underlying theme identified that “onlineness is just a means of communication” (Dorner, Misic & Rymaerenko, 2020, p. 103).

Connection to entrepreneurship education. Mentorship has been explored in relation to entrepreneurship, evaluating relationships both within a career-context and as a means for educational institutions to help develop future entrepreneurial intent. With a focus on entrepreneurship, mentorship was shown to support learning through knowledge transfer *and* advancing self-efficacy and resilience (St-Jean & Audet, 2012). McKevitt and Marshall (2015) suggested a different approach for mentorship when working in

smaller, entrepreneurial environments, suggesting that the needs of small business owners were different, in large part due to increased uncertainty.

Finally, St-Jean, Radu-Lefebvre, and Mathieu (2017) created and tested a mentorship framework to determine whether entrepreneurial mentoring programs increased the mentee's self-efficacy levels. Notably, the results were varied and depended upon the level of individual goal-orientation.

Implications

A variety of interconnected theories and research guide my approach to my problem of practice. The Theory of Planned Behavior, self-efficacy, and Bandura's broader social cognitive theory and social cognitive career theory research all quickly intertwine, with self-efficacy emerging as a key mediator in students' entrepreneurial interest and intent. Although mentorship is not a specific theory, it is an important concept and tool to consider when identifying a potential intervention. The research questions guiding my project are focused on understanding student perceptions of entrepreneurship, self-efficacy, and identity. Thus, mentorship may be critical in affecting changes in entrepreneurship among students.

Existing reviews of theoretical perspectives and research validate the wide acceptance of self-efficacy as a measure related to student entrepreneurship. The TPB provides a broad theoretical framework to inform continued exploration of the problem of practice because it takes account of such variables as intent, self-efficacy, as measured by perceived behavioral control, social norms, and attitudes toward the behavior of entrepreneurship. The career-oriented nature of SCCT helps focus the conversation in practical ways and allows for a potential partnership with Career and Professional

Development Services as a resource to continue use of the intervention in the future. Additionally, mentorship models are critical because they inform the intervention. Finally, consistent with the work of St-Jean et al. (2017), the implication is that as mentorship programs are developed and managed, consideration must be given to specific individual goal development. Perceptions of similarity also played a role, so this becomes an important consideration for peer-mentorship programs.

Social Identity Theory

Stets and Burke (2000) explained that within the context of social identity theory, the self was reflexive and self-categorizing. In particular, there were two important processes involved with social identity formation—self-categorization and social comparison. Social identity theory has been focused on perceptions of similarities or differences within a group. Social identity, as a concept, was focused on interaction with others and how that influenced individuals (Turner & Oakes, 1986). The concept of social identity was first developed in the 1970s and notably, it has had relevance in both group and individual contexts. Belonging to a social group was seen as being influential, based in part, on social comparison and the degree to which individuals connected within the ‘in-group.’ Moreover, the general theory of self was influenced in relation to others, contrasting categories via comparison to those categories (Hogg, Abrams, Otten & Hinkle, 2004). As explained by Stets and Burke (2000), identity salience and fit were important in creating social understanding. “The activation of an identity in a situation allows individuals to accomplish their personal and social goals” (Stets & Burke, 2000, p. 230). Thus, it was suggested that holding a ‘group identity’ influenced individual behavior and perceptions.

Connection to entrepreneurship education. Much of the entrepreneurship literature has focused on identity theory from an individual perspective rather than a social perspective. Both were relevant, particularly within an educational context and as I considered the influence of social norms on both perceptions *and* behaviors. Murnieks, Mosakowski, and Cardon (2012) examined the role of passion among entrepreneurs within the integrated context of identity theory, suggesting that individuals' beliefs in their entrepreneurial identity influenced both passion and behavior. Notably, all identities were represented in social roles, which included the categorization of entrepreneur. Hoang and Gimeno (2010) suggested there were dissimilarities between student and entrepreneur identities. Moreover, Nielsen & Gartner (2016) identified there was importance in how students negotiated and explored identity as an entrepreneur. Murnieks and Mosakowski (2007) suggested self-concept and identity were critical for entrepreneurship, particularly when regulating emotion. Notably, all 59 interviewed entrepreneurs expressed a belief in their identity as entrepreneur.

Implications. The role of entrepreneurship as a social identity is evident in previous action research cycles, with students expressing a connection with or rejection of their own belongingness in the 'entrepreneur' context. Identity is complex and it is being constantly compared to individual 'norms of entrepreneurship' in an ongoing developmental process. Thus, it is important to consider the social construction of students' entrepreneurial beliefs, perceptions, and personal identity with respect to entrepreneurship.

CHAPTER 3

METHOD

In Chapter 3, I present the methodology for the action research project. First, I describe the setting of the action research study and its participants. Then, I describe my role as a researcher and provide an explanation of the intervention. Discussion of instruments, procedure, and a timeline are also included. The purpose of my action research project is to examine the influence of an extracurricular, entrepreneurship-focused, peer-mentorship program on entrepreneurial self-efficacy for both student mentors and student mentees. Additionally, I sought to understand how students construct broader narratives about entrepreneurial mindset within their experiences. This peer-mentorship program was created for the research project. It provided for an extension for existing student employees to act as mentors, with program participants from an existing first-year experience focused on entrepreneurship, the mentees.

This study was conducted to examine the following research questions.

RQ1: How, and to what extent, did participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' entrepreneurial self-efficacy?

RQ2: How, and to what extent, did participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' identity?

RQ 3: How did student participants in an entrepreneurship-focused extracurricular, peer-mentorship program define and develop narratives about the concept of entrepreneurial mindset as part of their college experience?

Setting

This study was conducted at Arizona State University (ASU), a large public institution within the Southwest United States that has a commitment to both access and excellence. ASU has multiple campus locations throughout the Phoenix-metropolitan area and a growing online student population. Entrepreneurship + Innovation has served as an administrative unit of the university that promotes entrepreneurial activity across the institution, with students, *and* within the broader community. Entrepreneurship + Innovation was organized under the university's Executive Vice President for Research and Chief Innovation Officer and was a part of the ASU Knowledge Enterprise. This research project focused on engaging students enrolled at various ASU campus locations and attending coursework online because of the COVID-19 virus. The study occurred in fall 2020.

Participants

This study was comprised of two groups of participants. Each participant group was comprised of students engaged in one or more programmatic experiences with ASU's Entrepreneurship + Innovation office. The sampling method was a purposeful selection process, engaging students whose involvement in activities was already underway. As explained by Maxwell (2013), a benefit to this type of approach was that it helped reflect a typicality of the setting. Further, a purposeful selection process for the research project was identified due to the need to "select groups or participants with whom you can establish the most productive relationships, ones that will best enable you to answer your research questions" (Maxwell, 2013, p. 99). With respect to the context of

this study, I selected participants who were most likely to fully and actively engage in an extracurricular entrepreneurship offering.

Based on the extracurricular nature of my work, I was intentional in selecting students who had existing levels of engagement and expressed interest in entrepreneurship as part of their collegiate experience, to be able to test the theories and value of a multi-week intervention with respect to affecting the constructs of self-efficacy, identity, and mindset. In all, 12 undergraduate students engaged in this research project, with three acting as mentors and nine acting as mentees. Given the small sample size and the action-research approach, generalizability was not a primary goal of this research process, but rather I targeted transferability (Teddlie & Yu, 2007).

Mentors. The first group of participants consisted of three peer mentors. These students were undergraduate students who had past experience engaging with entrepreneurship opportunities offered through the university. An example of this involvement would have been past participation as a Venture Devils participant, a student who participated in a professional mentorship program while advancing a personal entrepreneurship project. The student mentors were sophomores, juniors, or seniors, with a primary requirement to have served as a mentor during past involvement with an ASU entrepreneurship opportunity. All of these students had formal roles as student employee with Entrepreneurship + Innovation during fall 2020. As part of their part-time employment as an Entrepreneurship Catalyst, they were expected to engage in meetings to encourage student entrepreneurial behavior. Serving as a peer-mentor in the Project Entrepreneurship program was a natural extension of their existing job responsibilities.

A full job description of the students' roles as an Entrepreneurship Catalyst has been included in Appendix A. Students serving in these roles worked “to help others identify and navigate resources and opportunities related to entrepreneurship” while also guiding students through one-on-one or group meetings (see Appendix D). No research had yet occurred regarding the effects such a peer-mentor role has on the students involved in these positions. Because the mentor engagement was crucial throughout the five-week intervention process, having them receive some compensation and also further guidance as a student employee helps to ensure their full participation in supporting the student mentees.

Although general volunteers were considered for the mentor role, the ongoing time commitment was identified as a key challenge should no specific incentive be provided. Further, multiple peer-leader roles existed within the entrepreneurship landscape at Arizona State University, so gaining better understanding of such experience as a role model as a result of student employment had other practical merits. Based on previous studies, it was anticipated peer mentors would serve in three primary roles throughout the process: learning facilitator, supportive coach, and familiar role model (Kubberød, Fosstenløykken & Erstad, 2018). The student mentors were given guidance to serve in each of these roles including workshops and ongoing support.

Mentees. The second group of participants were incoming, first-time, first-year students. In all, nine participants were included as mentees within the intervention. All participants were engaged in the E+I Fellows program, an experience managed by Entrepreneurship + Innovation, in collaboration with ASU's Enrollment Services team to help attract high-achieving, first-year students to select Arizona State University. This

collaborative program was open to students studying in any degree program at ASU, but did specifically invite students to participate based, in part, on a competitive high school GPA and/or SAT/ACT scores. In previous years, approximately 50% of E+I Fellows students were also enrolled within Barrett the Honors College at ASU. Although GPA and academic performance did not necessarily relate to entrepreneurial success, many student participants across our extracurricular programs were engaged within the Honors College curriculum, which required a GPA higher than the average score of the overall university population. Though not a focus of this research project, it was important to note that the E+I Fellows cohort was not necessarily representative of the full incoming first-year class.

In the past, the E+I Fellows program engaged up to 100 first-time freshmen. To identify the nine mentee participants, stratified sampling occurred to increase the representativeness of those invited to participate. In previous years, a majority of E+I Fellows were enrolled within either the Business School or the Engineering School, which was reflective of other trends of engagement with entrepreneurship opportunities despite a desire for interdisciplinary work and a working belief that entrepreneurial thinking can be applied in any academic field. Selection included scheduling availability as a factor to minimize scheduling conflicts as a barrier for participation. Some, but not all, E+I Fellows previously engaged in a high school entrepreneurship program, so there was variation in that experience among the participants as well.

Because this was an extra-curricular opportunity, all student mentees voluntarily participated in the experience. Potential attrition and inconsistencies in attendance occurred during the five-week period. COVID-19 and the virtual only format of the

interaction was a factor in decreased levels of participation during the intervention. As a researcher, I worked to seek feedback and understanding from all students, including those who did not complete all components of the intervention. Attrition was noted when documenting the outcomes of the process. Consistent with any extracurricular engagement project, it required a willingness for participants to self-select into participating in the experience. The Recruitment and Consent Form has been included as Appendix B. Further, the IRB Approval document has been included as Appendix E.

Methodological Approach

A mixed-method, concurrent action research study was conducted. This allowed for both quantitative and qualitative data from multiple perspectives, further informing the participant-researcher on perceptions of entrepreneurship and the outcomes of the identified innovation.

Action research. Action research is a cyclical process of inquiry and systematic approach to gaining understanding (Herr & Anderson, 2015). As a scholarly practitioner, I was working to improve my own practice based on the understanding developed throughout the cycles of this research process. According to Ivankova (2015), action research has been popular in part because of its focus on solving practical issues, ability to improve individual practice, and ability to make change. As a methodological approach, Ivankova suggested action research has important features that include “practical focus, community-based orientation, participatory and collaborative nature, emphasis on empowerment, and value of reflection.” (p. 27-28). Action research has been a process of inquiry that values understanding and reflection and engages the community of interest within the process as collaborative participants (Ivankova, 2015).

For my action research process to be successful, my community of interest must have actively participated in the process, both as informants and participants.

Mixed-method approach. The concurrent approach, wherein both qualitative and quantitative data were gathered during the same period and then merged together, has been a common design within mixed-methods action research (Creswell & Creswell, 2018). A mixed-methods design was selected for several reasons because it incorporates the strengths of both methodologies while also effectively answering the research questions (Gelo, Braakmann & Benetka, 2008; Ivankova, 2015; Johnson & Onwuegbuzie, 2004). This approach also strengthened the findings, if they “...are corroborated across different approaches then greater confidence can be held in the singular conclusion” (Johnson & Onwuegbuzie, 2004, p. 19).

Notably the quantitative findings of this participant study were particularly limited due to the small number of participants. I collected quantitative data via surveys to gain different insights, particularly pre- and post-intervention measures for student participants. This allowed for direct comparison to determine whether changes, particularly as it related to perceived self-efficacy and future entrepreneurial intentions, have occurred following the intervention. As an emerging researcher, a mixed-method approach was a learning opportunity for me to develop my research practice and apply some initial quantitative research approaches. By incorporating a mixed-method approach, I was able to have a better sense of the quantitative trends and then dive more deeply into the details by conducting interviews. I further delineated this approach later in the chapter when I discussed the analytical approach I planned to use for this research study.

Role of the researcher. I conducted this research study as a scholarly practitioner, directly embedded within the process. As an action researcher, I was studying my own professional environment to better understand and consider both quality improvements and effectiveness. According to Mertler (2014), this was a common goal of action research, which “focuses specifically on the unique characteristics of the population with whom a practice is employed or with whom some action must be taken” (p. 4). In terms of positionality, I was an insider and acted as a participant-observer throughout the research process (Herr & Anderson, 2005).

As the facilitator, I directly promoted the opportunity to students, recruiting both mentor and mentee participants. I collected pre-intervention survey data, framed the expectations for participation within the intervention, guided and trained the mentors, conducted the matching for the group mentorship experiences, collaborated with participants, observed sessions, and collected post-intervention survey data. I also conducted post-intervention interviews with a subset of student participants and collected artifacts. As the facilitator, I regularly observed some of the sessions. When observing, I looked for interactions across the mentee cohort and also how the mentors talked about their experiences and identifications as student entrepreneurs. Particular attention was paid to stories shared and questions asked during the sessions. All participants were encouraged to provide reflective feedback in a journal and used facilitated prompts that were intended to encourage individual reflection.

As the researcher and facilitator, I wrote in a journal throughout the process to document my own insights on the experience, note any meaningful interactions with participants, and reflect on my own processes as a practitioner and scholar. Because I

conducted the interviews directly, reflection on this process and experience helped later when making meaning of the data and interactions.

Intervention

The intervention for this action research project was a peer-leadership program entitled Project Entrepreneurship. In it peer mentors served as role models who would foster entrepreneurial intention (Bosma et al., 2012). Project Entrepreneurship included five sessions in which first-year students interacted with more experienced entrepreneurial undergraduate students, all enrolled at Arizona State University. This peer mentorship program was implemented between September 2020 and October 2020. Three of the sessions included specific content focused on the topics of entrepreneurial mindset, ideation/brainstorming strategies, and pitching an idea. The five sessions were of two types, group sessions and one-on-one, individual sessions that alternated. Group sessions involved a group of up to three mentees and one mentor whereas one-on sessions provided opportunities for an individual mentee to meet with a mentor.

In the first group session, content was focused on introductions and the idea of entrepreneurial mindset. In the second session, a one-on-one session, the mentor and individual mentees explored what entrepreneurship meant to them more fully from an individual perspective. In the third session, the second group session, mentors led an ideation session, providing specific frameworks like *brainwriting*, a brainstorming technique that employs writing about thinking, as a way to approach idea development. In the fourth session, the second one-on-one session, mentors and mentees discussed mentees' individual goals and advancement of their entrepreneurial and college efforts. The fifth session was a group session in which mentees worked with their mentors to

discuss how they approached pitching an idea, provided practical feedback relating to resources and concluded the mentorship.

Mentor preparation. Peer mentors completed professional development sessions, estimated to include six hours of total interaction. The action researcher facilitated all professional development sessions. These interactive workshop sessions prepared mentors to manage better the peer-mentorship interactions and relationships, while also advancing their awareness of entrepreneurship resources and opportunities offered at Arizona State University and within the broader Phoenix metropolitan community.

Rather than recruit a separate, voluntary group of peer mentors, those acting as mentors had a formal, employment relationship as part-time employees of Entrepreneurship + Innovation in their Entrepreneurship Catalyst roles. This design was selected for a variety of reasons, including increased accountability throughout the multi-week intervention. The mentors had engaged directly in past entrepreneurship activities or expressed an interest consistent with an entrepreneurial mindset. Mentors exhibited varying levels of familiarity regarding campus resources, idea development, and management of relationships.

Workshop content allowed them to practice mentoring, and provided practical information and tools specifically relevant to entrepreneurship. This content included an overview of specific ASU entrepreneurship resources, specific tools to help with early-stage idea development, and multiple opportunities for role-playing specific interactions/scenarios. Peer mentors actively participated in multiple facilitated ideation processes that could be applied later during mentor-mentee interactions. Student mentors

also were asked to define what it meant to be successful as a peer mentor and identify key processes to aid them in regulating their efforts throughout the innovation. All professional development was completed virtually in September 2020, prior to electronic introduction to mentees.

In addition to the professional development sessions, peer mentors were provided access to a digital repository using a shared Google Folder that was accessed as a supplemental and ongoing resource. Resource materials in this folder included a resource guide of specific opportunities—both events and programmatic—for potential participation, sample brainstorming exercises, and a best practices sheet regarding how to be an effective mentor, based on both scholarly research and practical insights provided by the action researcher.

Student mentors were provided just-in-time information about upcoming events and opportunities through email and had the opportunity to provide feedback regarding the overall mentor relationships on an ongoing basis via multiple platforms, including but not limited to email communications and video meetings. A group Google document afforded regular opportunities for sharing of best practices, various approaches, and questions among peer mentors. Regular employee group meetings provided opportunities to share practices and questions. Support resources were monitored and updated as needed throughout the mentorship program.

Mentee intervention. After their training, mentors worked with the mentees. Matches were assigned with an attempt to attain balance and diversity across key demographics, such as gender and academic focus. Mentees engaged in conversations with their mentors on a regular basis. Although individual conversations varied, mentors

were guided with a sample format of weekly touchpoints and topics to help direct the conversations in a purposeful way. For the three group sessions, mentors facilitated interactive experiences relating to an entrepreneurial mindset. For example, in group session 1, the interaction focused on sharing existing interest/curiosity towards entrepreneurship, and specifically framing entrepreneurship as a problem-solving activity. Group session 2 was a guided ideation process showcasing several activities to help with identifying or developing possible student projects. Group session 3 focused on pitching your idea, a skill commonly associated with the majority of entrepreneurship activities.

In the one-on-one sessions, mentors worked with mentees and engaged in follow-up discussions of the previous week's topic. Thus, in follow-up session 1, mentors and mentees had an opportunity to continue the discussion entrepreneurship as problem solving, but with a specific focus on the mentee's ideas. Follow-up session 2 was focused on brainstorming about and developing the mentee's project.

Procedure for the intervention. During the five-week intervention, mentor-mentee cohorts were paired at the beginning of the fall semester with each mentor collaborating with three mentees. Attrition did occur, with most mentor-mentee cohorts having two regular mentee participants. Groups were assigned based on participant availability and scheduling, with goals to also represent different academic interests and gender identities within each cohort. During the five-week experience, each mentorship circle—the three mentees and one mentor—was asked to meet three times as a collective group. Additionally, mentors and mentees had two additional one-to-one meetings as individual pairs. In total, there will be five mentorship interactions per mentee. An

anticipated benefit of having both a small group and one-to-one format was developing a stronger sense of belonging and community, as well as an ability for students in the mentee role to feel a shared sense of interest with other peers.

Additionally, mentors and mentees were provided with prompts to facilitate ongoing reflection throughout the process via digital journaling. Short journal prompts were provided weekly throughout the intervention, allowing for up to five artifacts per participant. The journaling was designed to capture participants' perceptions of how they viewed and understood entrepreneurial mindset from their perspective. Examples of the prompts included "During the last three weeks, list three concepts you learned about approaching life in an entrepreneurial way" and "In the past few weeks, I thought/considered/tried on the role of entrepreneur by doing." Although much of the intervention was focused on future intention and perception, students were asked to dialogue and reflect throughout the mentorship process to also acknowledge their entrepreneurial thoughts in the present moment at particular points in time throughout the experience.

Data Collection and Instrumentation

Data were collected through survey, online journaling and semi-structured interviews. Each instrument process was aligned to one or more research questions, and all processes were used to gather data from both student mentee and student mentor perspectives. This alignment has been provided in Table 2. Both perspectives were valuable in informing the value of a mentorship relationship with respect to influencing entrepreneurial self-efficacy. Although mentorship programs often have focused on the learning outcomes of the mentee, serving as a mentor for someone else also provided an

opportunity for a transformational experience that advanced mentors' senses of self and expertise. Each perspective provided insight into whether and how, students developed narratives around the concept of entrepreneurial mindset. From each perspective, I hoped to learn about ways in which students gained value in building relationships within the context of entrepreneurship, and how it related to their overall collegiate experience. The student mentors provided insights into how they felt prepared or needed more support to act effectively as a role model for their peers.

Table 2

Data Collection Inventory

Instrument	Type of Data	Research Question
Pre-Intervention Survey	Quantitative	<ol style="list-style-type: none"> 1. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' entrepreneurial self-efficacy? 2. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' identity?
Post-Intervention Survey	Quantitative	<ol style="list-style-type: none"> 1. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' entrepreneurial self-efficacy? 2. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' identity?
Observation	Qualitative	<ol style="list-style-type: none"> 3. How do student participants in an entrepreneurship-focused extracurricular, peer-mentorship program define and develop narratives about the concept of entrepreneurial mindset as part of their college experience?

Written Journal Responses-Artifacts	Qualitative	3. How do student participants in an entrepreneurship-focused extracurricular, peer-mentorship program define and develop narratives about the concept of entrepreneurial mindset as part of their college experience?
Interview	Qualitative	<ol style="list-style-type: none"> 1. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' entrepreneurial self-efficacy? 2. How, and to what extent, does participation in an entrepreneurship-focused extracurricular, peer-mentorship program influence students' identity? 3. How do student participants in an entrepreneurship-focused extracurricular, peer-mentorship program define and develop narratives about the concept of entrepreneurial mindset as part of their college experience?

In this mixed-method action research study, the identified instrumentation allowed for both quantitative and qualitative feedback from multiple perspectives, further informing the participant-researcher on perceptions of entrepreneurship and the outcomes of the innovation.

Quantitative data. I constructed a survey instrument earlier in the year for use in collecting quantitative data. The constructs within the survey instrument focused on relational support for entrepreneurship, entrepreneurial self-efficacy and entrepreneurial identity. The information gathered from the survey contributed to further understanding of participants' mindsets by asking about components relating to entrepreneurial behavior. These components included ideas like creative problem solving, forward thinking, and willingness to take action. Future intentions were addressed by asking

questions about both the near future—how they wanted to be involved with entrepreneurship in the next few months of the year—and also their longer term goals after college graduation. Although intention has been somewhat limited as a predictor of actual behavior, especially if the behavior included a change from their current activities, it was the best proxy measure identified due to the limited timeframe of the five-week intervention. Examples of items included “I believe my family would encourage me if I pursued entrepreneurship” and “I believe that skills associated with entrepreneurship are valuable skills to learn as a college student.” The complete survey has been provided in Appendix C.

Qualitative data. Qualitative data were collected from all participants in the form of guided electronic journal responses. These journal responses were logged by individual students on a weekly basis, with a prompt provided to encourage self-reflection. If every participant had completed all of the journal responses, there would have been five journal entries per participant for a total of 60 entries. It was anticipated that not all students would complete all the journal entries.

Additional qualitative data were garnered through semi-structured interviews. All three mentors were asked to participate in a semi-structured interview to elicit additional understanding of their perspectives, separate from those they mentored, along with six mentees from a range of different mentor/mentee matches. Students were selected intentionally, with intention to have a variety of engagement levels represented, meaning that the interview process ensured students of all participation levels were interviewed, not only those who were the most outwardly participatory or most involved during the group sessions.

By collecting a variety of data on an ongoing basis, the intent of the research process was to attain saturation with no new unique themes emerging. By reaching data saturation, I have collected enough data to build an explanation of the findings. The semi-structured interviews were conducted after the conclusion of the five-week intervention. Interviews were scheduled to occur immediately at the conclusion of the intervention to three weeks after the intervention, so that the overall experience was still recent in the mind of participants. Example interview questions included “What are your expectations from yourself while in college? Socially and academically?” and “What does entrepreneurship mean to you?” A full interview protocol has been included as Appendix D. As recommended by Maxwell (2013), the interview questions were pilot-tested in advance of the research study to determine whether revision was necessary and whether the questions worked as intended.

Throughout the research study, I documented my own experience with a researcher’s journal. Below is a table, in which I have outlined the timeline for the study and its implementation.

Table 3

Timeline and Procedures of Study

Timeframe	Actions	Procedures
May-- September	Recruited student participants [mentors and mentees]	Offered the opportunity to participate in the study. Distributed corresponding consent forms and letters
September	Trained student mentors	Provided training sessions for identified peer mentors; provided access to online tools and best practices via a Google Drive as

		self-guided resources throughout the five week intervention
September	Confirmed student participants	Provided more details of the planned mentorship
Late September	Administered pre-intervention survey for participants	Survey was distributed electronically for ease of access and response
Late September	Made mentor matches/introductions	Provided electronically; each mentor had three mentee matches.
Late September- Early October	Observed first group circle session	Attended two of three group sessions as an observer only; observed and took notes of the sessions; actively participated in memo writing following the session
September— October	Organized mentorship sessions	Peer mentors provided one-to-one discussions with assigned students. Goal of two sessions per participant match were scheduled based on shared availability.
Mid October	Observed second group circle session	Attended two of three group sessions; observed and took notes of the sessions; actively participated in memo writing following the session
September— October	Provided online prompts for virtual journaling	Provided prompts with relevant follow up reminders, by researcher on a biweekly basis
Last Week of October	Observed third group circle session	Attended two of three group sessions; observed and took notes of the sessions; actively participated in memo writing following the session
Last Week of October	Reviewed all memos from group circle sessions	Reviewed all memos written for group circle sessions and completed further analysis

First Two Weeks of November	Post-intervention survey	Survey distributed electronically for ease of access and response. Followed up as needed for completion rate
Beginning to mid November	Conducted interviews; nine total (all three mentors; two mentees randomly selected per mentor circle)	Facilitated, conducted, and recorded interviews
Mid November through January	Analyzed data; conducted member checks while completing the analysis	Transcribed audio recordings. Conducted qualitative analysis. Conducted quantitative analysis.
December through March	Concluded by writing up results	Identified key themes; wrote up results and finalized overall findings/narrative along with future implications

Data Analyses

Project Entrepreneurship was a peer-mentorship program intended to support the development of entrepreneurial self-efficacy and broader narratives around entrepreneurship and its meaning within the collegiate experience. It intentionally engaged first-year students to serve as a meaningful part of their transition to Arizona State University. Further, it was anticipated that student leaders serving as mentors would also develop as leaders and entrepreneurs by working as role models. To understand whether and how levels of self-efficacy changed during the intervention, pre- and post-intervention surveys were conducted and compared. Quantitative results were analyzed using relevant statistical procedures in SPSS. Quantitative analysis included reliability analysis, computing Cronbach’s alpha reliability coefficients. Because of the small sample size, only descriptive statistics were computed.

Additional findings about how participants described the experience and broader narratives of entrepreneurship, the qualitative data, were also presented by identifying

key themes. This process helped to contextualize the findings and provided for a much richer description of student perspectives relating to entrepreneurial mindset. As the researcher, I utilized categorizing strategies, such as coding and broader thematic analysis to advance my understanding of the qualitative data (Maxwell, 2013). The data analysis process began with open coding. Concept coding, which was employed and as explained by Saldaña (2016) served as a way of assigning “macro levels of meaning to data” that can relate to a larger idea than any one particular observable behavior (p. 119). The concept of future intention, in particular, was hard to observe directly, but crucial for my research project and its underlying frameworks. To look into these broader schemes, I brought together a wide variety of qualitative data. With written artifacts and multiple interview transcripts of mentors and mentees, along with my own documentation as a researcher, this categorization process was particularly useful in helping to interpret the findings. Decisions regarding interpretive codes were supported by the creation of analytic memos that helped to further expand on what the code or category suggested and how the interpretive process was conducted.

Throughout the data collection process, I noted ideas about important concepts and themes in my researcher journal. This was a part of my own process for memo writing. Additionally, I connected these efforts to the literature, to aid in comparing experiences to develop a deeper understanding of the phenomenon of entrepreneurship. I kept notes in my researcher journal regarding how themes were identified and the decision-making process I underwent as a researcher. The constant comparative method, as explained by Strauss and Corbin (1998) was an analytic approach utilized to help make

meaning of the data. Following key words, or initial open codes, I created theme-related components and worked to interpret the findings to develop themes based on the data.

CHAPTER 4

ANALYSIS AND RESULTS

Results from the study have been reported in two sections. In the first section, I have focused on the presentation and interpretation of quantitative data. Following that, I have shared the results of the qualitative data. Reporting on the qualitative data was focused on themes, supported by direct quotes from participants. I have discussed the themes associated with the findings from the qualitative data. Two important sources of qualitative data were treated individually in the analysis process, first interview responses were presented followed by responses to the journal prompts. Within these two categories, mentee and mentor responses were examined separately to determine codes, categories, and then themes.

Quantitative Results

Quantitative data were collected using a pre-intervention survey. The same survey was used for respondents at the conclusion of the five-week intervention, the post-intervention survey. The surveys were completed by mentees. For both the pre- and post-intervention surveys, the instrument was administered using Qualtrics as an electronic platform to collect responses. As the researcher, I sent multiple email communications encouraging students to complete both surveys. In all, seven students completed the pre-intervention survey and four students completed the post-intervention survey. All four of the post-intervention survey respondents also completed the pre-intervention survey, which was confirmed by reviewing the unique identifiers associated with the survey responses to match responses while maintaining anonymity of respondents. Because three participants only provided pre-intervention survey responses,

those responses were not included in the final quantitative analysis. As discussed in Chapter 3, the survey instrument had three constructs. These constructs were relational support for entrepreneurship, entrepreneurial self-efficacy, and entrepreneurial identity. A small amount of demographic information was also collected. Due to the small sample size, no analyses were conducted with respect to the factors of specific demographics, because there was not a sufficient sample size to draw any meaningful inferences.

The reliabilities of the three constructs were analyzed using SPSS to identify the Cronbach alpha reliabilities based on the pre-intervention survey data. The reliabilities for Entrepreneurial Self-Efficacy, Relational Support for Entrepreneurship, and Entrepreneurial Identity were .82, .80, and .93, respectively. These reliabilities were above the value of .70, which has served as a benchmark for an acceptable level of reliability.

Due to the small sample size, $n = 4$, statistical analysis of the results was limited. Descriptive statistics were computed for both the pre- and post-intervention survey data, allowing for a review and comparison between the scores for each construct. One of the questions lacked variability within the recorded responses because all respondents entered the same value for this item, and it was removed when I computed the descriptive statistics. This was a question about Meaningful Team and Future Goals, which was included within the Entrepreneurial Self-Efficacy construct. Nevertheless, there were still six other questions that comprised the Entrepreneurial Self-Efficacy construct, which indicated elimination of the item had minimal effect. As noted in Table 4, below, scores on the three measures increased or decreased by very small amounts between the pre- and post-intervention assessments. Specifically, Entrepreneurial Self-Efficacy increased by

0.33 of a point, whereas Relational Support for Entrepreneurship only increased by 0.05 of a point, and Entrepreneurial Identity declined by 0.29 of a point. See Table 4 for the means and standard deviations.

Table 4

Means and Standard Deviations for Entrepreneurial Self-Efficacy, Relating to Entrepreneurs, and Entrepreneurial Identity

Measure	Pre-intervention Scores	Post-intervention Scores
Entrepreneurial Self-Efficacy	5.10 (0.69)	5.43 (0.52)
Relating to Entrepreneurs	5.25 (0.77)	5.30 (0.66)
Entrepreneurial Identity	4.42 (1.40)	4.13 (2.22)

Note. Standard deviations are in parentheses and $n = 4$.

Because the survey instrument utilized a 6-point Likert scale with the levels of agreement ranging with 1 as strongly disagree to 6 being strongly agree. The average scores ranged between 4.13 and 5.43 for each construct, which meant participants were indicating a range of responses between “Slightly Agree” and “Agree.” In summary, due to the small sample size, only descriptive data were presented for the pre- and post-intervention survey data.

Qualitative Results

In this section, I have presented the results from the qualitative data. First, I have provided a summary overview of how the qualitative data were collected and the process by which themes were identified. Following this, I have presented data to reinforce each

theme by including specific quotes from the participants to support them and give voice to the participants.

Qualitative data were collected on a regular basis during the course of the five-week intervention. These data were journal entry responses to a weekly guided prompt provided to both mentees and mentors. Observation notes were also collected on a biweekly basis from a total of six observations of the small group mentor sessions over the course of the intervention. The observations were used primarily as a process check for the researcher, but these observations corroborated some of the other qualitative data. At the conclusion of the intervention, interviews were scheduled with all three mentors and six of the student mentees. The qualitative data collected from the mentee student participants were analyzed separately for the interview and journal entry responses to the prompts. The qualitative mentor data were treated separately during analysis to allow for separate thematic outcomes. Following the review of each set of participants, i.e., mentee and mentor, qualitative data, some shared themes emerged. These shared themes were explored further and they were presented at the conclusion of this chapter.

All interviews were recorded using Zoom technologies to allow for virtual engagement and audio recording. Both Zoom's integrated transcription and Otter AI were used to support the transcription process. After transcription, HyperRESEARCH 4.5.1 was utilized to help with the coding and interpretive processes. Initial coding was completed utilizing concept coding as a process. Concept coding was selected as a coding process that was aligned with the research questions. Saldana (2016) suggested that concept coding was appropriate for a variety of studies, particularly those having multiple participants and collecting data in multiple ways. This method prompted

suggestions about the ideas and the bigger picture from the study. After first cycle coding, I used code mapping as a transition process to help interpret and further narrow the categorization process and to aid in identifying larger themes. I undertook a focused coding process for both the mentee and mentor interview data analyses, which allowed the data to be brought together.

Mentee interview data. During the concept coding process, a total of 57 initial codes were created based on the mentee interview transcripts. Following the transition and secondary coding processes, four primary categorical themes emerged. These themes included perception of self, relationships with others, entrepreneurial focus, and feelings, specifically feelings towards certain ideas of experiences discussed within the interviews. In the table below, I have provided each theme along with the corresponding codes that were used to create larger categories leading to the themes.

Table 5

Mentee Interview Themes and Examples of Codes

Theme	Categories	Related codes
Perception of self	Capabilities; Growth; Belief in Self; Identity	Best; Competitive; Confidence; Creative; Goals; Learning; Motivation; My Life; Self; Starting; Think you can't
Relationships with others	Important Relationships; Relational Support; Interactions with Others	Advice; Connect; Family entrepreneur; Family; Friends; Helpful; Mentor; Networking; Perspective; Resource; Supportive; Talk
Entrepreneurial focus	Starting something new; Entrepreneurial perceptions; Entrepreneurial approaches to life; Opportunity vs. risk	Entrepreneurial spirit; Entrepreneurial calling; Innovation; Start own business; Experience; Failure; Ideas; New; Not just business; Opportunity; Risk; Study entrepreneurship; Value
Feelings towards entrepreneurship	Uncertainty; Positive feelings towards learning experiences; Feelings of engagement within the process	Don't know what I'm doing; Lack; Liked; Love learning; Passion; Excited; Happy; Looking forward to

A frequency report was also created in HyperRESEARCH after the first round of coding. Notably, the most frequent codes included ideas (19), mentor (15), networking (19) and COVID (15). Although COVID was not a standalone theme, it emerged consistently throughout the conversations and was due to the large influence of COVID on the community and university and their responses to COVID-19, which in turn affected students' day-to-day life experiences and university experiences in dramatic ways. All names are pseudonyms.

One of the students, Andy, explained,

Um, well, I guess I really haven't had the opportunity to do anything enjoyable. I mean, I go to classes and I go to work and that's about it. And with the pandemic, there's not much more that you can do. So I guess I really haven't had the chance to experience much of that [college life] because it's my first semester at ASU.

Other students referred to their college-going experience as 'Zoom University' and similarly communicated the limitations of this year as it related to going to class *and* developing new friendships. All of the students interviewed communicated that they valued networking, though there were varying levels of comfort with respect to how they approached networking opportunities and developed relationships. When describing the mentorship experience, Taylor explained that it was "good to have that person to talk to [their mentor]" despite sharing that they didn't regularly attend the online meetings due to other priorities with school, homework, and sleep.

Theme 1—Perception of self. Perception of self was the first theme that emerged from the mentees' interview data. Throughout the interviews, the student mentees were encouraged to reflect on their future goals and personal aspirations. Although they were

not explicitly asked to describe themselves, indirectly responses helped to identify varying extents to which students identified as being motivated or goal oriented. When explaining his personal goals for college, David shared,

for the longest time I've definitely been really hard on myself academically. Like pretty much, a B would make me really... not like upset, but still I guess disappointed in myself. And so in that sense, I do want to graduate with at least a 3.5 GPA. That's mainly just for competitiveness when I start applying for medical school and such, but also it's more of a personal goal of, I guess, living with the fact that I probably could have tried harder.

David later elaborated on this topic, explaining that although he might not describe himself as having really high standards, he explained by saying he tended to give myself a hard time for not being productive and so if I'm not really being involved or not really doing anything that's for furthering my progression in life, I kind of beat myself up. And so it's really hard for me to not do anything.

Andy, like most of the students interviewed, had high academic goals for himself. He expressed a desire to graduate with a grade point average near 4.0, explaining "I am very adamant about trying to be like the best, but I'm not very competitive. I like to outdo myself." Kai similarly described having high standards for himself when he said,

I like to provide the best at whatever I do so in terms of school and everything like that. I put myself like, I test myself to the highest level. I always want to give out the best work that I can and provide the best quality I can.

For Kai, this was not limited to just his academic goals but anything he described as a passion or interest. Kai also generally described a value towards learning, explaining

that he liked to spend free time learning something new. David described a similar commitment to learning, both inside and outside of the classroom. As David explained, “I spent a lot of time learning about music, music production. music theory. Over quarantine, I taught myself everything in terms of finance and I started my credit life.”

Both Taylor and David discussed an interest in real estate and potential future as either a side or full-time job. Taylor explained the goal of getting his real estate license, which he was already working towards as both an interest and potential ‘backup plan.’

Several student mentees expressed a value towards creativity. David explained that to “allow yourself to be creative” was critical in any pursuit. Andy similarly thought creativity was important, but did not consider it a personal strength. He explained,

you have to be very creative thinker, which obviously I'm not so that does put me in a certain spot. But other than that, I mean, you have to be smart about what you're doing. You can't just go in blind, you have to educate yourself I guess.

Unlike other student mentees, who discussed the possibilities of what they might do and how they could approach learning something new, Andy seemed more inclined to describe as being incapable, suggesting a more fixed self-view. This is one of the ways in which he differentiated from participants, providing valuable alternative perspectives and counter-narratives.

Theme 2— Relationships with others. Relationships with others was the second theme. During the interviews, students mentioned family, faculty members, and the assigned mentors as being key relationships with people who influenced their thinking about entrepreneurship. The mentorship experience was generally described in positive ways, for example, when Kai shared,

I know that mentorship is primarily based around you learning something from someone who knows more, and that sort of excites me since they pretty much did the hard work for you and they're just telling you all the lessons after, which I think is very fortunate.

Later, Kai shared that during their mentorship experience they gained a better understanding that "being a student is actually a good thing and not exactly a waiting room ... There are a lot of opportunities that I could get just because I'm a student." This was an important shift in his thinking, in part because his future goals were focused on multiple years of continued, professional education, including possibly medical school. He had previously associated his undergraduate experience as a process to 'get through' to be closer to qualifying for professional school. Other students characterized the mentorship experience as feeling like a friendship, describing their mentor as a "wise friend" with whom they held relaxed conversations. Additionally, mentees viewed mentors as being 'relatable' because they were both going to college and facing similar challenges. Finally, mentees claimed mentors were those from whom they sought advice, whether it was about entrepreneurship goals or college generally, with their mentor being someone from whom they could "kind of learn more from an actual student and kind of get the real life facts. No BS." according to Paul.

When discussing relationships, family was a key concept represented within the data. Andy, who doubted his entrepreneurial ability, particularly as it related to identifying any ideas or caring to solve problems, talked about the lack of family relationships modeling entrepreneurial behavior. Part of why he elected to participate in the mentorship program was because of his lack of experience, explaining, "The closest

thing to a business that anyone has started in my family is my grandfather, who I don't really talk to." He expressed some disappointment that his mentor did have family members with entrepreneurial experience, when he said,

I was kind of hoping it would be somebody who hadn't had any experience and went into it like my thought process was, I'd be someone who had also not been there. Like not had anybody in our family be entrepreneur, but they were like starting as well. But it wasn't and but it was still fine. I still think I got some decent information out of these interviews that will help me.

This difference, combined with a lack of specific ideas of how he might be entrepreneurial, now or in the future seemed to discourage his entrepreneurial interest, as Andy explained feeling behind due to the lack of family members who were entrepreneurs. Other mentees spoke more generally about the role of family support. For instance, Taylor mentioned multiple expectations from his family as it related to his college experience, including "keep the scholarship and get a good degree so I have something to make money in the future." Julian explained that his family was a big motivator for attending college. Although they agreed on expectations around academic success, specifically in terms of grades, he felt that his parents didn't "really understand the whole importance of networking ... their big thing is just good grades, but my thing is not necessarily good grades, but, you know, meeting the right people and finding the right people." This also spoke to another key code to support the overall theme of relational importance, which was the consistency with which student mentees mentioned the importance of networking.

Julian explained his goal for the mentorship program was that “my mentor would be able to connect me with other students who share the same passions and interests as I do” and expressed interest in finding other students with whom he could work that had different skills from his own. “[other students] are going to be vital to being able to grow this business.” Paul discussed his approach to networking, explaining, “how I kind of network is a little, I guess, unusual” before elaborating that he used a relationship mobile app Bumble’s business networking section to find new people with whom to connect online. Paul explained,

[for] like 15 minutes a day, I'll just kind of swipe on Bumble, and I guess, try to like match with different entrepreneurs and business owners. From that a lot of cool conversations can happen like through just doing that I've been invited to like various entrepreneur events and met really cool people.

Paul also described the university environment as being a “place of abundance” where he could connect “relatively quickly” with students who have a variety of different disciplines and perspectives.

David also spoke about enjoying networking, identifying it as one of the most valuable parts of the university experience when he claimed,

One of the most valuable parts for me at least, is not only the classes -- they are very interesting and it's a very good school, at least for business, my opinion, but I believe that a lot of the value comes from the professors or the people that I might meet that are just from different parts of the world that are doing something that I might be interested [in].

Most of student participants mentioned the value of having the assigned mentor within their network, whether it was talking specifically about ideas related to entrepreneurship or more generally about the college-going experience. Andy explained that the advice would be helpful, elaborating that point, when he stated, “I don't know what I'm doing whatsoever so getting any sort of advice from someone who's started their own businesses definitely [was] beneficial.” Kai described the mentorship experience as being unique in how it was aligned to his individual circumstances. When asked how he might explain the mentorship program experience to a friend, Kai shared,

I would say very personalized. It was less of a professional course, that you just download and watch. It was very, they asked you questions and they told you advice that's based on your situation. So I would say when you're going into it, 'Expect a very personalized experience.'

The ability to ask for advice and gain insights from other peers was described as valuable. Julian, who participated in another formal entrepreneurship program that paired him with a more experienced entrepreneur expert, found the experience to connect with a peer mentor to be valuable in different ways. He explained it was more comfortable, did not require as much preparation on his part, and allowed him to ask questions beyond just those relating to the business he was trying to create. Julian expressed appreciating both experiences and found the peer mentor to be valuable in also just navigating the university as a first-year student. Having mentors at different stages of life and business experience allowed Julian to obtain a variety of insights.

Theme 3—Entrepreneurial focus. Entrepreneurial focus was the third theme that emerged from the mentees' interview data. Several of the students demonstrated a strong

sense of entrepreneurial identity when they described themselves. This was exhibited in stories of their childhood interest in being a business owner, current involvement in different projects, and the ways in which they were getting involved at Arizona State University. David explained, “from that point on [childhood], I kind of like understood that entrepreneurship was kind of what I do ... it is just kind of my calling.” Another, Julian explained how he was trying to build his own company, and identified it as a being a very entrepreneurial activity. Although some of the students were focused on developing a business or startup as being the primary entrepreneurial pathway, others had broader definitions and understandings of entrepreneurship. Specifically, Julian described it as a “way of expression ... and a medium to explore a multitude of different things.” David explained entrepreneurship when he said,

[It] not only applies to my current and future goals, but overall for everybody’s goals. It can be a big thing and it can be a small thing, as simple as changing the way you think about certain things, and that will change the way that you act and the way you’re motivated to finish things, and that will turn into something bigger.

Andy expressed more divergent thinking about entrepreneurship, which represented a counter example, when he viewed the entrepreneurial activities of others as discouraging and stating that he often felt ‘behind’ when hearing the ideas of others. Several of the students talked about reasons why individuals do not take a more entrepreneurial path. The most common reasons why included were fear, a lack of certainty in their possible future success, possible failure, and having a lack of ideas. Others discussed the importance of entrepreneurship as a primary goal in their life, with

degree attainment and the act of going to college serving as a safety net, backup plan, or way to please their family. One student, Paul explained,

education is pretty important. Like I know my end goal is to be an entrepreneur. And I know a lot people I've talked to, they never went to university. But at the same time, being first generation, you know, my parents sacrificing a lot for me to be able to go to university makes it feel like that [the] least I could do to repay their years of raising me as a kid is to get that degree and graduate.

Some of the students strongly identified entrepreneurship with business. Julian expressed his interest in both entrepreneurship and business when he explained,

I guess, just building something that is my own I've always been interested in business, you know, even before I knew what entrepreneurship meant or what being a business person meant. I guess, I've always had this vision of building something that was my own. You know, ever since, I was literally five ... I was like seven years old. People would ask me what I wanted to be in the future, you know, I'd say something generic like an engineer, but, you know, in reality, you know, I wanted to build my own engineering business. Or, you know, I went through a phase where I said, I want to be an architect, but in reality I wanted to build my own architectural firm. So, you know, and then, you know, when I got to, you know, middle school. I was like, huh, I don't need to, you know, have you know the specific degrees to be able to build a business, I can just be an entrepreneur.

Paul explained his career goals as including making his own startup one day, specifically expressing interest in digital marketing or e-commerce. Similar to Julian's

response, Paul saw the opportunity to build something of his own as appealing, suggesting this path as being “less so, I guess, moving up the corporate ladder, but more so creating a venture of my own.” Paul elaborated that this act of starting his own successful entrepreneurial venture would allow him to live in a way that allowed for “kind of creating a legacy in whatever industry I choose.” David was also interested in the idea of starting his own business, explaining that he had an idea that on which he was working. Although he had that common interest, David expressed an appreciation towards looking at being entrepreneurial as being not limited to one perspective, including the idea of business. David explained his appreciation for this perspective when he acknowledged,

entrepreneurship is not like you’re born with it. It’s not like you’re a business student and you can only have it like that. Its anybody can have it, and anybody can create anything entrepreneurial and innovative. They just need to understand that it comes from within.

Theme 4— Feelings towards entrepreneurship. Feelings towards entrepreneurship was the final theme from the mentees’ interview data. Generally, the mentees provided positive feedback regarding their connection to their mentor. Kai explained, “I really liked Zach [his mentor]. We got along very well and it really helped me.” He further explored how he felt when connecting with Zach, expressing that

it did not really feel structured or draining I think that definitely comes with depending on who your mentor was not necessarily something you will find in all mentorship programs. It was definitely very relaxed and not uptight, which I really liked.

Another positive feeling expressed was excitement. David shared that his mentor was very charismatic, resulting in him being more excited and looking forward to connecting, describing the overall experience as “enjoyable” when interactions occurred. Thus, David explained, “I was usually excited to get to talk to him [my mentor] and I was very happy” explaining it as a nice break between worrying about tests and other stressors from coursework. The mentorship program provided a welcomed break for him to connect and share his ideas, rather than just focus on the demands of school.

Taylor provided an opposite perspective, sharing he did not have a strong feeling about the overall experience when he said,

I don’t know if I really felt anything. It was just kind of like something that felt like I had to do, if that makes any sense. I felt like I had to do, but not necessarily like I was like looking forward to it or anything, or I wasn’t like not looking forward to that makes sense is just like another thing on the list I had to do.

For Taylor, it seemed that the experience was less of an opportunity and more of an obligation. Although he expressed liking the opportunity to learn from others, particularly to avoid similar mistakes, it was not something for which he felt that he could make consistent time in his schedule. Several of the students interviewed did not actively participate in all of the mentor sessions. Despite this lack of consistent involvement, most expressed a strong value towards entrepreneurship and benefits to the overall experience. This will be explored further in Chapter 5.

Summary of mentee interview data. Taken together, the mentee data suggested that students primarily valued entrepreneurial approaches, found it relevant to their envisioned future goals, and believed in their abilities to learn new things in self-directed

ways, which would benefit their entrepreneurial pursuits. Many expressed a constant curiosity and appreciated the conversation with their peers, as it related to entrepreneurial projects and exploring possible ideas. More generally, there was benefit in the peer mentor serving as a guide and resource to their college experience overall. Students felt comfortable asking a variety of questions and saw the opportunity to learn from others as being valuable, even if not always staying on the topic of entrepreneurship. Major outcomes from the data suggested a relevance to entrepreneurship as part of the college experience and the importance of relationships, both familial and peer. Interacting with peer mentors provided an opportunity for both reflection and growth without feeling overly structured or intimidating.

Mentor interview data. During the first cycle of coding mentor interview responses, 31 initial codes were identified. After additional interpretation and second cycle coding, three primary themes emerged from the data. These interpretations have been reflected in Table 6.

Table 6

Mentor Interview Themes and Examples of Codes

Theme	Categories	Related codes
Helping	Connecting and Supporting Ideas; Mutual Engagement; Providing advice and resources	Advice; Connection; Conversation; Help; Here for Them; Ideas; Learning from others; Mutual; Support; Start; Resources; Problem Solve
College Experience	Relationships in college; Limited time in school; COVID	College; Community; Competition; COVID: Friends; Professors; Project; Students; Time
Feelings	Positive towards mentor relationship; Passion for ideas	Confident; Look forward to; Exciting; Motivated; Passion

The most frequent initially coded concepts within the mentor data were idea (19), help (16), connection (11), and resources (10). COVID-19 did come into the

conversation, but not to the same extent as for the mentee conversations. In the following section, I have described the themes that emerged from the mentors' interviews.

Theme 1—Helping. Helping was the first theme that emerged from the mentors' interview data. The student mentors often described how it felt to be in a supportive role, indicating a sense of responsibility in how they helped and supported other students. For example, one mentor, Shannon indicated this sense of responsibility when they described the mentorship relationship saying,

I felt really good. I felt like I was able to actually help them [student mentees]. And at first, I was a little nervous because I wasn't sure if I was helping them. And so I just really wanted them to be honest with me and make sure they were giving me feedback so that way I could better be assisting them. And so I really liked it. And I think it helped me be more confident.

The mutuality of a mentorship relationship suggested the mentee *and* the mentor grew because of the interaction. This important outcome was consistent with the literature. Notably, this outcome was echoed in all three peer-mentor, student conversations. One student, Zach, explained that talking with the students and being able to help them was key to their enjoyment of the role. Mentors did not see it as work or an obligation to share their experiences, and they appreciated being able to do so because they perceived they benefited from it personally. Another, Anna, explained,

I think this is kind of a mutual conversation ... I'm a student as well and not that much older, nor do I have that much more experience. You know, it's only about three years, So, I think it's kind of a mutual relationship ... I was learning about things he was doing and we kind of got to play off each other in that way.

This result was consistent across all mentors, with Zach, describing it similarly as “mutually beneficial” and an opportunity to extend their own learning, with them feeling like “I have walked away with just as much value as the people who were ‘mentees’ by designation.”

Additionally, the student mentors spent a lot of time speaking positively about the resources and university environment to help support entrepreneurship in a broad way. Their valuing of entrepreneurship and their sharing of viewpoints consistent with how the university supported emerging entrepreneurs through resources was unsurprising given their positionality as student leaders employed with the Entrepreneurship + Innovation institute. The desire to help others in personalized ways while also building community were clear goals for these students in their mentor roles.

In describing the helping role of being a mentor, Zach explained the way in which he interpreted his role when he affirmed,

It’s a lot of listening, asking good questions, and help[ing] people think through where they’re at and kind of in accordance to where they want to go and then wrapping in external resources, that perhaps I have more knowledge than them given my role and my interests.

Zach added that he didn’t see himself solving anything for his mentees, but rather encouraging them to get to an outcome on their own when he said,

These guys had amazing answers ready to help push them forward and it was my job to ask a question that would help them uncover that. And so for me, it was really the strategy of ‘hey, what questions can I asked to make them go, oh,’ and then put two and two together in their mind ... I had to just find a way to get them

to do that math in their own mind. And that, to me, was kind of my strategy. It's what I did in every single one of the conversations and I feel that it was extremely effective in ultimately getting them at least a little farther along than they were before in their entrepreneurial endeavors.

Anna explained her commitment to providing support and saw it as a unique way to help others that was not always common when she stated,

So a lot of times you have to seek out your own resources, your own mentors, sometimes even your own funding to get involved. No one's necessarily going to hold your hand in this process. And no one really going to hold your hand in college for the most part, either.

Anna had served in additional mentor roles outside of this program and expressed a value towards helping make experiences easier for other students, whether connected to entrepreneurship or just in general. Anna explained,

I do really like actually my work and being able to talk to students and being able to help them. I don't really think of it as work because I really do enjoy like sharing my experiences with students because I didn't necessarily have that coming into college.

Shannon had two mentees regularly participate, which allowed her access to them and afforded her an opportunity to help each of them individually *and* encourage them to help each other. She expressed the benefit of building larger communities of support by encouraging a connection between her two mentees when she declared,

We all kind of come from different backgrounds, but they're striving for similar goals and I thought that that was just really inspirational and I thought it was very

nice that they kind of like ... I feel like they are good resources for each other now too. So I feel like kind of building like a small community was kind of fun.

This idea of learning from others, and encouraging that as part of the support process, was a key strategy used by the mentors when engaging in helping their mentees.

Theme 2— College experience. College experience was the second theme derived from the mentors' data. One of the mentors shared the importance of entrepreneurial skills during college when Shannon said,

I think being able to problem solve is extremely important in college. And in everyone's lives because we all have problems that we face all the time and just being able to understand how to navigate it for yourself and others is extremely important and useful.

Further, Shannon shared,

I think that other students who are currently in college, they're the ones that have the ideas of the future. And I think having an entrepreneurial mindset, if you're able to talk to other students and bounce ideas off of them ... we're the wave of the future. We're the new generation. So I think if you're getting your feedback from current students, that's the best way to kind of solidify your idea and get the best feedback from it.

The relevance of entrepreneurship now and in their future goals was consistent across the mentors. Shannon explained her belief that ideas can change the future and do so quickly. She shared, "I think if we all have an entrepreneurship mindset we can change so much and so quickly." Anna shared that her view of entrepreneurship went beyond starting a "Fortune 500 company in your garage" when she asserted, "It's taking

something that you see in the world that you think is a problem or something that you want to change and finding the solution, hopefully, being a solution.”

Notably, Shannon connected the idea and relevance of problem-solving to being a college student. She shared,

So I think like being able to problem solve, is extremely important in college. And in everyone's lives because we all have problems that we face all the time and just being able to understand how to navigate it and how to best navigate it for yourself and for other people, is extremely important and useful.

Zach explained that the university helped to create an environment that encouraged students to get involved with entrepreneurship and as problem solvers. Like Anna, he described many students being ‘advanced’ in the projects and approaches they were taking to problem solving. In particular, he highlighted how the college experience helped to create this in a multi-layered way.

Well, I think, first of all, just being there in that capacity at all is a first step, right, like the fact that we have designated programs. The fact that we have spaces. The fact that we have people that are on, you know, faculty, and staff here just to support student entrepreneurship takes a stance that it matters to this place. And I think that sounds kind of basic but it’s, it sounds that way because I’ve been here and because I’m taking it for granted, sometimes, but it’s not the case everywhere.

He also explained that students can receive funding for their ideas, without being asked “for crazy things in return, it shows they [the university] really care about you. It really is about the students.” Like Zach, Shannon emphasized the value of

entrepreneurship resources as part of the college experience. In particular, she expressed a belief that

Any of the entrepreneurship resources as you are also very important connections to be making if you want. If you're going to be either an alumni, who's going to open a business someday or if you're planning on opening one while in college. I think it's really important to make connections with your university.

Although comments about COVID-19 were less prevalent in the mentor interview conversations, it continued to be mentioned as a reality for the current college experience. Shannon, in particular, indicated it was shaping her college experience as a second-year student. She explained that some of her own involvement opportunities were temporarily on pause, like trying to be in a leadership role with her academic college when she noted, "because of COVID and everything that happened that right now they're more focused on trying I think just to navigate that." Shannon shared a shift in her own experience from attending events in person towards going online. Since that transition, she identified that she really had not actively attended events, so the mentorship experience was one way of being more involved and developing individually as a leader while in college.

Theme 3— Feelings about their role. Feelings about their role was the third theme that emerged from the mentors' interview data. Overall, the student mentors described their role and engagement with the mentees in positive ways. Shannon shared "I really just look forward to hearing how their weeks went" and describing how interesting it was to her to see how they were engaging at the university, despite being primarily online in their first year with the university. Anna shared that it was "definitely exciting to hear about one of his projects" and shared later seeing some of that project,

which was focused on advertising a local company, in her own social media channels.

Anna also described what she liked most through the experience as being able to connect individually when she claimed,

So just being able to hear about how he was doing, how he's progressing throughout his first semester. I think was the most exciting thing and it also just hearing any other questions that he had because again I do like to help students. So being able to answer those questions.

In terms of entrepreneurship, Anna described feeling like one of her mentees was further along in pursuing entrepreneurial ideas than she was personally. She felt she could have gotten even more involved in pursuing a specific idea but felt like she had limited time.

Despite not feeling as advanced in this regard, Anna saw it as a positive thing, explaining "He's ways ahead of me and has a lot of motivation..." Anna also shared that through her student leadership roles, she was exposed to a variety of students advancing a multitude of ideas, including "literally saving lives in Uganda from malaria" and expressing it as both "insane" and "really incredible and really inspiring." Anna expressed gratitude that "I get to be a part of that" which was consistent with how Zach described himself as caring when you can "help them get from point A to point B."

All of the student mentors expressed positive connections toward their mentees and commitment to helping others in their roles.

Summary of mentor interview data. Taken together, the mentor data suggested that they felt they were helpful when connecting with students during the five-week mentorship program. A belief that college is a key time and environment to support

entrepreneurial skills, including problem solving, was also expressed. Whether or not they felt like an expert always, student mentors expressed an ability to connect to resources and opportunities and broaden perspective through consistent conversation. That the mentor experience had value for them, and was not a uni-lateral experience, was one key takeaway that will be explored further in Chapter 5.

Mentee journal responses. Throughout the five-week intervention, mentees were encouraged to respond to weekly journal prompts that asked them to reflect on their own experience, provide insights into the outcomes of the engagement, and also provide information as a quality check throughout the course of the intervention for the researcher. Because the responses were fairly brief, often not exceeding more than a few sentences per entry, it was determined to not use specific discourse analysis approaches to interpret the responses. Instead, the mentee journal responses were uploaded into HyperRESEARCH 4.5.1 and treated in similar ways as the interview transcripts. Concept coding was utilized to help identify codes, which were then categorized. Due to the brief nature of the responses, multiple levels of coding were not undertaken.

In all, six categories emerged from these data. The categories included similarity, accessibility, opportunity, limits of relationship, helpfulness of specific interactions, and goal setting. These categories along with examples of the student responses that supported them have been provided in Table 7. For example, similarity was characterized by concepts such as “similar to me,” “the same mindset and outlook,” and “[my] mentor ... reminds me a lot of myself.” The other categories have been similarly illustrated. See Table 7.

Table 7

Mentee Journal Prompt Categories and Examples of Responses

Category	Student Mentee Submitted Responses Supporting the Category
Similarity	<p>Ambitious, similar to me I think she will be a great connection</p> <p>We have the same mindset and outlook on things.</p> <p>My first impression of the mentor was that he reminds me a lot of myself.</p>
Accessibility	<p>I feel like I can reach out to her whenever I need to</p> <p>My mentor seemed to be really chill which means that I will be able to talk to him more and seek his guidance more often.</p>
Opportunity	<p>I think he would be the perfect mentor to teach me the ins and outs of starting something new, as well as picking up some charisma</p> <p>I hope to create a good relationship with her so I can use her as a reference for my next job.</p> <p>This will certainly benefit me in the future.</p> <p>We talked mainly about what my next steps should be in my entrepreneurial journey.</p>
Limits of Relationship	<p>My first impression was that they were nice people, but I feel, as a student with no entrepreneurial experience, that I am already behind the curve.</p>

	I also spoke on my lack of motivation this week but I wish she would have given me more advice on how to not get discouraged.
Helpfulness of Specific Interactions	<p>It was very useful because he helped me overcome one of my main barriers at the moment. He helped me look at it from a different angle. I think we had a great conversation and we stayed on track the whole time</p> <p>In future discussions I think I'll ask about getting connected with engineers for potential entrepreneurship partners.</p> <p>It was very helpful to go through the way of coming up with an idea and working with other people to get a different point of view.</p>
Goal Setting	<p>I have set a goal for myself that by this time next year I will be bringing one of my business plans to life.</p> <p>I have set a couple of schedule related goals for myself in the upcoming weeks.</p> <p>I have now set a goal to have at least made an attempt at starting a business before the end of the academic year.</p> <p>I think my main goal is to create a product that serves to protect women.</p>

Given the guided nature of the journal reflections, which were responses to specific prompts, and the short form written answers from mentee participants, detailed thematic analysis was not warranted. Nevertheless, these data were useful in

documenting real-time perspectives of the participants and were connected with some of the feedback. In particular, the insights around the limitations of the interactions were useful and provided more understanding of the overall experience of the interactions. The categories of similarity, accessibility, and opportunity all appeared to suggest some value in the peer-specific interaction involved in the mentorship program.

Mentor journal responses. Mentor responses were also collected on a weekly basis. These data were treated in a manner similar to how the mentee journal responses were analyzed, with concept coding used to help identify categories. Table 8 has provided a summary of the insights provided from the weekly responses. There were three major categories including entrepreneurship, school and life in general, and limitations of engagement. See Table 8 for details about the interpretations of the mentors' journal responses.

Table 8

Mentor Journal Prompt Categories and Examples of Responses

Category	Student Mentor Submitted Responses Supporting the Category
Entrepreneurship	<p>I feel like they were willing to open up a bit about their personal lives and how entrepreneurship has impacted them.</p> <p>I believe this is a good starting point for them to begin thinking more specifically about their rolls as entrepreneurs. I asked about what they were currently working on and what their other potential ideas were.</p> <p>My student talked about the idea of reconsidering various everyday</p>

moments as “pitching opportunities.”

School and life in general	I decided to make the meeting more of a conversation rather than me talking at them about entrepreneurship. We did not just talk about entrepreneurship but other personal/academic things which really helped the conversation flow. For my first 1:1 meeting he did not have much to talk about with entrepreneurship so we talked about school and life in general. We also talked about school and life in general and I feel like she will come to me with questions she may have in the future. They did not have too many entrepreneurship questions for me so we talked about their schedules for next semester.
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Limitations of engagement	This week one of my mentees did not show up, so it was basically a 1:1 meeting with the same mentee, so our discussion was very similar to last week’s 1:1. ...there is one mentee that I have never been able to get in contact with, but the mentees that I have been in contact with did have 1:1 meetings. No one attended He says he is not passionate about anything and when he is presented with a problem he finds a way to work around it versus work through it. I honestly have no clue what to tell him.
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[Mentee name] was not able to attend by we talked via text to discuss how he is doing.

He said he was spending a lot of time studying so hasn't focused much on his projects.

The journal prompts verified, observed decreases in participation from some of the mentees. It also provided insights into the other ways they connected, particularly by text, which was not otherwise formally noted as part of the intervention. Conversation feedback was clearly delineated into two key categories, with some focus on specific entrepreneurial projects and skills and other conversations focusing on the college experience more generally. Although conversations around school and life in general might be seen as being "off topic" relative to the purpose of the intervention, another interpretation suggested it was possible that this strengthened the overall connection as a peer resource.

Comparison of mentees' and mentors' journal responses. Both groups discussed the importance of relationships, the role of the university in developing networks and communities as a valued experience and appreciated opportunities for discussions about entrepreneurship. The roles were situated differently in their interactions, the largest variation in responses to the interview conversations was around how the respective groups prepared for the mentorship meetings, with the mentors taking more time to prepare and guide the conversation, whereas most of the mentees discussed simply 'showing up.' This is reflective of the relational dynamic in mentorship and not unexpected.

Specifically, one mentee, David claimed he did not prepare for the mentorship conversations, instead he waited for his mentor to “start a conversation ... I’m a pretty big person on winging it.” This was consistent with all the interviewed mentees. Andy did not prepare and instead would “just go,” meaning he would log into Zoom to join the conversation. Kai elaborated that his preparation was very “minimal,” highlighting the primary shift in behavior being that “If anything, it was just getting out of bed so I’m not laying down while talking.” Another student mentee, Paul, shared his approach was simply answering questions and listening; “it kind of just came as it came.”

By comparison, one mentor, Shannon maintained she spent a considerable amount of time preparing for meetings when she said, “I tried to make an agenda and have kind of like specific points that I wanted to talk about ... I would do some reading and research.” Another, Zach, also indicated he spent time preparing thoroughly when he claimed,

I would read through that [material] generally a few hours before and start to formulate some of my own personal anecdotes and narratives that might lend to different points in that kind of guide. Then during the thing, it was very much just a raw listening exercise, not trying to stick to a script.

Preparing to listen, responding to the conversation thoughtfully, and being conscious of limiting distractions were all communicated preparation strategies. The third mentor, Anna, expressed that she did not overly prepare after the first mentor discussion, relying a lot on her past mentorship experience and allowing her mentee to help guide the conversation. All of this effort reflects the assumed responsibility of the

mentor to direct the conversation, but also provide space to be responsive to individual needs and personalize the interactions in the session.

CHAPTER 5

DISCUSSION

The purpose of this action research study is to gain additional understanding in student perceptions of entrepreneurship and entrepreneurship opportunities. Through the five-week peer mentorship program, I explore how a peer-mentor might play a helping role in supporting entrepreneurial activity in a college environment. Throughout the implementation of the program and analysis of the data, two perspectives are constantly considered, namely focusing on the experience of both the student mentees and student mentors. Although an aspirational outcome is that the Project Entrepreneurship mentorship experience would result in an increase in student participants' entrepreneurial self-efficacy, better understanding the student perceptions of entrepreneurial experience and relational support are critical underpinnings. In this concluding discussion, I discuss the complementarity of data and connect the outcomes to the literature and theoretical frameworks that inform the study. I will also discuss the personal lessons learned, limitations of the study, implications for my own practice, and for future research.

Complementarity of the Quantitative and Qualitative Data

In any mixed-method action research study, it is critical to discuss the complementarity of the quantitative and qualitative data. Greene (2007) explains complementarity as the extent to which the qualitative and quantitative data complement each other, that is to say, support each other and point to the same conclusions. Further, by combining the findings from the quantitative and qualitative data analysis and identifying where the data corroborate each other, there is greater support, a richer perspective, and inferences that are more valuable can be obtained from the study.

The quantitative and qualitative data are complementary in several ways. The results of the quantitative analysis suggested a very modest increase in Entrepreneurial Self-Efficacy and Relational Support following the five-week mentorship program intervention for the student mentees. Within the qualitative data, particularly from the interview responses, student mentees perceive themselves as being capable and interested in entrepreneurship, which supports the data from the Entrepreneurial Self-Efficacy construct. The decline of Entrepreneurial Identity is 0.29 of a point and could be attributed in part to one student participant, who most substantively provides a different response compared to his peers when completing the post-intervention survey. Through interviews and reviewing journal responses, it is possible to gain better insights into the perspective of this respondent, Andy. One comment he offers, when describing the importance of certain entrepreneurial skills, showcases his lack of Entrepreneurial Identity when he says, “You have to be very creative thinker, which obviously I’m not so that does put me in a certain spot.”

Andy consistently discounts his ability to have valuable ideas, discusses feeling behind when he compares himself with other students who are curious about entrepreneurship and who identifies his primary motivator for being involved in an entrepreneurial experience is whether he can find a way to be more financially successful and enjoy full-time employment. This stands in stark contrast to other student perspectives. By seeing the consistency of variation across his responses, both in the forms of quantitative and qualitative feedback, it is clear Andy provides a differing, but still valuable perspective as a respondent. His perspective as a counter-narrative provides valuable insights of some of the potential negative experience of connecting with peer

resources, particularly the risk that it can provide a sense of feeling behind or less capable due to comparison with others.

Connecting Results to the Literature

Multiple theoretical perspectives guide this action research study. Most notably, Ajzen's (n.d.) Theory of Planned Behavior (TPB), the concept of entrepreneurial self-efficacy, an extension of Bandura's (1997) theory of self-efficacy, and Social Cognitive Career Theory (Lent et al., 2002) are critical in guiding the approach of the research study and also considering the results.

Theory of Planned Behavior. Ajzen's (n.d.) Theory of Planned Behavior suggests that future actions are predicated on attitudes, norms, and perceptions of one's own ability to influence the outcome, or perceptions of behavioral control, which is related to self-efficacy. The intervention, in particular, is consistent with Ajzen's TPB. Within the context of the intervention, participants' intended behavior is to increase their entrepreneurship or understanding of it because they elect to participate in a multi-week, fully extra-curricular engagement opportunity, i.e., the mentorship program, and actively engage in it. For some, participation fosters greater levels of entrepreneurship and understanding. For others, despite having this intention, several disengaged during the process, with individuals like Taylor vacillating between their intentions and their behaviors. Although Taylor's expressed reason for not actively engaging is the demands of coursework.

Ajzen's (n.d.) emphasis on norms within this theoretical model also aids in understanding the findings, particularly when considering the group context of the intervention, and the ways in which individuals did or did not find commonalities with

other participants. Although the small sample size limits the ability to substantiate the influence of background factors, the influence of this factor on student behavior, emerges from this group of participants. Specifically, students indicate the perceived importance of family with entrepreneurial experience. This is consistent with broader entrepreneurial education literature that suggests family history with entrepreneurial activities influences attitudes towards entrepreneurship (Schoon & Duckworth, 2012; Tarling, Jones & Murphy, 2016).

Self-efficacy. Entrepreneurial self-efficacy is one of the three constructs assessed on the surveys. Change in scores between the pre- and post-intervention surveys is most substantial for entrepreneurial self-efficacy, the idea they can achieve their entrepreneurial goals by enacting appropriate actions (Bandura, 1997). Although still very modest with a 0.33 point increase, the average post-intervention score for entrepreneurial self-efficacy is 5.43 on a 6-point scale, which suggests respondents either agree or strongly agree with the items associated with the construct. Entrepreneurial self-efficacy, particularly in the context of students' possible future career aspirations as an expressed goal, is a suitable proxy measure, particularly when the program is condensed to a shorter time period (Bae et al., 2014; McGee et al., 2009). In interviews, students substantiate the idea they perceive themselves as being easily capable, or already having, the needed skills to be successful as entrepreneurs. Although many discuss the value of networking to expand their entrepreneurial opportunity, such an approach can be viewed as augmenting their entrepreneurial skill and as a means by which they will approach building a team to advance their entrepreneurial efforts.

Social Cognitive Career Theory (SCCT). The SCCT framework is particularly interesting to consider given the interview data, which provides a variety of insights into why students are pursuing particular academic paths and how they are approaching career choices. SCCT focuses on issues such as (a) how basic career and academic interests develop, (b) how educational and career choices are made, and (c) how success in these two areas is obtained (Lent et al., 2002; Tran & Von Korfflech, 2016). In particular, the majority of the students choose goals for academic programs, identifying topics of personal interest in which they envision a particular future, ranging from sports business to healthcare provider. Most speak of the practicality of having a degree and family influence in deciding to attend college, which is consistent with SCCT tenets. All student mentees, in particular, had additional academic performance goals. This is evident, in particular, in conversations around maintaining a high grade point average and expectations they put upon themselves to do well in school. These outcomes are consistent with those obtained by Segal et al. (2002) who explored SCCT as a method to predict potential future entrepreneurial actions by college students, especially if they demonstrated high levels of self-efficacy. In particular, outcome expectations are likely to play a substantial role in what these students choose to pursue, namely they identify possible academic and career goals based on their beliefs about how well they will perform in pursuing that goal.

Notably, social identity theory and mentor models are also critical in influencing this research project, particularly with respect to the creation of the intervention itself. Because students actively engage at lower levels with respect to the intervention, that is to say, they did not attend all their Mentor Circle sessions, they likely attained less than

optimal outcomes related to development in this area. As it stands, student mentees value their relations with their peer mentors and claim they are similar to their mentors. This sense of similarity encourages belongingness and value in the experience. Multiple student mentees described learning a lot from their mentor, both as it related to college generally and entrepreneurially with respect to approaches and resources. Student mentors express that mentees are approachable, connecting easily with their mentees, and importantly offer an informal perspective to them as it relates to their individual goals.

By comparison, Andy, who expresses the least connection to other participants, can be seen as an example of what might occur when fit, or identity salience, is not present or does not develop in an experience. For him, comparison with his mentor and others is, generally, not a positive experience and he communicates this perception as a reason to not engage as much as others, since he already feels he is behind where others are in terms of their entrepreneurial skills and identities.

Personal Lessons Learned

As a result of this action research study, I am able to learn multiple personal lessons that can benefit my practice as a scholarly practitioner and researcher in the future. These include the benefit of using theoretical frameworks to guide research, the advantages for employing a mixed-method approach, and the overall lessons learned when implementing an intervention, which includes the value for multiple cycles of inquiry to inform the process.

Theoretical frameworks. Throughout this process, I have become familiar with substantially more research focused on entrepreneurship education. By conducting a literature review, I gain perspective on the issues relating to my industry and gain more

familiarity with the language and frameworks that influence my field and our ways of knowing as we encourage entrepreneurial activity. Many of the theories on which I focus have underlying foundations in psychology and the actions of the individual, as well as their beliefs and motivations that result in actions. Although I constantly think about scale and effect, it is always done one person at a time and the individual framing is helpful to consider when thinking of how we can positively encourage entrepreneurial curiosity and action, including relevant skill development. Though much of the literature I reviewed does not directly influence the specifics of my study, familiarizing myself with the scholarship helps me be a more informed practitioner. Further, understanding that most research is an extension of some past research is helpful in considering ways in which I can gain insights from existing theories to influence my daily decision making as a practitioner. Finally, although my research project is intentionally not generalizable, there is critical value in substantiating decision-making—i.e., how to create the intervention, what constructs to measure, and so on—for the intervention itself as well as interpreting the results.

Value of mixed methods approaches. By collecting both qualitative and quantitative data, I gain more insights into my findings. I was able to develop further as a researcher by practicing with both approaches, but more substantially, I was able to find some levels of complementarity to help strengthen the findings of the research. Had I only collected quantitative data through the pre- and post-intervention survey, I would have a substantially less credible outcome because I would not have been able to illustrate as richly some of the student perspectives. This is especially true given the small sample size I had for the post-intervention survey. Because I collected data from

different sources, I was able to be more confident in the findings, despite study limitations.

Lessons from implementing the intervention. Most valuably, the multiple cycles of action research are critical in influencing the eventual intervention. This iterative process encourages constant reflection, engagement with multiple stakeholders and participants to gain new insights, and allows for a more thoughtful final project. My eventual intervention is informed directly by my problem of practice, which is refined through multiple iterations and opportunities for feedback, and also additional review of the literature. Although the intervention, and particularly pivots to its implementation, occurred out of necessity due to COVID-19, this is not a loss. Rather, pivoting reflects flexibility in meeting current needs and responding to the situation as an action researcher, which is a behavior illustrated throughout the process of the cycles of action research.

Limitations

There are several, important limitations of this action research study. Most notably, the short duration of the study during fall 2020 is a considerable limitation.

Although I would prefer to implement a longitudinal college-focused, entrepreneurial study, that is not possible within the constraints of the timeframe necessary to move forward towards degree attainment. The limited duration of the study, five-weeks, represents an adaptation from initial plans for an eight-week study. This truncated timeframe reflects another limitation, which is due to the realities of adapting to the needs due to a global pandemic and social distancing in response to COVID-19. Student recruitment represents a difficult challenge for this work, which might be

anticipated for a fully extra-curricular engagement, but is even more difficult due to the ongoing uncertainty present in our daily lives throughout the year 2020.

Additionally, student mentorship is limited to fully virtual formats. ‘Zoom fatigue’ is shorthand for a phenomena of burnout from ongoing engagement within a video platform. It is possible that some of the attrition throughout the course of the intervention is, in part, influenced by the fully-online delivery. The small sample size was another substantial limitation, particularly limiting the types of statistical analysis that can be used to analyze the quantitative data.

Specific threats to validity of this study include history and maturation. In particular, history is a concern because it is possible that an unrelated event, separate from the peer-mentor experience, influenced the outcome. As this program was administered throughout the course of a global pandemic and during the mentee’s first academic semester at college, it is reasonable to assume additional factors outside of the intervention could have influenced the outcomes. Moreover, maturation is a threat because it is reasonable that participants could have matured and seen improvement as a result of the time during the intervention. This threat was minimized by reducing the overall timeframe of the intervention, though a month and a half still occurred between the pre and post intervention assessments. To minimize threats to the quantitative results of the study, the same instrumentation was used in pre-intervention and post-intervention assessment phases.

Moreover, my role as researcher and positionality as a member of the J. Orin Edson Entrepreneurship + Innovation Institute presents potential bias, particularly in regard to the student mentors whom I supervise because they are student employees who

work closely under my direction. This is mitigated with observations and qualifying that there are no right or preferred answers as part of the interview protocol script before interviews occur.

As a researcher, I mitigated credibility issues related to my qualitative analysis in several ways. I used analytic memos to support interpretation of codes and emergent themes that resulted from multiple cycles of coding. I used the constant comparative method with coding, intentionally avoiding any pre-defined categories or themes. I was systematic in my approach of data collection, utilizing multiple open-ended questions and collecting responses in multiple ways. Throughout the intervention and the analysis process, I engaged in careful reflection. Analytical memos and the development of an audit trail support my processes that I used as a researcher.

Implications for Practice

Moving forward, I will continue to work to substantiate and explore the benefits of peer mentorship in supporting entrepreneurial activity including development of skills and self-efficacy. The intervention provides a select, new opportunity that deviates slightly from existing mentor relationships by formalizing the connection and increasing the interactions to weekly events rather than these events being spaced at longer intervals. Since the conclusion of the intervention, several of the student mentors share they continue to interact with their mentees, including in supporting their entrepreneurial endeavors, which suggests some additional value for the model that is not explicitly explored within the context of this study.

Although my research study is not generalizable, there is an opportunity to share the results more broadly with my colleagues and develop additional perspectives on how

best to implement and analyze mentorship relationships in our work context. I would consider offering the intervention again in fall of 2021 and considering new ways to market it to students who might not already be engaged to participate as mentees. This extension would likely continue with a focus on first-year students because one of the expressed benefits of the relationship was navigating the college experience and gaining general insights about the university, rather than limiting it only to an entrepreneurial focus.

Implications for Research

Aside from another cycle, a longer, more comprehensive one, advancing this current action research study, I will also consider applying the process of action research to a different problem of practice. As mentioned in the literature review, there is a substantial amount of scholarship around the lack of diverse participants in entrepreneurship programs. I would be curious to explore this area and apply the research process towards an analysis of our recruitment materials to determine whether there might be a better way to attract and engage a more diverse student population that more closely mirrors the demographics of the overall student population.

Closing Thoughts

We are currently living in times that are easily described as volatile, uncertain, complex, and ambiguous. A pandemic has directly altered daily life, including and especially within educational contexts. Responses to COVID-19 vary but include new, digitally enhanced learning modalities and normalization of developing or maintaining relationships in fully virtual environments. Although my intention was not to create a fully online mentorship experience, the outcome has specific benefits, including

increased levels of self-efficacy and expressed value towards the interaction at a time when interaction can be particularly difficult to find.

As a scholarly practitioner, I have an ongoing commitment to continuous improvement, and I value finding new ways of understanding my context to meet better the needs of the students whom I am privileged to serve. This action research study offers an important opportunity for personal and professional growth, most notably by encouraging consistent reflection as part of my work/learning/living process. As an educator, I look forward to improving my practice and expanding my influence by continuing to implement interventions with an action research approach that might provide further insights and advances to support those students whom I serve.

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APPENDIX A

JOB DESCRIPTION: ENTREPRENEURSHIP CATALYST (MENTOR)

Job Description:

The Entrepreneurship Catalyst functions as a liaison and navigator for ASU community members who are seeking to engage with entrepreneurship opportunities. Entrepreneurship Catalysts develop and implement strategies to raise awareness and involvement in entrepreneurship at ASU among undergraduate and graduate students, while also reaching out to faculty and staff members. Entrepreneurship Catalysts promote entrepreneurship opportunities through workshops, tours, information sessions, and one-on-one or group meetings. Entrepreneurship Catalysts work to help others identify and navigate resources and opportunities related to entrepreneurship; meetings can occur in person, via email, phone, or through online platforms, such as Zoom. Entrepreneurship Catalysts are trained in basic ideation processes to help individuals advance their ideas, while also referring to relevant resources.

Essential Duties:

- Guide students, and faculty and staff members to entrepreneurship resources through one-on-one or group meetings, providing critical information regarding relevant resources
- Marketing entrepreneurship opportunities to students at an assigned ASU campus location.
- Developing relationships with academic colleges and units to promote and communicate entrepreneurship opportunities
- Participate in bi-weekly meetings with supervisor, other Entrepreneurship Catalysts, and other campus partners
- Regularly blog regarding timely opportunities and highlight relevant stories related to ASU's value for entrepreneurship
- Document interactions and outreach to students

Desired Qualifications:

- Interest and knowledge of entrepreneurship opportunities at ASU
- Strong customer service, problem-solving and relation management skills.
- Self-motivated and detail-oriented
- Effective communication skills, including strong writing and presentation skills
- Ability to work independently through remote supervision

APPENDIX B
RECRUITMENT AND CONSENT FORM

Dear Colleague or Student:

My name is Lauren Dunning and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Ray Buss, a faculty member in MLFTC. We are conducting a research study on college student perceptions of entrepreneurship. The purpose of this study is to determine the influence of an entrepreneurship peer mentorship program on the student experience and understand better the current situation with respect to student perception of and motivation relating to entrepreneurship.

I am inviting you to participate in an entrepreneurship peer mentorship program that will include:

- A pre-program survey
- Three or more mentor sessions, to occur at mutually convenient times
- Five online journal entries
- One interview individually with researcher
- A post-program survey

The time commitment to this program is approximately five hours throughout the semester. The program is limited to under twenty participants. To confirm your space in the program, you must communicate your interest to participate to Lauren Dunning, Sr. Program Manager for Entrepreneurship + Innovation.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Choosing not to participate in the study does not influence or change the advising services, support that will be provided to you, or your standing at ASU. You have the right not to answer any question and to stop participation at any time. You must be 18 or older to participate in the study. If you choose to participate in this study,

The benefit to participation is the opportunity for you to reflect on and think more about student entrepreneurship opportunities and have paired mentorship conversations. There is potential to enhance your experiences and those of other students. There are no foreseeable risks or discomforts to your participation.

The researcher will request to audio record interviews. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know.

Your responses will be anonymous. Results from this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact the research team – Lauren Dunning at lauren.dunning@asu.edu or (480) 862-9829 or Ray Buss at ray.buss@asu.edu or (602) 543-6343.

Thank you,

Lauren Dunning, Doctoral Student
Ray Buss, Associate Professor

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Ray Buss at (602) 543-6343 or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

APPENDIX C
SURVEY INSTRUMENT

Demographic Information. The following items are questions about you and your background. There are no right or wrong answers.

Q1 At Arizona State University, I am currently a

- Freshman
 - Sophomore
 - Junior
 - Senior
 - Graduate student
 - Not enrolled as a student
-

Q2 At ASU, my primary campus location is

- ASU Online
 - ASU Downtown Phoenix campus
 - ASU Polytechnic campus
 - ASU Tempe campus
 - ASU West campus
-

Q3 Please select your academic college(s) or school(s) within Arizona State University

- College of Health Solutions,
- College of Integrative Sciences and Arts
- The College of Liberal Arts and Sciences
- College of Nursing and Health Innovation
- Herberger Institute for Design and the Arts
- Ira A. Fulton Schools of Engineering
- Mary Lou Fulton Teachers College
- New College of Interdisciplinary Arts and Sciences
- Sandra Day O'Connor College of Law
- School for the Future of Innovation in Society
- School of Sustainability
- Thunderbird School of Global Management
- University College
- W.P. Carey School of Business
- Walter Cronkite School of Journalism and Mass Communication
- Watts College of Public Service and Community Solutions

Q4 Please select if you have been involved with any of the following, to your knowledge, while at ASU.

- Completed a class focused on entrepreneurship
 - Participated in an entrepreneurship program, like ASU Venture Devils
 - Attended a campus event focused on entrepreneurship, such as a guest speaker
 - Been a member of a student organization with a focus on entrepreneurship
 - Participated in an entrepreneurship competition
-

Q5 Gender Identification

- Male
- Female
- Other
- Prefer Not to Answer

End of Block: Block 1

Start of Block: Default Question Block

Section 1: Attitudes and Beliefs about Relevance of Entrepreneurship .

The following items are questions regarding how you feel as a student and your personal

beliefs regarding entrepreneurship. There are no right or wrong answers. Please answer each item in alignment with your experience and beliefs.

Q6 I believe entrepreneurship is an achievable career option for me

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q7 I believe that skills associated with entrepreneurship are valuable skills to learn as a college student

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q8 I believe that I currently possess the skills needed to develop an entrepreneurial project

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q9 I believe that I would need to develop new skills before pursuing an entrepreneurial opportunity

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q10 I believe that entrepreneurship is relevant to my future career goals

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q11 I would consider applying to a competition or program that encourages entrepreneurship in the next six months.

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q12 Please list any skills in particular that you think would be important for success when participating in entrepreneurship opportunities

Section 2: Awareness of Entrepreneurship Opportunities at ASU .

The following questions are about Arizona State University and how it does, or does not, encourage entrepreneurial behavior from your perspective. There are no right or wrong answers. Please answer each item in alignment with your experience and beliefs.

Q13 I believe ASU encourages me as a student to consider entrepreneurial opportunities. (Examples of entrepreneurial opportunities can include starting a new project, nonprofit idea or business venture).

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q14 In the past year, I have frequently heard stories where ASU students were involved with entrepreneurship (such as starting a new project, nonprofit idea or business venture).

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q15 I believe that ASU provides me the resources needed to develop an entrepreneurial project that could be successful

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q16 I believe that it is easy to access ASU's entrepreneurship resources.

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q17 I would seek out information to learn more about ASU's entrepreneurial resources in the next six months.

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q18 Where are you most likely to hear about entrepreneurs at ASU, if at all?

Section 3: Attitudes and Beliefs about Relational Support .

The following questions ask about other individuals in your life, and if you believe they would encourage you to consider entrepreneurship opportunities. They also ask if you would encourage others to consider such opportunities. There are no right or wrong answers. Please answer each item in alignment with your experience and beliefs.

Q19 I believe my family would encourage me if I pursued entrepreneurship

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q20 I believe my professors would encourage me if I pursued entrepreneurship

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q21 I believe my friends would encourage me if I pursued entrepreneurship

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q22 I would encourage my friends to pursue entrepreneurship opportunities.

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q23 I would encourage my classmates to pursue entrepreneurship opportunities

- Strongly agree
 - Agree
 - Somewhat agree
 - Somewhat disagree
 - Disagree
 - Strongly disagree
-

Q24 If you wanted advice related to starting an entrepreneurial project, who would you be most interested to talk to first about your project idea

- A classmate
- An ASU student who is more involved with entrepreneurship
- An ASU professor
- An ASU staff member
- A family member
- Someone outside of the ASU network (that is not a family member)

APPENDIX D
INTERVIEW PROTOCOL

Student Interview

Thank you for participating in this research project. The purpose of this interview is to learn about your experiences as a student at Arizona State University and within the peer mentorship program earlier this semester. This interview will take about forty-five minutes. I am interested in hearing your thoughts and opinions, and encourage you to answer honestly. None of these interview questions have a right answer, and if there are any questions you are uncomfortable with, you have the right to not answer them. I will be audio recording over conversation for the purpose of collecting data for research. Your response is completely confidential and I will use pseudonyms in my research to guarantee your confidentiality. Your identity will not be disclosed and the audio will be destroyed once it has been transcribed. Do you have any questions for me before we begin?

Pseudonym:

Date:

Location:

Student race:

Student Gender:

Academic Year:

Academic Major(s):

Student background information:

- 1) Please tell me about yourself. Where do you grow up?
- 2) Why did you choose to attend ASU?
- 3) Before attending ASU, what had you heard about this college? What was your understanding of its reputation?
- 4) How much of it is true from your experience?
- 5) What are your expectations from yourself while in college? Socially and academically?
- 6) What are expectations of others [ask them to specify who] as it relates to what you do in college and after?
- 7) Do you have any specific future career goals?
- 8) What would you like your life to look like ten years from now?
- 9) How do you like to spend your free time?

Student perceptions about ASU:

- 10) What aspects of ASU do you find particularly exciting or enjoyable?
- 11) What aspects of ASU do you find challenging?
- 12) Are there any particular ways you are involved at ASU outside of attending class? What have those experiences been like for you?
- 13) Have you made friends through ASU? How have these relationships developed?
- 14) What advice would you give to someone else thinking about attending ASU?
- 15) How well do you feel like you know your classmates (in or outside of the classroom)
- 16) What motivates you to be involved at ASU?

Student perceptions about mentorship experience (intervention):

- 17) Why did you decide to get involved with the mentorship program?
- 18) What was it like to be connected with a mentor/mentee?
- 19) Can you recall any particular advice or interactions through the mentorship program? What was it like?
- 20) How did you typically feel when connecting with your mentor/mentee?
- 21) What are the things you would typically look forward to most when meeting with your mentor/mentee?
- 22) Did you feel like they were able to help you/you to help them in any particular ways?
- 23) How did you prepare, if at all, before having a mentorship meeting?
- 24) How would you describe the mentorship experience to another friend?

Student perceptions of entrepreneurship:

- 25) What skills do you think are most important to develop to be entrepreneurial?
- 26) In what ways, if any, do you think ASU supports you developing an entrepreneurial mindset/perspective?
- 27) In what ways do you think the concept of entrepreneurship applies to your current or future goals?
- 28) What does entrepreneurship mean to you?
- 29) What skills do you think are important to have to start something new?
- 30) How can other students be a resource for you as you consider being involved with entrepreneurship or other opportunities?
- 31) What are some of the reasons you would not pursue entrepreneurial opportunities while at ASU?
- 32) Has anything surprised you when talking to students about their interest in entrepreneurship?
- 33) What do you think the university can do to help your chance of entrepreneurial success?
- 34) What relationships are important for you to consider getting more involved with entrepreneurship?
- 35) Do you have anything you would like to share that I haven't already asked?

APPENDIX E

UNIVERSITY HUMAN SUBJECT IRB APPROVAL DOCUMENTS



EXEMPTION GRANTED

[Ray Buss](#)
 Division of Educational Leadership and Innovation - West Campus
 602/543-6343
 RAY.BUSS@asu.edu

Dear [Ray Buss](#):

On 8/12/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Project Entrepreneurship: A Study of the Influence of Peer Mentorship on Entrepreneurial Self-Efficacy
Investigator:	Ray Buss
IRB ID:	STUDY00012312
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> • Intervention Overview , Category: Other; • Interview Protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB Protocol, Category: IRB Protocol; • Peer Mentor Training Sessions, Category: Participant materials (specific directions for them); • Recruitment Consent Letter, Mentee, Category: Consent Form; • Recruitment Consent Letter, Mentors, Category: Consent Form; • Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings, (2) Tests, surveys, interviews, or observation on 8/12/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc:

Lauren Dunning