How COVID-19 influences the future of service management professions

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Abstract

Purpose – Crises influence individuals’ career development. The COVID-19 crisis has global impacts in financial, health and social aspects and service industries are at the forefront of the pervasive impacts. This study investigated how college students’ perceptions of COVID-19 interplayed with self-efficacy on their academic plans and further identified major differences between students in service-oriented and nonservice-oriented majors.

Design/methodology/approach – A self-administered online survey was conducted with 299 undergraduates at a large Midwestern university during COVID-19. Regression analyses, including conditional analyses, examined the study hypotheses using SPSS.

Findings – The results showed that, in general, students’ self-efficacy reduced their intentions to change their academic majors. The joint effects of self-efficacy and perception of COVID-19 diverged among students in nonservice-oriented majors but converged among students in service-oriented majors (e.g. hospitality and tourism). These students in the service fields showed more commitment to their current majors even as their concerns about the social implications of COVID-19 increased.

Practical implications – This study suggests that academic institutions should try to improve students’ self-efficacy to maintain their career commitments during crisis times. Furthermore, service organizations should highlight the importance of social aspects as recovery from COVID-19 begins as a tool to recruit college graduates.

Originality/value – The literature on career decisions of students in service industries is quite limited. This study enriches the body of career decisions research in the context of service management by highlighting how service sectors are influenced by COVID-19.

Keywords COVID-19, Crisis, Academic major, Self-efficacy, College students

Paper type Research paper

Introduction

Career development is a continuous process in which internal (e.g. self) and external (e.g. environment) factors mutually influence each other (Gottfredson, 2002; Lent et al., 2002; Super, 1990). The role of self-efficacy as a key internal factor in career development is well documented in the literature (Betz and Hackett, 1981; Lenox and Subich, 1994). Self-efficacy, which refers to people’s assessments of their ability to plan and carry out the steps needed to achieve specific types of performances (Bandura, 1986), exerts direct effects on career-related behaviors (Gainor, 2006). Within the hospitality management sector, self-efficacy has been shown to impact college students’ career decisions (Chuang et al., 2009; Song and Chon, 2012) and employees’ career commitments (Niu, 2010).

While the importance of self-efficacy is obvious, it is not the only factor that impacts career development. Various external factors such as personal situations (e.g. family obligations) and socioeconomic circumstances (e.g. changes in the status of the labor market) also cause individuals to compromise their career preferences (Gottfredson, 2002; Lent et al., 2002; Savickas, 2002). A crisis is an important external factor that has not received enough attention in relation to career development. Few studies (Cairns, 2017; de Barros, 2015; Simosi...
et al., 2015) showed a close relationship between a crisis and career development. For example, in the aftermath of the financial crisis, young professionals’ career paths and job-seeking behaviors were adjusted to be strategic under prolonged unstable employment status (Simosi et al., 2015). Given the literature on crisis and career-related behaviors, this study focuses on the impact of a recent unexpected crisis — Coronavirus Disease 2019 [COVID-19] on college students’ career development processes.

As of January 2021, COVID-19 resulted in over 22 million cases and more than 376,000 deaths in the US (Centers for Disease Control and Prevention, 2021). In addition to the health crisis, the pandemic also caused an economic crisis, as evidenced by the decline of GDP and the rising unemployment rate (Harris, 2020). In February 2020, the USA officially entered a recession (Harris, 2020). Service industries that depend on customer-provider interactions experience tremendous and pervasive impacts (Kochhar and Barroso, 2020). State governments restrict access to dine-in restaurants, theaters, concert halls, retail stores and other nonessential businesses (National Conference of State Legislatures, 2020). The unprecedented challenges caused a significant drop in employment, mainly in different service industry sectors (US Bureau of Labor Statistics, 2020a); almost two-thirds of the decline occurred in leisure, and hospitality and prominent employment declines were shown in health care, professional and business services, and retail trade.

Service industries are a dominant component of the economy, and in 2018, they accounted for 67% of GDP in the USA (The Atlantic, 2018). These industries are intertwined, and the COVID-19 crisis dramatically impacts all of them. In this context, understanding individuals’ intentions to commit or modify their career paths is important in general and particularly for labor-intensive service industries. These career decisions may drastically change during times of crisis. Therefore, in this time of the COVID-19 crisis, it is crucial for service industries, and specifically, the hospitality and tourism industry, to closely evaluate career selection and career commitment decisions of students who are destined to be the future generations of managers.

This study employs the Social Cognitive Career Theory (SCCT) (Lent et al., 1994) to understand college students’ career development process. It explains how individuals develop academic and career interests, make educational and career choices, produce educational and career performance and maintain stability (Leung, 2008). SCCT emphasizes an interactive relationship between people and the environment, which can explain how college students’ self-efficacy plays a role in their career development under COVID-19. Based on SCCT (Lent et al., 1994) and the crisis and career literature (Cairns, 2017; de Barros, 2015; Simosi et al., 2015), this study assumes that labor markets can be influenced if college students will adjust their career plans depending on their self-efficacy and perceptions of COVID-19. For gaining insights into students’ career plans within service industries, this study explores how COVID-19 influenced the career decisions of students with academic majors that focused on service industries. As a reference, the group that focused on service industries is compared to a group of students who did not focus on service-related industries. This study, therefore, aims to explore (1) the relationship between students’ self-efficacy and their intentions to change academic majors, (2) the role of perception of COVID-19 on the path from students’ self-efficacy to their intentions to change academic majors, and (3) the role of interplay between the type of students’ academic majors (service-oriented vs nonservice-oriented) and perception of COVID-19 on students’ self-efficacy and their intentions to change academic majors.

Although service industries have grown significantly, the literature on career decisions of students in service industries is generally limited (Li and Huang, 2017). This study contributes to the service management literature by enriching the body of career decisions research in the context of service management. The results also provide suggestions to industry practitioners by responding to urgent calls about how service sectors are influenced by COVID-19.
Literature review

Social cognitive career theory

SCCT is well known for its explicit and holistic view of the career development process (Lent and Brown, 2019). It provides a comprehensive framework that explains self-efficacy, outcome expectations and goals that interact with demographic and contextual variables, which eventually influence career interests, career choice and performance (Lent et al., 1994). Rooted in Bandura’s (1986, 1997) Social Cognitive Theory, SCCT emphasizes that self-efficacy is related to prior career-related findings. In addition, SCCT presents a set of hypotheses that investigate career development derived from a social cognitive perspective (Sheu et al., 2010).

SCCT explores interactions among a variety of personal, environmental and behavioral factors that are expected to influence peoples’ (1) basic academic and career interests, (2) educational and vocational plans, and (3) academic or career performances (Lent et al., 2008). In particular, SSCT proposes that self-efficacy and outcome expectations play important roles in enhancing career goals or career interests (Lent et al., 1994). Self-efficacy is related to individuals’ beliefs about their abilities to succeed in particular activities, such as beliefs about career outcomes (Lent et al., 1994). This belief of confidence is used to explain how one excels or yields to demanding events (Frisby et al., 2013; Leiter, 1992), achieves pursued choices and goals (Schoenfeld et al., 2017), and secures aspired effects (Hatlevik et al., 2018; Lent and Brown, 2006, 2008). Outcome expectations explain individuals’ beliefs about the results of achieving certain behaviors (Lent et al., 1994). Career goals explain individuals’ intentions to engage in a particular activity or to accomplish a certain type of career performance (Lent et al., 1994). For instance, college students prefer to choose academic majors that can lead to favorable career outcomes based on their beliefs and confidence in their abilities and skills.

SCCT has been extensively applied to various disciplines to understand various aspects of academic and career development (Sheu et al., 2010), including computing disciplines (Lent et al., 2008), entrepreneurial contexts (Liguori et al., 2018), accounting (Schoenfeld et al., 2017) and clinical careers (Bakken et al., 2006). For instance, Lent et al. (2008) applied SCCT to examine university students’ academic major decision goals in the context of computing disciplines, such as science and engineering-related majors. They expanded SCCT by investigating social supports and social barriers in examining university students’ major choice goals. However, SCCT has received scant attention in service industries, and there is a need for more empirical examinations of SCCT incorporating contextual factors (e.g. Lent et al., 2010), such as perceived barriers to career development. Thus, this study integrates college students’ COVID-19 perceptions on the relationship between self-efficacy and intentions to change academic majors, investigating the contextual factor.

Crisis and career development

A crisis is “a low-probability, high-impact event that threatens the viability of the organization” (Tse et al., 2006, p. 4), which has uncertainty in terms of cause, effect and resolution methods. Barton (1993) views the crisis as a major, unpredictable event that results in negative consequences. A crisis is especially viewed as an event that damages a firm’s reputation or harms the long-term profitability or growth in the business context (Lerbinger, 1997). COVID-19 is considered a crisis categorized as a natural disaster, such as virus/bacteria contamination (Tse et al., 2006). It is an infectious disease and has disrupted people’s normal activities.

Most states in the USA requested stay-at-home orders (National Conference of State Legislatures, 2020), which forced all nonessential businesses to close, resulting in the significant shutdown of economies (Technomic, n.d.). Also, due to the enforcement of social
distancing, businesses are worried about COVID-19’s long-term negative effects on their operations (Technomic, n.d.). For instance, enforcement of social distancing has resulted in very limited or no business opportunities in the foodservice industry since most states in the USA prohibited dine-in services, permitting only pickup, drive-thru, or delivery services (Technomic, n.d.). As a result, college students might ponder the sustainability of their current academic major selections due to the evolutionary changing economic, societal and health conditions.

A substantial amount of research provided insights into crisis prevention (e.g. Wang and Ritchie, 2013), crisis response and recovery plans (e.g. Dahles and Susilowati, 2015; Ndlovu and Heath, 2011; Scott et al., 2008). Past research on crisis management provided general guidelines for dealing with crises (Stafford et al., 2002). For example, Stafford et al. (2002) describe a four-step coping procedure for crisis management that includes crisis categorization, damage assessment, tactics formulation and evaluation of actions. Tse et al. (2006), Israeli (2007) and Israeli et al. (2011) adopted Stafford et al. (2002) model to explain crisis management in service industries, including restaurants, hotels and travel agencies.

Only limited research has examined the effects of the crisis on career development (e.g. Cairns, 2017; de Barros, 2015; Simosi et al., 2015). For instance, individuals with lower career identity were found to switch careers after a crisis (Simosi et al., 2015). College students’ life values were rearranged in priorities during a financial crisis (de Barros, 2015). Financial crises also significantly influenced mobility decisions among international students (Cairns, 2017). Although contextual factors play important roles in career development decisions (Lent et al., 2010), the consequences of crisis perception on college students’ career behaviors have been scarcely studied. Such research can potentially allow higher education institutions to develop crisis management strategies for sustaining various academic majors during or after crises.

**Academic majors**

This study considered students’ academic majors as a proxy of their career plans. The common view is that an academic major is an essential step toward students’ long-term career goals. Furthermore, decisions about academic majors and career choice options are considered to be inevitably connected (Lent et al., 1994; Willcoxon and Wynder, 2010).

The selection of an academic major involves ongoing considerations of many factors. Students’ choice of college major is often a reflection of self-awareness, aspirations, past experiences and social influences. Traditional human capital theory suggests that students will make academic decisions about what degree to pursue based on their own personal and subjective cost-benefit calculations (Becker, 1962). Some have argued that there is a noticeable trend that links decisions about academic major with career-related factors that mainly include job availability, average salary (earnings), career flexibility and career security (Baker et al., 2018; Berger, 1988; Calkins and Weldi, 2006; Liao and Ji, 2015). Calkins and Weldi (2006) describe that students ruminate that “longer-term economic and labor market considerations also is a significant predictor of the choice of major” (p. 549). In an ongoing debate between self and the outside world, students’ decisions towards their academic majors may change over time (Super, 1990). These changes could be reaffirmed or refuted via various experiences (Bandura, 1994).

**Hypotheses development**

**Self-efficacy and intention to change academic major.** The research of choice behavior has delved into personal and environmental influences on college students’ career behaviors in an enthusiastic way. Past research explored how students “learn about themselves, evaluate the
environment, and attain their career goals within specific fields of interest as they progress their academic status within the university setting” (Chuang et al., 2020, p. 4). According to SCCT, self-efficacy has been recognized to actively influence academic choice and career goals. Career-related literature has a common finding that self-efficacy influences personal control over career situations and such confidence is reflected in one’s choice behavior. In general, individuals with high self-efficacy show persistence in pursuing goals, higher career commitment and lower turnover intention (McKim and Velez, 2015; Park and Jung, 2015). Deficiency of self-efficacy yields a weak commitment to career choice and academic major (Chuang et al., 2020; Jaensh et al., 2015). The first hypothesis is worded accordingly.

**H1.** Self-efficacy negatively affects intention to change academic major.

**Moderating roles of COVID-19 perception and academic major type (service-oriented vs nonservice-oriented).** Considering the pervasive impacts and significant uncertainty of COVID-19, this study questions how students’ perceptions of COVID-19 influence the affirmative role of self-efficacy in career development. The social cognitive theory asserts the strengthened role of self-efficacy under difficult situations (Bandura, 1994). Under threats, inefficacious thinking makes individuals seek to blame for personal deficiencies, which results in a frail commitment to planned goals. High self-efficacious individuals excel in perplexing and unexpected events. Efficacious thinking transforms threatening situations into harmless ones. This pattern gets more evident in wrenching situations (Bandura, 1994). Given the finding that the role of self-efficacy becomes more important in highly threatening situations, the study explores the moderating role of COVID-19 perception with the second hypothesis.

**H2.** The association between self-efficacy and intention to change academic major is contingent on the perception of COVID-19. For those who perceive COVID-19 to be severe, the influence of self-efficacy on intention to change academic major will be stronger.

Since the impact of COVID-19 on the hospitality and tourism industry and, more generally, on service industries is probably more severe than other industries, this study assumes that students in service-oriented majors would process the current COVID-19 crisis differently from those in nonservice-oriented majors. Concerns about job insecurity and changes in the work environment resulted from the COVID-19 center among employees in service industries (Kochhar and Barroso, 2020). Past research suggested that students’ performance and self-regulation tend to be affected when perceived job insecurity and feelings of uncertainty are heightened (Arenas et al., 2006). These issues are incorporated into the last hypothesis.

**H3.** The moderating impact of COVID-19 perception in the association between self-efficacy and intention to change academic major is contingent on the type of students’ academic major. In other words, the interaction pattern of perception of COVID-19 will be different between those in service-oriented majors and those in nonservice-oriented majors.

Figure 1 visualizes the conceptual framework and describes proposed hypotheses.

**Methods**

**Measures**

General self-efficacy was measured with eight items (Chen et al., 2001). Participants answered how much they believe their capabilities of performing goals well. Measurement items of intention to change academic major were adapted from three items of general turnover.
intention (Mobley et al., 1978). It measured the extent to which participants consider switching their current academic majors.

Perception of COVID-19 was measured for financial, health and social dimensions. The financial dimension was introduced as being related to a severe economic downturn, which can lead to recession, depressions, or a rapid rise in unemployment. The health dimension was stated as being related to the difficult situation that affects humans in one or more geographic areas, such as a pandemic. The social dimension was described as being related to how government and society respond to events such as stay home order, social distancing, or self-quarantine. Two measurements were borrowed from Rittichainuwat’s (2013) study about how participants perceive the crisis. The first elicited participants’ perceptions of severity for each dimension of COVID-19, and the second was a measure of how much they worry about the dimension of the crisis. All constructs were measured on a five-point scale.

Participants’ academic majors were classified into two categories: service-oriented majors and nonservice-oriented majors. The distinction was based on the list of service-providing industries (US Bureau of Labor Statistics, 2020b). Service-oriented majors were characterized by high interpersonal contact and included service-embedded businesses such as hospitality management and retail trade. Nonservice-oriented majors were areas with low interpersonal contact, such as chemistry and computer science.

In addition, career adaptability (Savickas and Porfeli, 2012) and depression/anxiety/stress (DAS) level (Lovibond and Lovibond, 1995) were measured as control variables due to potential confounding effects. It was found that during organizational downsizing, employees’ career adaptability influences positive career turnover intentions (Klehe et al., 2011). Students’ mental health can deteriorate during COVID-19, and they may become worried about health, family, friends and their future (Elmer et al., 2020), which could influence their perceptions of COVID-19 and career-related behaviors. Career adaptability was measured with 24 items on a 5-point scale (Savickas and Porfeli, 2012). A short version of the DAS scale (Lovibond and Lovibond, 1995) was used to measure participants’ mental health.

Demographics (age and gender) and class standing (freshman, sophomore, junior and senior) were also measured to be used as control variables under the consideration that personal factors may influence career decisions (Lent et al., 1994; Chuang, 2010).

Data collection
A pilot survey was conducted with 247 participants recruited from Amazon MTurk to check the validity and reliability of measurement items. For reducing the threat of common method
bias, a variety of preventative techniques were used; for example, the randomization of the questions’ order, the use of various types of scale response options, and reversed questions (Podsakoff et al., 2003, 2012). Only college students who confirmed on a screening question were able to participate in the survey. Based on the results of exploratory factor analysis and reliability tests, several items were reworded. For example, one item of self-efficacy was too ambiguous to measure an intended academic topic (i.e. the strength of beliefs), thus reworded. Also, items of career adaptability were reworded to be referencing clearly to career (e.g. “thinking about what my future will be like” was edited to “thinking about what my future career will be like”).

A refined questionnaire was distributed to undergraduate students at a large Midwestern state university. An online survey link was emailed to undergraduate students in June 2020, in the midst of COVID-19. Among 338 completed responses, 39 responses were deleted due to failure of attention check (n = 33), nonresponse of major (n = 4) and age below 18 years old (n = 3). Thus, 299 responses were used for data analysis.

Data analysis
The confirmatory factor analysis (CFA) was used to validate a measurement model (Hair et al., 2010). The LISREL 8.80 was utilized to perform CFA. Also, the reliability of measurement items was evaluated using Cronbach’s Alpha (Nunnally and Bernstein, 1994). Measurement items of each construct were found to be reliable and valid (detailed information is reported in the Results section). Thus, summated scales of each construct were created by averaging the measurement items (e.g. Rittichainuwat, 2013; Hyun et al., 2021): each participant’s responses to the corresponding items of each construct were averaged to create a single score, which was used for main data analyses. The study tested a main effect of self-efficacy on intention to change academic major to investigate Hypothesis 1 using regression analysis. Second, a conditional analysis using SPSS syntax (Model 1, Hayes, 2018) examined the moderating role of perception of COVID-19 on the association between self-efficacy and intention to change academic major (Hypothesis 2). Third, a moderated moderation (Hypothesis 3) was tested (Model 3, Hayes, 2018) to examine the conditional effect of perception of COVID-19 by academic major type. This regression-based approach of the conditional analysis (Hayes, 2018) was used because the continuous moderator (i.e. perception of COVID-19) did not need to be dichotomized. Regression analysis was suggested with continuous moderators due to problems of dichotomizing continuous variables (Fitzsimons, 2008). Hypotheses 2 and 3 were tested for each dimension of COVID-19: financial, health and social dimensions. All analyses controlled for participants’ age, gender, class standing, DAS level and career adaptability.

Results
Sample characteristics
Almost 74% of participants were female, and 23% were male (3% were not willing to disclose their gender). Most participants were Caucasian (78%), followed by African American (7%), Asian (6%) and others. The average age was 22 years (ranged 18 to 55). In terms of class standing, 6% were freshmen, 23% were sophomores, 29% were juniors and 42% were seniors. More than half of them were employed either full-time (13%) or part-time (48%). Among unemployed participants (30%), almost half of them (55%) were unemployed recently due to COVID-19. Participants who had academic majors in service-oriented areas accounted for 56%, and 44% majored in nonservice-oriented areas.
Results of CFA
The results showed an acceptable model fit: $\chi^2/df = 2.50$; non-normed fit index (NNFI) = 0.96; comparative fit index (CFI) = 0.97; and root-mean-square error of approximation (RMSEA) = 0.071. Table 1 describes the results of the CFA, along with the mean and SD of each construct. Convergent validity was supported by significant standardized item loadings of higher than 0.5; average variance extracted (AVE) values of greater than 0.5, composite reliability of greater than 0.6 and reliabilities of greater than 0.7 (Hair et al., 2010). Discriminant validity was also checked through the results of AVE estimates and the corresponding squared interconstruct correlation estimates. As shown in Table 2, all AVE estimates exceeded the corresponding squared interconstruct correlation estimates. Thus, the discriminant validity was not an issue in this study (Fornell and Larcker, 1981).

Hypotheses testing
Self-efficacy was found to be negatively related to intention to change academic major, supporting Hypothesis 1 ($\beta = -0.222; p = 0.002$, Adjusted $R^2$ square = 0.074). It implies that if college students strongly believe in their abilities to successfully complete a task, they are less likely to change their current academic majors. The moderating role of perception of COVID-19 for the financial dimension was slightly significant ($p = 0.0578$), supporting Hypothesis 2 (see Table 3). The negative effect of self-efficacy on intention to change academic major was stronger for students with lower perceptions of COVID-19.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>SD</th>
<th>$\alpha$</th>
<th>CR</th>
<th>AVE</th>
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<tbody>
<tr>
<td><strong>Self-efficacy</strong></td>
<td>4.13</td>
<td>0.70</td>
<td>0.91</td>
<td>0.91</td>
<td>0.56</td>
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<tr>
<td>In general, I think that I can obtain outcomes that are important to me</td>
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<td>I believe I can succeed at most any endeavor to which I set my mind</td>
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<td>I will be able to successfully overcome many challenges</td>
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<td>I am confident that I can perform effectively on many different tasks and situations</td>
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<td>Even when things are tough, I can perform quite well</td>
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<td>When facing difficult tasks, I am certain that I can stay focused on them</td>
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<td>I will be able to achieve most of the goals that I have set for myself</td>
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<td>Compared to other people, I can do most tasks very well</td>
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<td><strong>Perception of COVID-19</strong></td>
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<td><strong>Financial perceptions</strong></td>
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<tr>
<td>How do you perceive the financial dimension of the crisis related to COVID-19?</td>
<td>3.75</td>
<td>0.92</td>
<td>0.73</td>
<td>0.74</td>
<td>0.59</td>
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<td>How do you feel about the financial dimension of the crisis related to COVID-19?</td>
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<td><strong>Health perceptions</strong></td>
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<tr>
<td>How do you perceive the health dimension of the crisis related to COVID-19?</td>
<td>3.64</td>
<td>1.05</td>
<td>0.89</td>
<td>0.81</td>
<td>0.81</td>
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<td>How do you feel about the health dimension of the crisis related to COVID-19?</td>
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<tr>
<td><strong>Social perceptions</strong></td>
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<tr>
<td>How do you perceive the social dimension of the crisis related to COVID-19?</td>
<td>3.49</td>
<td>1.07</td>
<td>0.86</td>
<td>0.87</td>
<td>0.76</td>
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<tr>
<td>How do you feel about the health dimension of the crisis related to COVID-19?</td>
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<tr>
<td><strong>Intention to change academic major</strong></td>
<td>1.94</td>
<td>1.03</td>
<td>0.78</td>
<td>0.76</td>
<td>0.55</td>
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<tr>
<td>I am thinking of switching my current major</td>
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<td>I think of leaving my current major</td>
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<td>I have tried to search new majors</td>
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</table>

Table 1. Measurement model constructs

Note(s): CR = Composite reliability; AVE = Average variance extracted
only shown when participants were worried about the financial dimension of the crisis and perceived it as severe (50th percentile and above). In other words, for those who perceived the financial dimension of COVID-19 to be severe, the impact of self-efficacy in reducing intention to change academic major was stronger. Such a pattern was not shown with the health and social dimensions of COVID-19. Regardless of students’ perception of health and social dimensions of COVID-19, their intention to change academic major reduced as self-efficacy increases. The insignificant moderation of perceived social dimension is explained by the following results of Hypothesis 3.

A toned-down moderation suggesting that the interaction effect of perception of COVID-19 will be contingent on participants’ majors was found with the social dimension (p = 0.0298), supporting Hypothesis 3 (see Figure 2). The moderating role of participants’ majors was not shown with the health and financial dimensions. The interaction effects of social dimension perception were different in the directions between the two types of majors (nonservice-oriented major: B = 0.219, p = 0.084; service-oriented major: B = −0.129, p = 0.191). The aforementioned Hypothesis 2 (the more worried about the COVID-19 social dimension, the stronger influence of self-efficacy on intention to change academic major) was shown with only students in service-oriented majors. These students were influenced by their self-efficacy, at the most when they perceived the social dimension to be very severe. For students (M_{social dimension perception} = 5.0) who perceived the social dimension of COVID-19 to be very severe, major change intentions reduced as self-efficacy increased to a greater extent (M_{intentions to change} = 2.41 to 1.61) than those (M_{social dimension perception} = 2.5) perceiving it not to be severe (M_{intentions to change} = 2.03 to 1.67).

In contrast to the service-oriented group, for those who enrolled in nonservice-oriented majors, the general tendency of lowered intention to change an academic major by self-efficacy was weakened as their worry of COVID-19 social dimension increased. When students perceived it not to be severe (M_{social dimension perception} = 2.5), intentions for change of major reduced (M_{intentions to change} = 2.18 to 1.51) as self-efficacy increased. However, for students (M_{social dimension perception} = 5.0) who perceived the social dimension of COVID-19 to be very severe, intentions for change of major increased slightly (M_{intentions to change} = 2.06 to 2.14) as self-efficacy increased.

**Discussion**

COVID-19 introduced major disruptions to all the dimensions of human lives. The health consequences will most probably change many practices of human interaction. The economic

<table>
<thead>
<tr>
<th>Latent constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1. Self-efficacy</td>
<td>0.56</td>
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<tr>
<td>2. Financial perceptions</td>
<td>0.27</td>
<td>0.59</td>
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<tr>
<td>3. Health perceptions</td>
<td></td>
<td>0.17</td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Social perceptions</td>
<td>0.23</td>
<td>0.10</td>
<td>0.13</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>5. Intention to change academic major</td>
<td>0.07</td>
<td>0.17</td>
<td>0.01</td>
<td>0.32</td>
<td>0.55</td>
</tr>
</tbody>
</table>

**Note(s):** The values in italic face represent the AVE of the latent constructs and the values below the diagonal represent the squared inter-construct correlations

<table>
<thead>
<tr>
<th>Perception of financial dimension</th>
<th>B</th>
<th>SE</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.00 (16th percentile)</td>
<td>−0.222</td>
<td>0.121</td>
<td>−0.460 to 0.016</td>
</tr>
<tr>
<td>4.00 (50th percentile)</td>
<td>−0.382</td>
<td>0.107</td>
<td>−0.593 to −0.170</td>
</tr>
<tr>
<td>4.58 (84th percentile)</td>
<td>−0.474</td>
<td>0.127</td>
<td>−0.724 to −0.224</td>
</tr>
</tbody>
</table>

**Note(s):** Age, gender, class standing, DAS level, and career adaptability were included as covariates.
consequences will definitely change the business setup. Some business organizations may not survive this crisis, and the survivors may be forced to re-engineer and sometimes even reconceptualize their operations. There will also be more unforeseen challenges as the pandemic takes its course. The impact of COVID-19 on different sectors of service industries was tremendous. With travel bans and stay-at-home orders and with parks, tourism sites and restaurant closures, hotels’ occupancy declined to numbers close to zero (Soloway and Mohler, 2020). The outcome was a historic downsizing of labor in hospitality that reached incredible numbers (Lambert, 2020).

This reality presents challenges to service organizations and to academic institutions that educate and train the next generations of service-industry employees and managers.

![Figure 2. Three-way interaction plot of self-efficacy, perception of COVID-19 for the social dimension, and academic major type on intention to change academic major](image-url)

**Note(s):** Age, gender, class standing, DAS level, and career adaptability were included as covariates.
In these labor-intensive industries, it would be important to evaluate if business organizations will be able to attract future employees during and after the COVID-19 crisis. Thus, this study examined how college students perceived the crisis and how this perception influenced their career plans by comparing students in service-oriented majors and those in nonservice-oriented majors.

In general, self-efficacy and intention to change academic major were negatively correlated, which confirmed the role of self-efficacy in commitment to goals (McKim and Velez, 2015; Park and Jung, 2015). The finding that self-efficacy helped students to stay committed to their current academic majors and pursue their career goals, especially under severe crisis situations (for the financial dimension), highlights the important role of self-efficacy. This follows the findings of Bandura (1995), asserting the power of self-efficacy in life undergoing various changes and Hackett (1995), stressing the key role of self-efficacy in occupational development and pursuits. However, it was shown that the effect of self-efficacy fades if students feel that the social dimension of the crisis does not threaten them directly (such as the case of students in nonservice-oriented majors). The magnitude of crisis impacts on an individual’s life influences reactions to crisis situations (Arampatzi et al., 2015). Involvement, defined as concern or interest (Freedman, 1964), is widely proven to influence an individual’s decision process (Arora, 1982). Students’ different reactions toward the health, financial and social dimensions might have resulted from different involvement levels. Students’ involvement would increase from the health to the social dimension, and the highest involvement level would be found with the social dimension by students in service-oriented majors whose nature is based on social interaction.

The differences between students with career goals that focused on service industries (service-oriented majors) and students who did not (nonservice-oriented majors) can be best described on the spectrum ranging from divergence to convergence. Students with nonservice-oriented majors generally demonstrated the expected negative link between self-efficacy and their intentions to change academic majors. However, this relationship weakened and eventually reversed its direction when their concerns about the social implications of COVID-19 increased. In other words, concerns about COVID-19 caused a divergence in the association between self-efficacy and intention to change academic major. On the other hand, students with service-oriented majors (which were hit the hardest from COVID-19) demonstrated the expected negative link between self-efficacy and their intentions to change academic majors. However, this relationship strengthened when their concerns about the social implications of COVID-19 increased. In other words, concerns about COVID-19 caused a convergence in the negative association between self-efficacy and intention to change academic major.

Theoretical implications
This study contributes to the crisis and career development literature in three ways. First, there is a research gap relating to the effects of a public health crisis on college students’ career behavior. Our study aligned with Giousmpasoglou et al’s (2021) observation in that while an outpouring of discussions and assessment are centered at the meso-level and macro-level (e.g. Dayour et al., 2020), there is an increased need for additional investigation at the micro-level referencing the attitudes and behaviors of current and future employees.

Crisis preparation and management at the meso-level or macro-level has been commonly dedicated to service-oriented businesses, hospitality organizations and tourism destinations (Ghaderi et al., 2021; Mason et al., 2019). At the micro-level, the employees described by Baum et al. (2020) as “the most vulnerable” in an epidemic situation were often “being excluded from emergency solutions” (p. 2820). Furthermore, the current crisis has not only crippled younger workers’ career outlook, whereas they often “found themselves without any recourse to
support” (Baum et al., 2020, p. 2817). Findings of the current study support the growing proclamation, acknowledging the importance of “nurturing recovery capabilities” of a different sort in postcrisis (Giousmpasoglou et al., 2021, Introduction, para 3; Lai and Wong, 2020), and offers valuable insight to assist human resource management with employee recruitment, and skill retraining (Giousmpasoglou et al., 2021).

Second, this study delineates the role of contextual factors (perceived COVID-19 impacts) on the baseline between self-efficacy and career plans. Our study further clarifies those environmental influences that segregate students’ social and financial concerns regarding the impact of COVID-19, which is lacking in the current stream of crisis-related literature. An exploration of the two distinct environmental influences adds to the body of knowledge on college students or the stakeholders’ decision-making, adaptability and response to “change or crisis” (Giousmpasoglou et al., 2021, Introduction, para. 3). From a theoretical perspective, perceptions of pandemic influence such as the effect of COVID-19 can be objective or subjective and is subject to one’s appraisal, interpretation and response to environmental factors (Lent et al., 2000).

Last, our study contributes to the literature of SCCT by providing evidence that a crisis is a crucial factor that interplays with personal-cognitive factors (e.g. self-efficacy) in shaping envisioned behaviors of college students. Furthermore, the finding that self-efficacy depicted a different role that impacted students’ intentions to change academic majors between service-oriented majors and nonservice-oriented majors suggests that the contextual factor’s level of involvement is another critical variable in career development. Choosing an academic major reflects one’s aspirational interest and presentation of confidence in a given subject area. However, emending to another academic major requires a much higher motivation level (i.e. self-efficacy; Chuang and Dellman-Jenkins, 2010); this finding is fully supported by aspiration identity and motivation theories (Meyer et al., 2004).

Practical implications
From a practical perspective, which features the social and financial aspects of college students’ choice intention, it can be beneficial to hospitality and service stakeholders (e.g. industry professionals) in their intervention efforts. This study provided a systematic investigation of students’ perceptions and academic plans during COVID-19, which may help higher education institutions and service organizations develop crisis management strategies.

Academic institutions are tasked with ascribing skilled employees and managers to different business sectors. In their efforts to do so, they need to find a mechanism to ensure students remain committed to their academic majors and later to their careers. This is especially important when this desired equilibrium is challenged by crises. Considering the critical role of self-efficacy among students in service-oriented majors, educators may develop strategies such as introducing an experienced role model or conducting career-focused workshops. These workshops can be facilitated by service leaders who efficaciously overcame unfortunate consequences derived from various crises and excelled during financial hardship while improving their self-efficacy. Learning from others’ success can cause students to believe they too can succeed, even in the face of an imposing job market. A well-constructed social persuasion can be a positive force to strengthen one’s confidence and re-energize their commitment towards their desired choice goal.

Additionally, when recruiting, academic institutions may identify candidates’ self-efficacy for service-oriented academic majors. Focusing on high self-efficacious student candidates for service-oriented academic majors can potentially become an essential factor in the postpandemic rebuild efforts of service industries. Similarly, practitioners should investigate how to ensure their employees’ and managers’ commitment. The practical implication is
similar to the one offered to academics. Service organizations can highlight the social aspects of COVID-19 as a reason to strengthen their employees’ commitment to the industry as it endures the crisis and prepares for future recovery efforts.

Our findings indicate that self-efficacy appears to be a salient factor in highly social concerning situations. The findings further reveal that the predictive power of self-efficacy heightened on choice commitment is seriously disturbing financial situations. We suggest that (1) customized interventions are needed to stabilize one’s emotional and physiological state resulting from social or financial challenges, and (2) conscious effort is to be applied to clarify one’s self-efficacy before efficient interventions can be proven. Furthermore, crisis management and recovery plans are suggested in curriculums and professional training to prepare students, industry professionals and service organizations to sustain or even thrive during highly demanding volatile events.

Limitations and future research
The main limitation of this study is based on its limited sample. Data was collected with undergraduate students at one university, which could reduce the generalizability of the study results. As time progresses, replications across different groups of career-seeking individuals (students and others) and different locations will ensure that the findings are robust and generalizable. Additionally, the findings of this study highlighted the differences in career decisions of students with service-oriented vs nonservice-oriented academic majors. The recommendations for future research would be to improve the resolution and investigate specific service-industry careers such as hospitality management. Also, the main focus of the findings was on the social aspects of COVID-19. As the pandemic continues to take its course, future studies should focus on the other aspects of COVID-19 (primarily the health and financial aspects) in order to evaluate how they influence career decisions. Finally, this study used academic majors as a proxy of career plans. Future studies should consider additional outcome variables that measure career commitment and career achievements, such as turnover intentions or career change intentions, to further expand the scope of the current study.

Conclusions
Conclusions should be drawn with caution because this study focuses on a crisis that our society did not experience for almost a century (since the Spanish Flu), and this crisis may still be far from its conclusion. With that in mind, it can be speculated that students who pursue service-oriented majors have a passion that even this worldwide pandemic cannot suppress. Chuang and Dellmann-Jenkins (2010) identified the components of this passion as a love of serving or helping people, passion about personality and career goals, love for the industry or the field and overall enjoyment. Therefore, the findings suggest that when students become more concerned about the social aspects of COVID-19, they understand the significance of their careers and show more commitment to their service-oriented careers.

References


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