



FAR EASTERN UNIVERSITY
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Determining the Career Optimism of Generation Z

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Abstract

This paper finds the following as significant determinants of career optimism: support from teachers through their interaction with students, support from the school through its counselling programs, contextual barriers in the form of concerns about college financing and job loss within the household, career knowledge based on awareness of job opportunities, and through seeking career information from immediate connections, teachers, school's career services, online job portals, and career development and business seminars. Students heavily relied on their families and friends for career information. Government labor market information and career guidance are one of the least used sources of career information by students. Given these findings, this paper recommends greater coordination and collaboration between government agencies, schools, industries, and students' families to enhance the flow of labor market information, help students make sound career choices, and stimulate students' career optimism. Schools can act as a bridge between government and industry programs and students. Schools can also formulate programs in their career guidance services to get the parents of college students become more aware of the students' career optimism.

I. Introduction

People attend college if they believe they will benefit from doing so. Compared to basic education, investing in college education entails greater monetary and non-monetary costs, so the decision to attend college must be attached with expectations of better career opportunities and higher earnings prospects that outweigh these costs. At the society level, a highly educated workforce contributes to improving aggregate productivity, economic output, and social welfare. However, the mismatch between the supply of skills and the available job opportunities in the Philippines puts the youth at risk of experiencing either a long spell of unemployment or underemployment (ADB and Deped, 2019; ECOP, n.d.). Between 2006 and 2020, more than one million of Filipinos between 15 to 24 years old are annually classified as unemployed, comprising about 50 percent of the total unemployment in the Philippines.¹ While 75 percent of college graduates become employed after graduation, it can take college graduates up to one year to find their first job and two years to obtain wage employment (ADB, 2012). The entry of the tech-savvy Generation Z² (Gen Z) to the labor force is another factor to be accounted for: they are said to be largely optimistic about their career prospects but, at the same time, anxious about work expectations and career success (Workforce Institute at Kronos, 2019).³ They also tend to perceive that their college education and college experience have not prepared them enough for workplace skills, like negotiating and public speaking (Workforce Institute at Kronos, 2019). Lastly, the current Gen Z youth who are still in school are studying under a new environment of remote learning, fears of contracting COVID-19, and poorer economic conditions due to the pandemic.

This paper will use the data generated through the Far Eastern University Public Policy Center's (FPPC) College Experience Survey (CES) to gain better understanding of the factors that determine the career optimism of today's youth. The CES follows the college experience of Filipino students from the partner colleges and universities of FPPC. Career optimism is defined as "a disposition to expect the best possible outcome or to emphasize the most positive aspects of one's future career development, and comfort in performing career planning tasks" (Rottinghaus et al., 2005: 11). In the literature, career optimism has been used to explain why students who are about to enter the labor force are positive about their career prospects (Eva et al., 2020), like helping them understand how they will be moving toward their intended career (Duffy et al., 2010, as cited by Eva et al., 2020). Particularly, career optimism has been found to positively affect career aspirations (Rottinghaus et al., 2005), as well as to foster resilient and adaptive behavior of students such as adjustment to college (Aspinwall and Taylor, 1992) and coping mechanisms with unemployment and job exploration (Wanberg, 2007). By inferring the determinants of career optimism, this paper then will outline policy recommendations that can help students shape their disposition towards positive career expectations by providing better career guidance and support from their respective schools, relevant government agencies, and their families.

¹ Based on the data published by the Philippine Statistics Authority through its Decent Work Statistics database and Labor Force Survey reports.

² This refers to the individuals born in 1997 onwards.

³ Included in the report of the Workforce Institute at Kronos are the Gen Z in Australia, Belgium, Canada, China, France, Germany, India, Mexico, the Netherlands, New Zealand, the UK, and the US.

This paper seeks to answer the following questions:

1. How do different factors significantly determine the career optimism of college students?
The factors will be grouped into four categories:
 - a. Parental and peer support
 - b. Teacher and school support
 - c. Labor market information
 - d. Student background
2. What are the existing platforms for career guidance available to college students throughout their tertiary education curriculum?
3. Where do college students acquire information on job and career prospects?

The first question considers the factors that can possibly determine the career optimism of students and these fall into four categories: parental and peer support, teacher and school support including guidance and counselling, labor market information, and student background.

The second question aims to identify the specific career guidance platforms in schools by relying on online information provided by colleges and universities, and to gauge the students' satisfaction with these existing platforms. The Commission on Higher Education (CHED) has directed higher education institutions (HEIs) to enhance "Student Affairs and Services" which should provide academic support services that relate to student welfare, student development, and institutional programs and services.⁴ This paper is especially interested in career and job placement services, as well as guidance and counselling services.

The third question pins down the sources mostly used by college students as a basis of their perceived job and career prospects. Aside from immediate connections and other private sources, this paper aims to see to what extent do students use government sources in deciding on their career path. For instance, the Department of Labor and Employment (DOLE) developed a labor market information (LMI) system in attempt to address the job-skills mismatch. The LMI system aims to provide "timely relevant and accurate signals on the current labor market such as in-demand jobs and skills shortages by developing client-specific LMI, Education and Communication materials." The development of the LMI is an element of the DOLE's Career Guidance Advocacy Program which, in turn, promotes the use of career guidance in making informed career choices, especially among students.⁵

This paper is organized as follows. Section II reviews the literature on career optimism and factors affecting career optimism. Section III describes the data and sample used in this paper. Section IV explores the sources of career information used by students. Section V touches on the specific career guidance and counselling services provided by selected Philippine colleges and universities, as well as the satisfaction of students with the provision of such services in general. Section VI discusses the estimation results on the significant determinants of career optimism. Section VII presents the policy recommendations based on the findings. Section VIII summarizes and concludes the paper.

⁴ The services related to student development and institutional programs and services are not mentioned here. Refer to CHED Memorandum Order No. 09 Series of 2013. Retrieved from: <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.09-s2013.pdf>.

⁵ Refer to <https://www.dole.gov.ph/about-lmi/>.

II. Review of related literature

Career optimism has been used to explain why students who are about enter the labor force are positive about their career prospects (Eva et al., 2020), such as helping them understand how they will be moving toward their intended career (Duffy et al., 2010, as cited by Eva et al., 2020). It should be noted, however, that there is still no consensus in the literature on how career optimism should be defined and how it should be measured despite the growth in the studies on career optimism (Eva et al., 2020). Among the possible conceptualizations of career optimism, the most employed one is that of Rottinghaus et al. (2005) which refers to career optimism as “a disposition to expect the best possible outcome or to emphasize the most positive aspects of one’s future career development, and comfort in performing career planning tasks”. As such, the eleven-item career optimism scale⁶ developed by Rottinghaus et al. (2005) has been widely used to measure career optimism (e.g., Gunkel et al., 2010; McIlveen et al., 2013; Garcia et al., 2015; Corr and Mutinelli, 2017) or at least some items from the scale (e.g., Gunkel and Schlaegel, 2005). They later developed another version of the scale to reflect negative career outlook (Rottinghaus et al., 2012)⁷ which they applied in another paper (Rottinghaus et al., 2017). Chatterjee et al. (2015) used this newer scale, but they re-worded the negative statements to positive statements, thus making it easier for respondents to understand.⁸

In their review of the career optimism literature, Eva et al. (2020) enumerated the antecedents of career optimism and categorized them into individual and contextual antecedents. Individual antecedents include personality, emotions, capability beliefs, adaptability resources, and identity and motivations. While studies dealing with individual antecedents are plentiful, contextual factors are not as widely explored. Examples of these studies which focused on university students include Chatterjee et al. (2015) on postgraduate management students in India, Garcia et al. (2015) on computer science students in the Philippines, Rottinghaus et al. (2017) on career counselling clients in a US university career center, and De Hauw and De Vos (2010) on millennials in Belgium. With the interest of the current study on the role of career counselling and social support to career optimism, this study will contribute to this latter strand in the literature by examining the role of these factors on career optimism among Filipino university students.

Empirical evidence shows that contextual support in the form of social support and career counselling positively influences career optimism. Social support can come from families, friends, and peers (Chatterjee et al., 2015; Garcia et al., 2015; Muceldili et al., 2017), as well as schoolteachers (Garcia et al., 2015). For instance, Chatterjee et al. (2015) explain that perceived social support can assist individuals in overcoming career transitions. Furthermore, career counseling intervention significantly reduces the negative outlook on career (Rottinghaus et al., 2017), because it can instill belief on one’s capability (Chatterjee et al., 2015). However, Garcia et al. (2015) caution that excessive levels of support can also lead to unrealistic positive expectations and overconfidence, so parents, teachers, and counsellors should also ascertain that the students obtain the necessary skills to adapt in changing career landscapes.

⁶ The 11 items are the following: (1) I get excited when I think about my career, (2) Thinking about my career inspires me, (3) Thinking about my career frustrates me, (4) It is difficult for me to set career goals, (5) It is difficult to relate my abilities to a specific career plan, (6) I understand my work-related interests, (7) I am eager to pursue my career dreams, (8) I am unsure of my future successes, (9) It is hard to discover the right career, (10) Planning my career is a natural activity, and (11) I will definitely make the right decisions in my career.

⁷ The four items are the following: (1) I doubt my career will turn out well in the future, (2) It is unlikely that good things will happen in my career, (3) I lack the energy to pursue my career goals, and (4) Thinking about my career frustrates me.

⁸ For instance, the statement “I doubt my career will turn out well in the future” by Rottinghaus et al. (2012) is transformed to “I do not doubt that my career will turn out well in the future”.

In contrast, contextual barriers are found to inhibit career optimism. For example, De Hauw and De Vos (2017) argue that an economic recession shortly before students' graduation leads to lower career optimism. In relation to the current paper, the household losses in terms of job and income amid the COVID-19 pandemic is explored as a form of contextual barrier. Financial barriers are also considered as this has not been examined yet in the career optimism literature. When choosing a college major, Filipino senior high school students appear to not highly consider the costs of schooling and financial concerns (ADB and DepEd, 2019), which could later generate information gap between actual and expected costs.

Aside from contextual factors, career knowledge through awareness of available labor market information is also examined in this current paper. Perceived knowledge of the job market can be gauged by an individual's understanding of the job market and future employment trends (Rottinghaus et al., 2005). There is some evidence that there is a positive relationship between career knowledge and career optimism. Gunkel and Schlaegel (2010) and Gunkel et al. (2010) hypothesize that students' comprehension of labor market trends generally enables them to make better career-related decisions. Gunkel et al. (2010) further assert that strengthening students' career knowledge is quite important during the economic downturn and pessimistic media coverage about the job market at the time of their study.

Other factors will also be considered in this study to serve as controls. Past performance is found to have a positive relationship with career optimism (Garcia et al., 2015). Gender, however, has mixed results in the literature. In their study of Chinese and German students, Gunkel and Schlaegel (2010) found that females have lower career optimism than males in China. However, Chatterjee et al. (2015), Corr and Mutinelli (2017), and Gunkel et al. (2010) did not find significant gendered difference in career optimism.

This analysis will contribute to the literature in two ways. First, contextual antecedents will be explored as likely determinants of career optimism. In contrast to individual antecedents such as personality traits, contextual antecedents are not as widely examined in the literature. In the Philippine case, contextual support from parents and teachers has been studied by Garcia et al. (2005), but support from school in the form of consultation and counselling programs will be added in the current analysis. Furthermore, financing concerns and pandemic-related economic losses at the household level will be assessed, which were not previously considered in the career optimism literature. Second, this analysis will look at the role of career knowledge and its specific sources in determining career optimism. Identifying the sources of career information can help ascertain the reliability of these sources and recognize whether career optimism is founded on invariably credible information.

III. Methodology and scope of study

i. Description of data

The present analysis largely draws from the College Experience Survey (CES) conducted by the Far Eastern University Public Policy Center (FPPC). The CES is a longitudinal survey that monitors the journey of college students from freshman through senior year and how their college experience molds them as individuals. It looks at their motivations, aspirations, attitudes, activities, values, and opinions. The CES is conducted in partnership with various schools and universities nationwide. In implementing the survey, FPPC generates a random sample of about 20 to 25 percent of the student population equally distributed across gender and degree programs to capture a respondent sample that represents a given school. It has followed four cohorts of students: those who were freshmen in 2014, 2015, 2019, and 2020. The current study is using the data for the 2014, 2015, and 2020 cohorts. Annex A contains the list of schools that participated in the three survey periods, respectively.

The questionnaire used in the CES contains a standard set of questions about the respondent's background and college experience. The same set of respondents are tapped each year, and it is preferred that they answer the questionnaire during the first months of the academic year. Most response options are gauged in a five-point rating scale. The entire survey questionnaire is written in English. The survey has two sections: (1) the background variables and (2) the college experience variables. The background variables cover the personal profiles of the student respondents and are collected during their freshmen year. This includes but is not limited to their high school background, residential address, religion, educational background, living arrangements, and parents' background, among others. On the other hand, the college experience variables serve as the primary variables of interest in the survey. The college experience variables are self-assessed information covering the respondents' abilities, traits, and values and opinions on socio-economic issues, habits and behavior, school financing, motivations, and future plans, among others. It is noted that the questionnaire developed for the 2020 cohort is different from the one used for the 2014 and 2015 cohorts, so there is a difference in the sets of variables that are examined in this paper.

Moreover, online search of career and job placement services in selected universities and colleges, particularly those that participated in the CES, is conducted.

ii. Description of sample

Table 1. Survey period by batch

Batch	Survey period
2014 cohort's sophomores	25 November 2015 – 6 May 2016
2014 cohort's juniors	28 February 2017 – 7 July 2017
2015 cohort's sophomores	23 February 2017 – 4 July 2017
2015 cohort's juniors	September 2017 – April 2018
2020 cohort's freshmen	11 February 2021 – 9 March 2021

Three samples are separately analyzed in this paper. The first and second samples include the panel data of sophomores and juniors of the 2014 and 2015 cohorts, respectively. Accounting for attrition and non-response, the 2014 sample is composed of 2,545 observations and the 2015 sample 2,234 observations. The third sample consists of the freshmen batch of the 2020 cohort,

who are the students in the current COVID-19 pandemic, with a size of 4,427 observations. Table 1 shows the dates when the surveys were conducted.

Table 2 shows the distribution of the sample by cohort and socioeconomic characteristics. The following can be observed from the table. First, there are more female respondents than male respondents, reaching 72.8 percent for the 2020 cohort. Second, most of the respondents reported that their permanent residence is either in NCR or Luzon. Third, having a college degree appears to have an intergenerational effect such that the parents of current college students are likely to be college graduates. Around 85 percent of college students among the 2014 cohort, 75 percent of college graduates among the 2015 cohort, and 80 percent among the 2020 cohort have at least one parent who is a college graduate. However, the share of first-generation college students is still considerable among the respondents, especially among the 2015 cohort in which a quarter of them have parents who are neither college graduates. Fourth, most of the respondents among the 2014 and 2015 cohorts belong to the higher-income classes.⁹ Based on joint parental income, nearly half of the respondents among the 2014 and 2015 cohorts can be considered belonging to either the upper middle-income class, upper-income class, or rich group. Only 13.8 percent of the 2014 cohort and 8.8 percent of the 2015 cohort can be classified as either poor or belonging to the low-income class.

Table 2. Distribution of sample by cohort and socioeconomic characteristics

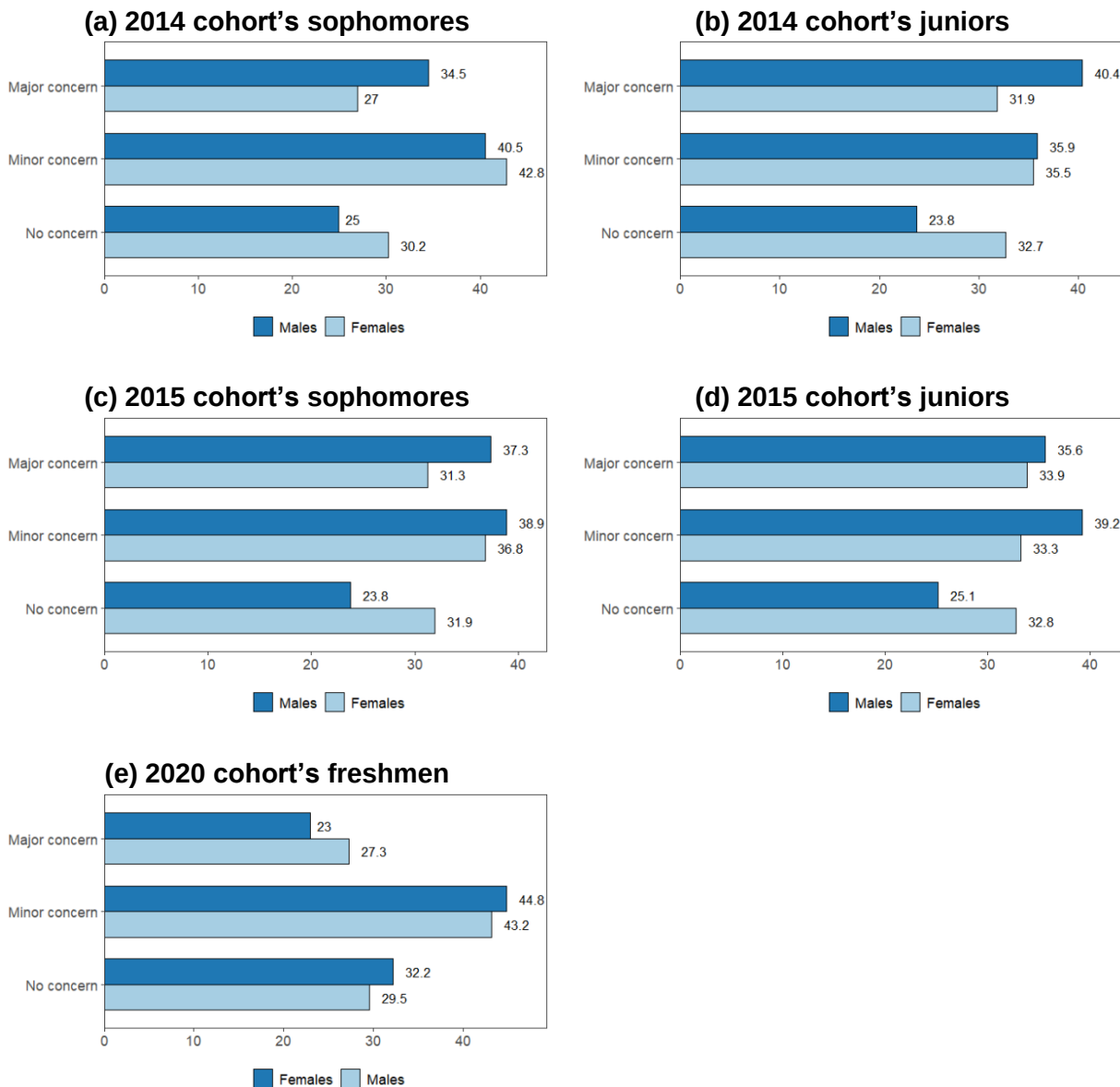
	2014 cohort	2015 cohort	2020 cohort
Gender			
Male	39.4	44.6	27.2
Female	60.6	55.4	72.8
Region			
NCR	46.1	41.4	46.6
Luzon (excl. NCR)	51.8	42.1	50.2
Visayas	1.3	11.4	2.3
Mindanao	0.8	5.1	0.9
Parental education			
Both are college graduates.	58.6	42.9	48.3
Only one is a college graduate.	26.2	32.6	31.6
Neither is a college graduate.	15.2	24.5	20.1
Joint parental income (monthly)			
Less than 20,000	13.8	8.8	-
20,000 - 40,000	18.0	21.6	-
40,000 - 60,000	13.7	20.5	-
60,000 - 80,000	14.1	11.6	-
80,000 - 100,000	6.3	6.5	-
Greater than 100,000	27.1	28.3	-
N.A.	7.1	2.6	-

Source: Calculations using CES 2014, 2015, and 2020.

Note: In the 2020 data, joint parental income is not available.

⁹ The description of the income clusters is based on the estimates done by Albert, Santos, and Vizmanos (2018). The policy note can be found here: <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidspn1818.pdf>.

**Figure 1. Concern about college financing by cohort, college year, and gender
(Share to total, %)**



Source: Calculations using CES 2014, 2015, and 2020.

Aside from socioeconomic status, proportions of students who have concerns about college financing are illustrated in Figure 1. Across sampled cohorts and batches, the majority of respondents cited some concern about college financing. It appears that the male students have the greater tendency to report concerns about college financing. Between 35 to 40 percent of the male students in the 2014 and 2015 cohorts said that they have major concerns about college financing, while only between 27 to 34 percent of the female students expressed the same level of concern. Except among the juniors of the 2015 cohort, the shares of male and female students in the 2014 and 2015 cohorts reporting minor concern about college financing are not largely different from each other. Meanwhile, in the 2014 and 2015 cohorts, around a third of the female

students said that they have no concerns about college financing, while only around a fourth of male students said the same.

Despite the current pandemic, the sampled younger cohort appears to have better financial means in supporting their studies. Panel (e) of Figure 1 shows that while around 45 percent of male and female students reported they have minor concerns about college financing, only 23 percent of female students and 27.3 percent of male students cited major concerns. Around 33 percent of female students said they have no concerns at all, which is roughly similar to what was observed in the 2014 and 2015 cohorts. On the other hand, nearly 30 percent of male students said they have no concerns, which is higher than what was seen in the earlier cohorts. It is possible though that the difference in the financing pattern between the older and younger cohorts stems from the decision of many of the current students to not enroll in college primarily for economic reasons and, to some extent, anxiety from the current pandemic (Mateo, 2020, September 23).

iii. Definition of variables used in the analysis

The primary variable of interest in the analysis is the measure of career optimism. In the absence of questions in the CES 2014 and 2015 that are consistent with Rottinghaus et al.'s (2005) eleven-item career optimism scale, the closest proxy that can be used to indicate career optimism is uncertainty about one's degree program. This variable is chosen, because there appears to be a significantly positive relationship between college major certainty and career optimism (Rottinghaus et al., 2005). Furthermore, there appears an inverse relationship between having selected a college major and negative career outlook (Rottinghaus et al., 2012), which implies that an explicit declaration of one's college major is positively linked with career optimism. In the CES 2014 and 2015, the pertinent question is: "Mark which ones you did during your previous year in college on a typical week as very often, often, sometimes, rarely, never: Remained undecided about my major degree program". The response to this question is coded as follows: 1 if never, 2 if rarely, 3 if sometimes, 4 if often, and 5 if very often. Therefore, the ordinal data suggests increasing indecisiveness or declining optimism about one's degree program. This variable is simplified by denoting high career optimism with codes 1 and 2, middle-level of career optimism with code 3, and low career optimism with codes 4 and 5 (Table 3). This question is asked to sophomore and junior students only, hence the limitation of the 2014 and 2015 sample to these two batches.

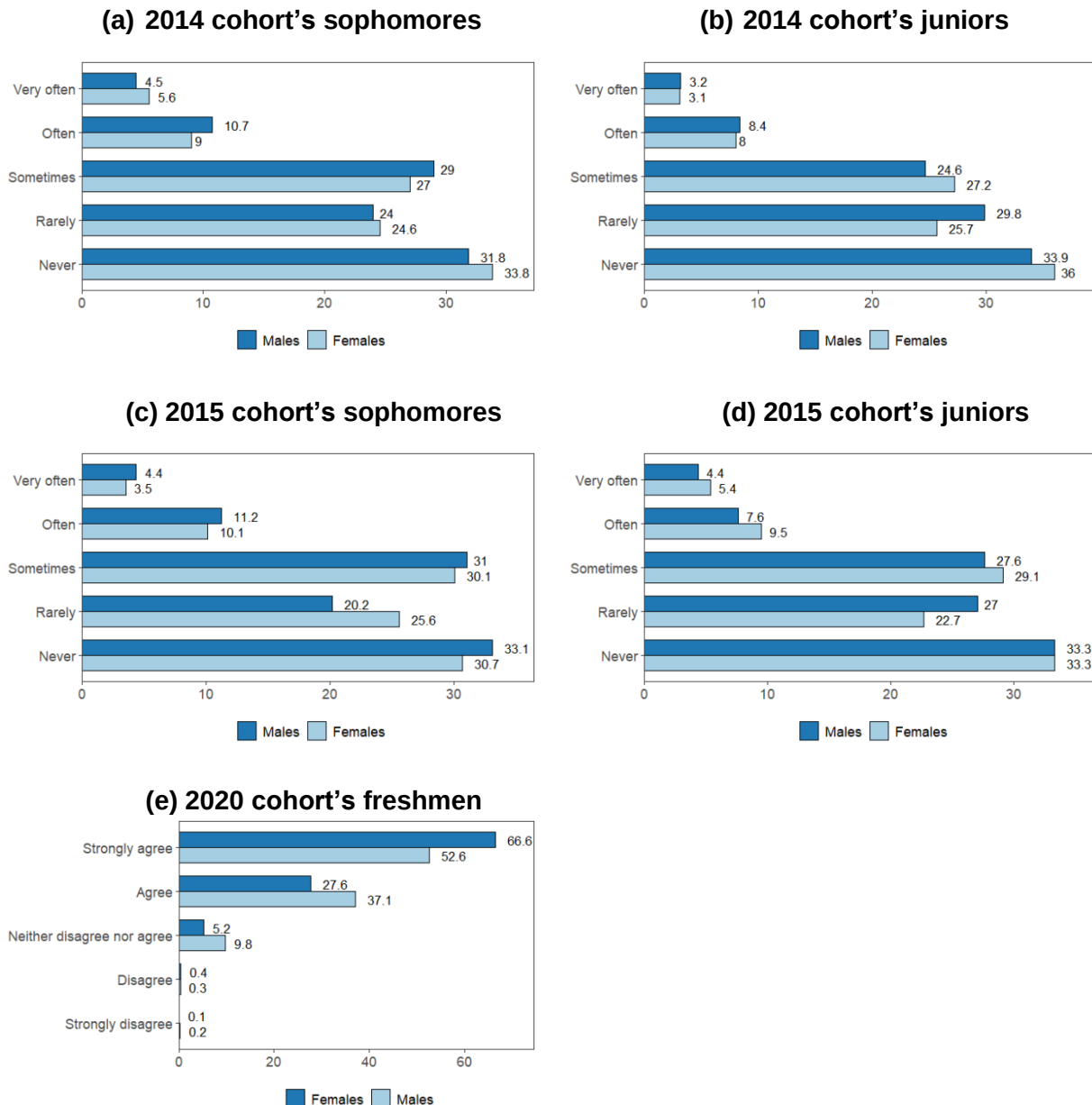
Table 3. Coding of career optimism variable

Degree of career optimism	2014 and 2015 cohorts: "Remained undecided about my major degree program"	2020 cohort: "I am eager to pursue my career goals."
High	Never (1) / Rarely (2)	Agree (4) / Strongly agree (5)
Middle	Sometimes (3)	Neither disagree nor agree (3)
Low	Often (4) / Very often (5)	Disagree (2) / Strongly disagree (1)

On the other hand, the question employed to indicate career optimism in CES 2020 is: "In thinking about your career and life after college, how strongly do you agree with the following statement? I am eager to pursue my career goals." This item is in line with one of Rottinghaus et al.'s (2005) eleven-item career optimism scale, specifically "I am eager to pursue my career dreams." The response to this question is coded as follows: 1 if strongly disagree, 2 if disagree, 3 if neither disagree nor agree, 4 if agree, and 5 if strongly agree. Ordinal data then implies increasing career

optimism. This variable is also aggregated to only three levels: high career optimism with codes 4 and 5, middle-level career optimism with code 3, and low career optimism with codes 1 and 2 (Table 3).

Figure 2. Actual responses to career optimism measure by cohort, college year, and gender (Share to total, %)

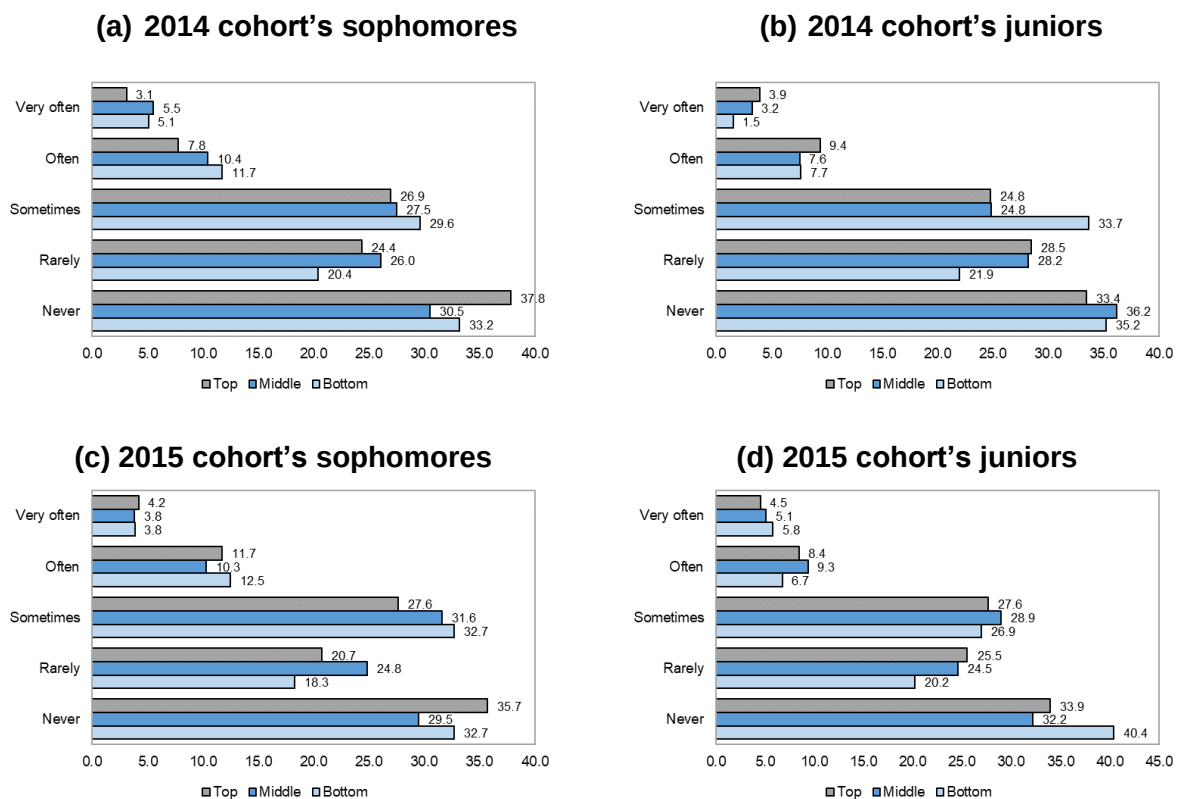


Source: Calculations using CES 2014, 2015, and 2020.

Note: In 2014 and 2015, the question is "Mark which ones you did during your previous year in college on a typical week: Remained undecided about my major degree program". In 2020, the question is "In thinking about your career and life after college, how strongly do you agree with the following statements? I am eager to pursue my career goals."

Figure 2 illustrates the distribution of responses by career optimism measure, cohort, college year, and gender. Majority of the respondents appear to have a high degree of career optimism. In the 2014 cohort, regardless of gender, nearly 60 percent of the sophomores and more than 60 percent of the juniors stated that they either rarely or never considered thoughts on being undecided about their degree program in a typical week, while only more than 10 percent of the sophomores and juniors reported either often or very often (Figures 2a and 2b). The same pattern can be observed in the 2015 cohort wherein more than 50 percent of the sophomores and juniors stated that they either rarely or never considered thoughts on being undecided about their degree program, while only more than 10 percent reported the opposite (Figures 2c and 2d). Looking at the 2020 data, the freshmen seem to be strongly optimistic about their future careers despite the on-going pandemic. At least 90 percent reported that they either strongly agree or agree that they are eager to pursue career goals (Figure 2e). However, some gendered differences can be observed in this cohort. First, 66.6 percent of the female students stated that they strongly agree that they are eager to pursue their career goals, while only 52.6 percent of the male students responded the same. Second, 27.6 of female students said that they agree, and only 5.2 percent said they neither disagree nor agree. On the other hand, 37.1 percent of male students said that they agree, and 9.8 percent said they neither disagree nor agree.

Figure 3. Actual responses to career optimism measure by cohort, college year, and income status (Share to total, %)



Source: Calculations using CES 2014 and 2015.

Note: The question is "Mark which ones you did during your previous year in college on a typical week: Remained undecided about my major degree program". Students in the bottom income group are those whose parents have joint monthly income of less than 20,000 pesos, middle income group between 20,000 to 100,00 pesos, and top income group more than 100,000 pesos.

In terms of income grouping, there appears to be mixed findings when it comes to the degree of career optimism (Figure 3). Using the CES income brackets, income groups are categorized as follows: (i) bottom income group refers to those whose parents have joint monthly income of less than 20,000 pesos, (ii) middle income group refers to those whose parents have joint monthly income of between 20,000 and 100,000 pesos, and (iii) top income group refers to those whose parents have joint monthly income of more than 100,000 pesos.¹⁰ Looking at the sophomores in both 2014 and 2015 cohorts, the share of students with high levels of career optimism is increasing with income. Among the sophomore of the 2014 cohort, 53.6 percent of the bottom income group, 56.5 percent of the middle-income group, and 62.2 percent of the top income group responded that they either never or rarely thought of being undecided about their major degree program. On the other hand, 16.8 percent of bottom income group, 15.9 percent of the middle-income group, and 10.9 percent of the top income group responded either very often or often. Among the sophomore of the 2015 cohort, 51 percent of the bottom income group, 54.3 percent of the middle-income group, and 56.5 percent of the top income group responded that they either never or rarely thought of being undecided about their major degree program. The same increasing pattern, however, is not observed among the juniors of the 2014 and 2015 cohorts, with the latter cohort even showing that the largest share reporting either "never" or "rarely" is found in the bottom income group.

The likely determinants of career optimism are categorized into four groups: parental and peer support (contextual support), teacher and school support (contextual support), labor market information (career knowledge), and student background (including indicators of contextual barriers and control variables). As mentioned in the sub-section on the description of data, different sets of questionnaires are used for the 2014 and 2015 cohorts on the one hand and 2020 cohort on the other hand, so the variables that are indicative of each possible determinant will be different. Hence, care must be exercised when comparing the 2014 and 2015 results with the 2020 results. A detailed comparison of the variables used in the analysis, as well as the questions asked to obtain the data on these variables, can be found in Appendix B. Like the career optimism indicator, the independent variables are aggregated to three responses with increasing degree, except for the binary variables.

The group of variables pertaining to parental and peer support is represented by the length of time spent with the respondents' immediate connections, particularly how long they spend engaging in family social activities and studying with friends. Teacher and school support is denoted by the respondents' satisfaction with the overall quality of classroom instruction (2014 and 2015 only), satisfaction with teachers' support in the classroom, satisfaction with the school's counselling services and support, presence of career counselling during senior high school (2020 only), and satisfaction with academic advising and consultation (2014 and 2015 only). Career knowledge variables, which are only available in the CES 2020, are indicated by the degree to which respondents understand job market trends, degree of their awareness of job opportunities after graduation, and sources of career information, including family and friends, school instructors, school's career services, online job portals, social media, government career publication materials, career development and business seminars, and others. Contextual barriers are represented by the respondents' degree of concern about college financing, income group (2014 and 2015 only), and the economic effect of the pandemic on the respondents' household including job loss and income reduction (2020 only). The control variables include the other background characteristics of the respondents like satisfaction with the relevance of

¹⁰ In Albert, Santos, and Vizmanos (2018), the poor have monthly family income of less than 9,100 pesos, the low-income class between 9,100 and 18,200 pesos, the upper-income class between 109,200 and 182,000 pesos, and the rich at least 182,000 pesos. These are based on 2015 prices.

schoolwork to future career plans, past school performance, the intrinsic trait on the drive to achieve, gender, and region of permanent residence.

iv. Estimation strategy in identifying the determinants of career optimism

In testing for the significance of the likely determinants of career optimism, ordered probit regression is implemented because the dependent variable is an ordinal variable that measures the degree of career optimism. This paper takes advantage of the panel data available in the 2014 and 2015 cohorts where there are repeated observations by employing a random-effects ordered probit regression:

$$y_{it}^a = F_{it}^a \alpha^a + T_{it}^a \gamma^a + B_{it}^a \delta^a + K_{it}^a \eta^a + X_{it}^a \beta^a + u_{it}^a \quad (1)$$

where y_{it}^a is the ordinal measure of career optimism of respondent i at time t , F_{it}^a is the vector of variables pertaining to contextual support from family and friends, T_{it}^a is the vector of variables pertaining to contextual support from teachers and school, B_{it}^a is the vector of variables pertaining to contextual barriers, K_{it}^a is the vector of variables pertaining to career knowledge, X_{it}^a is the vector of control variables, and u_{it}^a is the error term. α^a , γ^a , δ^a , η^a , and β^a are the respective coefficients for each vector of variables. Time t refers to either sophomore or junior year. Separate equations are estimated for the 2014 and 2015 data. In these estimates, the reported likelihood-ratio test suggests that there is enough variability between students, so the random-effects ordered probit model is favored to be implemented over the pooled ordered probit model.

There is only one year worth of data for the CES 2020, so the standard ordered probit regression model is used:

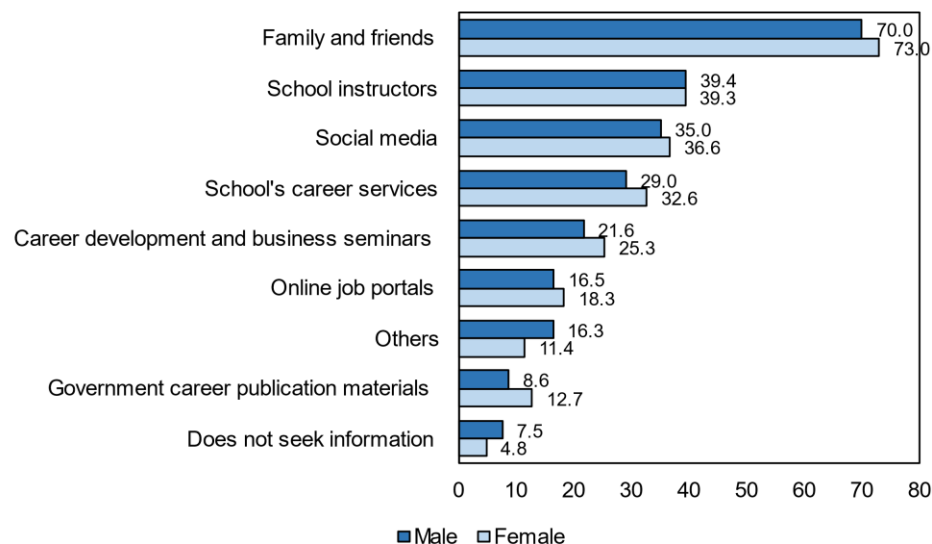
$$y_i^b = F_i^b \alpha^b + T_i^b \gamma^b + B_i^b \delta^b + K_i^b \eta^b + X_i^b \beta^b + u_i^b \quad (2)$$

Except for the time component, the same description of variables in Equation 1 is applicable in Equation 2.

IV. Sources of career information

The CES 2020 data provides details on where the student respondents obtain their information on the industry that they want to join as their career (see Figure 4). Immediate connections are the major sources of information as nearly three-fourths of the respondents declared family and friends as their source, although there is a larger share among female students compared to male students. This result is the same as ADB and DepEd's (2019) finding that family members, especially parents, ranked the highest among the sources used by students when choosing a senior high school track and making career choices.

Figure 4. Sources of career information by gender—2020 cohort (Share to total, %)



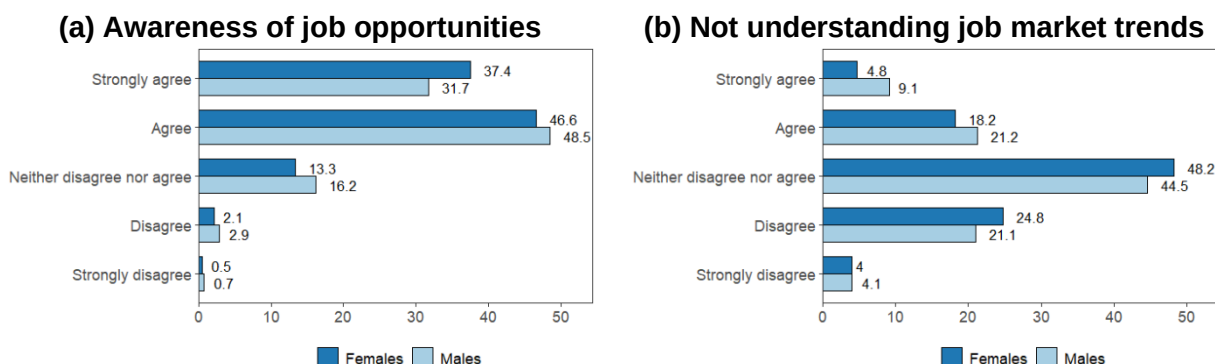
Source: Calculations using CES 2020.

Note: The numbers do not add up to 100, because the survey item allows multiple responses.

The school environment, albeit much behind family and friends, is also one of the primary sources of career information. School instructors, who have frequent interactions with students, are reported to be a source of information for around 39 percent of the respondents, while almost a third of the female students stated school's career services. Only 29 percent of the male respondents stated that they use their school's career services as source of information. As expected, social media is also greatly used by students to seek career information, 35 percent of male students and 36.6 percent of female students. A larger share of female students also participates in career development in business seminars at 25.3 percent, while 21.6 percent of male students do the same. Online job portals (e.g., JobStreet) are used by 18.3 percent of female students and 16.5 percent of male students.

Only 12.7 percent of female students and 8.6 percent of male students use government career publication materials as their source of career information even if these materials are available online. Despite the recognition of government agencies like DOLE and CHED that job-skills mismatch is prevalent in the labor market and despite the steps in addressing this concern, it seems that information dissemination is an aspect which they can seriously consider.

**Figure 5: Awareness and understanding the labor market by gender—2020 cohort
(Share to total, %)**



Source: Calculations using CES 2020.

Note: In panel (a), the question is “In thinking about your career and life after college, how strongly do you agree with the following statements? I am aware of job opportunities after graduation.” In panel (b), the question is “In thinking about your career and life after college, how strongly do you agree with the following statements? I do not understand job market trends.”

There are some students who stated that they did not seek any information about the industry they intend to work in once they graduate: 4.8 percent among females and a larger share among males at 7.5 percent. There is a considerable share of students who reported that they are aware of job opportunities after graduation, as implied by the 84 percent of females and 80.2 percent of males who stated that they either agree or strongly agree with this statement (Figure 5a). However, 23 percent of the female students and 30.3 of the male students cited that they either strongly agree or agree with not understanding job market trends (Figure 5b). These results suggest that there is much room for the government and schools to strengthen their efforts in making labor market information more well-known, easily accessible, and easily understandable to students and consequently to actively encourage students to avail of the career-related services they provide. This is especially because they are the entities that arguably have already established stronger industry linkages compared to other sources of career information.

V. Career and student counselling

In its Memorandum Order No. 09 in 2013, CHED directed higher education institutions (HEIs) to enhance “Student Affairs and Services” which include career and job placement services. These refer to the assistance provided by schools to ascertain the students’ vocational and occupational fitness and employment. According to this memo, HEIs should establish appraisal data of students for career and job placement; maintain active networking with school, community, alumni and other relevant agencies for career and job placement of students; provide materials on career and job opportunities; set up skills development programs; conduct regular career seminar and job placement services; and establish links with industries. Online search for the web pages of career and job placement services provided by the schools that participated in the CES confirm that these functions are present in the said schools (Table 4). Refer to Annex C for the list of web pages used as reference.

Bulk of the services in most of these schools focus on helping graduating students in securing internship and employment opportunities. For instance, all the schools in Table 4 offer career seminar and workshops and career counselling with mock interviews. Almost all the schools run annual or even biannual job fairs, and nearly half of them put up job portals to the school’s official website. Many of the schools distribute career resources materials, like resume writing kits, preparing for job interviews, and guide on how to apply for government IDs like the Social Security System. Nonetheless, assistance to obtain internship for non-graduating students are offered by some schools like Ateneo de Manila University, Far Eastern University, Lyceum of the Philippines University, and National University.

In relation to employment opportunities, common features of the schools’ career and job placement services are maintaining connections with the school’s alumni and establishing industry linkages and partnerships. The school’s alumni mostly participate in career seminars and in certain cases—such as in the Adamson University, Far Eastern University, and National University—act as mentors to current students. The mentoring of the alumni can make career planning more tangible to current students, because the alumni are the individuals who were once students in the same schools and have started their careers as graduates of their respective institutions.

Most of the schools in Table 4 listed in their websites the industry partnerships they have already made. The industry linkages are usually utilized to expose students to potential employers and to provide firsthand knowledge on industry demands. While it is the potential employers who usually go to schools, company tours are organized by a few like Far Eastern University and Lyceum of the Philippines University to introduce students to actual workplace scenarios. Moreover, there are schools which utilize their industry linkages to more than securing employment opportunities. For example, Far Eastern University and Jose Rizal University further use these linkages to enhance and update their curriculum and initiate programs which aim to develop the skills of the students that are commensurate to industry demand. Baliuag University, on the other hand, is collaborating with DOLE, the Public Employment Service (PESO), Philippine Overseas Employment Administration (POEA), Technical Education and Skills Development Industry (TESDA), and People Management Association of the Philippines (PMAP) to provide students with current labor market information.

Table 4. Available career and job placement programs in selected universities and colleges

University/College	Career Orientation/ Seminar/ Workshop	Career Testing and Evaluation*	Career/Job Fair	Career Consultation/ Counselling/ Mock Interview	Career Resources/ Resume Writing Kits	Alumni Tracer/ Database Quoted by Career Services	Job Posts/ Job Portal inside the School website	Industry Partnerships	Company Recruitment Talks	Internship Assistance	Company Tour	Dedicated Social Media Page*	Career Services Separate from Guidance and Counselling*
Adamson University	X	X	X	X		X	X	X					X
Ateneo de Manila University	X	X	X	X	X	X	X	X	X	X		X	X
Baliuag University	X	X	X	X									
Caraga State University	X			X									
Centro Escolar University	X	X	X	X	X		X	X					X
Colegio de San Juan de Letran	X	X	X	X	X								
Emilio Aguinaldo College	X	X	X	X	X							X	
Far Eastern University**	X	X	X	X	X		X	X	X	X	X		X
Jose Rizal University	X			X	X		X	X					
Lyceum of the Philippines University**	X	X	X	X	X		X	X		X	X		
Mapua University	X		X	X	X	X	X	X				X	X
National University	X			X			X			X			
Philippine Normal University	X	X	X	X	X			X				X	X
Philippine Women's University	X	X	X	X				X					
University of Bohol	X	X		X	X								
University of Perpetual Help	X	X	X	X	X			X	X				
University of the East	X	X	X	X	X								
Xavier University - Ateneo de Cagayan	X	X		X	X			X					

Source: Website and/or social media page of respective universities and colleges (see Annex C for reference).

*May be combined with guidance counselling tests such as personality and aptitude tests.

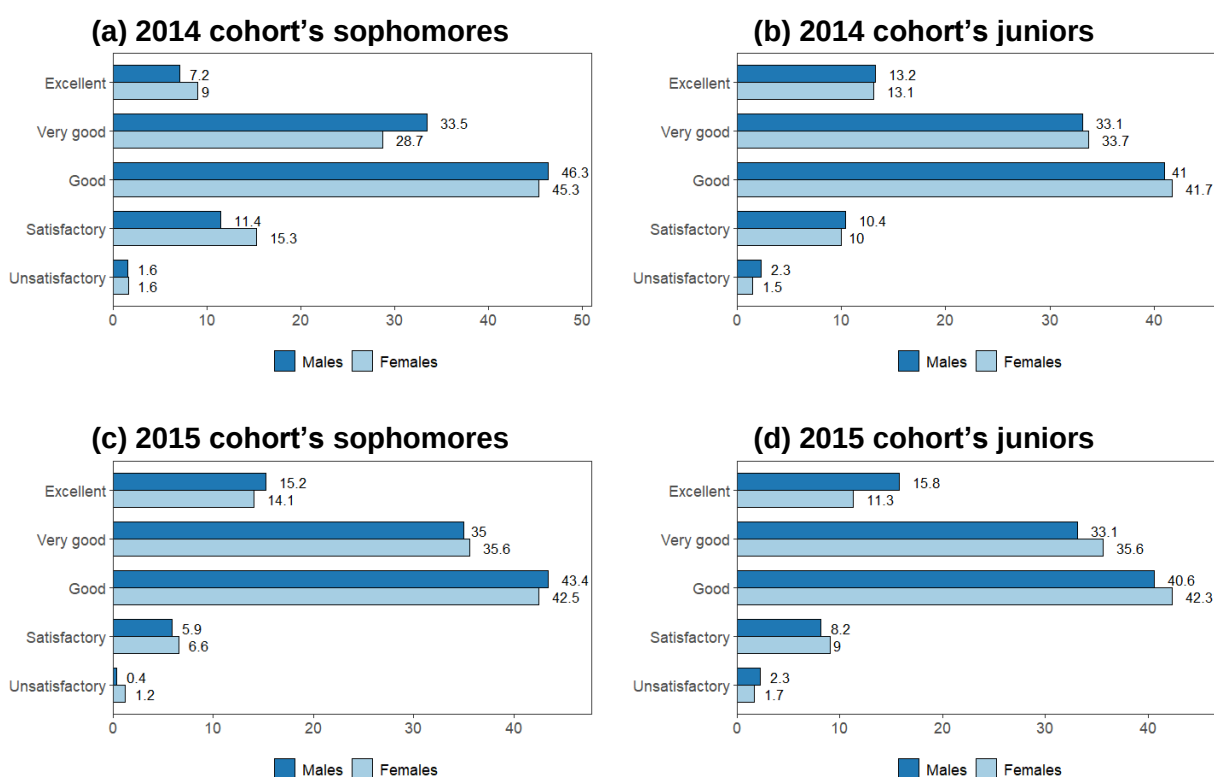
**Specified career workshops and recruitment talks separately.

Additional note: Information is limited to the respective school's website and/or Facebook page.

Career consultation and counselling are available to students all-year round to these schools. Standardized tests are also provided by most schools to help students evaluate their educational and career choices and set career goals that fit their skills, interests, and personality.

Social media pages, particularly through Facebook, dedicated to providing up-to-date career-related information are set up by a few schools like Ateneo de Manila University, Mapua University, and Philippine Normal University—the advantage of which is faster dissemination of information, especially when classes are conducted remotely. Emilio Aguinaldo College’s Guidance and Placement Office even uses their Facebook account as means for students to schedule 30-minute online counselling appointments.

Figure 6. Distribution of sample by degree of satisfaction with academic advising and consultation, cohort, college year, and gender (Share to total, %)



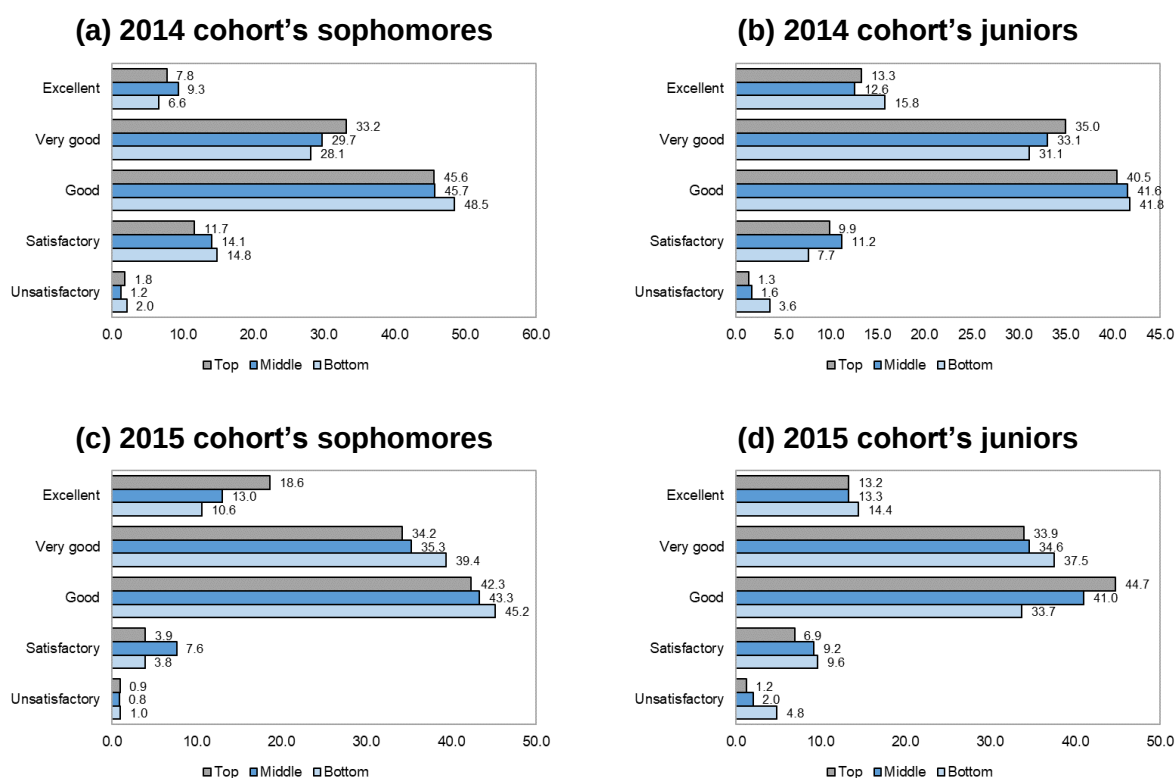
Source: Calculations using CES 2014 and 2015.

Note: Increasing satisfaction is ranked as follows: unsatisfactory, satisfactory, good, very good, and excellent.

The CES has available data on the satisfaction of students with the counselling and advising services provided by their respective schools. While guidance and counselling services are identified as a separate item in the student welfare services recommended by the CHED, these services are integrated with career and job placement services in some schools, so satisfaction with these services is also included in the analysis. Most of the student respondents among the 2014 and 2015 cohorts, regardless of gender, reported that the academic advising and

consultation¹¹ given by their schools are either good or very good, while there is some fair share saying that these services are excellent (Figure 6). Disaggregating the responses by income group, however, does not seem to show a discernible pattern across cohorts and batches (Figure 7). For example, the share of students who rated the academic advising and consultation provided by their schools as either excellent or very good is increasing with income among the sophomores of the 2014 cohort, while it is decreasing with income among the juniors of the 2015 cohort. Among the juniors of the 2014 cohort and the sophomores of the 2015 cohort, the largest share reporting the same answers is seen in the top income group, while the lowest share in the middle-income group.

Figure 7. Distribution of sample by degree of satisfaction with academic advising and consultation, cohort, college year, and income status (Share to total, %)



Source: Calculations using CES 2014 and 2015.

Note: Increasing satisfaction is ranked as follows: unsatisfactory, satisfactory, good, very good, and excellent.

The same observation by gender in Figure 6 can be made when looking at the distribution of the responses for the satisfaction with student counselling services among the students of the 2014 and 2015 cohorts (Figure 8). There are mixed results on satisfaction with counselling by income group (Figure 9). Among the sophomores of the 2014 cohort, there is nearly the same share of students in the middle- and top-income groups who rated these services as either excellent or very good, while a lower share is seen in the bottom income group. Among the juniors of the same

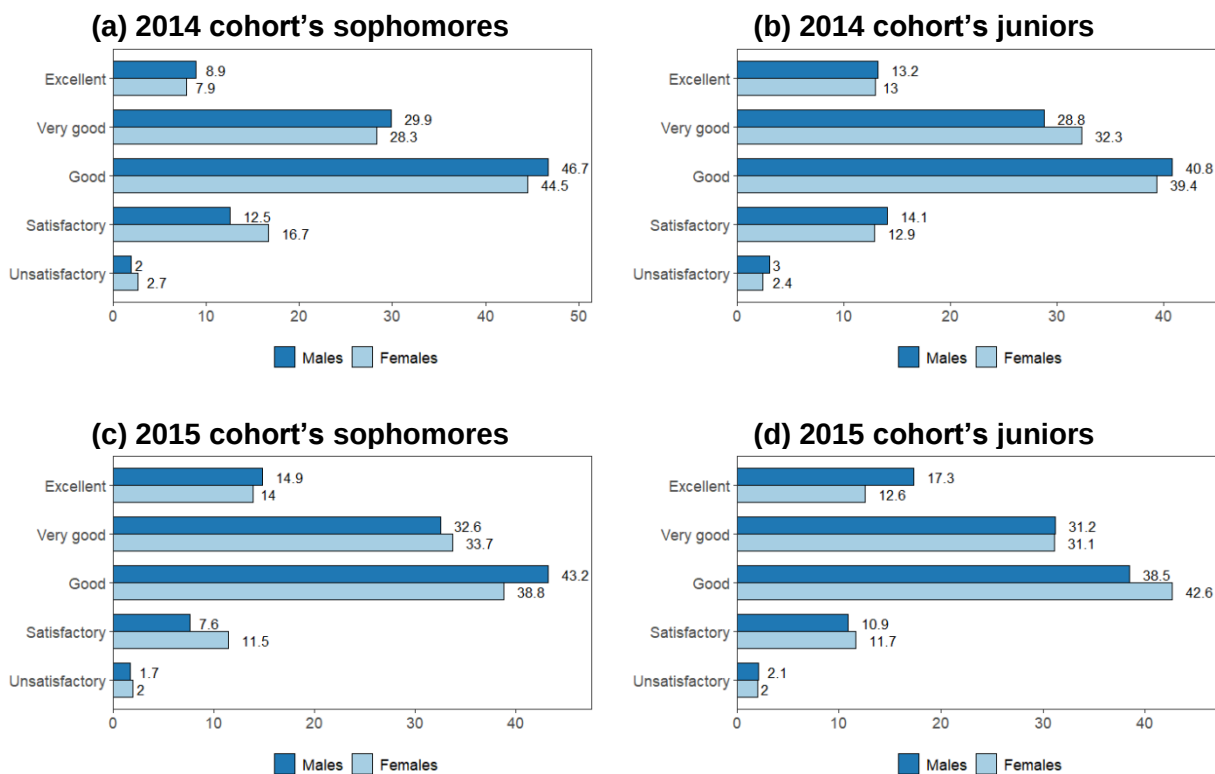
¹¹ Academic advising and counselling refers to the process wherein students are assisted in setting their academic and career goals, reviewing the requirements of their degree program, and choosing courses such that the students' goals are achieved.

cohort, satisfaction seems to be increasing with income. However, among the 2015 cohort, the bottom income group displayed the largest share of students who are highly satisfied with these services.

Among the 2020 cohort (Figure 10), there is a larger share of female students who stated that they are either satisfied or very satisfied with the counselling and psychological support offered by their schools compared to the share of male students, particularly around 60 percent versus around 55 percent. However, more than a third of the respondents (35 percent of females versus 38.7 percent of males) still reported that they are neither satisfied nor dissatisfied. What can be said is that the advising, consultation, and counselling services offered by the schools can still be improved significantly to increase the satisfaction of students with these services.

Data on the presence of career counselling services in senior high school is also presented in Figure 11. The first-year respondents of 2020 were asked whether career counselling services were offered during their senior high school, which is crucial in helping high school students determine their choice of college major. While the majority answered that such services were offered, around one-fifth reported that these were not.

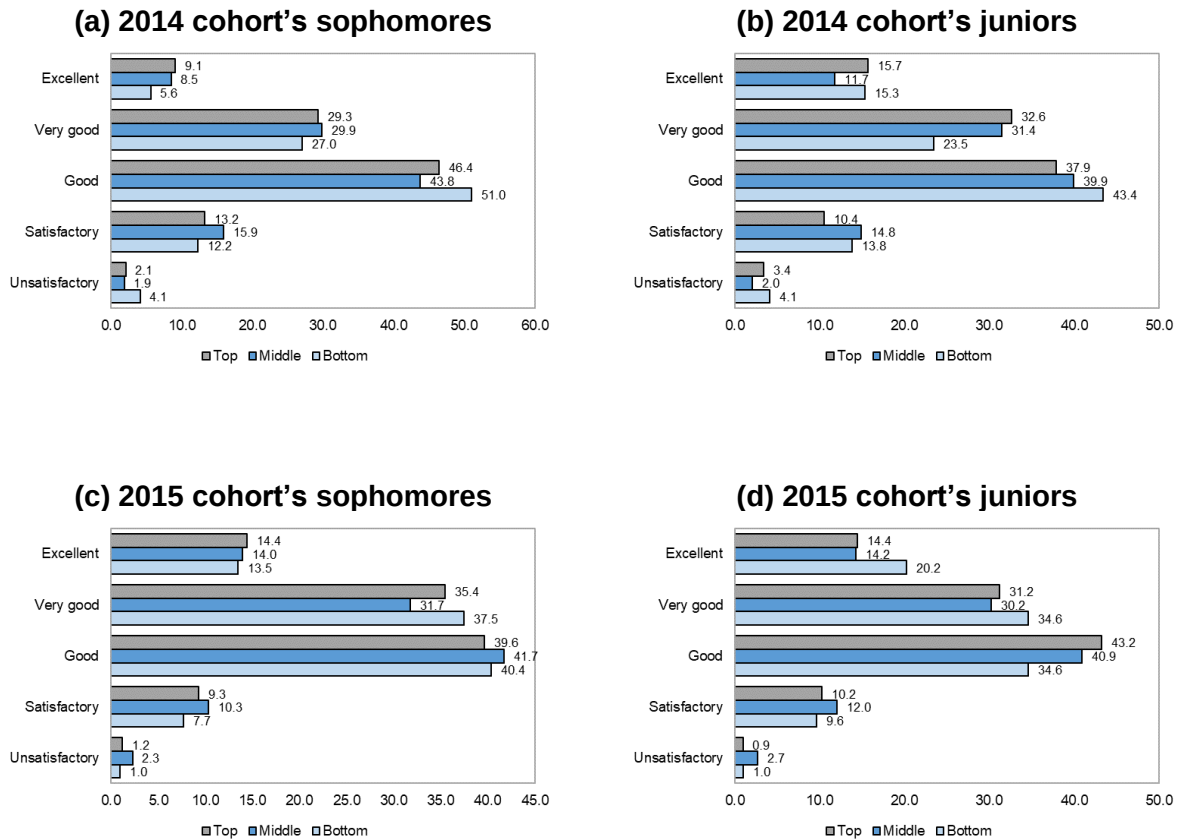
Figure 8. Distribution of sample by degree of satisfaction with student counselling services, cohort, college year, and gender (Share to total, %)



Source: Calculations using CES 2014 and 2015.

Note: Increasing satisfaction is ranked as follows: unsatisfactory, satisfactory, good, very good, and excellent.

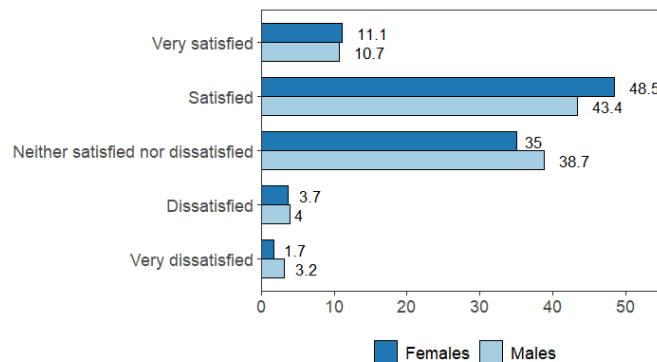
Figure 9. Distribution of sample by degree of satisfaction with student counselling services, cohort, college year, and income status (Share to total, %)



Source: Calculations using CES 2014 and 2015.

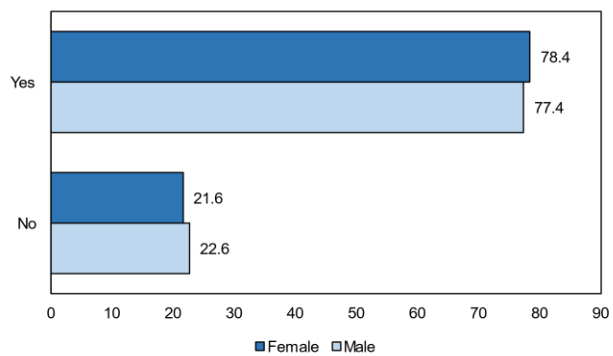
Note: Increasing satisfaction is ranked as follows: unsatisfactory, satisfactory, good, very good, and excellent.

Figure 10. Distribution of sample by degree of satisfaction with counselling and psychological support offered by college/university—2020 cohort (Share to total, %)



Source: Calculations using CES 2020.

**Figure 11. Distribution of sample on whether SHS offered career counselling services—
2020 cohort (Share to total, %)**



Source: Calculations using CES 2020.

VI. Determinants of career optimism

This section discusses the estimation results of Equations 1 and 2 (Table 5). The variables are grouped into contextual support from family and friends, contextual support from teacher and school, contextual barriers, career knowledge, and controls.

Certain variables related to teacher and school support are positively linked with career optimism. In the 2015 cohort, student respondents who are more satisfied with the overall quality of classroom instruction are more likely to have greater career optimism. In the 2020 cohort, those students who have the opportunity to interact with faculty members amid the remote learning setup due to the COVID-19 pandemic display greater career optimism, regardless of the degree of their satisfaction. Moreover, those who stated that they are highly satisfied with the counselling and psychological support provided by their school have greater career optimism. This latter result might lend credence to connecting the school's career programs with guidance and counselling services.

Heightened contextual barriers are linked with lower career optimism. Income is not significant but concerns about college financing are. In the 2014 cohort, the students who voiced out major concern about college financing are less career optimistic than those who do not have any concern about college financing. In the 2015 cohort, the students who reported concern about college financing—whether minor or major—show less career optimism. In the 2020 cohort, while concern about college financing is not significant, students whose households have experienced job loss exhibit lower career optimism than those whose households have not experienced job loss and income reduction during the current pandemic. Thus, availability of financial assistance and scholarship programs to students with financial concerns can help build their career optimism.

The respondents who are strongly aware of job opportunities after graduation have greater career optimism. Furthermore, those whose career information sources are family and friends, school instructors, school's career services, online job portals, and career development and business seminars display a higher degree of career optimism than those who do not use these respective sources. It is noted that despite the time spent engaging in family social activities is not significant in determining the career optimism of the 2020 cohort, having family and friends that extend career information is associated with improved career optimism. When it comes to the significance of career knowledge variables using the 2020 data, only non-understanding of job market trends and three career information sources are not significant, specifically social media, government, and others.

Relevance of schoolwork to career plans is associated with greater career optimism for the 2014 and 2015 cohorts. Respondents whose level of satisfaction with the relevance of coursework to future career plans are from middle to highest in the 2014 cohort and highest in the 2015 cohort are more career optimistic than those who reported low satisfaction. Academic institutions should thus consider updating their curriculum and classroom activities, as necessary, to fit the changing labor market.

Past performance is positively linked with career optimism for the 2015 cohort only as respondents who rated their performance in the previous college year as either average or at least above average are more career optimistic than those who rated their performance as below average. On the other hand, students who believe that they have more drive to achieve display greater career optimism for all cohorts, implying that positive intrinsic traits can foster career optimism.

Lastly, other variables on student background are only significant in the 2020 estimates, which are possibly due to the current pandemic. First, male respondents tend to have a lower degree of career optimism than the female respondents who, in turn, are likely to be coping better to the new learning setup. Even prior to the pandemic, male university students are found to be struggling more with Internet instruction compared to female students (Figlio et al., 2013). In their study of 62 countries including the Philippines, Aristovnik et al. (2020) found that male students are less satisfied with their academic work/life during the current crisis. Second, the students whose permanent residence is outside the NCR are also less likely to be optimistic about their future careers compared to those who live in NCR. It is possible that the more stable Internet connection and electricity in NCR could have contributed to making remote learning more amenable for students living in NCR. For instance, Laguador (2021) showed that college students living in rural areas in the Philippines faced more problems in flexible learning because of power interruptions, lack of people in the household with adequate technical skills like using computers, and less communication from teacher and less class participation amid limited access to the Internet.

Table 5: Estimation results of the determinants of career optimism

Variables	2014 cohort	2015 cohort	2020 cohort
<i>I. Contextual support: Family and friends</i>			
(a) Length of time: Social activities with family			
Middle	-0.115* (0.068)	-0.116 (0.072)	0.008 (0.072)
Longest	-0.178* (0.103)	-0.147 (0.120)	0.085 (0.121)
(b) Length of time: Studying with friends			
Middle	0.048 (0.066)	0.077 (0.074)	0.038 (0.072)
Longest	0.048 (0.118)	-0.269** (0.130)	-0.082 (0.111)
<i>II. Contextual support: Teacher and school</i>			
(c) Satisfaction: Classroom instruction			
Middle	-0.104 (0.128)	0.322** (0.155)	-
Highest	0.038 (0.141)	0.297* (0.163)	-
(d.1) Satisfaction: Classroom environment			
Middle	-0.151 (0.137)	-0.087 (0.169)	-
Highest	0.029 (0.148)	0.017 (0.174)	-
(d.2) Satisfaction: Interaction with faculty members			
Lowest	-	-	0.772** (0.357)
Middle	-	-	0.678* (0.347)

Table 5: Estimation results of the determinants of career optimism

Variables	2014 cohort	2015 cohort	2020 cohort
Highest	-	-	0.983*** (0.345)
(e.1) Satisfaction: Counseling services			
Middle	0.117 (0.102)	-0.025 (0.123)	-
Highest	0.069 (0.117)	-0.252* (0.135)	-
(e.2) SHS career counselling	-	-	0.102 (0.073)
(e.3) Satisfaction: Counselling and psychological support			
Lowest	-	-	0.153 (0.204)
Middle	-	-	0.254 (0.170)
Highest	-	-	0.302* (0.169)
(f) Satisfaction: Advising and consultation			
Middle	0.052 (0.115)	-0.005 (0.141)	-
Highest	-0.095 (0.128)	0.020 (0.153)	-
III. Contextual barrier			
(g) Concern about college financing			
Minor	-0.086 (0.079)	-0.206** (0.087)	0.039 (0.076)
Major	-0.281*** (0.085)	-0.396*** (0.091)	0.015 (0.092)
(h) Income group			
Middle	0.075 (0.103)	-0.022 (0.143)	
Top	0.068 (0.116)	0.003 (0.155)	
(i) Loss of income/employment in household			
Job loss	-	-	-0.152* (0.091)
Income reduction	-	-	-0.048 (0.074)
IV. Career knowledge			
(j) Not understanding job market trends			
Middle	-	-	-0.126 (0.087)
Highest	-	-	-0.006 (0.098)
(k) Awareness of job opportunities			

Table 5: Estimation results of the determinants of career optimism

Variables	2014 cohort	2015 cohort	2020 cohort
Middle	-	-	-0.108 (0.152)
Highest	-	-	0.629*** (0.145)
(l.1) Career info source: Family and friends	-	-	0.169** (0.072)
(l.2) Career info source: School instructors	-	-	0.169** (0.070)
(l.3) Career info source: School's career services	-	-	0.132* (0.075)
(l.4) Career info source: Online job portals	-	-	0.147* (0.089)
(l.5) Career info source: Social media	-	-	0.047 (0.069)
(l.6) Career info source: Government	-	-	0.158 (0.112)
(l.7) Career info source: Seminars	-	-	0.239*** (0.086)
(l.8) Career info source: Others	-	-	-0.102 (0.090)
V. Controls			
(m.1) Satisfaction: Relevance of coursework			
Middle	0.219* (0.128)	0.064 (0.150)	-
Highest	0.224* (0.133)	0.282* (0.158)	-
(m.2) Satisfaction: Learning environment			
Middle	-	-	-0.232*** (0.073)
Highest	-	-	0.129 (0.109)
(n.1) Self-rating: Performance in previous college year			
Average	0.170 (0.233)	0.620** (0.245)	-
Above average/Excellent	0.175 (0.238)	0.655*** (0.250)	-
(n.2) Self-rating: Performance in SHS			
Average	-	-	-0.206 (0.279)
Above average/Excellent	-	-	-0.089 (0.279)
(o) Self-rating: Drive to achieve			
Middle	0.210 (0.167)	0.463*** (0.170)	0.648*** (0.123)

Table 5: Estimation results of the determinants of career optimism

Variables	2014 cohort	2015 cohort	2020 cohort
Highest	0.428*** (0.165)	0.707*** (0.167)	1.117*** (0.126)
(p) Gender	0.033 (0.074)	0.047 (0.081)	-0.168** (0.070)
(q) Region of permanent residence	-0.033 (0.072)	0.029 (0.082)	-0.120* (0.065)
Number of observations	2,545	2,234	4,427

***Significant at 1% level, **5%, and *10%. Standard errors in parentheses.

Note: 2014 and 2015 data include a panel of sophomore and junior students. 2020 data consists of freshmen only. Given the respective composition and definition of variables, random-effects ordered probit regression is applied to 2014 and 2015 data, while ordered probit regression to 2020 data.

VII. Policy recommendations

Given the findings of the study, the following are the implications and policy recommendations that are put forward by this paper.

1. One important finding of this study is that career knowledge matters in fostering career optimism as implied by the positive association between awareness of job opportunities and career optimism. It is noted that a large share of the respondents in the 2020 survey rely on people close to them, especially their family and friends and to some extent their teachers, when seeking information on their future career. This is unsurprising because people tend to perceive immediate connections as sources of trustworthy information. Furthermore, as shown by the estimation results, respondents who seek career information from family and friends, school instructors, and school's career services exhibit greater career optimism than those who do not seek information from these three sources. Based on the online search of career and job placement services offered by colleges and universities, it appears that parents have little to no participation in these programs. This suggests that an enhanced collaboration between students' immediate connections and schools—such as the ones previously cited—can reinforce students' career optimism under the premise of better-grounded choices. This is given that, on the one hand, colleges and universities have mostly established strong industry linkages and thus likely possess more up-to-date labor market information compared to parents and guardians. On the other hand, students more heavily depend on their parents than their schools in securing career information. Colleges and universities can actively involve parents and guardians in their career and job placement programs to improve and update the information relayed by parents and guardians to students. For example, parents can be encouraged to participate in the career seminars and workshops conducted by schools, which can also be an avenue wherein parent-student discussions on available career opportunities subject to the student's skills and interests are facilitated. Given the limitations due to the pandemic, however, up-to-date career-related materials can be forwarded to parents, who are more likely to have better understanding of labor market trends, compared to college students.
2. The data also implies that male students have a larger tendency to not seek career information and to not understand job market trends. When it comes to school sources in particular, 32.6 percent of the female student respondents in the survey reported that they use their school's career service to obtain career information, while only 29 percent of male student respondents do so. Furthermore, the male students of the current cohort are found to be less likely to be career optimistic than their female counterparts, possibly because of the implication from past studies that male students experience greater difficulty in coping to online learning environment. For their part, schools can track the profile of students who are not availing of career and guidance counselling services and devise means to encourage them, more likely the male students, to participate in these programs.
3. Except for the 2020 cohort, the satisfaction of students with their schools' advising, consulting, and counselling services are not significant in determining the career optimism of students. Furthermore, more than 50 percent of the student respondents—regardless of cohort, gender, and income group—stated that their satisfaction with these services is only “good” at best. These results suggest that much improvement can still be done to boost their usefulness as perceived by students. Under the current remote learning setup, career guidance services may not be as accessible to students as before, which could limit the role of these services in boosting the students' career optimism. Incorporating career guidance services to the learning management system (LMS) used by colleges and universities

and/or setting up a social media account dedicated to the provision and scheduling of appointment to such services may widen their reach to students. Aside from career services, teachers appear to have a significant role in strengthening the career optimism of students, so regular interaction of teachers with students, whether synchronously or asynchronously, is advisable.

4. Some positive association is also found between satisfaction with relevance of coursework to future career plans and career optimism. As previously mentioned, the Gen Z-ers tend to perceive that their college education and college experience have not prepared them enough for workplace skills (Workforce Institute at Kronos, 2019). Indeed, according to the 2017-2018 Integrated Survey on Labor and Employment conducted by the Philippine Statistics Authority, around one-fifth of establishments with at least 20 workers reported that vacancies were hard to fill because applicants lack the needed competency or skill.¹² Moreover, in Acosta et al.'s (2017) study of socioemotional skills (also known as soft skills) in the Philippines, a rising share of firms have been citing difficulty in finding workers with appropriate skills, the top three of which refer to socioemotional skills particularly managerial and leadership skills, work ethic and commitment, and interpersonal and communication skills. In the same report, the authors also found that workers with better socioemotional skills are more likely to be employed and earn higher wages. Therefore, another step that could be done by colleges and universities is to utilize their industry linkages beyond securing employment opportunities for their students after graduation and take advantage of such linkages to ensure that their curriculum remains consistent with the skills demanded in the labor market. A couple of schools have stated in the official page of their career and job placement services that they seek to improve their curriculum through industry linkages, so this objective can be emulated by other schools to positively contribute to students' career optimism—possibly not just while they are students but even when they gain employment after graduation. It is to be noted that the skills being referred here also include soft skills like communication skills, ability to work in a team, time management skills, and other critical competencies.
5. Positive traits, drive to achieve in particular, are found to be associated with greater career optimism. However, students, especially under the current pandemic situation, are said to be experiencing heightened anxiety and feeling lesser degree of satisfaction towards their academic life, especially the male students (Aristovnik et al., 2020). As such, career guidance programs can be employed to work hand-in-hand with counselling services, so that students will have access to programs and services that consider not just their career-related interests and academic progress but also their overall well-being.
6. The latest CES results show that government career publication materials are one of the least used information for future career choices by the respondents. This source also does not significantly determine the career optimism of college students. On the government side, efforts have been extended to address the job-skills mismatch by the DOLE's Labor Market Information system. The advantage of government agencies like DOLE is that they have greater resources and means to collaborate with schools and industries and thus gain a wider understanding of the discrepancy between the skills taught in schools and skills that are projected to be needed both in the national and foreign labor markets. However, the findings of the study suggest that intensified efforts to disseminate information can be considered by government agencies to increase the awareness of students on the existence

¹² Refer to https://psa.gov.ph/sites/default/files/Table%208_11.pdf.

of such programs. This can be done by reaching out to schools and encouraging them to incorporate the LMI system in their career services programs. Likewise, schools can strengthen their coordination with government agencies, not just industries, to gain additional knowledge brought by the government's LMI platforms. If schools will be working closely with students' parents on their career services programs, they can also relay to parents the existence of the government's LMI platforms and career guidance publications. Overall, greater coordination between the government, the academe, the industry, and students' parents and guardians can enhance the flow of labor market information, help students make sound career choices, and stimulate students' career optimism.

7. Contextual barriers in the form of concern about college financing and job loss within the household because of the pandemic are found by the study to be negatively associated with career optimism. Concern about college financing could make students question their financial capacity to finish their college education, while job loss within the household could raise students' uncertainty about their future employment prospects. While the free tuition free program is implemented in state university and colleges, a similarly extensive financial assistance to college students is not available to college students in private universities. In these cases, the CHED can explore means to target financially challenged but capable students in private universities in their financial assistance and scholarship programs, especially during the current pandemic. It might also be beneficial for parents and students to have accurate information on the costs of college education to better prepare themselves in the financial demands of higher education. The CHED can help in this area by posting up-to-date information on the average or range of costs of schooling by field of study and HEI type. In turn, should this type of information becomes available, senior high school institutions should consider including this in the career services that they offer to parents and students.

VIII. Summary and conclusion

The labor market for college graduates is characterized by persistently high youth unemployment and prevalence of job-skills mismatch. The entry of the tech-savvy Generation Z to the labor force is another factor to be accounted for, who are described to be largely optimistic about their career prospects but anxious about their career success and who tend to think that their college experience has not sufficiently prepared them for workplace skills. The younger Gen Z who are still in school are also facing a new learning environment and poorer overall economic conditions amid the COVID-19 pandemic. Using the data from the College Experience Survey conducted by the Far Eastern University Public Policy Center, this paper analyzes the determinants of career optimism among Gen Z Filipino students, particularly those belonging to the 2014, 2015, and 2020 cohorts. It also investigates what or who are the students' sources of information on career prospects and describes the career and job placement programs that colleges and universities offer to students.

There is some differentiation on what factors are significantly associated with career optimism by cohort. Among the 2014 and 2015 cohorts, wherein the same set of variables are laid out, the common significant factors are concern about college financing, the degree of satisfaction with the relevance of coursework to future career plans, and the self-rated drive to achieve. The degree of satisfaction on the overall quality of classroom instruction and self-rated performance in the previous year are only significant for the 2015 data. The 2020 data contains questions that are different from the past surveys, and indicators of career knowledge and effect of the pandemic on households are included. Opportunities to interact with faculty members amid the remote learning setup, strong satisfaction with counselling and psychological support provided by the school, job loss within the household during the pandemic, awareness of job opportunities, using certain sources of career information, self-rated drive to achieve, gender, and region of permanent residence are significantly associated with career optimism.

Given these findings, this paper recommends greater coordination and collaboration between government agencies, schools, industries, and students' families to foster students' career optimism. While government agencies have the capacity to provide up-to-date and relevant labor market information and career guidance, government materials are one of the least used sources of career information by students. Instead, students heavily depend on their families and friends for information. With the schools' linkages with government agencies and industries, they can act as a bridge between these entities and parents to help parents obtain credible labor market information which they can relay to the students. Schools can then formulate their career guidance and job placement services in such a way that these involve the active participation of parents and guardians, connecting students' coursework to skills—both hard and soft skills—being demanded in the workplace, more regular consultation and counselling to students, and consideration of interests and academic progress of students. Much support is especially needed by students to foster their career optimism amid the on-going COVID-19 pandemic.

Moving forward, improvements can be done for future research. First, further investigation on gender and region differences in career optimism for the students learning under the pandemic situation may be warranted. Second, aside from the satisfaction of students to career guidance and counselling programs in general, the link between specific services provided by the school and career optimism may be explored to pinpoint which of these programs are more beneficial to students and which can be improved. Third, the sample of student respondents can be refined by expanding the representation of students from Visayas and Mindanao, differentiating urban and rural areas since more job opportunities for college graduates are found in urban areas, and including more public schools. Fourth, the objective of following the current cohort can also

provide insights on how their career optimism can change over the following years given the uncertainty brought by the current pandemic.

References

- Acosta, P., T. Igarashi, R. Olfindo, and J. Rutkowski. (2017). Developing socioemotional skills for the Philippines' labor market. Directions in development. Washington, DC: World Bank.
- Altonji, J.G., E. Blom, and C. Meghir. (2012). Heterogeneity in human capital investments: High school curriculum, college major, and careers. *Annual Review of Economics*, 4(1), 185-223.
- Aristovnik, A., D. Keržič, D. Ravšelj, N. Tomaževič, and L. Umek. (2020). Impacts of the COVID-19 pandemic on life of higher education students: a global perspective. *Sustainability*, 12(20), 8438. <https://doi.org/10.3390/su12208438>.
- Asian Development Bank (ADB). (2012). Sector Assessment (Summary): Youth School-to-Work Transition. <https://www.adb.org/sites/default/files/linked-documents/43396-013-phi-oth-02.pdf>. Accessed May 20, 2021.
- Asian Development Bank (ADB) and Department of Education (DepEd). (2019). Youth education investment and labor market outcomes in the Philippines: Survey report. <https://www.adb.org/sites/default/files/publication/516971/youth-education-labor-market-survey-philippines.pdf>. Accessed May 20, 2021
- Aspinwall, L.G. and S.E. Taylor. (1992). Modeling cognitive adaptation: a longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology*, 63(6), 989-1003.
- Aymans, S.C., T. Kortsch, and S. Kauffeld. (2020). Gender and career optimism—The effects of gender-specific perceptions of lecturer support, career barriers and self-efficacy on career optimism. *Higher Education Quarterly*, 74(3), 273-289.
- Baker, R., E. Bettinger, B. Jacob, and I. Marinescu. (2018). The effect of labor market information on community college students' major choice. *Economics of Education Review*, 65, 18-30.
- Bridgstock, R. (2009). The graduate attributes we've overlooked: enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1), 31-44.
- Bubic, A. (2017). The relevance of self-evaluations for students' career optimism. *Journal of Employment Counseling*, 54, 100-114.
- Care, E. and C. Scoular. (2016). Career guidance directions. Report to the Basic Education Sector Transformation (BEST). Melbourne and Manila: Assessment, Curriculum and Technology Research Centre (ACTRC).
- Chatterjee, S., N. Afshan, and P. Chhetri. (2015). Exploring the linkage between the components of motivational systems theory and career decisiveness: the mediating role of career optimism. *Journal of Career Assessment*, 23(4), 597-614.
- Corr, P.J. and S. Mutinelli. (2017). Motivation and young people's career planning: a perspective from the reinforcement sensitivity theory of personality. *Personality and Individual Differences*, 106, 126-129.
- De Hauw, S. and A. De Vos. (2010). Millennials' career perspective and psychological contract expectations: does the recession lead to lowered expectations? *Journal of Business and Psychology*, 25(2), 293-302.
- Duffy, R.D. (2010). Sense of control and career adaptability among undergraduate students. *Journal of Career Assessment*, 18(4), 420-430.
- Duffy, R.D. and T.L. Raque-Bogdan. (2010). The motivation to serve others: exploring relations to career development. *Journal of Career Assessment*, 18(3): 250-265.
- Employers Confederation of the Philippines (ECOP). (n.d.). Job-skills mismatch in the Philippines and the advent of Industry 4.0. <http://www.fsi.gov.ph/wp-content/uploads/2018/02/JRAM-Job-Skills-Mismatch-Mabini-Dialogue.pdf>.

- Eva, N., A. Newman, Z. Jiang, and M. Brouwer. (2020). Career optimism: A systematic review and agenda for future research. *Journal of Vocational Behavior*, 116, 1-18.
- Figlio, D., M. Rush, and L. Yin. (2013). Is it live or is it Internet? Experimental estimates of the effects of online instruction on student learning. *Journal of Labor Economics*, 31(4), 763-784.
- Garcia, P.R.J.M., S.L.D. Restubog, P. Bordia, S. Bordia, and R.E.O. Roxas. (2015). Career optimism: The roles of contextual support and career decision-making self-efficacy. *Journal of Vocational Behavior*, 88, 10-18.
- Gunkell, M. and C. Schlägel. (2010). The influence of personality on students' career decisiveness: a comparison between Chinese and German economics and management students. *Management Revue*, 21(3), 229-243.
- Gunkell, M., C. Schlägel, I.M. Langella, and J.V. Peluchette. (2010). Personality and career decisiveness: an international comparison of business students' career planning. *Personnel Review*, 39(4): 503-524.
- Gunkell, M., C. Schlägel, I.M. Langella, J.V. Peluchette, and E. Reshetnyak. (2013). The influence of national culture on business students' career attitudes – An analysis of eight countries. *German Journal of Human Resource Management*, 27(1): 47-68.
- Howell, F.M., W. Frese, and C.R. Sollie. (1984). The measurement of perceived opportunity for occupational attainment. *Journal of Vocational Behavior*, 25(3), 325–343.
- Mateo, J. (2020, September 23). 44,000 college students may be unable to enroll. The Philippine Star. <https://www.philstar.com>.
- McIlveen, P., G. Beccaria, and L.J. Burton. (2013). Beyond conscientiousness: career optimism and satisfaction with academic major. *Journal of Vocational Behavior*, 83(3), 229-236.
- Müceldili, B., O.G. Ertosun, and O. Erdil. (2017). An empirical investigation of career optimism among Turkish university students. *The European Proceedings of Social & Behavioral Sciences*.
- Organisation for Economic Co-Operation and Development (OECD). (2017). *In-depth analysis of the labour market relevance and outcomes of higher education systems: Analytical framework and country practices report*. Paris, France: OECD.
- Rottinghaus, P.J., S.X. Day, and F.H. Borgen. (2005). The Career Futures Inventory: A measure of career-related adaptability and optimism. *Journal of Career Assessment*, 13(1), 3–24.
- Wanberg, C.R. (1997). Antecedents and outcomes of coping behaviors among unemployed and reemployed individuals. *Journal of Applied Psychology*, 82(5), 731-744.
- Rumberger, R.W. (1981). The rising incidence of overeducation in the U.S. labor market. *Economics of Education Review*, 22(6): 621-629.
- Rottinghaus, P.J., A. Eshelman, J.S. Gore, K.J. Keller, M. Schneider, and K.L. Harris. (2017). Measuring change in career counseling: validation of the Career Futures Inventory-Revised. *International Journal for Educational and Vocational Guidance*, 17(1): 61-75.
- Wanberg, C.R. (1997). Antecedents and outcomes of coping behaviors among unemployed and reemployed individuals. *Journal of Applied Psychology* 82, 731-744.
- Workforce Institute at Kronos. (2019). Meet Gen Z—The next generation is here: hopeful, anxious, hardworking, and searching for inspiration. <https://workforceinstitute.org/wp-content/uploads/2019/05/Meet-Gen-Z-Hopeful-Anxious-Hardworking-and-Searching-for-Inspiration.pdf>.

ANNEX A: List of schools that participated in the CES

2014 Cohort: nine (9) schools participated with 4,323 sampled students representing 27,741 college freshmen in 2014.

1. Adamson University
2. Baliuag University
3. Centro Escolar University
4. Emilio Aguinaldo College
5. Far Eastern University
6. Jose Rizal University
7. Mapua Institute of Technology
8. National University
9. Philippine Women's University

2015 Cohort: twenty-five (25) schools participated with 6,676 sampled students representing 53,489 freshmen in 2015

1. Adamson University
2. Ateneo (Manila, Naga, Zamboanga)
3. Baliuag University
4. Caraga State University (Main campus, Cabadbaran)
5. Centro Escolar University
6. Central Mindanao University
7. Colegio De San Juan De Letran
8. College of Immaculate Concepcion
9. Emilio Aguinaldo College
10. Far Eastern University (Manila, Tech, Diliman)
11. Father Saturnino Urios University
12. John B. Lacson Colleges Foundation Bacolod
13. Jose Rizal University
14. Lyceum of the Philippines University (Manila, Laguna)
15. Mapua Institute of Technology (Manila, Makati)
16. National University
17. Partido State University
18. Philippine Normal University
19. Philippine Women's University
20. Technological University of the Philippines
21. University of Bohol
22. University of East (Manila, Caloocan)
23. University of Perpetual Help Dalta System
24. Xavier University – Ateneo de Cagayan
25. Zamboanga State College Marine Science and Technology

2020 Cohort: seventeen (17) schools have participated in the opening of a new batch of Freshman respondents. The following schools are:

1. John B. Lacson Colleges Foundation - Bacolod
2. Far Eastern University - Manila
3. Far Eastern University - Makati
4. Far Eastern University - Tech
5. Far Eastern University - Cavite
6. Far Eastern University - Alabang

7. Centro Escolar University - Manila
8. Centro Escolar University - Malolos
9. Centro Escolar University - Makati
10. University of Perpetual Help System Dalta- Las Pinas
11. University of Perpetual Help System Dalta – Molino
12. University of Perpetual Help System Dalta – Calamba
13. Antipolo Institute of Technology
14. University of the East Manila
15. University of the East Caloocan
16. Lyceum of the Philippines - Laguna
17. Philippine Women's University

Annex B: Comparison of survey questions and transformation of variables by indicator

VARIABLE	CES 2014 and 2015	CES 2020
Dependent variable		
Career optimism	Mark which ones you did during your previous year in college on a typical week: Remained undecided about my major degree program 1 – Never 2 – Rarely 3 – Sometimes 4 – Often 5 – Very often In the regression, re-classified to: 1 - 2: High career optimism 3: Middle level 4 - 5: Low career optimism	In thinking about your career and life after college, how strongly do you agree with the following statements? I am eager to pursue my career goals. 1 – Strongly disagree 2 – Disagree 3 – Neither disagree nor agree 4 – Agree 5 – Strongly agree In the regression, re-classified to: 1 - 2: Low career optimism 3 - Middle level 4 - 5: High career optimism
I. Contextual support: Family and friends		
Support from family Length of time: Social activities with family	Rate the amount of time in terms of hours per week, you have been spending during a typical doing the following activities since entering this college: Engaging in family social activities 1 – None 2 – Less than 1 hour 3 – 1 to 2 hours 4 – 3 to 5 hours 5 – 6 to 10 hours 6 – 11 to 15 hours 7 – 16 to 20 hours 8 – Over 20 hours In the regression, re-classified to: 1 - 3: Shortest (base group) 4 - 5: Middle 6 - 8: Longest	Same as in 2014-2015
Support from friends (a) Length of time: Studying with friends	Rate the amount of time in terms of hours per week, you have been spending during a typical doing the following activities since entering this college: Studying with friends 1 – None 2 – Less than 1 hour 3 – 1 to 2 hours 4 – 3 to 5 hours 5 – 6 to 10 hours 6 – 11 to 15 hours 7 – 16 to 20 hours 8 – Over 20 hours In the regression, re-classified to: 1 - 3: Shortest (base group) 4 - 5: Middle 6 - 8: Longest	Same as in 2014-2015
III. Contextual support: School		

Classroom instruction (b) Satisfaction: Classroom instruction	Rate your satisfaction with your institution regarding the following aspect of college life: Overall quality of classroom instruction 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest (base group) 3: Middle 4 - 5: Highest	N.A.
Teacher (d.1) Satisfaction: Classroom environment (2014-2015) (d.2) Satisfaction: Interaction with faculty members (2020)	Rate your satisfaction with your institution regarding the following aspect of college life: Classroom environment of mutual respect that the teacher promotes 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest (base group) 3: Middle 4 - 5: Highest	How satisfied are you with the following school's response to COVID-19 for this school year? Interaction with faculty members 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent 8 – Not offered In the regression, re-classified to: 0 - Not offered (base group) 1 - 2: Lowest 3: Middle 4 - 5: Highest
Counselling (e.1) Satisfaction: Counseling services (2014-2015) (e.2) SHS career counselling (2020) (e.3) Satisfaction: Counselling and psychological support	Rate your satisfaction with your institution regarding the following aspect of college life: Student counselling services 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent	Did your SHS offer career counselling? 0 - No 1 - Yes ----- How satisfied are you with the following school's response to COVID-19 for this school year? Counselling and psychological support 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent 8 – Not offered In the regression, re-classified to: 0 - Not offered (base group) 1 - 2: Lowest 3: Middle 4 - 5: Highest

Advising and consultation (f) Satisfaction: Advising and consultation	Rate your satisfaction with your institution regarding the following aspect of college life: Academic advising and consultation 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest (base group) 3: Middle 4 - 5: Highest	N.A.
III. Contextual barrier		
Financing (g) Concern about college financing	Your concern about the financing of your college education: ____. 1 – Major concern because of difficulty in finding financial support for my college education 2 – Minor concern for now because there is enough financial support for my college education this year but not sure about next year 3 – No concern because there are sufficient funds to support my entire college education	Same as in 2014-2015
Income group (h) Whether belonging to the bottom, middle, or top income group	Your best estimate of your parents' joint monthly gross salary (monthly income before tax and other deductions) in Philippine pesos: A - Below 20,000 B - 20,000 but not over 39,999 C - 40,000 but not over 59,999 D - 60,000 but not over 79,999 E - 80,000 but not over 99,999 F - 100,000 or above In the regression, re-classified to: A: Bottom income group B: Middle income group C: Top income group	N.A.
Pandemic effect on household (i) Loss of income/employment in household (base: none)	N.A.	Has a member of your household suffered income loss or reduction in the past nine months? 1 - Yes, job loss. 2 - Yes, income reduction. 3 - No, all households have retained their job and income level.
IV. Career knowledge		

Understanding of job market trends (j) Not understanding job market trends	N.A.	In thinking about your career and life after college, how strongly do you agree with the following statements? I do not understand job market trends. 1 – Strongly disagree 2 – Disagree 3 – Neither disagree nor agree 4 – Agree 5 – Strongly agree In the regression, re-classified to: 1 - 2: Lowest 3: Middle 4 - 5: Highest
Knowledge of job opportunities (l) Awareness of job opportunities	N.A.	In thinking about your career and life after college, how strongly do you agree with the following statements? I am aware of job opportunities after graduation. 1 – Strongly disagree 2 – Disagree 3 – Neither disagree nor agree 4 – Agree 5 – Strongly agree In the regression, re-classified to: 1 - 2: Lowest 3: Middle 4 - 5: Highest
Career information source (l.1) - (l.8)	N.A.	Sources of information on the industry that you want to join as your career: (1) Family and friends (2) School instructors (3) School's career services (4) Online job portals (5) Social media (6) Government career publication materials (7) Career development and business seminars (8) Others
V. Control variables		
Relevance of schoolwork to future career (m.1) Satisfaction: Relevance of coursework (2014-2015) (m.2) Satisfaction: Learning environment (2020)	Rate your satisfaction with your institution regarding the following aspect of college life: Relevance of coursework to future career plans 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest (base) 3: Middle 4 - 5: Highest	How would you rate your new learning environment in your future career? 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest (base) 3: Middle 4 - 5: Highest

Past school performance (n.1) Self-rating: Performance in previous college year (2014-2015) (n.2) Self-rating: Performance in SHS (2020)	My performance in college the previous year is: ____. 1 – Outstanding 2 – Above average 3 – Average 4 – Below average In the regression, re-classified to: 1 - Below average 2 - Average 3 - Above average/Outstanding	My performance in senior high school is: ____. 1 – Outstanding 2 – Above average 3 – Average 4 – Below average In the regression, re-classified to: 1 - Below average 2 - Average 3 - Above average/Outstanding
Intrinsic trait (o) Self-rating: Drive to achieve	Rate your trait: Drive to achieve 1 – Unsatisfactory 2 – Satisfactory 3 – Good 4 – Very good 5 – Excellent In the regression, re-classified to: 1 - 2: Lowest 3: Middle 4 - 5: Highest	Same as in 2014-2015

Appendix C: Web pages of career and job placements of selected universities and colleges

University/College	Web page link
Adamson University	https://www.adamson.edu.ph/v1/guidance/?page=career-job-placement
Ateneo de Manila University	https://placement.ateneo.edu/ (Facebook) https://www.facebook.com/AteneoLSOPCS/
Baliuag University	http://baliuagu.edu.ph/center-for-guidance-and-counseling/
Caraga State University	https://www.carsu.edu.ph/?q=gtc-page/guidance-and-counseling-center-0
Centro Escolar University	https://www.ceu.edu.ph/career-center
Colegion de San Juan de Letran	https://www.lettran.edu.ph/Department/Guidance
Emilio Aguinaldo College	(Facebook) https://www.facebook.com/eacguidanceandplacement
Far Eastern University	https://www.feu.edu.ph/index.php/career-and-placement-office/
Jose Rizal University	https://jru.edu/campus-life/rizalian-career-and-placement/
Lyceum of the Philippines University	https://manila.lpu.edu.ph/index.php/about-us-global/service-offered
Mapua University	https://www.mapua.edu.ph/MapuaMovingForward/Student_Services.aspx (Facebook) https://www.facebook.com/MapuaCareerServices/
National University	http://careerservices.nu.edu/s/1843/cs/home.aspx?gid=2&pgid=542
Philippine Normal University	(Facebook) https://www.facebook.com/pnucareerservices/
Philippine Women's University	http://www.pwu.edu.ph/career.html
University of Bohol	https://universityofbohol.edu.ph/guidance.php
University of Perpetual Help	https://perpetualdelta.edu.ph/student-life/#1524469244708-22f99aeb-f35f
University of the East	https://www.ue.edu.ph/main/student-affairs-office/
Xavier University - Ateneo de Cagayan	https://www.xu.edu.ph/services-gco