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The Value of an associate degree in culinary arts from a public postsecondary school versus a private school

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The Value of an Associate Degree in Culinary Arts
From a Public Postsecondary School Versus a Private School

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Bachelor of Arts
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Abstract

Through an analysis of tuition data, this paper explores the difference in cost of an associate degree in culinary arts from public and private postsecondary schools. The average cost of the associate degree in culinary arts at private school is more than 500% higher than the average cost at the public schools. This disparity in cost raises a question of value. Is the degree from a private school worth more to justify the additional cost? The literature review established the use of post-graduation earnings as an accepted measure of the value of the degree. Surveys conducted by the American Culinary Federation and StarChefs.com, as well as data collected by the Bureau of Labor Statistics (BLS) provide salary information and level of educational attainment of members of the culinary profession. The impact of obtaining an associate degree in culinary arts on earnings cannot be determined from this data. The effect on earnings of the type of institution granting the degree also cannot be determined. As a result, a definitive answer is not available to the question of whether the additional cost incurred in obtaining the degree from a private school is justified by higher post-graduation earnings. A survey is proposed to gather education and salary data in order to determine if there is a correlation between the type of institution attended and subsequent earnings.

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Part One

In 1971, the State of New York granted the Culinary Institute of America (CIA) a charter to confer an Associate in Occupational Studies degree, making it the first culinary college in the United States. receiving such authorization. Since that time there has been a substantial growth in the demand for formal culinary education in this country. The increasing popularity of the Food Network as well as other food related television programming coupled with the rise of the celebrity chef, has raised public awareness of the culinary profession. The prospect of readily available jobs has also attracted attention of potential students. The foodservice industry is a \$580+ billion industry and employs approximately 9% of the U.S. workforce (National Restaurant Association, 2010).

The most common culinary training grounds for professionals are postsecondary institutions both public and private. There are more than 550 postsecondary culinary arts programs currently operating in the United States. A majority of these programs offer an associate degree in culinary arts upon completion. Public institutions, primarily community colleges, conduct approximately 75% of the associate degree programs. The remaining institutions are either private for-profit or non-profit and include well-known institutions such as the CIA, Johnson & Wales, Cordon Bleu and the Art Institutes.

The cost of an associate degree in culinary arts varies significantly by the type of institution. In general, the cost at a private institution is 7 – 10 times that of a public institution (Hertzman, 2006). The disparity in cost raises the question as to whether the degree from one type of institution is more valuable than a degree from another. The spotlight on the question of value has intensified in recent years. Changes in the political, economic and legal environment

have increased scrutiny on postsecondary education including culinary programs. The various stakeholders including federal and state governments as well as students and parents, are demanding more accountability from postsecondary institutions regarding outcomes. Rising tuition costs and the corresponding increase in student debt, reduced government funds and increasing default rates on student loans have led stakeholders to demand institutions demonstrate education expenditures are justified based on, among other things, student outcomes.

Retention and graduation rates are common outcome measures. Career earnings are also an indicator of the value of education. The correlation between cost and results as measured by earnings has also become the subject of recent litigation in San Francisco (Amador, 2007) and Portland, Oregon (Yeager, 2009).

Purpose

The purpose of this paper is to analyze the impact of which type of institution (public vs. private) a student chooses to obtain an associate degree in culinary arts on career earnings. Secondary data from institutions' websites, government data of postsecondary institutional characteristics and earnings data from the literature is used in the analysis.

Justification

For the most part, one makes a value judgment in deciding to purchase a product or service. In its simplest term, this judgment comes down to the question; is what I am getting worth what I am paying? The answer to this question requires the determination of cost (what I am paying) and value (worth). The determination of cost is, for the most part, subject to objective measurement. The issue of value quite often involves subjective issues not easily

quantified. This is especially true when there is a wide spread in the cost of a particular product or service across a range of providers. This is readily apparent in the case of postsecondary culinary education. There is a significant spread in the cost among the institutions for the same product i.e. an associate degree.

In the context of postsecondary education, one factor often used in the determination of value is the additional earnings one can expect because of his/her education. Day & Newburger (2002) showed the differences in earnings that develop between workers of different educational levels over the course of their working lives. These differences are often cited as justification for the value of post secondary education. However, the estimates were based on the aggregate workforce and no distinction was made based on major course of study or cost of an individual institution. More importantly, studies based on the aggregate fail to take into consideration any constraints placed on future earnings because of the fundamental economics of a particular industry.

Both students and postsecondary institutions that offer culinary programs benefit from a focused analysis of cost of a degree and post graduation earnings. The ability to measure the value of the degree is significant as private institutions compete with public institutions for students. An understanding of the how students relate quality, price and value in making their decision on matriculation can lead to an increase in recruitment (Zenithal, 1988). Success in attracting students lies in communicating with potential students the value of a degree from the institution (Yranesevic, C. Vignali, & D. Vignali, 2004). Providing potential students with a value measurement can assist them in the selection process. The results may also provide benchmarks for institutions to measure the success of their graduates and, if necessary, determine

any curriculum adjustments necessary to provide students with the skills required to obtain jobs with earning levels justifying the cost of the degree. The data will also provide institutions with information to respond to stakeholders demand for accountability.

Constraints

This paper will focus only on postsecondary institutions that offer an associate degree in culinary arts. This represents the majority of postsecondary culinary programs in the United States. Other postsecondary institutions provide culinary training but do not award an associate degree.

The cost of the associate degree will be limited to tuition. Cost will be determined based on in-state tuition charges. Room and board cost and other fees are ignored due to the difficulty of interpreting inconsistently presented data. In addition, the tuition cost will be limited to the cost of an associate degree. Some institutions that do offer an associate degree also have culinary programs that provide a certificate or in some instance a bachelor degree.

The salary surveys utilized for this paper do not clearly distinguish earnings by level of academic achievement in sufficient detail to isolate the impact of an associate degree on career earnings. The surveys do however provide data regarding the relationship between earnings and level of educational achievement. In addition, salary surveys do not distinguish earnings by institution. Conclusions drawn in the paper are based on the type of institution and not an individual institution.

The effect of other factors on the determination of value was not considered. Faculty credentials, facilities, student services, availability of financial aid, etc. are factors that would be included in a value analysis of an institution.

Glossary

Associate degree - A degree granted for the successful completion of a sub-baccalaureate program of studies, usually requiring at least 2 years of full-time college-level study (National Center for Education Statistics, 2008a). The term associate degree as used in this paper includes; Associate in Occupational Studies (A.O.S.): Associate in Applied Science (A.A.S.): Associate in Science (A.S.): Associate in Arts (A.A.).

Community College - A public 2-year postsecondary institutions, regardless of the actual name of the institution (National Center for Education Statistics, 2008b)

Cost- Tuition charged for in-state students.

Culinary Arts Program - A course of study with an emphasis on food preparation including baking and pastry.

For-profit institution - A private institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk (2008a).

Not-for-profit institution- A private institution in which the individual(s) or agency in control receives no compensation other than wages, rent, or other expenses for the assumption of risk. Not-for-profit institutions may be either independent not-for-profit (i.e., having no religious affiliation) or religiously affiliated (2008a).

Postsecondary education - The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent (2008a).

Private school or institution - A school or institution which is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials. Private schools and institutions include both not-for-profit and for-profit institutions (2008a).

Public institution - An institution controlled and operated by publicly elected or appointed officials and deriving its primary support from public funds (2008a).

Type of Institution - A public postsecondary institution or a private both for-profit and non-profit postsecondary institution.

Part Two

Literature Review

This literature review investigates the cost difference between private and public school associate degree programs in culinary arts and the use of career earnings as a method of evaluating whether or not the difference represents additional value. The review begins with the history of the growth in postsecondary culinary education. It discusses the types of institutions offering the programs and the types of programs offered in terms of educational awards. The review describes the cost difference between private and public associate degree programs. The results of a survey of costs at various institutions are used to establish the cost difference. Then the review examines the current demand for accountability by various stakeholders in the educational process including factors that might affect the determination of the value specifically as related to culinary programs. Finally, the review discusses the literature on the subject of the determination of value and the use of career earnings as a measure of the value of education.

Rise of Postsecondary Culinary Education in the United States

Formal culinary education in the United States can be traced to 1927 with the opening of Commercial Cookery and Baking Programs at the Frank Wiggins Trade School in Los Angeles (Mandabach, Revalas, & Cole, 2002). For years, the growth in the number of culinary programs was minimal. In 1938 there were only five programs training cooks in the United States (Mandabach, 1998). With the end of World War II and the expansion of the postwar economy, the number of culinary schools grew partly in response to the need for training of returning veterans (Brown, 2005). The veterans saw the hospitality industry as an avenue of growth (1998). These early culinary programs were conducted at the community or junior

college level (Scarrow, 1981). Prior to 1980, there were only four institutions within the United States that offered culinary arts programs at a higher level (1981).

The growth was not limited to public institutions as several private institutions began offering postsecondary culinary education. In 1946, the New Haven Restaurant Institute opened in Connecticut (Culinary Institute of America, 2010). By 1951, the school had changed its name to the Culinary Institute of America (CIA). In 1971 the Board of Regents of the State of New York granted the CIA a charter to confer an Associate in Occupational Studies degree, making it the first culinary college to be authorized to do so (2010). The CIA officially relocated to New York in 1972.

In 1973, Johnson & Wales University (JWU) announced the opening of the College of Culinary Arts and the addition of an associate degree program in that field (Johnson & Wales University, 2008). In 1986, the American Culinary Federation (ACF) recognized the need for professional accreditation of culinary arts programs as the number continued to rise (Brown, 2005). Currently the ACF has accredited 191 postsecondary programs in culinary arts (American Culinary Federation, 2008a), defined as those programs:

Awarding bachelor degrees, associate degrees, diplomas and certificates in culinary arts and baking and pastry arts. Programs must be postsecondary and authorized as such under applicable state law or comparable government unit (American Culinary Federation, 2008b, Criteria).

The past decade has seen a significant increase in postsecondary culinary programs (Frei, 2008). The National Center for Education Statistics (NCES) currently reports that 562 postsecondary institutions offer culinary training at some level (see Appendix A for detailed

list). The growth in culinary programs over the past decade has been attributed by some authors to the glamorization of the culinary arts by television (Müller, VanLeeuwen, Mandabach, & Harrington, 2009; Brown, 2005) and the rise of the celebrity chef (Severson, 2007). In addition, the prospect of readily available jobs has also attracted attention. The foodservice industry is a \$580+ billion industry and employs an estimated 12.7 million people or 9% of the U.S. workforce. It is expected to add 1.3 million jobs over the next decade (National Restaurant Association, 2010).

As reported by Kim Curtis (2007), “In 1996, there were 269 career cooking schools and 154 recreational cooking schools in the U.S., according to ShawGuides Inc.'s ‘The Guide to Cooking Schools.’ By 2006, those numbers had risen to 446 and 503, respectively.”

An additional indicator of the growth in culinary education can be found by examining the NCES data on associate's degrees conferred by degree-granting institutions (National Center for Education Statistics, 2008c). Between the 1995/96 and the 2006/07 academic years, the number of associate degrees granted in the personal and culinary services discipline more than doubled. During the same period the overall number of associate degrees granted grew by approximately 31%.

Postsecondary Programs and Institutional Characteristics

As LaLopa (2007), indicated there are a variety of postsecondary culinary programs. Some institutions have certificate programs, which take from 32 weeks to 52 weeks to complete. Other institutions offer degree programs that award an associate degree and some award a bachelor or higher degree. Many offer a combination of programs. Table 1 shows the number of institutions offering the various programs.

Table 1
Level of Academic Award

<u>Level of award</u>	<u>Number of Institutions</u>	<u>%</u>
Certificate	434	77
Associate Degree	362	64
Bachelor Degree	51	9
Advanced degree	2	.4
Total	562	100

Note. based on analysis of institutions listed in Appendix A

The percentages reported in Table 1 are comparable to the results of the 2006 and 2007 surveys of postsecondary culinary programs conducted by LaLopa (2006; 2007). Although a majority of the institutions offer a certificate program, the associate degree is the predominate degree awarded in culinary arts. In 2007, 38% of overall technical awards were associate degrees. However, within the culinary arts major 60% of the education awards conferred were associate degrees. Table 2 shows the distribution of subbaccalaureate awards.

Table 2

Subbaccalaureate Career/Technical Education Awards Conferred, 2007

Award	All major fields of study		Culinary arts	
	Number	%	Number	%
Certificates < 1 year	376,259	33	5,146	22
Certificates >1< 2 years	300,053	26	4,125	17
Certificates >2< 4 years	30,542	3	223	1
Associate Degree	437,935	38	14,263	60

Note. National Center for Education Statistics, Table P92. Retrieved March 3, 2010 from <http://nces.ed.gov/surveys/ctes/tables/P92.asp>

As indicated in Table 3, 75% of the postsecondary programs, which grant associate degrees, are public institutions. These results were comparable Hertzman's (2006) dissertation results. The results of LaLopa's 2007 survey were slightly higher showing 83% of the programs were in public institutions.

Table 3

Type of Institution Granting Associate Degrees, Culinary Arts

Type of Institution	Number	%
2-year, Private for-profit	25	6.9
2-year, Private not-for-profit	1	0.2
2-year, Public	244	67.5
4-year, primarily associate's, Private for-profit	22	6.1
4-year, primarily associate's, Private not-for-profit	9	2.5
4-year, primarily associate's, Public	15	4.1
4-year, Private for-profit	21	5.8
4-year, Private not-for-profit	14	3.9
4-year, Public	11	3.0
Summary		
Public	270	75
Private for-profit	68	19
Private not-for-profit	24	6

Note. Based on analysis of institutions listed in Appendix B

Cost of an Associate Degree

The cost of a culinary education varies widely depending on the type of institution and the program selected. LaLopa (2007) reported a range of \$480 to \$50,000 for the annual cost for a full time student to attend a culinary program. In her dissertation, Hertzman (2006) found

a similar range of tuition cost. While LaLopa's study made no distinction by type of institution or type of program, Hertzman's study focused on associate degree programs. Hertzman observed the type of institution was a key factor in determining the cost of an associate degree in culinary arts.

An analysis of the current cost of an associate degree confirms the findings of Hertzman. The analysis consisted of examining the cost as reported by various institutions on their respective websites for the 2009/2010 academic year (see Appendix C for a list of institutions). The cost represents the total cost (as previously defined) of the associate degree. There is a significant difference in the cost of an associate degree between public schools and other types of schools. The cost at the non-public schools is from 550% to 650% higher than the cost at the public schools. Table 4 illustrates the differences.

Table 4
Cost of Associate Degree by Type of Institution.

<u>Type of Institution</u>	<u>Number</u>	<u>%</u>	<u>Average Cost</u>	<u>Median</u>	<u>Standard Deviation</u>
Private non-profit	19	12.75	\$37,142	\$36,920	\$11,578
Private for-profit	35	23.50	\$43,612	\$43,296	\$ 8,576
Public	95	63.75	\$ 6,621	\$ 6,059	\$ 3,399
Total all types	149	100.00	\$19,181	\$ 8,125	\$18,005

Note. Based on analysis of institutions listed in Appendix C

The stark contrast between the costs of an associate degree from a public institution versus that of a private brings into sharp focus the basic question; is it worth the additional cost to attend a private school to obtain an associate degree in culinary arts? Programs at community colleges have produced successful chefs and at a fraction of the cost of a private institution (Fisher, 2008). The cost disparity might lead one to conclude that some students see more value in a private institution and are therefore willing to pay the additional cost.

However, the question remains, do they receive added value for the additional tuition expense?

Question of Value

The question of value in postsecondary education has come to the forefront in recent years because of the changing economic, political and legal climate in this country. The increase in the cost of postsecondary education has elevated the financial burden on students, parents, and federal, state and local government. The result is a demand for accountability to make sure that institutions succeed in their goal of educating students. The Secretary of Education's Commission on the Future of Higher Education in its final report stated "...Colleges and universities must become more transparent about cost, price, and student success outcomes" (U.S. Department of Education, 2006, p.4). Private institutions have an additional burden to prove that the increased cost over a public institution is justified.

Taxpayers also have a stake in the cost of attending a private institution. 97% of students receiving an associate degree in the 2007-2008 school year from a for-profit institution received federal loans as contrasted to only 33% of those attending public schools (Steele & Baum, 2009). There has been an increase in default rates on student loans across all types of postsecondary institutions but the rate of increase has been higher in private for-profit institutions

(U.S.Department of Education, 2009). Students enter the programs and in many cases take out loans to pay tuition with the understanding there will be jobs upon graduation. Many private culinary programs promote their job placement rates. However, they do not describe the quality of the job and thus students find that the jobs do not pay enough to cover living expenses as well as loan payments (Sherry, 2010). Taxpayers are left with the burden of the cost of the loan default.

Recent litigation involving two private culinary schools has raised the issue of value. The plaintiffs in a fraud case against California Culinary Academy (CCA) (Amador, 2007) assert the “CCA degree... was worth no more, and probably less, than a culinary arts degree from San Francisco Community College, a degree obtainable at a cost more on the order of \$2,000” (2007, ¶ 20). Among the other claims made by the plaintiff that give rise to issues of value are:

A CCA education does not significantly increase graduates’ income and opportunities in the food service industry and/or does not increase them to an extent that makes a CCA education worth the tuition (2007, ¶ 12)

A degree from CCA does not enable graduates to gain better more prestigious jobs than they could without one (2007, ¶ 15).

A similar case is underway in Portland, Oregon and many of the same issues have been raised (Yeager, 2009). The plaintiffs’ claims demonstrate their belief that an essential element in the determination of the value of their education is the relationship between the cost of the education and the earnings achieved because of the education.

Foodservice Industry

The determination of value of a product or service in general requires one to weigh the benefits, both tangible and perceived, with the cost of obtaining the benefits. Any constraints, which will restrict the benefits, will serve to limit the value. For example, the salary cap in the NFL restricts the value of players as perceived by various teams. A team with more “cap room” may be able to pay more for a particular player than a team with less cap room. As discussed below, if earnings are used as an element in determining the value of an associate degree, any restrictions on those earnings would serve to reduce the value. The fundamental nature of the foodservice industry and in particular the culinary profession presents issues that must be considered in the determination of the value of a culinary degree from a particular institution.

There are no regulatory requirements that one has a degree in order to enter the culinary profession. This diminishes the value of a culinary degree. Lawyers, doctors, CPAs, etc must meet certain educational standards in order to practice their respective profession. Those standards serve as a barrier to entry into the profession and as such, the education has value. The culinary profession has no such requirement. Any educational requirements are at the discretion of the employer. The only regulatory requirements relate to state imposed health codes and alcohol laws which generally require workers in the foodservice industry to have food handlers’ permits or, where required, alcohol training and any related permits (Niederpruem, 2010; Oregon Restaurant Association, 2009; Utah Administrative Code, 2010; Voravong, n.d.). As indicated in Appendix D, the majority of the workforce in the foodservice industry has an educational attainment level of high school or below.

The fundamental economics of the foodservice industry places additional constraints on the value of a degree. The foodservice industry ranks as one of the country's leading employers (National Restaurant Association, 2010; Bureau of Labor Statistics, 2009b). As previously discussed, this is one of the factors contributing to the increase in culinary programs. However, wages in the foodservice industry are much lower than those in other industries. In 2008, the average hourly rate for nonsupervisory workers in the foodservice industry was \$9.59 as contrasted with the average rate of \$18.08 for all private sector workers (2009b).

The highest paid positions within the foodservice industry are reflected in Table 5. These also represent the positions that have the highest percentage of workers with associate degrees (Appendix D). Not only are the wages a factor to consider in determining the value of an associate degree in culinary arts but the number of positions is also a factor. Chefs and head cooks represent less than 1% of the overall industry employment. The basic principles of supply and demand come into play and serve to constrain wages.

Table 5
Employment and Wage Estimates

Title	Employment	Hourly		Mean Annual
		Median	Mean	
Chefs and Head Cooks	68,060	\$17.58	\$19.11	\$39,750
First-Line Supervisors/Managers	611,810	\$13.46	\$14.39	\$29,930
Food Service Managers	153,440	\$21.84	\$23.59	\$49,070

Note. U.S. Bureau of Labor Statistics May 2008 National Industry-Specific Occupational Employment and Wage Estimates NAICS 722000 - Food Services and Drinking Places

Recognizing the inherent constraints of the foodservice industry on wages is an important factor in the determination of value. Getting a job upon graduation is not a problem. The problem is “getting a high-paying job,” said Susan Sykes Hendee, a member of the American Culinary Federation Foundation Accrediting Commission, which accredits many culinary schools (Severson, 2007, ¶ 8).

Measuring Value

The determination of value is a concept that presents difficulties for researchers as value has different meaning for different customers. Zeithaml (1988) defined value in terms of the quality that one receives as measured against the price paid. Anderson, Jain, and Chintagunta (1992) defined value as:

The perceived worth in monetary units of the set of economic, technical, service and social benefits received by a customer firm in exchange for the price paid for a product offering, taking into consideration the available alternative suppliers' offerings and prices. (p.5)

Anderson et al.'s definition of value is particularly appropriate in the present situation and supports the use of career earnings as a valid measurement of the value of an education.

Gale described value as perceived quality adjusted for the relative price of the product (Woodruff, 1997). Woodruff in his discussion of customer value (1997), pointed out various definitions of the concept of value and noted terms such as utility, worth, benefits and quality were commonly used in constructing a definition of value. Woodruff developed a definition of value from the customer's perspective, "...value is a customer's perceived preference for and

evaluation of those product attributes, attribute performances and consequences arising from use that facilitate (or block) achieving the customer's goal and purposes in use situations" (p.142).

Value is a construct based on the concepts of quality and price and the trade-off between them (Hall, Shaw, Lascheit, & Robertson, 2000). Quality or the perception of quality plays a key role in a consumer's determination of value.

Earnings as an Indicator of Value

If the measurement of quality is subjective, it would seem to follow that attempting to measure value would be subjective and difficult to quantify. However, in the arena of education, career earnings is an often-used indicator of value. North Carolina State University economist Mike Walden, in discussing how to value educational institutions, proposed that the easiest aspect of the process is to measure the value of educating the students. This can be done simply by looking at "...what their income would be over their lifetime, then we subtract off what their income would have been if they had just stopped at high school. And that gives us some measure of the value of that college degree" (N.C. State University, 2007, ¶ 3).

The Parthenon Group (Lyttle, Brinner, & Ross, 2010) in a study commissioned by a for-profit college (Goldrick-Rab, 2010) used a similar approach as the one described by Walden. The study explored the question of whether private postsecondary schools provide value to students and society. One of the factors the authors examined was the income gained by students. By subtracting pre-enrollment income of students from post-enrollment income, the authors determined the gain that represented the "student return on educational investment" (Lyttle, et.al, 2010, p.13)

Economist Sandra Black suggested that in order to evaluate the cost-effectiveness of schools, there should be a method for quantifying the value of schools. This involves measuring the school's outputs. The outputs could be quantified utilizing the student's earnings (Black, 1998). U.S. Census Bureau researchers showed that an associate degree could boost one's earnings by 16 percent over someone with only a high school education. The difference is greater as educational attainment increases. A bachelor's degree results in a 34 percent increase; a master's degree 40 percent; a doctoral degree 46 percent; and a professional degree 51 percent (Day & Newburger, 2002).

Drummond and Youtie (2003) utilized the methodology of the U.S Census Bureau as an element in developing a way in which to value higher education in the state of Georgia. Their study calculated the economic value of higher education by looking at the incremental earnings by level of education thereby isolating the percent of earnings attributed to higher education.

A study by the Productivity and Prosperity Project utilized career earning as a measure of the value of education from the individual student's perspective. The study indicated a differential of more the \$1,000,000 in career earnings for those with a bachelor degree versus those with only a high school diploma (Hill, Hoffman, & Rex, 2005). The study also expressed the value of a college education on the same basis as the return on a financial investment indicating a return of 12% per year over the inflation rate. The U.S Department of Labor issues a report quarterly, which, among other things, reports average weekly earnings by educational attainment (Bureau of Labor Statistics, 2010).

While the studies cited above have determined value based on average earnings of large populations, others have looked at the issue on a micro level. At Harvard, many students justify

the high cost of tuition by analyzing it as an investment, the return measured by their future earnings. The median starting salary of emerging Harvard undergraduates who work full-time in the United States is \$63,400; their mid-career median salary is \$124,000. These figures are significantly higher than the median earnings of the average American male- \$45,113 in 2007 (Fiske, 2009). Barros and Santos (2007) examined the effect of education on the earnings for hotel managers. Their research indicated a positive correlation between education and earnings.

Using earnings as an element of measuring value is particularly appropriate in the case of culinary schools. The primary reason students go to culinary school is to get a job (Berta, 2005; Hertzman, 2006). The job represents the output and the tuition represents the inputs. Measuring the output in terms of career earnings is widely accepted within the educational community as one measure of the value of an education. The culinary programs themselves link value to earnings. The CIA in its promotional material states, “Superior value ultimately means superior career potential” (The Culinary Institute of America, 2009).

Based on the premise that career earnings is an indicator of the value of an associate degree, the determination of value requires an examination of salary data as related to level of educational attainment. The 2008 StarChefs salary survey (Martinelli & Proville, 2009) and the 2008 Salary eSurvey (ACF survey) sponsored by the ACF (Readex Research, 2009) contain data linking salary to educational attainment.

The StarChefs survey indicated, based on education, non-culinary degree respondents had a slightly higher salary than respondents with a culinary degree, \$64.8K vs. \$63.2K. At first glance, this would indicate that an associate degree from a private school or a public school was not of value. To draw such a conclusion would be premature. The report of the survey results

does not detail the methodology used. The terms culinary degree and non-culinary degree are not defined. There is no breakdown within the culinary degree respondents between public and private. There is no distinction between associate and bachelor culinary degrees. Nevertheless, the survey data does provide an indication that a culinary degree might not be a determining factor in the salary of a culinary program graduate and therefore has a diminished value.

The ACF survey indicates 76% of the members had received training at a culinary college. This was split almost evenly between private and public culinary colleges (Readex Research, 2009, Table 008). The survey had a margin of error of $\pm 2.8\%$ at the 95% confidence level (2009, p3.). The average salary was \$54.1K but like the StarChefs survey, the average salary for those who attended a culinary college was less than the average for those who did not (2009, Table 017). As in the case of the StarChefs survey, it is difficult to draw a definitive conclusion regarding the value of an associate degree. There is no distinction made as to type of culinary college attended, degree attained or, if in fact, a degree was attained.

More noteworthy, 71% of the respondents had over 10 years of experience (2009, Table 007) indicating that a majority of the respondents entered the profession prior to the boom in culinary education. The survey results reflect the shift in culinary training over the past decade. The less experienced the respondent, the more likely they were to have attended a culinary college. 71% of the respondents with more than 10 years experience received culinary training at a culinary college. 88% of the respondents with less than 10 years experience received culinary training at a culinary college.

The previously discussed study by The Parthenon Group (Lyttle, et.al, 2010), contains evidence of a slight difference between a public versus private school in the income gained by

attending one type of school versus the other. The study indicated students attending a public school experience an income gain of \$7,300 while those at a private school had a gain of \$7,900 (2010). The Parthenon study does not isolate culinary arts majors and includes data from certificate programs as well as associate degree programs across The study concluded, “Both private and public sector students experience strong income gains from their educational investment” (Lyttle, et.al, 2010, p. 13). While private sector students did experience a higher income gain, the authors did not relate the gain to the cost of the education. The study did not consider whether the \$600 in additional income was worth the \$37,000 additional cost of the average private for-profit school over the cost of a public school when it comes to culinary art programs.

The results of the ACF and StarChefs surveys that indicate the level of education may not be a factor in salary level in the culinary profession are contradicted by data from the Bureau of Labor Statistics (BLS). As reflected in Table 6, level of educational attainment does play a role in the earning capacity of an individual. The BLS data however does not allow one to isolate the impact of an associate degree in culinary arts.

Table 6
Earnings by Educational Attainment

Year	Median usual weekly earnings		% Difference
	Some college	High school, no college	
2000	\$596	\$505	18%
2001	\$617	\$520	19%
2002	\$629	\$535	18%
2003	\$639	\$554	15%
2004	\$661	\$574	15%
2005	\$670	\$583	15%
2006	\$692	\$595	16%
2007	\$704	\$604	17%
2008	\$722	\$618	17%
2009	\$726	\$626	16%

Note. Data compiled from Bureau of Labor Statistics Databases.

Summary of Literature Review

This literature review began with a discussion of the growth of postsecondary culinary education in the United States. It showed the associate degree is the predominant award level of institutions offering culinary arts programs. The majority of associate degree programs are found in public educational institutions, primarily community colleges. There is a very clear difference in the cost of an associate degree in culinary arts that is directly related to the type of institution. The cost of an associate degree from a private institution is significantly higher than that from a public institution. This difference has raised questions as to the value of a degree from a private

school as opposed to a public school degree. The review discussed the interest of various parties in this question of value and factors endemic to the foodservice industry that place constraints on measuring value.

After a discussion of the definition of value, the review presented the justification for the use of career earnings as a basis for determining the value of an associate degree in culinary arts. The review concluded with a discussion of two published salary surveys as well as BLS statistics about the relationship between educational attainment and earnings. The surveys would seem to indicate that the additional cost of a private school associate degree in culinary arts might not represent additional value based on the earnings reflected in the surveys. In addition, the survey results conflict with BLS statistics that relate earnings to level of educational attainment. The surveys did not specifically focus on associate degree programs or the distinction between private and public schools. Additional research is needed to determine the impact on career earnings of a student's choice in type of institution from which to obtain an associate degree in culinary arts.

Part Three presents a research plan to obtain more specific data to isolate the impact of type of school choice on earnings.

Part Three

Part Three begins with a discussion of the limitations of the current literature in answering the question of whether the difference in cost of a culinary arts associate degree program from a private school versus a public school is justified based on the relationship between cost and future earnings. Next, it proposes a survey to gather data in an attempt to address the shortcoming in current studies. Finally, it addresses implications for the various stakeholders of culinary education.

Limitations Identified in the Literature Review

As discussed in Part Two, the cost of an associate degree in culinary arts is significantly higher in a private school than the cost of the same degree in a public school. Hertzman's dissertation (2006) and La Lopa's surveys (2006, 2007) documented this difference. The content analysis conducted by this researcher confirmed the difference for the 2009/2010 academic year (Table 4). The question as to whether or not the higher cost of a private school translates into higher career earnings cannot be definitively answered from the current available literature.

Salary surveys conducted by the ACF (Redex Research, 2009) and StarChef.com (Martinelli & Proville, 2009) provide evidence that the higher cost of an associate degree from a private school does not result in higher earnings. Both surveys address the relationship between earnings and education in general terms but the surveys were not framed in such a way as to isolate the effect of the type of institution attended. The surveys also do not isolate the effect by type of degree in culinary arts on earnings.

BLS data provides contradictory evidence of the effects of educational attainment on earnings. The data clearly indicate that for the population as a whole, wages are directly related to educational attainment (Table 6). Higher academic achievement results in higher career earnings. However, when examining data specifically related to the foodservice industry, the majority of the workforce in all occupational categories within the industry has less than an associate degree education (Appendix C). This data would seem to support the conclusion that an associate degree in culinary arts does not add value when earnings are used as an indicator of value. The data however fail to show the effects of an associate degree on earnings specifically in the foodservice industry. The BLS data also does not provide insight on the effect of the type of institution attended on earnings.

Proposed Survey

To analyze the impact of school choice (public or private) on the career earnings of associate degree in culinary arts recipients, it would be beneficial to gather data from culinary program graduates in a manner that would overcome the weaknesses of the surveys cited above. To measure the impact of institution type on career earnings, it is necessary to isolate associate degree recipients and their related earnings. While the surveys did look at educational attainment, individuals with multiple degrees were identified. If a student had an associate degree in culinary arts as well as a bachelor degree in another discipline, it would not be possible to determine which of the two degrees had an impact on earnings.

To gather the necessary data a survey will be conducted in a manner to a) isolate associate degree recipients, b) identify the type of institution from which the degree was received and c) provide career earnings of degree recipients.

Survey population.

The target population consists of all graduates of U.S. culinary programs who have received an associate degree in culinary arts. During the 12-year period from 1995 through 2007, approximately 137,000 associate degrees were conferred in the discipline of “Personal and Culinary Services” (National Center for Education Statistics, 2008). This discipline is defined as: “Instructional programs that prepare individuals to provide professional services related to cosmetology, funeral services, and food preparation and service” (National Center for Education Statistics, n.d.). While this classification includes non-foodservice disciplines (cosmetology and funeral services), the number of degrees provides an upper limit of the target population.

It would be quite difficult to survey the target population given the numbers as well as geographic distribution (Zikmund, 2003). A sampling frame consisting of members of the ACF will be utilized to conduct the survey.

The ACF is the “largest organization of culinarians in North America and the Western Hemisphere” (American Culinary Federation, n.d.). The ACF survey discussed in Part Two indicated 76% of the respondents had received training from a culinary college (Readex Research, 2009, Table 008). The survey had a margin of error of $\pm 2.8\%$ at the 95% confidence level. This indicates that the survey of the members will provide a significant number of qualified respondents i.e. those who received an associate degree in culinary arts.

The sample size will be the ACF’s active domestic membership with email addresses on file. This should yield a sample size of more than 14,000 based on the 2008 ACF survey (Readex Research, 2009, p3). This will result in a sample frame error, as any member who does not have an email address on file with the ACF will not be eligible for the survey. The use of ACF

members will result in a biased sample as not all chefs or culinary school graduates are members of the ACF. Since the survey will be conducted via the internet, the sample size will not have to be further limited.

Survey questions will be developed to identify the occupation of the respondent but occupational status will not be used to eliminate any respondents as the focus of the research is on career earnings and not on the occupation that generated the earnings.

Consideration was given to surveying alumni of various culinary programs both public and private. Access to alumni lists would be very difficult to obtain and results would be skewed, as there could be no assurance that a representative sample of both public and private school associate degree holders could be obtained. Utilizing the ACF members for the survey would assure representation from both types of institutions as the ACF survey showed an almost even split between private and public institutions for respondents indicating they received culinary training from a culinary college (Readex Research, 2009, Table 008).

Survey instrument.

The survey instrument will consist of a series of questions concerning the demographics of the respondents. Questions will include: (a) degrees earned, (b) type of school granting the degree, (c) years of experience, (d) earnings, and, (f) year of graduation. Additional demographic information may be obtained. It is important that the survey questions isolate those respondents with only an associate degree. At the same time, the survey would capture information about the respondent's total educational attainment. There are members of the survey population who have other postsecondary degrees in addition to an associate degree in culinary arts. This could influence the analysis as earnings may be affected by these other degrees.

The survey will be constructed in SurveyMonkey, a web based system (SurveyMonkey, 2009). SurveyMonkey contains features that will protect the privacy of the respondents (SurveyMonkey, 2010). A request to complete the online survey as well as the survey link will be sent the ACF membership by e-mail via *The Culinary Insider*. *The Culinary Insider* is ACF's electronic newsletter, distributed every other week to approximately 17,500 readers (American Culinary Federation, 2010). Appendix E contains a preliminary draft survey. At this time the survey has 10 questions. This is the limitation under the SurveyMonkey basic plan. The final survey may contain more questions.

Expected results.

The survey will provide data that will allow the researcher to analyze the correlation between the type of school and subsequent earnings of associate degrees in culinary arts recipients. The survey of school costs presented in Part Two clearly establishes a significant cost difference between a public and private school culinary degree. Determining the correlation between type of institution and earnings establishes the correlation between cost and earnings.

Implications for Stakeholders

Stakeholders in postsecondary culinary education fall into two camps. On one side are the institutions that offer the programs. On the other side are students and those who participate in financing the cost. This includes parents, federal and state governments, taxpayers, and financial institutions. As colleges and universities come under increased scrutiny from stakeholders, it is essential institutions demonstrate the value of the investment a student makes in terms of tuition and associated costs. This is true in the case of culinary arts programs found in private postsecondary schools. Students have a choice, a public school program at an average cost of

\$6,621 (Table 4) or a private school program at an average cost of between \$37,142 and \$43,612 depending on whether or not it is a not-for profit or a for-profit school (Table 4). The institution has the burden of proving it makes sense for a student to pay \$40,000 for an associate degree in culinary arts when the same degree can be obtained from a public school for \$6,000.

As discussed in Part Two, this essential question has become the focus of litigation by students as well as concern by various government bodies and taxpayers as students have been “saddled with tuition debt” (The Associated Press, 2006). There has been a rise in the number of students unable to meet their debt obligations because the jobs they obtain after graduation do not pay enough to allow the student to make the required loan payments as well as meet their day-to-day living expenses. As a result, the student defaults on the loan. In the case of federal guaranteed loans, the burden of repayment shifts to the taxpayers. The ability to relate cost to potential earnings is a valuable tool for students in school selection, as it has become an accepted measure of the value of education. It can also assist students in determining their ability to finance their education and service any debt they undertake.

More importantly, the relationship between degree cost, the debt incurred to finance that cost and post graduation earnings is emerging as a measure of accountability of particular importance for the private for-profit institutions.

Educational institutions that meet the definition of an “institution of higher education,” pursuant to the Higher Education Act of 1965, as amended in 1998 are eligible participate in Title IV student financial assistance programs. These programs include Pell Grant, Federal Direct Loans, Federal Perkins Loans, and Federal PLUS Loans (UC Davis, 2007). In order to meet the definition, for-profit schools as well as some public and non-profit schools must offer

programs that prepare students for “gainful employment “in a recognized occupation (HEA 98, 2010).

The meaning of “gainful employment” has come under scrutiny of the Department of Education as it seeks to keep vocational programs and most programs at for-profit schools from taking advantage of students who face high debt and low paying jobs after graduation (Pilon, 2010). Recent proposed regulations from the Department of Education outline two approaches in setting a standard as to what constitutes “gainful employment” (U.S. Department of Education, 2010).

One approach involves the relationship between earnings and annual debt payment requirements. A vocational degree program whose graduates' annual debt repayment load exceeded 8 percent of the average incomes in the field in question would risk losing eligibility to award federal financial aid (Burd, 2010; Epstein, 2010).

The other suggested approach hinges on the relationship between the cost of the program and the expected earnings. Under this approach if the cost/earnings relationship is not reasonable, the program would not be eligible for title IV aid. A program would be considered “reasonable” if the cost of the program is less than 3 times the value added by the program (U.S. Department of Education, 2010). The value added would be the difference between the annual earnings of a high school graduate and a person who complete a vocational program (2010).

98% of the 2007-08 associate degree recipients from for-profit schools incurred some type of debt with the vast majority receiving Federal loans (Steele & Baum, 2009, p.2, Table 2). The median debt level of these borrowers was \$18,783 (Steele & Baum, 2009, p.3, Table 3). The reason behind the current focus on private for-profit institutions as opposed to non-profit

institutions emerges from an examination of financial aid (grants and loans) at the two types of school. NCES data for four well-known schools that offer associate degrees in culinary arts show the private non-profit schools are clearly distinguishable from the for-profit schools both in number of students receiving institutional grants as well as the average amount of the grants (Tables 7 & 8). As to the loan side of the equation, a greater percentage of students at the for-profit schools incur loans and in many cases, the amounts are higher than at the non-profit schools (Tables 9 & 10).

The for-profit schools are heavily dependant on Title IV programs as reflected in the recent SEC filing of Career Education Corporation (CEC) the operator of the Le Cordon Bleu College of Culinary Arts.

A significant portion of our U.S.-based students rely on student aid and loan programs under Title IV of HEA (“Title IV Programs”) and we derive a substantial portion of our revenue and cash flows from the Title IV Programs(Career Education Corporation, 2010 p.28).

An analysis by the Chronicle of Higher Education (2010) showed that among degree granting institutions, for-profit colleges served 6% of all undergraduates but approximately 20% of those students receive Pell Grants.

Students at for-profit schools have a higher debt burden because of the high cost, reduced institutional grants and higher non-federal loans. This translates into an increase in default risk.

Table 7
Percentage of Students Receiving Grant Aid by Type 2007-2008

	Total	Federal	Pell	Other Federal	Local	Institutional
Private Non-Profit						
CIA	84%	22%	21%	22%	11%	83%
JWU - Charlotte	95%	33%	33%	33%	27%	95%
Private For-Profit						
Le Cordon Bleu-Las Vegas	49%	47%	47%	47%	10%	8%
The Art Institute - Charlotte	69%	54%	37%	16%	-	15%
Public						
Seattle Community College	39%	31%	31%	20%	33%	7%

Note. National Center for Education Statistics College Navigator. Retrieved March 24, 2010 from <http://www.nces.ed.gov/collegenavigator/>

Table 8
Average Amount of Grant Aid Received by Type 2007 - 2008

	Total	Federal	Pell	Other Federal	Local	Institutional
Private Non-Profit						
CIA	\$8,660	\$3,281	\$2,985	\$451	\$2,220	\$7,622
JWU - Charlotte	\$9,929	\$3,778	\$2,809	\$973	\$3,325	\$7,690
Private For-Profit						
Le Cordon Bleu-Las Vegas	\$3,346	\$3,043	\$2,537	\$541	\$1,340	\$730
The Art Institute - Charlotte	\$1,603	\$2,153	\$2,694	\$906	-	\$576
Public						
Seattle Community College	\$4,449	\$3,189	\$3,018	\$323	\$2,005	\$1,260

Note. National Center for Education Statistics College Navigator. Retrieved March 24, 2010
 from <http://www.nces.ed.gov/collegenavigator/>

Table 9
Percentage of Students Receiving Loans by Type 2007-2008

Institution	Total Loans	Federal	Non – Federal
Culinary Institute of America	74%	72%	27%
JWU - Charlotte	77%	77%	-
Private For-Profit			
Le Cordon Bleu-Las Vegas	84%	77%	58%
The Art Institute - Charlotte	86%	65%	21%

Note. National Center for Education Statistics College Navigator. Retrieved March 24, 2010 from <http://www.nces.ed.gov/collegenavigator/>

Table 10
Average Amount of Loans by Type 2007-2008

Institution	Total Loans	Federal	Non – Federal
Culinary Institute of America	\$10,069	\$4,381	\$15,787
JWU - Charlotte	\$4,456	\$4,456	-
Private For-Profit			
Le Cordon Bleu-Las Vegas	\$11,104	\$4,789	\$9,701
The Art Institute - Charlotte	\$6,885	\$5,700	\$10,541

Note. National Center for Education Statistics College Navigator. Retrieved March 24, 2010 from <http://www.nces.ed.gov/collegenavigator/>

The private non-profit schools should not consider themselves immune from scrutiny. The cost of their programs is also significantly higher than public schools. If private non-profit schools receive their Title IV eligibility pursuant to Section 102 of the Higher Education Amendments of 1998 (HEA 98), these schools will be subject to the same requirements as for-profit institutions. It is not unreasonable to assume that postsecondary programs in all types of schools will eventually be subject to the same requirements as those discussed above, especially in light of the changes in the Federal student loan program which were part of the health-care bill recently enacted into law (Blumenthal, 2010). Under the new law, the government will directly make all federally backed loans. The federal government will no longer guarantee student loans issued by private lenders (Dempsey, 2010). This change does not result in any increase in the potential risk to taxpayers since the government guaranteed the privately issued loans. There is however, an increase in government involvement in student lending that may result in more regulatory oversight.

The survey that captures earnings data is valuable not only as a tool used by students in school selection but also in establishing whether an associate degree in culinary arts from any type of school is beneficial. One of the fundamental characteristics of the foodservice industry is the majority of the jobs are low-paying although the industry employs a large number of workers, Students need to consider this when evaluating schools. The Department of Education clearly understands this as can be seen in the proposed regulations linking Title IV eligibility to earnings. The operators of for-profit are aware of this. Gary E. McCullough, Chief Executive and President of CEC, in response to the proposed regulations said, “If the proposal is implemented,

Career Education may have to lower prices so as to limit the debt load its students take on, or even cut some programs in which students graduate into low-paying jobs (Korn, 2010).

Obviously, private postsecondary schools have a significant stake in the results of a survey that links students' cost and subsequent earnings. The simple fact that regulators and students are using the relationship to hold a school accountable is reason enough. Beyond that, the data can provide a valuable tool for an institution to evaluate its program.

The results of the survey will provide an overall picture of the relationship between type of institution and earnings. It will be up to each institution to determine how successful its students are in obtaining jobs that will generate the earnings necessary to justify the cost of the degree.

Placement rates are widely used by culinary schools as a way of promoting the programs (Berta, 2005; LaLopa, 2007). Placement rates alone are not sufficient to measure success. As Susan Sykes Hendee said, "The problem isn't getting a job, the problem is getting a high-paying job," (Severson, 2007, ¶ 8). The plaintiffs in *Amador* (2007) claim, the school did not qualify the type of jobs or the pay. Culinary schools can benefit by collecting post-graduation career data including earnings as well as type of job as a tool in evaluating the success of their particular program.

Survey data would aid in identifying any systemic wage constraints in the foodservice industry and assist in identifying the jobs within the industry that generate earnings justifying the cost. This type of information is of particular importance from the institution's standpoint in program evaluation. Identifying the high paying jobs and the skills required in the jobs will allow schools to evaluate their programs and make adjustments needed to insure those skills are

addressed in the program. This should be an ongoing process in all schools as they seek to prepare students for careers in a constantly changing industry.

Recently, the Wauwinet Inn, in Nantucket, Massachusetts had a job opening for the position of pastry chef. The responsibilities of the pastry chef included:

Ordering, costing and menu planning as well as the supervision of all pastry employees.

Other important aspects of this position include the ability to: Schedule appropriate number of staff according to daily needs, banquet functions and weekly forecast. Control both labor & food costs. Communicate well both verbally and written. Work in tandem with Executive Chef and Sous Chefs to maintain a safe and clean kitchen Communicate with Executive Chef and the Sous Chef to accomplish production requirements. Maintain working inventory. Call in appropriate orders if necessary. Work directly with Executive Chef to develop menus. Maintain a safe and clean kitchen at all times. (Cape Cod Employer.com, 2010)

What is particularly interesting about this posting is what is absent from the list of responsibilities. There is no mention of having the ability to produce pastry items. While it is safe to assume the ability to bake is required, the responsibilities listed require skills that one does not automatically associate with a baking and pastry curriculum. The development of these skills need to be addressed in a baking and pastry curriculum as it seems safe to assume that a position such as the one listed is on the higher end of the pay scale.

Conclusion

Postsecondary culinary education has grown significantly in the past two decades. The associate degree is the predominate degree awarded by the schools conducting these programs.

75% of the programs are conducted in public institutions, primarily community colleges. Private schools both for-profit and non-profit conduct the other programs. The cost of the degree is substantially higher in a private institution regardless of type. The high cost, the resulting increase in student debt, economics of the foodservice industry and the demand for accountability by stakeholders has brought into question the value of the higher cost of an associate degree from a private institution. Earnings as related to the cost of the education are a recognized measure of the value of a particular educational program. While there have been general studies measuring the relationship between earnings and educational attainment, there have not been any definitive studies which isolate the impact on earnings of an associate degree in culinary arts from a private school as opposed to a public school.

The ability to determine the relationship between type of institution and earnings of graduates would be of value to the various stakeholders. It would provide students with information to assist in school selection as well as evaluating affordability. It would provide schools with data to meet the increasing demands for accountability especially since the relationship between cost of the program and subsequent earnings is emerging as a standard for quantifying the value of a particular program. The survey data will also assist schools in curriculum evaluation, as it will identify those jobs with earnings that justify the cost. After identifying the jobs, the skills required for those jobs can be determined. Schools can then make sure to integrate these skills into the curriculum.

Future Research

The cost of an associate degree in culinary arts from a private school is significantly higher than the cost of the degree from a public school. This paper focused on the question of

whether or not the increased cost represented additional value based on post-graduation earnings. The paper did not address reasons for the cost difference. This would be an interesting topic for future research in light of the current economic environment.

State and local contributions represent a substantial portion of the revenue of the public schools (Wellman, Desrochers & Lenihan, 2008). Tuition is the main source of revenue for private schools. If state and local contributions are reduced, public institutions will be faced with the choice of increasing tuition or curtailing expenses. From a student's perspective, increasing tuition will narrow the gap between the cost of a private and public school. Curtailing expenses may adversely affect the quality of a particular program.

While state and local contributions are a clear reason for the cost difference between a public and private school, it would be beneficial to identify other factors that affect the operating cost of a culinary program in a public versus a private school. Public schools could use this information to analyze the impact of reduced local funding on the operation of their culinary program. What changes would they have to make? How would these changes affect the quality of their program? Private schools would benefit as this information may point out inefficiencies in their programs.

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Appendix A

Postsecondary Institutions with Culinary Arts Programs

Academia Serrant Inc	Luzerne County Community College
AI Miami International University of Art and Design	Macomb Community College
AIB International	Madison Area Technical College
Aims Academy	Manatee Technical Institute
Alamance Community College	Manchester Community College
Alaska Vocational Technical Center	Maricopa Skill Center
Albany Technical College	Marion County Community Technical
Allan Hancock College	Massasoit Community College
Allegheny College of Maryland	Maui Community College
Altamaha Technical College	McFatter Technical Center
Altoona Area Vocational Technical School	McIntosh College
Alvin Community College	Mendocino College
American River College	Merced College
Amesed	Mercer County Community College
Anne Arundel Community College	Meridian Technology Center
Antelope Valley Medical College	Mesa State College
Arizona Culinary Institute	Metro Technology Centers
Arizona Western College	Metropolitan Community College Area
Asheville-Buncombe Technical Community College	Miami Lakes Educational Center
Ashland Community and Technical College	Michigan Career and Technical Institute
Athens Technical College	Mid Florida Tech
Atlanta Technical College	Middle Georgia Technical College
Atlantic Cape Community College	Milwaukee Area Technical College
Atlantic Technical Center	Mineral Area College
Atlantic Union College	Minneapolis Community and Technical College
Auburn Career Center	Minnesota State Community and Technical College
Augusta Technical College	MiraCosta College
Austin Community College District	Mission College
Baker College of Muskegon	Mississippi University for Women
Bakersfield College	Mitchell Technical Institute
Baldwin Park Adult & Community Education	Modesto Junior College
Baltimore City Community College	Mohave Community College
Baltimore International College	Mohawk Valley Community College-Utica Branch
Bates Technical College	Monongalia County Technical Education

Bay de Noc Community College
 Bellingham Technical College
 Bergen Community College
 Berkshire Community College
 Bidwell Training Center Inc
 Blackhawk Technical College
 Blue Ridge Community and Technical College
 Bob Jones University
 Boise State University
 Bossier Parish Community College
 Boston University
 Bowling Green Technical College
 Bradford School
 Branford Hall Career Institute-Springfield
 Campus
 Bridgerland Applied Technology College
 Brigham Young University-Idaho

 Bristol Community College
 Brookdale Community College
 Bucks County Community College
 Bunker Hill Community College

 Cabrillo College
 Caddo Kiowa Technology Center
 Caldwell Community College and Technical
 Institute
 California Culinary Academy

 California School of Culinary Arts
 Cape Fear Community College
 Cape Girardeau Career and Technology Center
 Career Academy of New York
 Carteret Community College
 Carver Career Center
 Central Arizona College
 Central Community College
 Central Florida Community College
 Central Georgia Technical College

 Central Maine Community College
 Central New Mexico Community College
 Central Oregon Community College

 Center
 Monroe College-Main Campus
 Monroe College-New Rochelle
 Monroe Community College
 Monroe County Community College
 Monterey Peninsula College
 Montgomery College
 Montgomery Community College
 Moraine Park Technical College
 Moraine Valley Community College
 Morrisville State College
 Mott Community College
 Mountain State University
 Mountainland Applied Technology College
 Mt San Antonio College

 Nash Community College
 Nashville State Technical Community
 College
 Nassau Community College
 Navajo Technical College
 Nevada Regional Technical Center
 New Community Workforce Development
 Center
 New England Culinary Institute
 New England Culinary Institute at Essex
 New York Institute of Technology-
 Manhattan Campus
 New York Institute of Technology-Old
 Westbury
 Newbury College-Brookline
 Niagara County Community College
 Nicholls State University
 Nicolet Area Technical College
 North Central Kansas Technical College
 North Dakota State College of Science
 North Georgia Technical College
 North Idaho College
 North Shore Community College
 Northampton County Area Community
 College
 Northeast Technology Center-Afton
 Northeast Technology Center-Pryor
 Northeast Texas Community College

Central Piedmont Community College
Central Wyoming College
Cerritos College
CET-Sobrato
Chaffey College
Charles A. Jones Skills and Business Education Center
Charlotte Technical Center
Chattahoochee Technical College
Chesapeake College
Chipola College
Cincinnati State Technical and Community College
City College of San Francisco
City Colleges of Chicago-Kennedy-King College
Clark College

Cleveland Bartending School
Cleveland State University
Clover Park Technical College
Coahoma Community College
Coast Career Institute
Cochise College

Colby Community College
College for Technical Education
College of Coastal Georgia
College of DuPage
College of Lake County
College of Southern Idaho
College of Southern Nevada
College of the Albemarle
College of the Canyons
College of the Desert
College of the Redwoods
Colorado Mountain College
Columbia College
Columbus State Community College
Commonwealth Technical Institute

Community College of Allegheny County
Community College of Beaver County
Community College of Philadelphia
Connecticut Culinary Institute

Northern Virginia Community College
Northland Career Center
NorthWest Arkansas Community College
Northwestern Michigan College
Norwalk Community College
Nunez Community College

Oakland City University
Oakland Community College
Ocean County Vocational-Technical School
Odessa College
Ogden-Weber Applied Technology College

Ogeechee Technical College
Okefenokee Technical College
Oklahoma State University Institute of Technology-Okmulgee
Olympic College
Onondaga Community College
Orange Coast College
Orlando Culinary Academy
Orlando Tech
Owensboro Community and Technical College
Oxnard College
Ozarka College
Ozarks Technical Community College
Palomar College
Pasadena City College
Paul Smiths College of Arts and Science
Pennsylvania College of Technology
Pennsylvania Culinary Institute
Pensacola Junior College
Phoenix College
Pierce College at Fort Steilacoom
Pierpont Community and Technical College
Pikes Peak Community College
Pima Community College
Pinellas Technical Education Center-Clearwater
Pioneer Pacific College
Pioneer Technology Center
Platt College
Platt College

Connecticut Culinary Institute-Suffield
Contra Costa College
Copiah-Lincoln Community College
Cornell University
Cosumnes River College
Crescent City Bartending School
Cuesta College
Culinary Academy of Austin
Culinary Academy of Long Island
Culinary Institute Alain and Marie Lenotre
Culinary Institute of America
Cuyahoga Community College District
Cypress College
D G Erwin Technical Center
Dabney S Lancaster Community College
Danville Area Community College
Davis Applied Technology College
Daytona State College
Del Mar College
Delaware Technical and Community College-
Stanton-Wilmington
Delaware Valley College
Delgado Community College

Denmark Technical College
Des Moines Area Community College
Diablo Valley College
Drexel University
East Central College
East Central Community College
East Valley Institute of Technology
Eastern Iowa Community College District
Eastern Maine Community College
Eastern New Mexico University-Roswell
Campus
Eastern Oklahoma State College
ECPI College of Technology
Edmonds Community College
El Centro College
El Paso Community College
Elgin Community College
Elizabethtown Community and Technical
College
Emily Griffith Opportunity School

Ponce Paramedical College Inc
Portland Community College
Pulaski Technical College
Putnam Career and Technical Center
Radford M Locklin Technical Center
Reading Area Community College
Remington College-Dallas Campus
Rend Lake College
Renton Technical College
Richland Community College
Ridge Career Center
Rio Salado College
Riverside Community College
Robert Morgan Educational Center
Robert Morris College
Robeson Community College
Rochester Institute of Technology
Saddleback College
Saint Augustine College
Saint Cloud Technical College

Saint Louis Community College-Forest Park
Saint Paul College - A Community and
Technical College
Salt Lake Community College
Salter College-West Boylston
San Bernardino Valley College
San Diego Mesa College
San Jacinto Community College
San Joaquin Delta College
Sandhills Community College
Santa Barbara City College
Santa Fe Community College
Santa Rosa Junior College

Sarasota County Technical Institute
Savannah Technical College
Schenectady County Community College
Schoolcraft College
Schuylkill Technology Center
Scottsdale Community College
Scottsdale Culinary Institute

Seattle Community College-Central Campus

Erie Community College	Seattle Community College-South Campus
Escuela Hotelera de San Juan	Shasta College
Estrella Mountain Community College	Shelton State Community College
Fayetteville Technical Community College	Sheridan College
Ferris State University	Sheridan Technical Center
First Coast Technical College	Siena Heights University
Flathead Valley Community College	Sinclair Community College
Florida Community College at Jacksonville	Skagit Valley College
Fox Valley Technical College	Snow College
Francis Tuttle Technology Center	South Central Career Center
Frederick Community College	South Central College
French Culinary Institute	South Georgia Technical College
Fresno City College	South Piedmont Community College
Fulton-Montgomery Community College	South Puget Sound Community College
Galveston College	South Texas College
Gateway Technical College	Southeast Community College Area
Glendale Community College	Southeast Culinary & Hospitality College
Globelle Technical Institute	Southeastern Illinois College
Grand Rapids Community College	Southern Maine Community College
Great Plains Technology Center	Southern New Hampshire University
Greenville Technical College	Southern University at Shreveport
Grossmont College	Southwest Wisconsin Technical College
Guam Community College	Southwestern College
Guilford Technical Community College	Southwestern Community College
Gulf Coast Community College	Southwestern Illinois College
Gwinnett Technical College	Southwestern Indian Polytechnic Institute
H Council Trenholm State Technical College	Southwestern Oregon Community College
Harper College	Sowela Technical Community College
Harrisburg Area Community College-Harrisburg	Spartanburg Community College
Hawaii Community College	Spokane Community College
Heart of Georgia Technical College	Spoon River College
Hennepin Technical College	St Philips College
Henry Ford Community College	Stratford University
Hibbing Community College-A Technical and Community College	Suffolk County Community College
Hillsborough Community College	Sullivan County Community College
Hinds Community College	Sullivan University
Hocking College	SUNY College of Agriculture and Technology at Cobleskill
Holyoke Community College	SUNY College of Technology at Delhi
Horry-Georgetown Technical College	SUNY Westchester Community College
Houston Community College System	Tarrant County College District
Howard Community College	Technical Education Center-Osceola
Hudson County Community College	Texarkana College

ICPR Junior College-Arecibo	Texas Culinary Academy
ICPR Junior College-General Institutional	Texas State Technical College Harlingen
ICPR Junior College-Mayaguez	Texas State Technical College Waco
Idaho State University	Texas State Technical College-West Texas
Illinois Central College	The Art Institute of Atlanta
Illinois Eastern Community Colleges-Lincoln Trail College	The Art Institute of California-Inland Empire
Illinois Valley Community College	The Art Institute of California-Los Angeles
Immaculata University	The Art Institute of California-Orange County
Indian Capital Technology Center-Muskogee	The Art Institute of California-Sacramento
Indian Hills Community College	The Art Institute of California-San Diego
Indiana Business College-Indianapolis	The Art Institute of California-Sunnyvale
Indiana University of Pennsylvania-Main Campus	The Art Institute of Charleston
Institute of Technology Inc	The Art Institute of Charlotte
Instituto de Banca y Comercio Inc	The Art Institute of Colorado
Instituto de Educacion Tecnica Ocupacional La Reine	The Art Institute of Dallas
Instituto de Educacion Tecnica Ocupacional La Reine	The Art Institute of Fort Lauderdale Inc
Inter American University of Puerto Rico-Aguadilla	The Art Institute of Houston
International Air Academy Inc	The Art Institute of Indianapolis
International Culinary Arts and Sciences Institute	The Art Institute of Las Vegas
Iowa Central Community College	The Art Institute of Michigan
Iowa Western Community College	The Art Institute of New York City
IVAEM College	The Art Institute of Ohio-Cincinnati
J Sargeant Reynolds Community College	The Art Institute of Philadelphia
James Rumsey Technical Institute	The Art Institute of Phoenix
Jefferson College	The Art Institute of Pittsburgh
Jefferson Community and Technical College	The Art Institute of Pittsburgh-Online Division
Jna Institute of Culinary Arts	The Art Institute of Raleigh-Durham
John Wood Community College	The Art Institute of Salt Lake City
Johnson & Wales University	The Art Institute of Seattle
Johnson & Wales University-Charlotte	The Art Institute of Tennessee-Nashville
Johnson & Wales University-Denver	The Art Institute of Tucson
Johnson & Wales University-Florida Campus	The Art Institute of Washington
Johnson County Community College	The Art Institutes International Minnesota
Joliet Junior College	The Art Institutes International-Kansas City
Jones County Junior College	The Cooking and Hospitality Institute of Chicago

Kansas City Kansas Community College
Technical Education Center
Kapiolani Community College

Kaskaskia College
Kauai Community College
Kaw Area Technical School
Kendall College
Keystone College
Keystone Technical Institute
Kiamichi Technology Center-Durant
Kiamichi Technology Center-Idabel
Kirkwood Community College
Kitchen Academy
L'Academie de Cuisine
Lake Land College
Lake Tahoe Community College
Lake Technical Center
Lake Washington Technical College
Lakeland Community College
Lakes Region Community College
Lamar Institute of Technology
Lancaster County Career and Technology Center
Lane Community College
Laney College
Le Cordon Bleu College of Culinary Arts
Le Cordon Bleu College of Culinary Arts-Atlanta
Le Cordon Bleu College of Culinary Arts-Las Vegas
Le Cordon Bleu College of Culinary Arts-Miami
Le Cordon Bleu College of Culinary Arts-Minneapolis/St Paul
Le Cordon Bleu Institute of Culinary Arts-Dallas
Lebanon County Area Vocational Technical School
Lecole Culinaire
Lee College
Lee County High Tech Center Central
Lee County High Tech Center North
Leeward Community College
Lehigh Carbon Community College
Lenoir Community College
Lincoln College of Technology

The Illinois Institute of Art-Chicago

The Restaurant School at Walnut Hill College
The University of Montana
Travel Institute of the Pacific
Traviss Career Center
Tri County Technology Center
Trident Technical College
Triton College
Truckee Meadows Community College
Tulsa Technology Center-Lemley Campus
Umpqua Community College
Universal Career Community College Inc.
Universidad Del Este
University of Akron Main Campus
University of Alaska Anchorage
University of Alaska Fairbanks
University of Cincinnati-Main Campus
University of Nevada-Las Vegas
University of New Mexico-Taos Branch
University of Toledo
Utah Valley University
Valdosta Technical College
Valencia Community College
Victor Valley College
Vincennes University
Virginia College-Birmingham

Virginia Western Community College
Wake Technical Community College

Walla Walla Community College
Walters State Community College

Washburn University
Washington County Community College
Washington-Holmes Technical Center
Washtenaw Community College
Waukesha County Technical College
Waynesville Technical Academy
West Central Technical College
West Georgia Technical College

Lincoln Land Community College	West Kentucky Community and Technical College
Lincoln Technical Institute	West Virginia Northern Community College
Lincoln Technical Institute	Western Culinary Institute
Lindsey Hopkins Technical Education Center	Western Technical College
Linn-Benton Community College	Western Technology Center
Long Beach City College	Westmoreland County Community College
Lorenzo Walker Institute of Technology	Westside Tech
Los Angeles Mission College	White Mountains Community College
Los Angeles Trade Technical College	Wilkes Community College
Louisiana Culinary Institute	Withlacoochee Technical Institute
Louisiana Technical College-Baton Rouge Campus	Woodrow Wilson Rehabilitation Center
Louisiana Technical College-Folkes Campus	York County Community College
Louisiana Technical College-Lafayette Campus	Yorktowne Business Institute
Louisiana Technical College-Shreveport-Bossier Campus	YTI Career Institute
Louisiana Technical College-Ward H. Nash-Avoyelles Campus	Yuba College
Luna Community College	Zane State College

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Appendix B

Postsecondary institutions awarding an associate degree.

<u>Name</u>	<u>Type</u>
Bradford School	2-year, Private for-profit
California Culinary Academy	2-year, Private for-profit
California School of Culinary Arts	2-year, Private for-profit
Culinary Institute Alain and Marie Lenotre	2-year, Private for-profit
Jna Institute of Culinary Arts	2-year, Private for-profit
Keystone Technical Institute	2-year, Private for-profit
Le Cordon Bleu College of Culinary Arts	2-year, Private for-profit
Le Cordon Bleu College of Culinary Arts-Atlanta	2-year, Private for-profit
Le Cordon Bleu College of Culinary Arts-Las Vegas	2-year, Private for-profit
Le Cordon Bleu College of Culinary Arts-Miami	2-year, Private for-profit
Le Cordon Bleu College of Culinary Arts-Minneapolis/St Paul	2-year, Private for-profit
Le Cordon Bleu Institute of Culinary Arts-Dallas	2-year, Private for-profit
Lecole Culinaire	2-year, Private for-profit
McIntosh College	2-year, Private for-profit
Orlando Culinary Academy	2-year, Private for-profit
Pennsylvania Culinary Institute	2-year, Private for-profit
Remington College-Dallas Campus	2-year, Private for-profit
Southeast Culinary & Hospitality College	2-year, Private for-profit
Texas Culinary Academy	2-year, Private for-profit
The Art Institute of New York City	2-year, Private for-profit
The Art Institute of Ohio-Cincinnati	2-year, Private for-profit
The Cooking and Hospitality Institute of Chicago	2-year, Private for-profit
Western Culinary Institute	2-year, Private for-profit
Yorktowne Business Institute	2-year, Private for-profit
YTI Career Institute	2-year, Private for-profit
Commonwealth Technical Institute	2-year, Private not-for-profit
Alamance Community College	2-year, Public
Albany Technical College	2-year, Public
Allegany College of Maryland	2-year, Public
Alvin Community College	2-year, Public
American River College	2-year, Public
Arizona Western College	2-year, Public
Asheville-Buncombe Technical Community College	2-year, Public
Atlantic Cape Community College	2-year, Public
Austin Community College District	2-year, Public
Bakersfield College	2-year, Public
Baltimore City Community College	2-year, Public
Bates Technical College	2-year, Public
Bellingham Technical College	2-year, Public

Blackhawk Technical College	2-year, Public
Blue Ridge Community and Technical College	2-year, Public
Bowling Green Technical College	2-year, Public
Bristol Community College	2-year, Public
Brookdale Community College	2-year, Public
Bucks County Community College	2-year, Public
Bunker Hill Community College	2-year, Public
Cabrillo College	2-year, Public
Caldwell Community College and Technical Institute	2-year, Public
Cape Fear Community College	2-year, Public
Carteret Community College	2-year, Public
Central Community College	2-year, Public
Central Florida Community College	2-year, Public
Central New Mexico Community College	2-year, Public
Central Oregon Community College	2-year, Public
Central Piedmont Community College	2-year, Public
Central Wyoming College	2-year, Public
Cerritos College	2-year, Public
Chaffey College	2-year, Public
Chattahoochee Technical College	2-year, Public
Cincinnati State Technical and Community College	2-year, Public
City College of San Francisco	2-year, Public
City Colleges of Chicago-Kennedy-King College	2-year, Public
Clark College	2-year, Public
Clover Park Technical College	2-year, Public
Cochise College	2-year, Public
Colby Community College	2-year, Public
College of DuPage	2-year, Public
College of Lake County	2-year, Public
College of Southern Idaho	2-year, Public
College of the Albemarle	2-year, Public
College of the Canyons	2-year, Public
College of the Desert	2-year, Public
College of the Redwoods	2-year, Public
Colorado Mountain College	2-year, Public
Columbia College	2-year, Public
Columbus State Community College	2-year, Public
Community College of Allegheny County	2-year, Public
Community College of Beaver County	2-year, Public
Community College of Philadelphia	2-year, Public
Contra Costa College	2-year, Public
Copiah-Lincoln Community College	2-year, Public
Cosumnes River College	2-year, Public
Cuesta College	2-year, Public

Cuyahoga Community College District	2-year, Public
Cypress College	2-year, Public
Dabney S Lancaster Community College	2-year, Public
Del Mar College	2-year, Public
Delaware Technical and Community College-Stanton-Wilmington	2-year, Public
Delgado Community College	2-year, Public
Des Moines Area Community College	2-year, Public
East Central College	2-year, Public
Eastern Iowa Community College District	2-year, Public
Eastern Maine Community College	2-year, Public
Eastern Oklahoma State College	2-year, Public
Edmonds Community College	2-year, Public
El Centro College	2-year, Public
El Paso Community College	2-year, Public
Elgin Community College	2-year, Public
Erie Community College	2-year, Public
Estrella Mountain Community College	2-year, Public
Fayetteville Technical Community College	2-year, Public
Flathead Valley Community College	2-year, Public
Fox Valley Technical College	2-year, Public
Fresno City College	2-year, Public
Fulton-Montgomery Community College	2-year, Public
Galveston College	2-year, Public
Gateway Technical College	2-year, Public
Glendale Community College	2-year, Public
Grand Rapids Community College	2-year, Public
Greenville Technical College	2-year, Public
Grossmont College	2-year, Public
Guam Community College	2-year, Public
Guilford Technical Community College	2-year, Public
Gulf Coast Community College	2-year, Public
Gwinnett Technical College	2-year, Public
H Council Trenholm State Technical College	2-year, Public
Harrisburg Area Community College-Harrisburg	2-year, Public
Hawaii Community College	2-year, Public
Hennepin Technical College	2-year, Public
Henry Ford Community College	2-year, Public
Hibbing Community College-A Technical and Community College	2-year, Public
Hillsborough Community College	2-year, Public
Hinds Community College	2-year, Public
Hocking College	2-year, Public
Horry-Georgetown Technical College	2-year, Public

Houston Community College System	2-year, Public
Howard Community College	2-year, Public
Hudson County Community College	2-year, Public
Illinois Central College	2-year, Public
Indian Hills Community College	2-year, Public
Iowa Central Community College	2-year, Public
Iowa Western Community College	2-year, Public
J Sargeant Reynolds Community College	2-year, Public
Jefferson College	2-year, Public
Jefferson Community and Technical College	2-year, Public
John Wood Community College	2-year, Public
Johnson County Community College	2-year, Public
Joliet Junior College	2-year, Public
Jones County Junior College	2-year, Public
Kapiolani Community College	2-year, Public
Kaskaskia College	2-year, Public
Kauai Community College	2-year, Public
Kirkwood Community College	2-year, Public
Lake Tahoe Community College	2-year, Public
Lake Washington Technical College	2-year, Public
Lakeland Community College	2-year, Public
Lakes Region Community College	2-year, Public
Lamar Institute of Technology	2-year, Public
Lane Community College	2-year, Public
Laney College	2-year, Public
Leeward Community College	2-year, Public
Lehigh Carbon Community College	2-year, Public
Lenoir Community College	2-year, Public
Linn-Benton Community College	2-year, Public
Long Beach City College	2-year, Public
Los Angeles Mission College	2-year, Public
Los Angeles Trade Technical College	2-year, Public
Louisiana Technical College-Lafayette Campus	2-year, Public
Louisiana Technical College-Shreveport-Bossier Campus	2-year, Public
Luna Community College	2-year, Public
Luzerne County Community College	2-year, Public
Macomb Community College	2-year, Public
Massasoit Community College	2-year, Public
Merced College	2-year, Public
Metropolitan Community College Area	2-year, Public
Milwaukee Area Technical College	2-year, Public
Mineral Area College	2-year, Public
Minneapolis Community and Technical College	2-year, Public
MiraCosta College	2-year, Public

Mission College	2-year, Public
Modesto Junior College	2-year, Public
Mohave Community College	2-year, Public
Mohawk Valley Community College-Utica Branch	2-year, Public
Monroe County Community College	2-year, Public
Monterey Peninsula College	2-year, Public
Moraine Park Technical College	2-year, Public
Moraine Valley Community College	2-year, Public
Mott Community College	2-year, Public
Nash Community College	2-year, Public
Nashville State Technical Community College	2-year, Public
Nassau Community College	2-year, Public
Niagara County Community College	2-year, Public
Nicolet Area Technical College	2-year, Public
North Dakota State College of Science	2-year, Public
North Georgia Technical College	2-year, Public
North Shore Community College	2-year, Public
Northampton County Area Community College	2-year, Public
Northwestern Michigan College	2-year, Public
Nunez Community College	2-year, Public
Oakland Community College	2-year, Public
Odessa College	2-year, Public
Ogeechee Technical College	2-year, Public
Onondaga Community College	2-year, Public
Orange Coast College	2-year, Public
Oxnard College	2-year, Public
Ozarka College	2-year, Public
Ozarks Technical Community College	2-year, Public
Palomar College	2-year, Public
Pasadena City College	2-year, Public
Pensacola Junior College	2-year, Public
Phoenix College	2-year, Public
Pierpont Community and Technical College	2-year, Public
Pikes Peak Community College	2-year, Public
Pima Community College	2-year, Public
Pulaski Technical College	2-year, Public
Reading Area Community College	2-year, Public
Rend Lake College	2-year, Public
Riverside Community College	2-year, Public
Robeson Community College	2-year, Public
Saddleback College	2-year, Public
Saint Louis Community College-Forest Park	2-year, Public
Saint Paul College - A Community and Technical College	2-year, Public
Salt Lake Community College	2-year, Public

San Bernardino Valley College	2-year, Public
San Diego Mesa College	2-year, Public
San Jacinto Community College	2-year, Public
San Joaquin Delta College	2-year, Public
Sandhills Community College	2-year, Public
Santa Barbara City College	2-year, Public
Santa Fe Community College	2-year, Public
Santa Rosa Junior College	2-year, Public
Savannah Technical College	2-year, Public
Schenectady County Community College	2-year, Public
Schoolcraft College	2-year, Public
Scottsdale Community College	2-year, Public
Seattle Community College-Central Campus	2-year, Public
Shasta College	2-year, Public
Shelton State Community College	2-year, Public
Sinclair Community College	2-year, Public
Skagit Valley College	2-year, Public
Snow College	2-year, Public
South Central College	2-year, Public
South Georgia Technical College	2-year, Public
South Puget Sound Community College	2-year, Public
Southeast Community College Area	2-year, Public
Southern Maine Community College	2-year, Public
Southwest Wisconsin Technical College	2-year, Public
Southwestern College	2-year, Public
Southwestern Community College	2-year, Public
Southwestern Illinois College	2-year, Public
Southwestern Indian Polytechnic Institute	2-year, Public
Southwestern Oregon Community College	2-year, Public
Spokane Community College	2-year, Public
St Philips College	2-year, Public
Suffolk County Community College	2-year, Public
Sullivan County Community College	2-year, Public
SUNY Westchester Community College	2-year, Public
Tarrant County College District	2-year, Public
Texas State Technical College Harlingen	2-year, Public
Texas State Technical College Waco	2-year, Public
Texas State Technical College-West Texas	2-year, Public
Trident Technical College	2-year, Public
Triton College	2-year, Public
Truckee Meadows Community College	2-year, Public
Valencia Community College	2-year, Public
Victor Valley College	2-year, Public
Virginia Western Community College	2-year, Public

Wake Technical Community College	2-year, Public
Walla Walla Community College	2-year, Public
Washtenaw Community College	2-year, Public
Waukesha County Technical College	2-year, Public
West Kentucky Community and Technical College	2-year, Public
West Virginia Northern Community College	2-year, Public
Western Technical College	2-year, Public
Westmoreland County Community College	2-year, Public
White Mountains Community College	2-year, Public
Wilkes Community College	2-year, Public
York County Community College	2-year, Public
Yuba College	2-year, Public
Zane State College	2-year, Public
ECPI College of Technology	4-year, primarily associate's, Private for-profit
Indiana Business College-Indianapolis	4-year, primarily associate's, Private for-profit
Kendall College	4-year, primarily associate's, Private for-profit
Lincoln College of Technology	4-year, primarily associate's, Private for-profit
Monroe College-Main Campus	4-year, primarily associate's, Private for-profit
New England Culinary Institute	4-year, primarily associate's, Private for-profit
New England Culinary Institute at Essex	4-year, primarily associate's, Private for-profit
Platt College	4-year, primarily associate's, Private for-profit
Scottsdale Culinary Institute	4-year, primarily associate's, Private for-profit
Sullivan University	4-year, primarily associate's, Private for-profit
The Art Institute of California-Inland Empire	4-year, primarily associate's, Private for-profit
The Art Institute of Charlotte	4-year, primarily associate's, Private for-profit
The Art Institute of Dallas	4-year, primarily associate's, Private for-profit
The Art Institute of Fort Lauderdale Inc	4-year, primarily associate's, Private for-profit
The Art Institute of Indianapolis	4-year, primarily associate's, Private for-profit
The Art Institute of Raleigh-Durham	4-year, primarily associate's,

The Art Institute of Salt Lake City	Private for-profit 4-year, primarily associate's, Private for-profit
The Art Institute of Seattle	4-year, primarily associate's, Private for-profit
The Art Institute of Tennessee-Nashville	4-year, primarily associate's, Private for-profit
The Art Institute of Tucson	4-year, primarily associate's, Private for-profit
The Restaurant School at Walnut Hill College	4-year, primarily associate's, Private for-profit
Virginia College-Birmingham	4-year, primarily associate's, Private for-profit
Baker College of Muskegon	4-year, primarily associate's, Private not-for-profit
Baltimore International College	4-year, primarily associate's, Private not-for-profit
Culinary Institute of America	4-year, primarily associate's, Private not-for-profit
Johnson & Wales University-Charlotte	4-year, primarily associate's, Private not-for-profit
Johnson & Wales University-Denver	4-year, primarily associate's, Private not-for-profit
Johnson & Wales University-Florida Campus	4-year, primarily associate's, Private not-for-profit
Paul Smiths College of Arts and Science	4-year, primarily associate's, Private not-for-profit
Robert Morris College	4-year, primarily associate's, Private not-for-profit
Saint Augustine College	4-year, primarily associate's, Private not-for-profit
Chipola College	4-year, primarily associate's, Public
College of Southern Nevada	4-year, primarily associate's, Public
Daytona State College	4-year, primarily associate's, Public
Florida Community College at Jacksonville	4-year, primarily associate's, Public
Maui Community College	4-year, primarily associate's, Public
Morrisville State College	4-year, primarily associate's, Public
Oklahoma State University Institute of Technology-Okmulgee	4-year, primarily associate's,

Olympic College	Public 4-year, primarily associate's, Public
Pennsylvania College of Technology	4-year, primarily associate's, Public
Seattle Community College-South Campus	4-year, primarily associate's, Public
South Texas College	4-year, primarily associate's, Public
SUNY College of Agriculture and Technology at Cobleskill	4-year, primarily associate's, Public
SUNY College of Technology at Delhi	4-year, primarily associate's, Public
Utah Valley University	4-year, primarily associate's, Public
Vincennes University	4-year, primarily associate's, Public
AI Miami International University of Art and Design	4-year, Private for-profit
Monroe College-New Rochelle	4-year, Private for-profit
Stratford University	4-year, Private for-profit
The Art Institute of Atlanta	4-year, Private for-profit
The Art Institute of California-Los Angeles	4-year, Private for-profit
The Art Institute of California-Orange County	4-year, Private for-profit
The Art Institute of California-Sacramento	4-year, Private for-profit
The Art Institute of California-San Diego	4-year, Private for-profit
The Art Institute of California-Sunnyvale	4-year, Private for-profit
The Art Institute of Charleston	4-year, Private for-profit
The Art Institute of Colorado	4-year, Private for-profit
The Art Institute of Houston	4-year, Private for-profit
The Art Institute of Las Vegas	4-year, Private for-profit
The Art Institute of Michigan	4-year, Private for-profit
The Art Institute of Philadelphia	4-year, Private for-profit
The Art Institute of Phoenix	4-year, Private for-profit
The Art Institute of Pittsburgh	4-year, Private for-profit
The Art Institute of Washington	4-year, Private for-profit
The Art Institutes International Minnesota	4-year, Private for-profit
The Art Institutes International-Kansas City	4-year, Private for-profit
The Illinois Institute of Art-Chicago	4-year, Private for-profit
Atlantic Union College	4-year, Private not-for-profit
Bob Jones University	4-year, Private not-for-profit
Brigham Young University-Idaho	4-year, Private not-for-profit
Delaware Valley College	4-year, Private not-for-profit
Johnson & Wales University	4-year, Private not-for-profit
Keystone College	4-year, Private not-for-profit

Mountain State University	4-year, Private not-for-profit
New York Institute of Technology-Manhattan Campus	4-year, Private not-for-profit
New York Institute of Technology-Old Westbury	4-year, Private not-for-profit
Newbury College-Brookline	4-year, Private not-for-profit
Oakland City University	4-year, Private not-for-profit
Rochester Institute of Technology	4-year, Private not-for-profit
Southern New Hampshire University	4-year, Private not-for-profit
Universidad Del Este	4-year, Private not-for-profit
Ferris State University	4-year, Public
Idaho State University	4-year, Public
Madison Area Technical College	4-year, Public
Mesa State College	4-year, Public
Nicholls State University	4-year, Public
The University of Montana	4-year, Public
University of Akron Main Campus	4-year, Public
University of Alaska Anchorage	4-year, Public
University of Alaska Fairbanks	4-year, Public
University of Toledo	4-year, Public
Washburn University	4-year, Public

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Appendix C

Cost by type of institution.

<u>Institution</u>	<u>Type</u>	<u>Cost</u>
Art Institute of California - San Diego	for profit	\$56,336
Art Institute of Fort Lauderdale	for profit	\$53,230
Art Institute of Phoenix	for profit	\$54,276
Art Institute–Tampa	for profit	\$53,200
California Culinary Academy	for profit	\$43,500
Colorado Institute of Art	for profit	\$49,665
Cooking and Hospitality Institute of Chicago, Inc.	for profit	\$39,950
Cordon Bleu - Orlando	for profit	\$39,500
Florida Culinary Institute	for profit	\$25,200
Kendall College	for profit	\$50,050
Le Cordon Bleu - Atlanta - College of Culinary Arts	for profit	\$36,500
Le Cordon Bleu - Boston	for profit	\$35,000
Le Cordon Bleu - Dallas	for profit	\$33,000
Le Cordon Bleu - Los Angeles	for profit	\$43,950
Le Cordon Bleu - Miami	for profit	\$34,400
Le Cordon Bleu - Portland	for profit	\$38,450
Le Cordon Bleu College of Culinary Arts - Las Vegas	for profit	\$38,000
Le Cordon Bleu College of Culinary Arts Minneapolis / St. Paul	for profit	\$39,750
Le Cordon Bleu College of Culinary Arts Scottsdale	for profit	\$38,200
Louisiana Culinary Institute	for profit	\$28,000
New England Culinary	for profit	\$50,000
Pennsylvania Culinary Institute	for profit	\$37,700
Stratford University	for profit	\$30,600
Sullivan University - National Center for Hospitality Studies	for profit	\$33,720
Texas Culinary Academy	for profit	\$38,625
The International Culinary School at the Art Institute - Atlanta	for profit	\$52,864
The International Culinary School at the Art Institute - Washington	for profit	\$52,864
The International Culinary School at the Art Institute of Dallas	for profit	\$50,718
The International Culinary School at the Art Institute of Las Vegas	for profit	\$52,304
The International Culinary School at the Art Institute of Philadelphia	for profit	\$43,200
The International Culinary School at the Art Institute of Pittsburgh	for profit	\$53,449
The International Culinary School at the Art Institute of Seattle	for profit	\$50,868
The International Culinary School at the Art Institute–Houston	for profit	\$51,192
The International Culinary School at the Art Institutes International Minnesota	for profit	\$54,854
The International Culinary School at the Illinois Institute of Art Chicago	for profit	\$43,296

Baker College	private	\$31,800
Baltimore International College	private	\$35,860
Brigham Young University-Idaho	private	\$6,942
Commonwealth Technical Institute	private	\$33,776
Culinary Institute America	private	\$48,220
Johnson & Wales -Providence	private	\$46,428
Johnson & Wales-Charlotte	private	\$46,428
Johnson & Wales-Denver	private	\$46,428
Johnson & Wales-Miami	private	\$46,428
Keiser University Center for Culinary Arts–Tallahassee	private	\$30,544
Mountain State University - Culinary Arts	private	\$25,740
New York Institute of Technology-Manhattan Campus	private	\$45,560
New York Institute of Technology-Old Westbury	private	\$45,560
Newbury College-Brookline	private	\$44,000
Oakland City University	private	\$30,820
Paul Smith’s College	private	\$36,920
Robert Morris College	private	\$36,000
Saint Augustine College	private	\$15,360
Southern New Hampshire University - Alamance Community College	private public	\$52,884 \$3,450
Anne Arundel Community College	public	\$6,072
Asheville Buncombe Technical College	public	\$3,300
Atlantic Cape Community College	public	\$6,045
Austin Community College - Eastview Campus	public	\$3,795
Bellingham Technical College	public	\$8,337
Bishop State Community College	public	\$6,480
Blackhawk Technical College	public	\$7,098
Bowling Green Technical College	public	\$8,125
Central New Mexico Community College	public	\$3,075
Central Piedmont Community College	public	\$3,650
City College of San Francisco	public	\$1,560
College of Dupage	public	\$7,540
College of Southern Nevada	public	\$3,780
College of Western Idaho	public	\$6,664
Columbus State Community College	public	\$8,137
Culinary Institute at Cincinnati State	public	\$8,421
Culinary Institute of Charleston at Trident Technical College	public	\$7,123
Culinary Institute of Savannah	public	\$4,360
Culinary Institute of the Carolinas at Greenville Technical College	public	\$8,730
Del Mar College	public	\$4,773
Delaware Technical & Community College	public	\$4,944
Delgado Community College	public	\$4,544
Des Moines Area Community College	public	\$7,705
El Centro College	public	\$2,706

Faulkner State Community College	public	\$8,132
Florida Community College at Jacksonville	public	\$5,450
Fox Valley Technical College	public	\$7,925
Grand Rapids Community College - Secchia Institute for Culinary Education	public	\$6,084
Gulf Coast Community College	public	\$5,455
Gwinnett Technical College	Public	\$19,947
Hawaii Community College - Hilo Campus & Kona Campus	public	\$5,056
Hennepin Technical College - Eden Prairie Campus	public	\$10,396
Henry Ford Community College	public	\$4,620
Hillsborough Community College	public	\$5,592
Hocking Technical College	public	\$9,996
Horry-Georgetown Technical College	public	\$6,756
Hudson County Community College	public	\$6,738
Idaho State University	public	\$11,960
Indian Hills Community College	public	\$10,292
Inland North West Culinary Academy at Spokane Community College	public	\$8,883
Iowa Western Community College	public	\$9,044
Ivy Tech Community College Of Indiana	public	\$6,876
J. Sargeant Reynolds Community College	public	\$7,493
Jefferson State Community College	public	\$7,308
Johnson County Community College	public	\$5,175
Joliet Junior College	public	\$6,417
Kapiolani Community College	public	\$5,530
Kauai Community College	public	\$4,977
Kirkwood Community College	public	\$7,493
Lake Washington Technical College	public	\$8,509
Lane Community College	public	\$7,800
Leeward Community College	public	\$4,740
Madison Area Technical College	public	\$6,794
Manchester Community College	public	\$7,552
Maui Community College - Food Service Department	public	\$5,056
Nashville State Technical Community College	public	\$5,328
North Georgia Tech College -	public	\$4,360
Northwestern Michigan College - Great Lakes Culinary Institute	public	\$5,573
Orange Coast College	public	\$1,200
Ozarks Technical Community College	public	\$5,022
Pennsylvania College of Technology	public	\$24,960
Pierpont Community & Technical College	public	\$7,304
Pikes Peak Community College	public	\$5,298
Pueblo Community College	public	\$3,426
Rel Maples Institute of Culinary Arts at Walters State Community College	public	\$4,728

Renton Technical College	public	\$8,118
Salt Lake Community College	public	\$6,331
San Joaquin Delta College	public	\$1,200
Santa Barbara City College	public	\$1,443
Schenectady County Community College	public	\$6,300
Scottsdale Community College	public	\$4,615
Sinclair Community College	public	\$4,981
South Seattle Community College	public	\$9,032
Southeast Community College	public	\$5,424
Southwestern Illinois College	public	\$5,865
Southwestern Oregon Community College	public	\$16,588
St. Louis Community College	public	\$5,727
St. Paul College	public	\$11,855
St. Philip's College	public	\$4,064
SUNY - Delhi - College of Technology	public	\$9,940
SUNY Cobleskill Agriculture & Technical College	public	\$9,940
The Culinary Studies Institute at Oakland Community College	public	\$4,387
The Institute for the Culinary Arts at Metropolitan Community College	public	\$4,128
The Macomb Culinary Institute at Macomb Community College	public	\$4,752
Tidewater Community College	public	\$8,097
Trenholm State Technical College	public	\$6,120
Truckee Meadows Community College	public	\$4,389
University of Montana	public	\$4,771
Wake Technical College	public	\$3,400
Walla Walla Community College	public	\$8,228
Washtenaw Community College	public	\$5,822
West Virginia Northern Community College	public	\$4,592
Westmoreland County Community College	public	\$5,168
Zane State College	public	\$8,888

Note. Information in Appendix C was compiled from a review of information posted on the websites of the institution

Appendix D

Educational attainment percent distributions.

Occupation title	Educational attainment percent distributions					
	Less than high school diploma	High school diploma or equivalent	Some college, no degree	Associate degree	Bachelor's degree	Master's degree
Food service managers	10.1	30.9	26.3	8.7	20.3	3.1
Chefs and head cooks	18.4	32.3	19.2	17.0	11.2	1.4
First-line supervisors/managers of food preparation and serving workers	13.9	38.8	25.9	7.6	11.8	1.5
Cooks, fast food	33.4	43.0	14.5	4.2	4.0	0.5
Cooks, institution and cafeteria	33.4	43.0	14.5	4.2	4.0	0.5
Cooks, private household	33.4	43.0	14.5	4.2	4.0	0.5
Cooks, restaurant	33.4	43.0	14.5	4.2	4.0	0.5
Cooks, short order	33.4	43.0	14.5	4.2	4.0	0.5
Cooks, all other	33.4	43.0	14.5	4.2	4.0	0.5
Food preparation workers	33.0	40.4	15.4	3.9	6.1	0.8
Bartenders	9.7	33.2	32.7	8.5	14.4	1.2
Combined food preparation and serving workers, including fast food	24.4	47.0	18.5	4.8	4.7	0.6
Counter attendants, cafeteria, food concession, and coffee shop	25.0	45.0	17.9	4.0	6.7	1.1
Waiters and waitresses	17.1	36.2	26.2	7.0	11.7	1.3
Food servers, nonrestaurant	20.2	46.5	19.9	5.9	6.3	0.8
Dining room and cafeteria attendants and bartender helpers	32.1	44.5	13.7	3.5	5.4	0.6
Dishwashers	47.3	39.3	8.5	1.8	2.7	0.2
Hosts and hostesses, restaurant, lounge, and coffee shop	16.6	38.7	24.4	7.9	10.1	1.7
Food preparation and serving related workers, all other	32.1	44.5	13.7	3.5	5.4	0.6

Source: Employment Projections Program, U.S. Department of Labor, U.S. Bureau of Labor Statistics
<ftp://ftp.bls.gov/pub/special.requests/ep/ind-occ.matrix/occupation.xls#Table1.11!A1>

Appendix E

Proposed survey document.

1. What is your gender?

- Male
 Female

2. Education background, check all that apply

- High School
 Some College
 Culinary, Pastry or Baking Certificate
 Associate Degree Culinary Arts
 Associate Degree Baking or Pastry Arts
 Associate Degree Other
 Bachelor Degree
 Masters Degree
 Doctorate
 Other (please specify)

3. Did you attend a postsecondary culinary program?

- Yes
 No

4. If the answer to question 2 is yes what type of culinary program did you attend?

- community college
 other public postsecondary school
 private for profit college/university
 private not for profit college/university
 Other (please specify)

5. If the answer to Question 2 is yes, in what year did you graduate from the postsecondary culinary program?

- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997
- 1996
- 1995
- before 1995

6. What was your annual salary for the first job you had after completing culinary school?

- Do not remember
- less than \$10,000
- \$10,001 - \$12,000
- \$12,001 - \$15,000
- \$15,001 - \$18,000
- \$18,001 - \$20,000
- \$20,001 - \$22,000
- \$22,001 - \$25,000
- \$25,001 - \$30,000
- +\$30,001

7. What is your current annual salary?

- under \$18,000
- \$18,001 - \$23,000
- \$23,001 - \$25,000
- \$25,001 - \$28,000
- \$28,001 - \$30,000
- \$30,001 - \$35,000
- \$35,001 - \$40,000
- \$40,001 - \$45,000
- \$45,001 - \$50,000
- \$50,001 - \$55,000
- \$55,001 - \$60,000
- \$60,001 - \$70,000
- \$70,001 - \$80,000
- \$80,001 - \$90,000
- \$90,001 - \$100,000
- +\$100,000

8. Which choice best describes your current employment status?

- employed full-time (35 or more hours per week)
- self-employed full-time (35 or more hours per week)
- employed part-time (less than 35 hours per week)
- self-employed part-time (less than 35 hours per week)
- unemployed but seeking employment
- unemployed not currently seeking employment
- retired

9. Which of the following most closely matches the type business you work for?

- fine dining restaurant
- casual restaurant
- fast food restaurant
- K- 12
- community college
- college/university
- bakery
- supermarket
- other retail foodservice
- hotel/resort
- hospital
- cruise ship
- catering
- personal chef
- Other (please specify)

10. Which option most closely matches your current job title?

- baker
- bartender
- caterer
- cook
- dietitian
- educator
- executive chef
- executive pastry chef
- food and beverage manager
- general manager
- line cook
- manager
- other kitchen worker
- owner
- pastry chef
- pastry cook
- personal chef
- sommelier
- sous chef
- wait staff
- Other (please specify)