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Predicting Career Outcome Measures Using an Internship Evaluation Instrument: The Internship
Profiling Questionnaire

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A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

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Abstract

Predicting Career Outcome Measures Using an Internship Evaluation Instrument: The Internship Profiling Questionnaire

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Internships have become an integral part of post-secondary education, while also serving as a means for students to distinguish themselves as job candidates. Although internship programs have formally been in place for over a hundred years, surprisingly little research has been done into the topic, even though more than three out of four students participate in at least one internship before they graduate college. The purpose of this study is to develop and test an internship evaluation tool that will help educators distinguish the high quality internship opportunities from low quality ones. Based on management profiling questionnaires that became popular in the 1970s, we have devised this instrument, the Internship Profiling Questionnaire (IPQ), using feedback models of development. Using a sample of Brigham Young University alumni, we conducted an online survey of job placement, job satisfaction, and vocational self-crystallization concept as outcome variables to be predicted from the IPQ.

Keywords: internship, evaluation, work experiences

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Predicting Career Outcome Measures Using an Internship Evaluation Instrument: The Internship Profiling Questionnaire

Much of the work of universities across the nation has involved the development and production of working professionals across all types of fields. Formerly, this process was mostly carried out through the use of printed texts, expert knowledge in the form of professors, and classroom experiences. In the last few decades the learning process has been supplemented through more applied learning such as case studies, mentoring, and experiential learning. Although these educational forms have been in place for the past century now, the momentum behind promoting experiential learning has only really gained traction in the last 30 years. At Brigham Young University experiential learning has become a formalized curriculum component in the form of the capstone requirements that have become more commonplace across colleges on campus. Currently, experiential learning often comes in the form of internship programs, which will be the main topic of this paper.

Most people are now familiar with internships as they have been in practice since the University of Cincinnati formally instituted their internship program in 1906 (Weible, 2009). Although internships have become prominent enough that most people recognize the practice, it will be helpful to clearly define what exactly constitutes an internship. A brief review of the literature reveals that internships have four main criteria: a specified number of work hours; the work may be paid or unpaid; academic credit is awarded; and oversight is provided by a faculty sponsor or other university coordinator (Gault, Redington, & Schlager, 2000). Internships, then, become a way whereby a student may both gain academic credit in the path to further education while gaining valuable work experience that will aid in the student's progress down a career path.

In the early 1980s, research (Vault, September 1, 2000) revealed that as little as 3% of all students participated in internships at the university level, but that number has risen dramatically in the last 30 years. Recent surveys (Coco, 2000; Vault, September 1, 2000) have shown that as many as 77% of students now complete at least one internship before graduating. In spite of the rise in prevalence of internships in the educational system, very little research has been conducted on this topic. In an article written 3 years ago, author Rick Weible (2009) noted that for the year 2007 the sum total of published work on internships was 10 pages across three different informational articles, with four of those pages being photographs. Although more research on internships has come about since then, it is still not enough to adequately answer all of the questions about a practice that is adopted by three out of four students and used by 94% of colleges of business (Weible, 2009). Some might speculate that the dearth of available research regarding internships could be due to a lack of interest or necessity, but this would seem doubtful given the rise in the adoption of internship programs across college campuses, and the continued reliance on them. Although some research has appeared here and there over the last few decades, even a detailed search of the topic in the common databases will only turn up a few dozen articles, while other areas of research might provide hundreds. The current research is intended to help fill in some of the existing gaps with respect to knowledge concerning the impact of undergraduate internship programs, but first let us examine the how internships are beneficial to all those involved.

Benefits for Universities

Universities are the intermediary in carrying out internship programs. Through the efforts of either the university faculty, or those of the organization in the community, relationships are formed wherein students become matched up with internship providers. Although the particular

benefits to universities may not be as immediately obvious as to providers or interns, universities do also have much to gain from internships. Among the most obvious benefits is the networking and subsequent exposure that comes when working within the local community.

Creating relationships with other organizations allows for people local to the university to invest in the university, and this can be seen in direct monetary benefits as some organizations might offer scholarship money to university students, and indirectly, as students, educators, and companies invest in each other. Some research has pointed out that the university also stands to gain from an improved reputation as it offers internship opportunities to its students (Divine, Linrud, Miller, & Wilson, 2007). As universities develop direct contacts with working professionals through the implementation of internship programs, faculty and students alike develop both personally and professionally as they attempt to nurture this mutually beneficial relationship. In this way, the success of students working outside of the university becomes an extension of the influence that the university has and this pays dividends for the reputation of the university. This, in turn, leads to improved recruiting as students recognize that one of the main benefits to a university education is the prestige of where they receive their education, and this aids them in staying a step ahead of their competition for marketplace jobs. This competition is felt most keenly anytime there is a downturn in the economy, and this only further emphasizes the need students have for distinguishing themselves from their counterparts.

Additionally, college departments can learn how their students perform as compared to students from other universities. They can see the strengths and deficiencies that their students have as employees and this serves as a type of independent performance evaluation of the education and training schools provide, alerting them as to how they might better prepare their students for the workplace. Internships allow for practitioners to offer their input into the

university curriculum as interns have a chance to report on areas where their education meets with the demands of their work experiences, or where it may fall short. Furthermore, some research (Weible, 2009) attests to internships being the inspiration for students to open new businesses. Student involvement in the community shows them how their education can have practical applications, leaving them inspired to make their contributions in way that they see fit, according to Weible. This same study also showed that local businesses feel stronger ties to the university because of internship offerings, and small business owners mentioned increasing the number of students that they hire. The contributions that interns and students make to local economic development further punctuate the importance of the university to the community, reflecting positively on the university, once more.

Benefits for Internship Providers

There are myriad associated benefits to organizations as they become internship providers. One obvious benefit is as a recruiting tool. Companies have the prerogative to offer interns employment upon completion of the internship program or the intern's university education. The monetary costs of advertising jobs are diminished in the presence of an ongoing relationship with universities who can provide qualified candidates for hire. This leads to the additional benefit of a more thorough and polished selection process. Internships are a valuable recruiting tool and increase the visibility of internship providers to the graduating seniors. Zhao and Liden (2011) point out that the internship experience is unique in that it not only provide a realistic job preview for applicants, but provides a preview for employers as well. Researchers Sackett, Zedeck, and Fogli (1988) noted that there exist important differences between typical and maximum job performances.

Maximum job performances have several defining characteristics. The person in question has an explicit awareness of being evaluated, while also having some level of awareness and acceptance of implicit or explicit expectations to maximize effort. Additionally, this performance occurs over a length of time short enough that the person can devote enough focused attention to maximize effort. Conversely, in the absence of these criteria, what we have then can be described as typical job performances, which in some ways are the polar opposite of maximum job performances. In this respect, Zhao and Liden alert us to the fact that internships more closely resemble typical job performances than maximum ones, and as such, employers have a truer reflection of what kind of actual performance they can expect should they hire their interns as employees. The idea here is that the employer gets greater insight into typical, in other words average, job performance and not just an enhanced version that the employee will not be able to maintain over longer periods of time. Thus, internships serve as a much more enhanced recruiting tool.

Rather than simply going through a typical application and subsequent interview process, internships provide employers with the opportunity to view their interns, i.e., potential job applicants, within the actual constraints of the jobs for which they are applying. Supervisors can observe the leader-subordinate relationship, how the intern works with his or her coworkers and reacts to the normal pressures placed upon employees in those positions. The internship becomes an extended try-out of sorts that allows the employer to see how the person will function within the environment of the company and that particular position, giving the employer a long view of typical job performance.

Furthermore, the labor received by the provider comes at a reduced cost as interns will oftentimes work only for academic credit, or a nominal amount that usually will not equal, let

alone exceed, the cost of hiring a full-time employee. All of these benefits result from maintaining an ongoing relationship with the university which is, in itself, another benefit afforded to internship providers.

By maintaining ties with universities, internship providers tap themselves into a constant stream of new talent and potential employees. As one publication points out, the ongoing relationship between organizations and universities reflects a commitment to their own industries and professions, keeping a vibrant flow of top students that can bring new ideas and knowledge of best practices as they have studied them during their post-secondary education (Crumbley & Summers, 1998). While there are some great benefits to companies hiring interns, there are also many opportunities afforded to students who choose to walk down that educational pathway.

Benefits for Interns

Former Secretary of Labor Robert Reich stated that 80% of jobs would require some kind of vocational training (Watson, 1995). A primary benefit that internships thus provide students is a way for students to enhance themselves as potential job applicants. While internships were originally intended as merely a supplement to the educational experience, students have become increasingly pragmatic with their approach to internships as they have realized that one consequence of taking part in internships is how much it can aid them as a job searching tool. Rather than simply viewing internships as an extension to classroom learning, research has shown that students generally adopt the view that internships offer them a competitive edge in the job market (Cannon & Arnold, 1998). Internships, thus, have reciprocal benefits for all parties involved.

College is not quite the distinguishing factor it once was in the economy. The Census Bureau declared in February 2012 that the rate for college graduates has exceeded 30% in the

United States for the first time in this country's history, increasing from just under 25% only 15 years ago (U.S. Census Bureau, 2012). Thus, while only approximately a third of Americans have college degrees, the fact is that college graduates are typically competing for jobs that other college graduates seek after, not those without similar levels of education. Therefore, the pool of competing applicants has increased more than 20% in just the last 15 years. Simply graduating from college may not be enough anymore, and many employers want applicants with job experience in addition to a college degree. How does a student make the leap to distinguishing themselves while also filling in the gap of work experience? Herein reside the great benefits of internship programs.

The benefits available to interns are many and varied. Cook, Parker, and Pettijohn (2004) conducted a study regarding the perceptions interns have of their work experiences. They found that 87% of interns declared that they felt they had grown personally and professionally through their experiences, and 78% of interns sampled added that they felt that they had matured as a result of their experiences. A number of interns, 66%, also expressed feeling that their internships tied their classroom learning with their work experiences, which would seem to be a goal of experiential learning. With respect to being able to find work following their internships, 77% indicated that they believed they would have greater opportunities ahead of them because of their internship experiences. While the subjective assessment of their feelings about their internship experiences is encouraging as an initial indicator of internship success, it is important to ask whether interns objectively come out ahead because of their internship work. Additional research seems to indicate in the affirmative.

In several studies over the last 20 years, internships have been shown to be highly beneficial in several objective ways. First and foremost, a number of studies show that students

graduating with internship experiences were more likely than students without internship experience to have jobs upon graduation (Callanan & Benzing, 2004; D'Abate, 2010; Gault, Redington, & Schlager, 2000; Knouse & T., 1999; Knouse & Fontenot, 2008). Additionally, students who performed well in their internships were offered higher salaries than those who did not (Gault, Leach, & Duey, 2010). These findings are very significant. By any standard, objective or subjective, internships are clearly very advantageous for students as those who complete them find jobs faster and earn more money than those who do not.

Students will also find that in addition to greater job opportunities, as interns they will get realistic job previews with their organizations and experience a reduced shock upon formally entering the workforce as they graduate from school (Coco, 2000). This job preview includes such benefits as learning about employer feedback within those organizations, as well as organizational culture and fit between themselves and the host company (Rothman, 2007). Taylor (1988) also found that interns experience what is referred to as a crystallization of vocational abilities, interests, and values (wherein a person's self-concept as concerning his or her attributes and interests begin to meet the demands of a job), but her results were considered somewhat limited. This construct is referred to as self-concept crystallization. A more simplified, and hopefully more easily interpretable, description of this construct can be described as job fit between the person's self-identified competencies and interests as compared to the requirements of the job.

Taylor ran a quasi-experimental design to compare interns from several different academic programs to determine if interns had a greater crystallization of vocational self-concept and work values. Her initial findings did not yield significant values for the crystallization hypothesis, but after running her analysis including autonomy as a moderating variable, she

found that interns did in fact display a significantly greater crystallization of their self-concept, but only at the $p < .10$ level. Because of a reduced sample size due to inclusion of the moderator variables and this pilot testing of these hypotheses, she wanted to guard more against Type II error than Type I.

Although Taylor's findings have some limitations, they were later supported by other researchers who investigated related questions concerning students' career exploration (Brooks, Cornelius, Greenfield, & Joseph, 1995). Running a study using seniors at their university, Brooks et al. surveyed their students to learn how internships, in conjunction with work experience, affected the crystallization of their vocational self-concept. After running a canonical correlation with internship experience as the independent variable, they found support for their hypothesis that internship experience contributes to self-concept crystallization. This finding supports Taylor's tentative finding, and demonstrates the additional benefit to students that as they participate in internships, they have a clearer sense of how their skills, interests, and abilities are associated with their chosen vocation. This is very important considering how trying it is for students to choose a professional path.

Brooks et al. (1995) found that only 14% of college seniors at their university had any kind of surety about their career paths, while only one out of five students had limited themselves to just one field of study (Brooks, Cornelius, Greenfield, & Joseph, 1995). Considering this information, internship opportunities then become all the more important as a means to help students narrow their focus and find employment opportunities following graduation.

Also worth noting is that research has shown that as students participate in internship programs they tend to experience greater job satisfaction than they would have otherwise if they

had not completed an internship (Gault, Redington, & Schlager, 2000). Job satisfaction as both a predictor and outcome variable has quite possibly received as much attention as any topic in the organizational sciences. Job satisfaction has been linked with a number of outcomes such as productivity, absenteeism, organizational commitment, and resignations (Georgellis, Lange, & Tabvuma, 2012).

Beyond simply having employment opportunities upon graduation direct from their internship providers, researchers have demonstrated that interns will find that they have enhanced employability after completing their internships, even prior to graduation (Knouse & Fontenot, 2008). Even if interns may not get jobs offers from their own internship providers, they have more prospects sooner than those who do not complete internships.

Internships were initiated based on the premise that work experiences would help round out student development. They have been shown to have very positive benefits with respect to creating more job opportunities for students, more quickly, helping students crystallize their career outlooks, and recently they have been shown to make a substantial difference for students in transition to post-college life. A study conducted recently by Caroline D'Abate (2010) investigated how students were affected by their internships, in comparison to students who did not do one, three to five years following graduation. Her results found that students engaged in internships had greater career development support, greater job satisfaction, greater career satisfaction, greater organizational commitment, and faster promotion rates (D'Abate, 2010). These findings are consistent with other benefits mentioned, and would further support the notion that internships result in very positive benefits for universities, employers, and students. Clearly, it is a practice that is here to stay. Given the many benefits of internships, it would seem

important and beneficial to have a way of further evaluating and improving those work and educational opportunities.

The Need for an Evaluation Instrument

Even with what little research has been conducted regarding internships in the post-secondary education process, their utility has been well established by many researchers. Although most university programs currently offer a variety of internship experiences, very little work has been done in the measurement of internship quality. A good internship evaluation instrument would help students to navigate through the number of available internships toward finding those that would serve as the best learning experiences. Broadly speaking, internships are very beneficial, but not all internships are created equal. Employers, students, and universities would all benefit greatly from an evaluative instrument that would help distinguish inferior internship experiences from superior ones.

Having a quantifiable way of identifying superior internships would help universities raise the quality of their educational offering, by continually upgrading the level of internships in their programs. Employers would benefit even from knowing that their provided internships are subpar and would have opportunities to improve accordingly. As the internship experience improves for the student, companies would find greater value from offering these educational experiences to students. Finally, students have the most to gain from knowing which internships provide the most advantages for them. As one study found, when internships have greater autonomy, task variety, and favorable environmental characteristics (positive work relationships, supervisor feedback, etc.), interns feel greater amounts of satisfaction with the work they offer (Gault, Leach, & Duey, 2010). Job satisfaction has been clearly linked with greater organizational commitment, and greater organizational commitment leads to greater

organizational citizenship (Williams & Anderson, 1991). Assuming that organizational commitment and citizenship are qualities of highly functioning interns, student improvement in these areas will subsequently lead to higher salaries, and greater and more employment opportunities following graduation (Gault, Leach, & Duey, 2010).

After examining the structure of a number of other work-related evaluation instruments, I have helped in the formulation of the Internship Profiling Questionnaire (IPQ), a combined quantitative and textual response instrument for evaluating internships in each of four areas. The purpose of this paper is to test and further develop the IPQ to fine tune the instrument to improve the quality of experiential learning at the university level.

The Development of the IPQ

The Internship Profiling Questionnaire is based on similar instruments found within the management and consulting industry. In the early 1970s, William G. Dyer, Philip B. Daniels, and Weldon Moffitt developed one of the earliest iterations of what is now referred to as a 360-degree feedback instrument called the Management Profiling Questionnaire (MPQ) (Moffitt, Daniels, & Dyer, 1977). This instrument is still considered one of the best feedback instruments because of how it integrates both quantitative and qualitative components.

The intention behind the MPQ is to solicit feedback from peers, subordinates and superiors (the 360 feedback component) about a manager wherein an analysis can be performed about that manager's perceived leadership style as it applies to the major management functions. The MPQ provides a methodology by which a manager can then receive targeted coaching and instruction that can facilitate his or her learning and development as a leader within the organization. It consists of seven sections touching on different management areas including

goals, communication, decision making, motivation, influence, control, and leadership. Each of the seven sections consists of four to seven questions.

For example, the communication section opens with a question asking, “How does this person listen?” Respondents choose one of five alternatives that correspond to Likert’s (1967) five leadership styles (autocratic, benevolent-autocratic, consultative, participative, and laissez-faire). Answers given parallel each of those five leadership styles, and this is the pattern followed throughout the rest of the questionnaire. The seven management areas of the MPQ have four to seven individual questions, which then each have five different responses based on Likert’s models. This results in a rounded out profile of the type of management style exemplified by the person being evaluated. As an illustration, a *participative* response to the aforementioned question would be “Listens attentively to thoroughly understand others’ positions.” This gives the evaluator an opportunity to use these different models as he or she gives a textual response to the question, “How could this improve his/her communications?”

The genius behind Dyer, Daniels, and Moffitt’s method is not that the few dozen model profiles will be a perfect fit to the respondent’s idea of the evaluated manager, but that the method gives a basis of comparison. As the respondent notices that what he or she would say about the manager in that particular area is not precisely articulated by any of the model profiles, he or she is being prepared to give more specific and targeted information in the textual questions that follow. This then allows the individual to provide richness to the manager assessment through a more clear and well developed qualitative response that closely resembles his or her manager's unique leadership profile.

Besides priming and sharpening the textual feedback for the qualitative questions, the quantitative questions provide numerical ratings that, when factored, produce two factors. One

relates to task effectiveness and the other to relationship efficacy of the manager. This quantitative information can then be used to create a scatterplot of points in the two factor space, creating a comparative context giving the manager a leadership profile.

Using this method of evaluation allows for a way of organizing the qualitative responses that gives additional meaning and specificity that cannot be obtained from the quantitative information alone. When looking at a data-point in the scatterplot, for example one that is high on the interpersonal factor, but low on the task factor, one can then find additional information provided by the qualitative response for that point and read descriptions associated with the two-factor score (interpersonal and task rating) which clarify the specific rationale for the rating. The results of the survey combine the qualitative and quantitative data in a way that provides an impressive depth of insight.

It is worth mentioning that these instruments were based on feedback models rather than psychometric ones, leaving the instrument designers with a method of interpreting subjective impressions and evaluations. That is not to say that a psychometric method such as Cronbach's alpha does not have its place as a measure of reliability. It is used to evaluate respondent agreement in their evaluations. It just so happens that many of these commercially available instruments (such as the MPQ, the Leadership Philosophy Questionnaire, Management Development Inventory, and others) are based on the feedback model, rather than the psychometric one.

The MPQ was utilized as the basis for the development of the IPQ not because the content of the instrument is the same or similar; it is not. Rather, the methodology by which the MPQ achieves its purpose of creating specific leadership profiles is one that has been tested commercially and scientifically over the years and been shown to be successful (Moffit, Daniels,

& Dyer, 1977). Similarly, our belief is that by employing a comparable methodology in creating an internship evaluation instrument, we can also develop an internship profile for each student experience that would help to distinguish internships from one another because not all internships are created equal.

The Internship Profiling Questionnaire (see Appendices A, B, C for all IPQ forms) follows the same quantitative/qualitative model as the MPQ. The full IPQ consists of 20 quantitative items, and 10 textual responses. Each person evaluates his or her internship both quantitatively and also qualitatively at the end of the semester. There are four areas of evaluation in the instrument: work climate, career preparation, meaningfulness and importance of work, and long-term value of the training and learning. The respondent answers five quantitative responses and gives two written responses in each of the four areas of evaluation on the instrument. An example of a quantitative question in the work climate section, one that relates to the “task” factor is:

2. How productive is the work climate? _____
 - a. People often spend time unproductively, talking, or doing things not work related.
 - b. There is usually a “mix” here of both productive and also unproductive work time.
 - c. People here are usually productive and focused.
 - d. Workers are highly focused, productive, and on task.
 - e. This question is not relevant to my internship.

An example of a quantitative question in that same section, but one that relates to the “interpersonal” factor, is:

3. How enjoyable and congenial is the work environment? _____
 - a. I dread going to work.

- b. The work environment is okay, but not very enjoyable.
- c. I enjoy being at work. It is for the most part pleasant.
- d. I look forward to going to work.
- e. This question is not relevant to my internship.

The two questions that obtain a textual response for this section are:

- 6. Briefly summarize the strengths of this organization in the area of **Work Climate**.
- 7. How could this organization improve in the area of **Work Climate**?

At the end of the instrument are two questions that obtain a global evaluation of the internship:

- 1. Please list the three most valuable things about this internship.
- 2. Please list the three most important things that could be done to improve this internship offering.

These textual responses are valuable to us in working with the internship providers and helping them to improve their offerings for students.

Rather than just have only the internship coordinator and the intern evaluate internships using the IPQ, we have chosen instead to have all students participating in the related academic internship course also supply their input into the internship evaluation process. This is done in order to incorporate a similar 360 degree component to the IPQ as is employed with the MPQ.

Each intern takes time during the internship course to present a summary of his or her experiences in the internship. The other students in the class then take time during class to provide an assessment of that internship using the IPQ based off of the intern's presentation.

Table 1 shows the Cronbach's alpha of those first several trials. Reliabilities for the IPQ-20 show that the scale is reasonably consistent across the student raters.

Table 1

<i>Cronbach's α for the Four Sections of the IPQ-20 Using Student Ratings</i>				
Date	Climate	Prep	Meaning	Value
Jan 19 (n=14)	0.82	0.69	0.66	0.54
Jan 26 (n=13)	0.79	0.77	0.43	0.82
Feb 9 (n=14)	0.74	0.75	0.8	0.79
Feb 16 (n=9)	0.93	0.79	0.66	0.76

With the limited amount of time in the internship class to dedicate to evaluating internships, we needed a shorter form of the scale. In order to condense the scale from 20 items we factor analyzed each of the four sections of the IPQ-20. The IPQ-20 has five questions per section, but after the factor analysis we pared that down to two questions per section, resulting in the IPQ-8 (see Appendix C for IPQ-8). Internship evaluations were made using this scale the following Fall semester 2011, and the resulting reliabilities can be found in Table 2.

Table 2

<i>Cronbach's α for the Four Sections of the IPQ-8 Using Student Ratings</i>				
Date	Climate	Prep	Meaning	Value
Sep 14 (n=15)	0.66	0.59	0.63	0.50
Sep 21 (n=7)	0.86	0.85	0.89	0.86
Sep 28 (n=11)	0.72	0.78	0.67	0.74
Oct 5* (n=4)	0.56	0.68	0.03	-0.14
Oct 19 (n=15)	0.69	0.57	0.46	0.57
Oct 26 (n=6)	0.81	0.64	0.70	0.64
Nov 9 (n=6)	0.88	0.76	0.81	0.83
Nov 16 (n=10)	0.91	0.83	0.90	0.66

Note. *Designates dates with low reliability that also have low *n*.

Reliabilities for the IPQ-8 diminish somewhat with fewer items from the IPQ-20, but the trade-off in brevity versus reliability does not seem to be too damaging. There is one exception where reliabilities are very inconsistent, which is noted by the asterisks for the date October 5, but this is likely due to the unusually small sample size for that date.

To test this instrument we used ratings of internships collected from January 2010 to April 2013. For the purposes of this study, only the collective IPQ-8 scores provided by the students in the internship class and the interns themselves were used in deriving the IPQ scores used in the data analysis. This was decided because this is the most comprehensive data for which we have records. The IPQ ratings serve as an independent variable in this thesis study. Dependent variables will include job placement (i.e., job offer at time of graduation and how long following graduation the offer was made), job satisfaction, and Self-Concept Crystallization (SCC) as measured by the Vocational Rating Scale (VRS: Barret and Tinsley, 1977). Job satisfaction is measured using the three-item general job satisfaction seven-point scale developed by Hackman and Oldham (1975). Using the results of the survey of former students and their subsequent responses following graduation, we evaluated the instrument using six hypotheses:

- Hypothesis 1: Students who completed internships during their post-secondary education are more likely to have an employment offer by the time of graduation than students who did not complete internships.
- Hypothesis 2: Students who completed internships during their post-secondary education will have received an offer of employment sooner following graduation than students who did not complete internships.

- Hypothesis 3: Students whose internships were rated highly according to the IPQ-8 are more likely to have an employment offer by the time of graduation than students whose internships were not rated as high.
- Hypothesis 4: Students whose internships were rated highly according to the IPQ-8 will have received an offer of employment sooner following graduation than students whose internships were not rated as high.
- Hypothesis 5: Students whose internships were rated highly according to the IPQ-8 will have greater job satisfaction than those whose internships were not rated as high.
- Hypothesis 6: Students whose internships were rated highly according to the IPQ-8 will have a greater level of SCC than those whose internships were not rated as high.

Methods

Sample

Participants in this study were all alumni of the psychology department at Brigham Young University. They were contacted through university administrative services via email invitation to participate in the online survey (see Appendix F for email scripts used in the invitations). It is assumed that the composition of the participants reflect the demographic characteristics of the university population, which is 52% male and 48% female, 75% single and 25% married. Overall, 38.26% of the participants had an offer of employment at the time of graduation.

Procedure and Research Design

Graduates of the psychology department at the university were invited through email to participate in an online survey. These students were found through academic and alumni

coordinators who maintain student databases. These former students had graduated between April 2010 to April 2013. Upon initiation into the study, former students were divided into categories specifying whether they had participated in an internship during the course of their university education. Internship participation was defined as the student having completed three hours or more of Psychology 399R credit, which requires having held a position within a university-approved organization, having worked there at least 135 hours during the course of a period no longer than 32 weeks.

Four waves of invitations went out inviting former students to participate in the survey in order to collect sample data for two groups, those who had completed internships and those who had not (see Appendix F for email scripts of the invitations). For the internship completing group, three waves of invitations were sent out between May and June 2013 to 343 alumni of the psychology department. In total there were 111 alumni who responded to the survey who had completed internships for a 32.34% response rate. However, incomplete responses reduced that number down to 64 internship completing alumni. Furthermore, that number was further reduced down to 41 usable responses because of insufficient IPQ scores for their internships.

For those who had not completed an internship during their education an additional wave of 560 invitations was sent out to alumni in August 2013. Of those invitations which were sent, 84 responses were collected from non-internship completing alumni for a 15% response rate. The criteria by which these participants had been designated as part of this group was a result of their not having completed the internship class. However, a number of them (18) actually had completed an internship during their university tenure without completing the internship course. They were left out of this comparison group. Other participants did not entirely complete their surveys which resulted in a total of 51 non-internship completing alumni responses. It was

decided that this sample size was sufficiently large enough to generate adequate statistical power to detect any real differences between the comparison groups and no additional responses were required.

By the conclusion of the study, 64 internship completing alumni took the survey and 51 non-internship-completing alumni took the survey, for a total of 115 respondents. For internet surveys, Dillman (2009) suggests that response rates could be upwards of 80%. However, as was mentioned earlier there was a lot of attrition in this data. For this alumni survey the total response rate totaled 21.59% between the two groups. Part of this is because further email solicitations were deemed unnecessary for the non-internship completing group. Beyond this reason, the low response rate could be possibly due, in part, to a limited database that is not entirely current with the email addresses for the survey pool. An additional consideration may be that former students were unaware that they would be followed up with after their graduation and had little motivation to respond to a survey with which they were not familiar. In the end, this study was conducted in a real world setting that depended on a lot of factors in order to acquire data. Some data came from students while in a classroom environment where complete attendance could not always be guaranteed. While restricted to a database of questionable accuracy, other data was limited because some alumni were contacted, in some cases, as long as three years following their graduation. Many complicating factors contributed to the difficulty in conducting this study.

Measures

Before conducting the survey, Institutional Review Board approval was sought from the Brigham Young University Office of Creative and Research Activities. We obtained approval in March 2013. An online survey using Qualtrics Software was administered to these selected university alumni to develop an employment profile for each former student. Students answered

questions about their employment status upon graduation, whether or not they had completed an internship during school, and if they did not have employment offers upon graduating, they stated how long it took them to receive an employment offer. Of the participants, 39.13% planned on working immediately following graduation while 57.39% of them planned on attending graduate school following graduation.

To measure job satisfaction we used a three-item modified version of Hackman and Oldham's (1975) general job satisfaction scale. Responses using a seven-point scale are given to the following questions: "Generally speaking, I am very satisfied with my job": "I am generally satisfied with the kind of work I do at my job"; "I frequently think of quitting my job" (reverse coded). The Cronbach's alpha reliability for this scale has been reported to be at a 0.76 level (Hackman & Oldham, 1975).

Self-concept Crystallization was assessed using the Vocational Rating Scale (VRS) developed by Barrett and Tinsley (1977) because of its previous use in other related internship research. The VRS is a 33-item questionnaire that asks respondents to indicate on a five point Likert scale the degree to which they agree with statements such as "I'm really not sure of my occupational interests." These statements are intended to capture the clarity and certainty of vocationally relevant attributes and characteristics. Scores range from a low of 33 to a high of 165, with higher scores indicating a high degree of self-concept crystallization with respect to one's chosen vocation. Barrett (1976) reported that the scale has an internal consistency reliability coefficient of .94 and a test-retest reliability of .76 over a two-week interval. In a follow-up validation study, Barrett (1976) found that VRS scores were positively correlated with overall self-perception, self-esteem, and commitment to vocational choice.

Data Analysis Strategy

Distinguishing High and Low IPQ Scores. All IPQ scores come from student assessments of the internship providers using the IPQ-8 (see Appendix C for IPQ forms). Of the six hypotheses, four of them depend on distinguishing internships based on low- and high-IPQ scores. In order to identify low- and high-rated internships according to the IPQ, we conducted a factor analysis on the items from the IPQ-8 across all items in the instrument. This questionnaire separated neatly into three distinct factors: a *Career* factor with items that focus on such things as development of marketable skills, a *Growth* factor with items that focus on such things as capacity for professional growth, and a *Value/Trust* factor with items that focus on such things as meaningfulness of the work performed. Scores were compiled for every internship provider that had at a minimum three interns in the time from January 2010 to April 2013.

By limiting the factor analysis to internship providers with three or more respondents contributing ratings, we hope to cull out some of the effects outliers may have on what factors surface to the top and how the provider is rated. As one may imagine, this also has a limiting effect on the available data as this means that some internship providers are not subsequently represented in the factor analysis and do not make it into the final list of providers that are analyzed in the current study. While this is of some concern, we felt that it was more important to get a truer representation of actual internship evaluation rather than be more inclusive and possibly get evaluations that are not completely valid evaluations. In the end, this means that 22 internship providers were represented in the time period of inquiry, which accounts for approximately 88% of all internships.

Internships were grouped into high- and low-scoring categories for each factor separately for the analysis. Then the three factors were averaged across IPQ scores to come up with a

composite overall score for each of the internship providers and this was also included in the analyses, and then internships were divided into high- and low-scoring groups. An average was used rather a simple summation so that the composite score would be in a similar scale as the factor scores, and thus, would be more comparable to the individual factor scores.

Hypothesis Testing. The first hypothesis assessing how well graduates are able to secure jobs following graduation was tested using two pieces of information: whether the student completed an internship en route to completing his or her degree and that person's answer to the first question of the online questionnaire, "Did you have an offer of employment at the time of graduation?" This hypothesis was tested using logistic regression, with the binary responses of "Yes" or "No" to completion of internship as the independent variable, and "Yes" or "No" to job offer at graduation as the dependent variable. Logistic regression is a regression of the log odds ratios and we will include odds ratio as part of the data analysis. Using the odds ratio enabled us to make a summary statement of the results of this hypothesis including a statement about what percentage of students were more likely to obtain employment upon graduation.

The second hypothesis uses the same independent variable as the first with the binary information of "Yes" or "No" on internship completion. However, the dependent variable in this case was quantitative, allowing for respondent to give an estimated time elapsed following graduation until securing employment. This was tested using an independent-groups t test, testing whether the mean elapsed time differs between those who did and those who did not do an internship.

The third hypothesis also has a binary dependent variable – job offer or no offer at time of graduation – like the first hypothesis. However, the independent variable is quantitative in this case, using instead the IPQ total score on how highly the student's internship was rated.

Presumably, better internships (as indicated by high scores using the IPQ as our evaluative tool) will facilitate offers of employment faster. This hypothesis was tested using logistic regression, due to the capacity for logistic regression to be applied to data with a quantitative independent variable and a binary dependent variable. We also included an odds ratio statement to summarize the test of this hypothesis.

The fourth hypothesis has the same quantitative independent variable as Hypothesis 3 (IPQ total score for internship evaluation). In this case, however, Hypothesis 4 has a quantitative dependent variable, so we used ordinary linear regression. Hypothesis 4 provides us with another way of testing the same presumption of Hypothesis 3, that the greater career building experiences (i.e. highly rated internships according to the IPQ) lead to organizations offering employment faster than for those whose internships were not rated highly.

The fifth and sixth hypotheses both have the same independent variable as do Hypothesis 3 and Hypothesis 4—the IPQ total score on how highly the student’s particular internship was rated. However, internship quality rating is used in these two hypotheses to predict two new dependent variables, job satisfaction in Hypothesis 5 and career identity in Hypothesis 6. Job satisfaction has been shown to be a common result of internship experiences. If students, indeed, are having good internship experiences, then they are also hopefully receiving better job offers, and job satisfaction would naturally follow.

Lastly, as was mentioned earlier, internships have been linked to greater levels of vocational self-concept crystallization. Students whose internship experiences were highly rated should reveal some differences from those whose internships were rated lowly. The scale ranges from 33-165, with high scores indicating a high level of self-concept crystallization. Both job satisfaction and also SCC (the dependent variables) are quantitative measures, as is internship

rating (the independent variable). Both hypotheses can therefore be tested using simple linear regression.

Bivariate regression, or logistic regression with a single independent variable are two uncomplicated statistical methods, and will be used in Hypothesis 1 and Hypothesis 3. These will serve as the primary tests. Linear regression analyses, another uncomplicated statistical test, will be performed on Hypothesis 4-6. However, one of the variables used in these hypotheses is, in fact, potentially multivariate. The total IPQ score, which is the independent variable in hypotheses 3-6, can be broken into three separate factors, Factor 1 (Career), Factor 2 (Growth), and Factor 3 (Value/Trust), and is therefore multivariate. These three factors can be entered as separate independent variables in a multiple linear regression analysis for the hypotheses.

Therefore, Hypotheses 3, 4, 5, and 6, which all use the IPQ as their independent variable, can be secondarily tested using multiple regression, with each of the three factors as predictor variables, in addition to the simpler primary test using bivariate regression with total IPQ score as the independent variable. Two advantages come from additionally testing these four hypotheses in this way. First, the multiple regression will usually be a more powerful test of the hypothesis, that is, we would expect that prediction using several variables would provide a large R-squared value and account for more variance than prediction from one variable. Second, multiple regression will allow us some more pointed analysis in learning which of the three factors of student internships contribute most to the prediction of the outcome variables.

Results

Part of the challenge of this paper was having enough data available to perform all of the analyses. Proceeding in order from the first hypothesis to the last, the number of available data

points decreased steadily until there was enough just sufficient to perform an adequate analysis.

The following table displays relevant data to the proposed hypotheses collected from the survey.

Survey variables	Internship Alumni		Non-internship Alumni	
	<i>f</i>	Mean	<i>f</i>	Mean
Employment offer at graduation:				
Yes	34	-	10	-
No	30	-	41	-
Employment offer from internship provider:				
Yes	16	-	Not applicable	-
No	18	-	Not applicable	-
Weeks to Employment Offer	57	5.4035	41	8.2683
Plan following graduation:				
Enter work force	28	-	17	-
Attend graduate school	25	-	31	-
Neither work or school	1	-	3	-
Job satisfaction score	52	15.5000	50	13.4000
Self-concept crystallization score	56	73.9643	Not collected	-

The first hypothesis was the only one for which all of the available 115 survey responses were usable. The question asked in this hypothesis is whether those completing an internship are more likely to have an offer of employment at graduation than those who did not complete one.

The cross-tabulation that follows illustrates the stark difference between the groups.

Table 4

Two-way Contingency Table of Employment Offer at Graduation by Completion of Internship

	Completed internship	Did not complete internship
Employment offer at graduation (coded as 1)	34	10
No employment offer at graduation (coded as 0)	30	41

The logistic regression results are statistically significant, in the direction predicted by Hypothesis 1, with an odds ratio of 4.65, $\chi^2(df=1)14.07$ ($p<.001$). That is, those who completed internships are 4.65 times more likely to have an offer of employment at graduation than those who did not. This means that a student is four times more likely to have an offer of employment at graduation if the student completes an internship during the course of his education than if he or she chose not to participate in one.

Table 5

Summary of Logistic Regression Analysis with Internship Participation as the Independent Variable and Employment Offer as the Dependent Variable (n=115)

Employment Offer	ODDS	OR	SE	z	P>(z)	(95% Conf. Interval)
Constant	-	0.24	0.09	-4.00	0	0.12 0.490
Internship class	1.13	4.65	2.01	3.55	0	1.99 10.840
No Internship	0.24	(reference)				

As can be seen in the table, the odds of having an offer of employment at graduation are substantially higher for those who were enrolled in the internship class, 1.13 (34:30), as compared to 0.24 (10:41). The first hypothesis, thus, is fully supported given the data from this survey.

The second hypothesis deals with differences between the internship and non-internship groups in the length of time in weeks to receive an employment offer following graduation. It was tested using an independent samples *t*-test. Although the group who completed internships did have a shorter time to find employment upon graduation ($M=5.40$, $SD=9.97$) as opposed to the non-internship group ($M=8.27$, $SD=12.59$), this result was not statistically significant ($t(74)=1.21$, $p>.05$). There were a total of 41 observations for the non-internship group and 57 for the internship group. The results indicate that the second hypothesis is not supported by the available data from this survey. However, the effect size for this data ($d=.25$) is above the suggested minimum for detecting a small effect of $d=.20$ according to Cohen's (1988) convention. An *a priori* power analysis using the same means and standard deviations would suggest that a sample size of 48 for each group would be sufficient to find a statistical difference at the $p<.05$ level. The standard deviations for each of the groups is quite large and including a few more participants might help restrict some of the variance a little more, or at least show enough differences to suggest that they are statistically significant.

For the remaining hypotheses, IPQ scores were derived for each of the internship providers and used for the comparisons made between high- and low-rated internships. Because of the limited sample data available, we decided to use linear regression analysis for Hypotheses 4-6. Originally our intention was to carry out a median split and simply code the data into high and low scoring groups, but this would leave each comparison group too small to reliably detect

differences. Consequently, we used the quantitative scores and tested the size of the slope rather than compare slopes between groups. The following table provides descriptive data for the IPQ scores.

Table 6

Descriptive Statistics of IPQ Scores for Internship Providers (n=41)

IPQ Score	Mean	Std. Dev.	Std. Error	95% Confidence Interval	
Average IPQ score	2.9608	0.434338	0.0678	2.8239	3.0981
Career IPQ score	3.2190	0.525940	0.0821	3.0530	3.3851
Growth IPQ score	3.0122	0.773927	0.1209	2.7680	3.2566
Value/Trust IPQ score	2.6510	0.989213	0.1545	2.3389	2.9633

The third hypothesis is the first to use the quantitative IPQ variable distinguishing high- and low-rated internship providers. The comparison focuses on the relationship between IPQ rating and having an offer of employment at time of graduation. Using logistic regression to test this relationship, there was no significant difference found when looking at Average IPQ score ($\chi^2(1)=.63, p=.434$), the *Career* IPQ ($\chi^2(1)=.23, p=.637$), and the *Value/Trust* IPQ factor ($\chi^2(1)=.74, p=.394$). However, there was a significant difference for predicting employment offer at graduation from the IPQ scores on the *Growth* factor ($\chi^2(1)=4.61, p=.043$).

Table 7

Summary of Logistic Regression Analysis with Growth IPQ Factor as the Independent Variable and Employment Offer as the Dependent Variable (n=41)

	OR	SE	z	P>(z)	(95% Conf. Interval)	
Constant	0.07	0.10	-1.88	0.06	0.01	1.11
Growth Factor	2.54	1.17	2.03	0.04	1.03	6.28

The odds ratio for those whose internships had high scores on the growth factor were two and a half times more likely to have an offer of employment at graduation than those whose internships were rated low on the growth factor.

The odds ratio for predicting an employment offer at graduation from *Growth* factor scores is 2.54. This means that for every increase of 1.00 in *Growth* factor scores (which have a standard deviation of 1.00), the odds of employment at graduation increase by 2.54 times. The third hypothesis is thus partially supported. The *Growth* factor is a good predictor of employment status at time of graduation.

For the fourth hypothesis, a linear regression analysis was performed on- the quantitative dependent variable weeks until offer of employment using the high- and low-IPQ scores as the independent variable. Again, for the independent variable, the Average IPQ score as well as the three separate factor scores were used in this analysis. The results were non-significant for the Average IPQ score ($t(1,36)=-.59, p=.561, \eta^2=.0095$), the *Career* factor ($t(1,36)=.42, p=.674, \eta^2=.0050$), and the *Value/Trust* factor ($t(1,36)=.06, p=.811, \eta^2=.0016$). Lastly, the result for the *Growth* factor also proved to be non-significant ($t(1,36)=-1.55, p=.129, \eta^2=.0626$), but each of these regression models excluded much of the available data due to the limited available IPQ

scores, resulting in only 38 observations being tested. This limitation will be addressed later in the paper. As it stands, the fourth hypothesis is not supported by the results.

The fifth hypothesis examines the prediction of job satisfaction scores from the IPQ scores of the person's internship experience. Overall, respondents had an average score of 14.5 out of 21, with the internship completing alumni registering an average JSS score of 15.5 and non-internship alumni with a JSS score of 13.4. A simple independent groups *t*-test shows that this difference is statistically significant ($t(102)=-3.69, p=.0004$), with participants from the internship group showing higher levels of job satisfaction overall. The effect size for this analysis ($d=.74$) was found to be almost within the range for Cohen's (1988) convention for a large effect ($d=.80$). For the purposes of analyzing this hypothesis, however, we are limited to comparing the low- and high-IPQ scores.

Because the JSS is a quantitative dependent variable, linear regression was again used in this analysis. Once again, the results of this analysis for each of the IPQ scores are non-significant (Average IPQ, $t(1,30)=.94, p=.354, \eta^2=.0288$; *Career* factor, $t(1,30)=.92, p=.365, \eta^2=.0274$; *Value/Trust* factor, $t(1,30)=.000, p=.999, \eta^2=.0000$), *Growth* factor, $t(1,30)=1.00, p=.325, \eta^2=.0323$). However, the number of observations available for these tests were limited, this time not only by the available IPQ scores, but also because some respondents failed to completely fill out the job satisfaction scale. As a result, the regression analysis is limited to 32 observations. The fifth variable is not supported by the available data from this survey.

The sixth hypothesis changes out the quantitative dependent variable one last time for another variable of the same variety, this time using the Self-Concept Crystallization variable. Unfortunately, only those participants who had completed an internship were asked to fill out the VRS. These participants had a mean of 73.96, with a range from 41-113 ($n=64$). We again

performed a linear regression analysis to test for differences predicted by IPQ scores. Although we used a new variable, the results proved to be non-significant again for each of the four IPQ scores ((Average IPQ, $t(1,33)=-.52$, $p=.607$, $\eta^2=.0081$; *Career* factor, $t(1,33)=.15$, $p=.882$, $\eta^2=.0001$; *Value/Trust* factor, $t(1,33)=.11$, $p=.912$, $\eta^2=.0004$), *Growth* factor, $t(1,33)=-1.14$, $p=.262$, $\eta^2=.0379$). Similar to the prior hypotheses, the number of observations were again limited, this time with 35 observations used in this analysis. The results from this analysis does not support the sixth hypothesis.

The last test was of the overall multivariate regression model using the Average IPQ score along with the three separate factor scores as predictor variables for the combination of all four dependent variables considered as a multivariate whole: employment status at time of graduation, time (in weeks) to find employment, JSS, and SCC. This overall model was tested using MANOVA. The results for the overall model proved to be not significant for three of the four multivariate tests. Wilks' lambda was not significant ($F(16,67.8)=1.23$, $p>.05$), nor was Pillai's trace ($F(16,100)=1.22$, $p>.05$), nor the Lawley-Hotelling trace ($F(16,82)=1.21$, $p>.05$). The Roy's Greatest Root test did reach significance ($F(4,25)=3.83$, $p<.05$). However, it is often considered the case that this is a false significant result when each of the other three significance tests for MANOVA do not reach significance (SAS Annotated Output: MANOVA, 2013). As was the case with the univariate tests which were reported in connection with the hypotheses previously, in the end, the limited number of observations available for testing (30), limit the available statistical power and the effect sizes are not so great as to overcome that limitation.

The result of having a small sample size is the limited statistical power in being able to capture all of the effects that may truly exist in the data. Although some data analysis textbooks note that an effect size of .8 is most desirable, the research in this particular area is still in

embryo and as a result, the relationships between all of these variables are still not well understood. Furthermore, the Cohen conventions (1977) for acceptable effect sizes for multiple R^2 would be either .02, .25, or .4 for small, medium, or large effects, respectively. These would correspondingly have R^2 values of 2%, 13%, or 26%. As it currently stands, the MANOVA analysis has the following results:

Table 8

ANOVA Results for Multifactor MANOVA Conducted for the Overall Model

Employing IPQ Scores as Independent Variables and Employment Offer, Weeks to Offer, JSS, and SCC as Independent Variables

IPQ Scores	Obs	R^2	F	Prob.
Average	30	0.0541	0.3574	0.8364
Career	30	0.2033	1.5945	0.2067
Growth	30	0.1655	1.2392	0.3199
Value/Trust	30	0.1151	0.8127	0.5290

The R^2 values from that table, then, are worth taking a closer look at as those values would otherwise be considered medium-large effect sizes according to common convention. An *a priori* power analysis for MANOVA with an effect size of 0.26, $\alpha=.05$, and three response variables would suggest that the sample size should be 72 rather than the 30 noted above. Similarly, additional power analyses for the other regression tests would also suggest that increasing the sample size in the range of 70-90 participants would prove sufficient to generate medium-large statistical differences.

Discussion

The experience gained through internship opportunities provides students with much needed learning that helps them launch into the next phase of their lives following their university education. The IPQ surveys students in areas that helps them to better prepare for their careers, provides them with growth opportunities in terms of their career progression, and facilitates meaningful experiences, as noted through our factor analysis. As was noted in previous research (Knouse, Tanner, & Harris, 1999) and confirmed by the current study, having internship experience provides students with a greater likelihood of receiving an offer of employment at graduation.

However, the results of this study provide only minimal support, at best, for the idea that the quality of internships influences job satisfaction and alignment between vocational pursuits and career related skills of the student. Although there is some conflict in the available research regarding how internships impact career development constructs such as SCC (Brooks et al., 1995; D'Abate, Youndt, & Wenzel, 2009), the results from this study comes down on the side of internship experiences having little influence on SCC.

In the end, only one independent variable among the IPQ score factors - *Growth* - was shown to have any relationship with any of the outcome variables (among employment offer at time of graduation, time to receive offer of employment, JSS, and SCC). The growth score did have some degree of relationship with employment offer at time of graduation, while the other variables Average IPQ score, Career, and Value/Trust did not.

This result could have something to do with the type of internship experiences that are viewed as most valuable by employers looking at potential employees. While an internship experience may be valuable in terms of the exposure that it gives the recipient to potential career

fields and the learning that comes from therein, there is no guarantee that professional development is actually occurring, which would seem to be of most value to potential employers. Additionally, internship experiences could be seen as valuable in terms of necessary work that is provided by the intern, or that the supervisor values highly and trusts greatly the intern, it is not a given that the work performed is of high value to the intern's eventual career prospects. For example, an administrative assistant could prove to be indispensable to the functioning of an organization while also being highly valued and trusted, this type of experience is not consistent with most people's ideas of ascending up the value chain in one's career.

Perhaps this is why the Growth factor score seemed to have the most impact among all of the IPQ related independent variables, albeit not always statistically significant. On one hand, there is the idealized form that an internship takes on as the intern gains valuable work experience while learning more about the chosen career path, while the employer gets an extended look at investing long-term in a potential employee. On the other, there is also a common perception of interns as cheap labor for an employer as the intern him- or herself is also looking to check off a box for graduation or putting another line on the resume. What is maybe most important is that the intern is gaining valuable growth opportunities to expand the marketable skill set that will be taken into the job marketplace upon graduation.

Limitations

The most glaring limitation from this study is the small sample size of the data. Because of the way the IPQ scores were devised, limiting scoring to only internship providers who had three or more ratings, there was some natural attrition in the data set that was available through this sample. Instead of having the full set of 64 observations available from the survey for those who completed internships, 23 observations were removed cutting the available data down by

more than a third. Although the 22 internship providers who had scores in the end accounted for about 88% of all the interns, in this particular sample it only covered 64%. Also, there was some natural attrition from the survey respondents as not all of them completely filled out the survey from start to finish.

Another limitation to this study was the lack of information available to provide controls in the analyses. No demographic information was collected and no information about the participant's GPA or other potentially confounding factors was identified by the survey. This limits our ability to generalize these findings to the general population and should be taken as tentative findings. Somewhat related to this, there is likely some amount of bias in the self-selection of those who responded to the survey. There may be some linking characteristic between the people in this survey sample and some of the outcomes that were detected by the analyses.

Knowing that there would be a limited response rate because of the elements identified earlier, we were not able to randomly select our sample and be able to control for some of the natural variation that would occur in the sample. However, this also reflects the very real world setting of this data collection. A number of factors limited our ability to collect large samples that would have made it easier to tease apart statistically significant differences in the data. There are a number of contributing reasons that made this data collection messy: Students sometimes do not attend class and we are left without sufficient IPQ scores to include a particular internship provider in the data set; or participants easily tire as they are taking a survey connected to a university in which they are no longer enrolled and drop out before answering all 40 questions, rendering his or her response unusable. This study will hopefully serve as an initial foray into the IPQ and will provide a guide wherein future research might probe more profoundly.

Future Research

Aside from the most apparent finding of this study, namely, that internship experience predicts greater likelihood for employment offers at graduation, there is some valuable potential research available by examining more closely the Growth factor found in the IPQ. Given the relative dearth of available research regarding internship evaluation, there was nothing to point this research in such specific factors as this Growth factor. Some very recent research conducted by Gamboa, Paixão, & de Jesus (2013) into the area of how internships help high school seniors in career exploration suggests that the quality of work experiences aid in students' career exploration. This research examined such areas as autonomy, colleagues' feedback, social support, learning opportunities, and supervisor support and found that these areas helped students further refine their career exploration. It would seem that the end goal of any advanced educational platform would be to launch the job market entrant as close to the eventual career path as possible. Further refining of the IPQ along the growth dimension and continued exploration into the relationships between these variables using larger sample sizes should be some low hanging fruit that is easily attainable in identifying true associations.

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Appendix A

Internship Profiling Questionnaire (IPQ)

Internship Profiling Questionnaire (IPQ)

A. Work Climate

1. How open and participative is the work environment? _____
 - a. We are expected to just do our own work with little interaction.
 - b. The atmosphere is friendly but decisions are primarily made at a higher level.
 - c. My supervisor is for the most part interested in my ideas.
 - d. Our suggestions and input are openly invited and appreciated.
 - e. This question is not relevant to my internship.
2. How productive is the work climate? _____
 - a. People often spend time unproductively, talking, or doing things not work related.
 - b. There is usually a “mix” here of both productive and also unproductive work time.
 - c. People here are usually productive and focused.
 - d. Workers are highly focused, productive, and on task.
 - e. This question is not relevant to my internship.
3. How enjoyable and congenial is the work environment? _____
 - a. I dread going to work.
 - b. The work environment is okay, but not very enjoyable.
 - c. I enjoy being at work. It is for the most part pleasant.
 - d. I look forward to going to work.
 - e. This question is not relevant to my internship.
4. To what extent are you and others trusted by your supervisor? _____
 - a. There is very little trust and mutual respect in this organization.
 - b. There is some trust but also close supervision.
 - c. For the most part we are trusted to carry out our work well.
 - d. This organization is typified by a high degree of mutual trust and respect.
 - e. This question is not relevant to my internship.
5. To what extent does management share decision-making and responsibility? _____
 - a. We are expected to follow instructions and not participate in decision-making.
 - b. I am sometimes included in decision-making.
 - c. My supervisor consults with me and for the most part involves me in decision-making.
 - d. My supervisor fully shares work responsibility and decision-making with me.
 - e. This question is not relevant to my internship.
6. Briefly summarize the strengths of this organization in the area of **Work Climate**.

7. How could this organization improve in the area of **Work Climate**?

B. Career Preparation

1. How marketable are the skills you are acquiring here? ____
 - a. This internship does not help one to develop marketable skills.
 - b. This internship helps somewhat in developing marketable skills.
 - c. This internship is quite valuable in developing marketable skills.
 - d. This internship is very valuable in developing highly marketable skills.
 - e. This question is not relevant to my internship.
2. How much have you progressed in professional capabilities from beginning to end? ____
 - a. This internship has not helped me to develop professional capabilities.
 - b. I have progressed somewhat in professional capabilities from this internship.
 - c. I have progressed professionally quite a bit from this internship.
 - d. I have progressed very much in my professional capabilities from this internship.
 - e. This question is not relevant to my internship.
3. How valuable was your internship as a stepping stone to your post graduation plans? ____
 - a. This internship was of little value in facilitating my post-graduation plans.
 - b. It was of some value to my plans.
 - c. It was quite helpful to me in pursuing my post-graduation plans.
 - d. This internship was a great stepping stone to my post-graduation plans.
 - e. This question is not relevant to my internship.
4. How much room for professional growth is there in this organization or one like it? ____
 - a. It is essentially a dead end with little room for professional growth.
 - b. There is some room for professional growth.
 - c. There is really quite a bit of room for professional growth.
 - d. There is much opportunity for professional growth and development in an organization such as this.
 - e. This question is not relevant to my internship.
5. How attractive are job possibilities in an organization like this one? ____
 - a. The job possibilities in organizations such as this are for the most part menial and low end.
 - b. The job possibilities are somewhat attractive.
 - c. The job possibilities in organizations such as this are quite attractive.
 - d. The job possibilities in organizations such as this are highly attractive and appealing.
 - e. This question is not relevant to my internship.
6. Briefly summarize the strengths of this organization in the area of **Career Preparation**.

7. How could this organization improve in the area of **Career Preparation**?

C. Meaningfulness and Importance of the Work

1. How meaningful and valuable are your daily tasks to the functioning of this organization?

 - a. It is mostly just busy work.
 - b. Occasionally the work is important.
 - c. Most of what I do here is important work.
 - d. My daily work is of substantial value to the organization.
 - e. This question is not relevant to my internship.
2. How valuable does your supervisor view your tasks to be? ____
 - a. Mostly just busy work.
 - b. Occasionally important.
 - c. He views it as being mostly important.
 - d. He views it as being of substantial value to the organization.
 - e. This question is not relevant to my internship.
3. How meaningful and valuable are your daily tasks to your own personal growth? ____
 - a. Of little value to me.
 - b. Of some value to me.
 - c. They are quite valuable.
 - d. Of much value to my growth.
 - e. This question is not relevant to my internship.
4. How personally fulfilling are your work experiences? ____
 - a. Of little value to me.
 - b. Somewhat fulfilling.
 - c. Mostly fulfilling.
 - d. Highly fulfilling.
 - e. This question is not relevant to my internship.
5. How pleased are you overall with this internship? ____
 - a. I am quite disappointed in this internship experience.
 - b. It is okay, but not great.
 - c. I am quite pleased with this internship experience.
 - d. I am highly pleased with this internship experience.
 - e. This question is not relevant to my internship.
6. Briefly summarize the strengths of this organization in the area of **Meaningfulness and Importance of the Work**.

7. How could this organization improve in the area of **Meaningfulness and Importance of the Work?**

D. Long-Term Value of the Training and Learning

1. To what extent did you have direct experience with skilled professionals? ____
 - a. I had no direct interaction with skilled professionals.
 - b. I rarely interacted directly with skilled professionals.
 - c. I often interacted directly with skilled professionals.
 - d. I built a strong working relationship with skilled professionals at my internship.
 - e. This question is not relevant to my internship.
2. To what extent did you develop a professional network? ____
 - a. I did not develop professional contacts.
 - b. I met one or two people that I consider part of my network.
 - c. I have established a number of professional contacts.
 - d. I developed a valuable professional network.
 - e. This question is not relevant to my internship.
3. How well do you now understand this field of work? ____
 - a. It is still a mystery to me.
 - b. I'm beginning to understand.
 - c. I feel fairly confident in my understanding of work in this field.
 - d. I feel that I have gained a clear understanding of work in this field.
 - e. This question is not relevant to my internship.
4. How close was your work to professional level experience in this field? ____
 - a. I was mostly doing things that only an intern would do.
 - b. I occasionally had professional responsibilities.
 - c. I had many professional experiences.
 - d. My internship was a high level and first rate professional experience.
 - e. This question is not relevant to my internship.
5. How well were you mentored? ____
 - a. I was essentially on my own.
 - b. I occasionally received supervision and guidance.
 - c. I often received guidance.
 - d. I was given much helpful and useful guidance
 - e. This question is not relevant to my internship.
6. Briefly summarize the strengths of this organization in the area of **Value of the Training and Learning**.

7. How could this organization improve in the area of **Value of the Training and Learning**?

E. Concluding Comments

1. Please list the three most valuable things about this internship.

(1)

(2)

(3)

2. Please list the three most important things that could be done to improve this internship offering.

(1)

(2)

(3)

Appendix B

IPQ-20

	Internship Profiling Questionnaire (Rate 1-5, 1 being low and 5 being high)	IP
a1	How open and participative is the work environment?	
a2	How productive is the work climate?	
a3	How enjoyable and congenial is the work environment?	
a4	To what extent are interns and others trusted by their supervisor here?	
a5	To what extent does management share decision-making and responsibility?	
b1	How marketable are the skills that are acquired here?	
b2	How much would one progress in professional capabilities from beginning to end?	
b3	How valuable would this internship be as a stepping stone to post-graduate plans?	
b4	How much room for professional growth is there in this organization or one like it?	
b5	How attractive are job possibilities in an organization like this one?	
c1	How meaningful and valuable are one's daily tasks to the functioning of this organization?	
c2	How valuable do you think the supervisor views the internship tasks to be?	
c3	How meaningful and valuable are the daily tasks to one's own personal growth?	
c4	How personally fulfilling are the work experiences?	
c5	How pleased would you be overall with this internship?	
d1	To what extent does the intern have direct experience with skilled professionals?	
d2	To what extent do you think one could begin to develop a professional network here?	
d3	How well do you expect the intern will come to understand this field from the experience?	
d4	How close is the internship work to professional level experience in this field?	
d5	How well is the intern being mentored?	

Appendix C

IPQ-8

	Internship provider name	
	Internship Profiling Questionnaire (Rate the following on a 1-5 scale, 1 being low and 5 being high)	
	a1	How productive is the work climate?
	a2	How enjoyable and congenial is the work environment?
	b1	How much would one progress in professional capabilities from beginning to end?
	b2	How attractive are job possibilities in an organization like this one?
	c1	How valuable do you think the supervisor views the internship tasks to be?
	c2	How personally fulfilling are the work experiences?
	d1	To what extent does the intern have direct experience with skilled professionals?
	d3	How well do you expect the intern will come to understand this field from the experience?

Appendix D

Implied Consent

You are being invited to participate in this research study of [list study name]. I am a graduate student at Brigham Young University and I am conducting this research under the supervision of Dr. Bruce Brown, from the Department of Psychology. I am interested in finding out about how participation in internships during college education affects people following graduation.

Your participation in this study will require the completion of an online survey using Qualtrics software. This should take approximately 10-15 minutes of your time. Your participation will be anonymous and you will not be contacted again in the future. You will not be paid for being in this study. This survey involves minimal risk to you. The benefits, however, may impact society by helping increase knowledge about the effects of internship programs.

You do not have to be in this study if you do not want to be. You do not have to answer any question that you do not want to answer for any reason. We will be happy to answer any questions you have about this study. If you have further questions about this project or if you have a research-related problem you may contact me, Chris Silva at chrissilva80@gmail.com or my advisor, Dr. Bruce Brown at bruce_brown@byu.edu.

If you have any questions about your rights as a research participant you may contact the IRB Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please follow the hyperlink found here. Thank you!

Appendix E

Survey

1. Did you complete an academic internship during the course of your time at BYU?
Yes No
2. Name of internship provider _____
3. Did you have an offer of employment at the time of your graduation from BYU?
Yes No
4. How many weeks passed before you were able to receive an offer of employment following graduation from BYU? _____ weeks

Please answer the next three questions using the seven-point scales indicating your level of agreement (low-high):

Low High

5. Generally speaking, I am generally satisfied with my job.
1 2 3 4 5 6 7
6. I am generally satisfied with the kind of work I do at my job.
1 2 3 4 5 6 7
7. I frequently think of quitting my job.
1 2 3 4 5 6 7

Try to answer each of the following statements as mostly TRUE or mostly FALSE. Circle the answer that best represents your present opinion.

8. I need reassurance that I have made the right choice of occupation.
True False
9. I am concerned that my present interests may change over the years.
True False
10. I am uncertain about the occupations I could perform well.
True False
11. I don't know what my major strengths and weaknesses are.
True False
12. The jobs I *can do* may not pay enough to live the kind of life that I want.
True False
13. If I had to make an occupational choice right now, I'm afraid I would make a bad choice.
True False
14. I need to find out what kind of career I should follow.
True False
15. Making up my mind about a career has been a long and difficult problem for me.
True False

16. I am confused about the whole problem of deciding on a career.
True False
17. I am not sure that my present occupational choice or job is right for me.
True False
18. I don't know enough about what workers do in various occupations.
True False
19. No single occupation appeals strongly to me.
True False
20. I am uncertain about which occupation I would enjoy.
True False
21. I would like to increase the number of occupations I could consider.
True False
22. My estimates of my abilities and talents vary a lot from year to year.
True False
23. I am not sure of myself in many areas of life.
True False
24. I have known what occupation I want to follow for less than one year.
True False
25. I can't understand how some people can be so set about what they want to do.
True False

For questions 24 and 25, circle YES or NO.

26. I need the following information:
 - a. How to find a job in my chosen career.
Yes No
 - b. What kinds of people enter different occupations.
Yes No
 - c. More information about employment opportunities.
Yes No
 - d. How to get the necessary training in my chosen career.
Yes No
27. I have the following difficulties:
 - . I am uncertain about my ability to finish the necessary education or training.
Yes No
 - a. I don't have the money to follow the career I want most. Yes
No
 - b. I lack the special talents to follow my first choice. Yes
No
 - c. An influential person in my life does not approve of my vocational choice.
Yes No

Appendix F

Initial request: BYU Psychology Alumni Survey

In an effort to better understand our internship program in the BYU psychology department, we are conducting a survey of former students who have received internship credit through Psychology 399R while attending BYU. You are listed among those students and we would greatly appreciate your participation which will take less than 15 minutes to complete. If you agree, please click on this link <here> which will take you to a consent form that will contain the link for our survey that you will be able to take online.

Thanks for your time and consideration.

Chris Silva
BYU Psychology Department
Office of the Psychology Internship Coordinator

Final Request: BYU Psychology Alumni Survey

If you have already taken this survey or will not take it, then please accept my apology and disregard this message. If you haven't yet, but are willing to, then this is my last plea for you to take this survey. It should not take more than 10 minutes to complete and most finish it in about 5 minutes.

The information you'll provide is very important for the psychology department and for my own purposes as well. Please take the time now to take it. If you have any questions please direct them to me.

Follow this link by [clicking here](#) to take it, or paste this URL into your browser if the hyperlink isn't working: https://qtrial.qualtrics.com/SE/?SID=SV_3x9QCbliKKvawC1

Thank you so much for your time and I hope you're doing well.