

Stress and Post-Employment Citizenship:
A Quantitative Study of Public Accounting Alumni

Scott D. Hoppe, CPA

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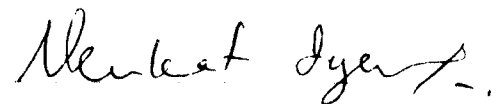
Marianne Koch, Ph.D.

Committee Chair



Kerry P. Curtis, Ph.D.

Committee Member



V.M. Iyer, Ph.D.

Committee Member

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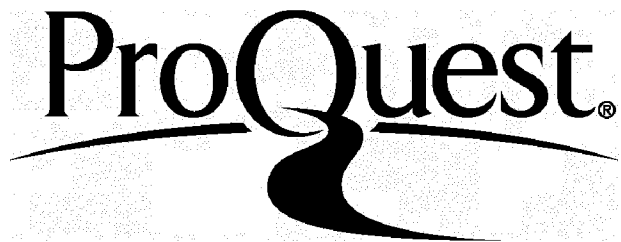
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DEDICATION

To my wife - Charlotte

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Abstract

Accounting firms are faced with the challenge of an ever-competitive landscape. Firms need to further understand how their workplace impacts the use of human resources as a competitive advantage. Former employees (“alumni”) are key to competitive strength. Alumni may find themselves in the unique position of choosing whether to add value to their prior firm or cost them potential revenue. Which decision the alumni makes is a result of their post-employment citizenship (PEC). This phenomenon can be observed in alumni who voluntarily give back to their prior firm (e.g., new business referrals) even with no requirement to do so. This study aims to examine the effect of perceived during-employment stress on PEC. Stress is tested because of its role in turnover at accounting firms, as turnover leads to employees becoming alumni. A sample of 312 alumni accountants, who voluntarily left their firms, answered questions on their perceived during-employment stress, organizational commitment, and job satisfaction. Additionally, their post-employment citizenship towards their prior firm was measured. The regression analysis results indicate that the relationship of stress to PEC through job satisfaction and organizational commitment is complex.

I. Introduction

"You may want to start preparing yourself for the alumni wars."

- Sertoglu & Berkowitch, 2002

Once upon a time we could use good people-management policies to retain top employees. Firms could develop policies that were only concerned with the employee *during* their time at the firm. When the relationship ended, the former employee would have their phone repossessed, email deactivated, and they would be escorted out by security -- sometimes all before even their co-workers even knew of the news.

As the business landscape changes, the views on former employees are also being updated. We are increasingly recognizing former employees as assets. As such, employers need to extend the window of concern for their current policies beyond the time of employment because former employees can -- and often do -- bring business back to the firm.

Firms today have extraordinary opportunities to harness the power of their alumni -- to turn their alumni into their salespeople, recruiters, and brand ambassadors. The culmination of these acts are what I call "post-employment citizenship" (PEC). These lifelong relationships with alumni can open many new doors that were either inaccessible or previously unknown to them. This crucial relationship between the firm and alumni forms its roots during employment (Iyer & Day, 1998). Paul Meehan of Bain & Company tells others to consider former staff as "an untapped, hidden asset that isn't fully exploited." My study considers the factors that influence whether employees have PEC. To understand the PEC relationship, I will review the empirical evidence about former employees ("alumni").

Alumni research in accounting and other professional service firms (e.g., law) reveals interesting insights into the power of alumni to a firm as well as its competitors. In accounting, firm alumni working at a potential audit client can double the firm's chances of being chosen as the auditors (Lennox & Park, 2007). In the legal world, it was found that a competitor's alumni can damage a firm's relationship with a current client; Carnahan and Somaya (2015) found that when a competitor's alumnus is placed at the firm's client, the firm experiences an 11% decrease in the amount of business it generates from that client. That decrease in business skyrockets to 50% if that client is going through a reshuffle in which the competitor's alumni has an easier path to power and greater influence at the client's firm (Carnahan & Somaya, 2015).

These results are due to former employees who move into positions -- post-employment -- to directly or indirectly either add value to their prior firms or cost them potential revenue. Which decision the alumni makes is a result of their post-employment citizenship. PEC can be observed in alumni who voluntarily give back to their prior firm (e.g., new business referrals), even though they are not required to do so.

Alumni solidify their future decision to foster PEC while still employed (Iyer, Bamber, & Barefield, 1997). To gain the title of "alumni," an employee must exit their firm. Factors that may help cultivate PEC in a current employee may also be the same determinants of whether an employee will leave the firm. Thus, I want to analyze how factors that lead to turnover also impact an individual's PEC.

In accounting research, stress is widely cited as a leading cause for turnover (Troutman, Burke, & Beeler, 2011). The most predictive turnover models include job satisfaction and organizational commitment (Gregson, 1992). Instead of using turnover as the dependent variable

as these models do, my model uses PEC. Additionally, though many factors go into the decision to leave a firm, not all of them have the potential to significantly impact PEC; thus, they fall outside the scope of this study. The variables of interest for the present study are: stress, job satisfaction, organizational commitment, and PEC.

An ideal population to sample would be within an industry with three characteristics: (1) client service firms (for their cited focus on alumni benefits [Iyer, 1994]), (2) high turnover (prone to have a substantial alumni population to study), and (3) a strong base of prior research on employee attitudes (e.g., stress leads to turnover [Collins, 1993]).

Public accounting fulfills each of these three characteristics. It is a client service industry which is characterized by high turnover and possesses a rich knowledge base in which stress is a primary source for turnover (Collins, 1993; DeZoort & Lord, 1997; Hermanson, et al., 1995; Sanders, Fulks, & Knoblett, 1995; Troutman, Burke, & Beeler, 2011).

The purpose of this research is to understand how the primary drivers in accounting turnover research (stress, organizational commitment, and job satisfaction) affect and predict the alumni's post-employment citizenship. More specifically, I want to investigate what impact -- if any -- stress has on PEC as a predictor of the alumni's willingness to benefit their prior firm.

Results from my study demonstrate that alumni stress levels *during* employment may lead to negative outcomes for their firm *post-employment*, although the relationship is complex. Improving the level of job satisfaction and organizational commitment experienced during employment may increase an alumni's PEC. Given that alumni often provide benefits back to their prior firms, the reciprocal nature of post-employment citizenship with during-employment workplace factors must be appreciated.

II. Literature Review

Accounting Alumni

Iyer (1994) launched the stream of research on alumni in public accounting. He recognized that in practice, accounting firms sought to benefit from their alumni; yet, academic research in this area was non-existent. Iyer based his accounting alumni study on a richer corpus of research: alumni donors to their alma mater. Rooted in the principles of the social identity theory (Tajfel & Turner, 1986) and inspired by alumni research on donor self-concept, Iyer set out to empirically test the alumni's inclination to benefit their former CPA firm. His work marked the first systematic effort to fill the void in academic literature on firm alumni by identifying individual as well as organizational characteristics that predict willingness to benefit one's former employer. The Iyer (1994) survey of 207 accounting firm alumni included members from three of the Big Six (today it is the Big Four) accounting firms in two major U.S. cities. The following factors were found to be related to alumni's inclination to benefit the firm: (1) alumni's identification with the firm, (2) alumni's perception of the prestige of the firm, (3) efforts of the firm to maintain contact, and (4) personnel policies of the firm relating to counseling and outplacement. Furthermore, alumni's identification with the firm was related to (1) strength of the mentor relationship, (2) satisfaction with the firm, (3) sentimentality, (4) perceived prestige of the firm, and (5) perception of socialization process in the firm (Iyer, 1994).

Iyer and colleagues built upon this foundation to develop and test a model of identification of accounting firms' alumni with their former employers (Iyer, Bamber, & Barefield, 1997). Their sample came from his 1994 dissertation participant list. The results indicated that during-employment factors affected alumni identification, which in turn affected

the alumni's willingness to benefit their prior firm. Identification, in their study, is predicted by the firm's prestige, socialization process, mentor relationships, and sentimentality. In addition to identification, three organizationally derived factors are directly and positively related to an alumnus's willingness to benefit their former employers: (1) organizational prestige (also impacts identification), (2) personnel counseling, and (3) alumni relations. They also found that none of their measured individual characteristics (tenure, time elapsed, mentor relationship, sentimentality) were directly associated with the willingness to benefit, but instead were mediated by the alumni's identification. In their results, Iyer and colleagues (1997) note that identification is largely established before the time an employee leaves the firm, which means during-employment factors affect their willingness to benefit their prior firm in the future.

Post-Employment Citizenship (PEC)

In 1998, with the same respondents from his 1994 dissertation, Iyer segmented the characteristics of alumni who benefit their firms from those who do not (Iyer, 1994; Iyer, 1998). A "benefiter" is someone who actually purchases services from their former firm, makes referrals, informs the firm of opportunities, and/or helps the firm receive timely payments. Compared to non-benefiters, who do not do those acts, benefitters participate more in alumni relation activities and have stronger mentor relationships; they also had higher job titles at the time they left the firm, which could be a result of the length of stay with the firm.

With the same 1994 respondents, Iyer and Day (1998) conducted an exploratory study of employee and alumni program characteristics that appear to influence alumni who benefit their prior firm. Their findings suggest that the most significant characteristics are (1) perceived prestige of the firm, (2) the alumni's rating of counseling practices, (3) alumni relations program,

(4) identification with the firm, and (5) time elapsed since leaving the firm. The first four factors were positively correlated as expected. That is, the higher the perceived prestige of the firm, the higher the willingness to benefit the firm. The findings from the fifth factor, time elapsed, were unexpected. They found the predisposition to benefit the firm may not decrease over time, which underscored the importance of during-employment factors on post-employment citizenship.

Herda (2010) built on the accounting alumni research by Iyer with his development of post-employment citizenship. PEC defines and measures an employee's willingness or intent, as well as actual actions to benefit their prior employers.

Organizational citizenship behavior (OCB) is defined as discretionary, voluntary behavior that is neither part of an employee's specific role requirements nor formally rewarded by the organization (Organ, 1988). PEC meets these criteria, as the organizational benefits this type of behavior affords are completely discretionary on the part of the ex-employee. The exception to their similarities is merely temporal: one is during employment, the other is post-employment. Could the act of leaving the firm conceptually change the OCB and PEC similarities? Perhaps if people were fired or laid off, they might feel too negative about their former employer to even consider benefiting the firm. To mitigate this risk, I segmented the respondents into those who voluntarily left the firm from those whose departure was involuntarily. All results in this study are reported for those who left voluntarily.

Herda (2010) tested PEC by extending concepts from research in organizational citizenship behavior. More specifically, he based his work on Lavelle, Rupp, and Brockner's (2007) target similarity model. Their model represents the relationship among several variables to OCB: organizational fairness, organizational commitment (OC), and organizational

identification. The model illustrates that organizational fairness predicts perceived organizational support and trust, which then leads to OC and identification, and results in organizational citizenship behaviors (see Figure 1). Lavelle and colleagues developed this model through a review of other research. In his dissertation, Herda (2010) examined the target similarity model with a population of public accounting alumni. Herda's (2010) findings provided empirical evidence for Lavelle's model, and suggested that antecedents to OCB may also be shared with antecedents to PEC (Lavelle, Rupp, & Brockner, 2007).

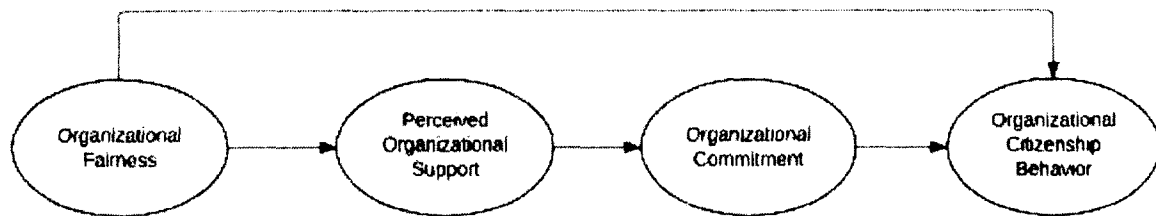


Figure 1. Target Similarity Model (Lavelle, Rupp, & Brockner, 2007).

To examine PEC, Herda (2010) employed the social exchange theory. Social exchange theory emphasizes that human relationships are formed through a subjective cost-benefit analysis. That is, we form relationships in which we expect our costs to be reciprocated with some benefit. For example, when you volunteer at a local charity (your cost), it will result in the community viewing you as compassionate (your benefit). In theory, the analysis of the cost-to-benefit will guide your decisions and actions.

Herda (2010) defined PEC as “the proclivity of ex-employees to benefit their former firm” (p. 1). Herda’s “PEC” and Iyer’s “willingness to benefit” are two different phrases used to describe the same conceptual outcome. As in Iyer, Raghunandan, and Rama (2005), Herda (2010) asked PEC-related questions from two viewpoints: (1) the intent to benefit (e.g., “I would

recommend the firm to others”), and (2) actual benefits (e.g., “I *have* recommended the firm to others”). Herda surveyed 303 Big Four alumni individuals who left their firm voluntarily.

Herda (2010) found similar results as those of the OCB study by Lavelle, Rupp, and Brockner (2007). Herda found PEC (as opposed to OCB) to be predicted directly and indirectly by during-employment organizational fairness (see Figure 2). Organizational support and OC partially mediated the relationship between during-employment organizational fairness and PEC.

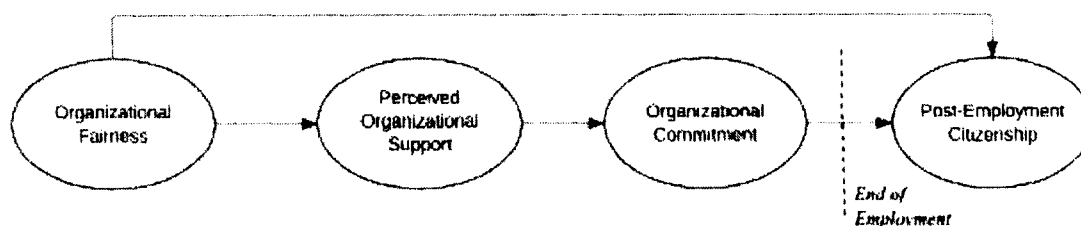


Figure 2. Post-Employment Citizenship model for voluntary leavers (Herda, 2010).

Herda’s (2010) results provide empirical support for the target similarity model, which is rooted in OCB research and was Herda’s foundation for testing PEC. As mentioned above, the concept of PEC meets the criteria of being discretionary and voluntary as described in the definition of OCB.

These concepts are also comparable because both are built on social exchange theory. Social exchange theory indicates that high-quality social exchange relationships motivate employees to behave in ways that are likely to produce favorable outcomes for the organization (Lavelle, Rupp, & Brockner, 2007). Herda points to Iyer, who also built his alumni research on the social identity theory, which is held under the broader umbrella of social exchange theory (Herda, 2010). Iyer’s study found significant relationships; for example, poor policies, poor mentorship, poor satisfaction result in poor PEC (Iyer, 1994). Thus, Herda (2010) establishes that PEC and OCB are comparable because their conceptual frameworks are both grounded in

social exchange theory. His findings validated this equation. Moreover, he suggests that PEC is best thought of as an extension of OCB, and emphasizes the importance of considering previous studies in OCB antecedents to identify antecedents of PEC.

Antecedents of Organizational Citizenship Behavior (OCB)

Organizational citizenship behavior (OCB) was first researched in 1983 (Bateman & Organ, 1983; Smith, Organ & Near, 1983) and was influenced by the concepts of the *willingness to cooperate* (Barnard, 1938) and *innovative and spontaneous behaviors* (Katz, 1964). Organ (1988) defined OCB as:

individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization. By *discretionary*, we mean that the behavior is not an enforceable requirement of the role or the job description, that is, the clearly specifiable terms of the person's employment contract with the organization; the behavior is rather a matter of personal choice, such that its omission is not generally understood as punishable. (p. 4)

The decade following the above 1988 definition saw a considerable increase in the interest in the topic -- so much so that Podsakoff and colleagues' literature review commented that the speed of growth "made it difficult for all but the most avid readers to keep up with developments in this domain" (Podsakoff, MacKenzie, Paine, & Bachrach, 2000, p. 515). They also noted that OCB antecedents may be the most extensively researched area. Four major categories of antecedents to OCB include (1) employee attitudes (this study's focus), (2) task

characteristics, (3) organizational characteristics, and (4) leadership behaviors (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Employee-attitude antecedents to OCB include organizational commitment (OC), job satisfaction (JS), and stress. OC and JS are the most frequently investigated antecedents of OCB, and both have significant relationships with OCB (Organ & Ryan, 1995). I restricted the scope of this study to antecedents with the strongest base of research support and excluded other potentially significant factors to reduce extra noise in the hypotheses (see Section III, Building Hypotheses).

Early research in OCB found that stressors, including role ambiguity and role conflict, negatively impacted OCB (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Subsequent studies identified additional stressors such as work-family conflict (Bragger, Rodriguez-Srednicki, Kutcher, Indovino, & Rosner, 2005) and role overload (Singh & Singh, 2010), which were also negatively correlated with OCB. Role stressors (e.g., role ambiguity, role conflict, and role overload) were found to impact OCB directly as well as indirectly through OC (Eatough, Chang, Miloslavic, & Johnson, 2011).

Jain and Cooper (2012) used a broader stress instrument, ASSET (Cartwright & Cooper, 2002), that considered 37 items of stress categorized into eight factors: work relationships, your job, overload, control, job security, resource and communication, work/life balance, and pay and benefits. In their survey of 402 employees from business process outsourcing organizations in Northern India, they found that overall stress had a significant negative impact on OCBs. Podsakoff and colleagues (Podsakoff, MacKenzie, Paine, & Bachrach, 2000) suggested that

since stress is known to be related to JS, and that JS is related to OCB, it is therefore likely that stress and OCB are mediated by JS (and by the same logic, OC).

Employee attitudes (e.g., OC, JS, stress) appear to be more strongly related to OCB than other antecedents (Podsakoff et al., 2000). Table 1 summarizes the relationships of employee attitudes and OCB. They also suggest that the strength of these relationships may be impacted by controlling for employee attitudes. Eatough, Chang, Miloslavic, and Johnson's (2011) findings support the suggestion of Podsakoff et al. (2000) that job satisfaction, as a mediator, allowed them to better delineate the impact of stress on OCB.

Table 1

Relationship of Employee Attitudes to OCB

Employee Attitudes	Correlation with OCB	Sources
Organizational Commitment (OC)	Positive	<i>Podsakoff, MacKenzie, & Bommer (1996); Organ & Ryan (1995)</i>
Job Satisfaction (JS)	Positive	<i>Podsakoff, MacKenzie, & Bommer (1996); Organ & Ryan (1995)</i>
Stress	Negative	<i>Podsakoff, MacKenzie, & Bommer (1996)</i>

Accounting Employee Attitudes and Attitudinal Outcomes

Early research on stress in accounting found that cholesterol levels of tax accountants rose during the tax busy season (January through April), peaked around April 15th and then declined significantly more to a normal range by June (Friedman, Rosenman, & Carroll, 1958). Most often, research on stress in accounting is focused on attitudinal outcomes such as turnover

intent (Collins, 1993; Hermanson, et al., 1995; Sanders, Fulks, & Knoblett, 1995; Troutman, Burke, & Beeler, 2011).

Collins (1993) demonstrated that stress was directly linked to turnover in her longitudinal survey of 670 accountants. Those findings have since been supported by the Sanders, Fulks, and Knoblett (1995) survey of 570 accountants, which found higher stress results in increased turnover intentions. Hermanson et al. (1995) interviewed 371 staff accountants from public accounting firms, who cited two organizational stressors -- staffing engagements and realistic time budgets -- needed to be reduced to curtail their turnover intent. Haskins, Baglioni, and Cooper (1990) found top job stressors among audit seniors to be (1) not enough time for personal life, (2) too much work and (3) a high level of job complexity. Collins and Killough (1989) studied 1,200 CPAs and identified two major stress-related predictors of dissatisfaction and turnover: long working hours and "conflict between work and family stemming from lack of sufficient time for leisure and family activities" (p.1).

Collectively, the research indicates that some stress is inevitable in public accounting, but excessive stress is harmful to both the individual and the firm. Perhaps a new employee's expectation of the level of stress as they enter and work for the firm determines what is excessive stress. This is a potential issue to address in future research. Troutman, Burke, and Beeler (2011) investigated gender differences in stress and turnover among accountants. They found no significant difference between genders; stress impacts both. The research is clear in accounting: stress has negative impacts on attitudinal outcomes for employees. See Table 2 for a summary of correlations.

Table 2

Relationship of Employee Attitudes to Turnover Intentions

Employee Attitudes	Correlation to Turnover	Sources
Organizational Commitment (OC)	Negative	<i>Lachman & Aranya, 1986; Colarelli, Dean, & Konstans, 1987; Gregson, 1992</i>
Job Satisfaction (JS)	Negative	<i>Lachman & Aranya, 1986; Colarelli, Dean, & Konstans, 1987; Gregson, 1992</i>
Stress	Positive	<i>Collins & Killough, 1992; Collins, 1993; Sanders, Fulks, & Knoblett, 1995; Troutman, Burke, & Beeler, 2011</i>

Causal Ordering of Stress, Job Satisfaction, and Organizational Commitment

Until Gregson (1992) investigated the causal ordering of job satisfaction and organizational commitment in accounting turnover models, the relationship between the two variables and turnover were inconsistently specified. Gregson set out to determine whether job satisfaction was an antecedent of organizational commitment or vice versa, in determining turnover. He did this through a comparison of two previously published datasets from Lachman and Aranya (1986) and Colarelli, Dean, and Konstans (1987). His two findings were: (1) both job satisfaction and organizational commitment should be included in models that predict turnover, and (2) models with satisfaction as an antecedent to commitment do a better job of predicting turnover. Reed, Kratchman, and Strawser (1994) found results consistent with and supportive of Gregson's (1992) work among a population of Midwestern accountants.

Elangovan (2001) expanded on the research done in causal ordering of satisfaction, commitment, and turnover with the addition of stress. In a survey of 155 graduate business students (most of whom were full-time employees), he found that stress primarily affects job

satisfaction, which in turn is positively correlated with commitment which then is negatively correlated with turnover intentions. His study found that stress does not directly influence turnover intentions; however, stress does directly impact employee attitudes (e.g., satisfaction) which in turn directly impacts turnover intentions (Elangovan, 2001).

Elangovan's (2001) study echoes Gregson's (1992) findings that a turnover model with neither job satisfaction nor organizational commitment is weak because it misses the causal relationship that satisfaction has on commitment. See Figure 3 for a summary of the relationships found by the researchers.

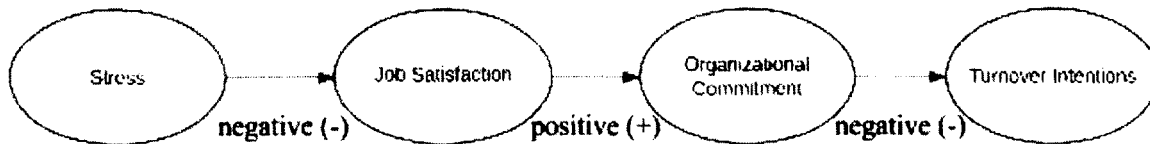


Figure 3. Causal ordering of employee attitudes to turnover.
Sources: Elangovan (2001); Gregson (1992); Reed, Kratchman, & Strawser. (1994).

III. Building Hypotheses

With building the hypotheses, I am seeking to explore the relationship an employee has with their firm beyond the time of their employment. I use PEC to measure the intentions of the alumni towards "giving back." "Giving back" may be the alumni acting as salespeople, recruiters, and brand ambassadors for the firm. Research indicates that PEC results in substantial bottom line differences. Alumni-to-firm PEC is at the alumni's discretion; there is no requirement for them to do so.

Stress is a cause for turnover in accounting (Elangovan, 2001). By definition, turnover is why accounting alumni are alumni. Accounting alumni with greater PEC both intend to -- and

actually do -- benefit their prior firm (Herda, 2010; Iyer, 1994). I want to understand what, if any, impact stress, which influences turnover, has on PEC.

During-employment factors such as stress affect post-employment outcomes such as PEC (Iyer, Bamber, & Barefield, 1997). PEC intentions are largely established by the time the employee departs their firm (Iyer, Bamber, & Barefield, 1997) and does not decrease as time passes from employment (Iyer & Day, 1998). This pattern highlights the importance of focusing on during-employment factors of PEC.

Herda (2010) suggests that antecedents to OCB may also be antecedents to PEC. The literature establishes OCB antecedents as stress, job satisfaction, and organizational commitment (Organ & Ryan, 1995). Based on research in accounting turnover, these are similar antecedents to those leading to turnover. My hypotheses explore the relationships between antecedents (e.g., stress) and PEC.

Organizational commitment, in accounting turnover research, is *negatively* correlated with turnover intentions (Gregson, 1992). That is, the higher their commitment, the lower their intent to leave. OC in OCB research finds a *positive* relationship with OCB (Organ & Ryan, 1995). OC in PEC research has also been found to have a *positive* relationship with PEC (Herda, 2010). That is, the higher the employee's commitment, the higher their citizenship behavior. Therefore, I hypothesize:

H1a: Organizational commitment will be *positively* correlated with post-employment citizenship.

Job satisfaction, in accounting turnover research, is *negatively* correlated with turnover intentions (Lachman & Aranya, 1986). That is, the higher the employee's job satisfaction is, the

lower his/her intent to leave. Job satisfaction in OCB research shares a *positive* relationship with OCB (Podsakoff, MacKenzie, & Bommer, 1996). So, the higher the employees' job satisfaction is, the higher their citizenship behavior. Therefore, I hypothesize:

H1b: Job satisfaction will be *positively* correlated with post-employment citizenship.

Stress is *positively* correlated with turnover intentions in accounting turnover research (Troutman, Burke, & Beeler, 2011) and *negatively* correlated with OCB in OCB research (Podsakoff, MacKenzie, & Bommer, 1996). Thus, PEC is best thought of as an extension of OCB (Herda, 2010). Therefore, I hypothesize:

H1c: Stress will be *negatively* correlated with post-employment citizenship.

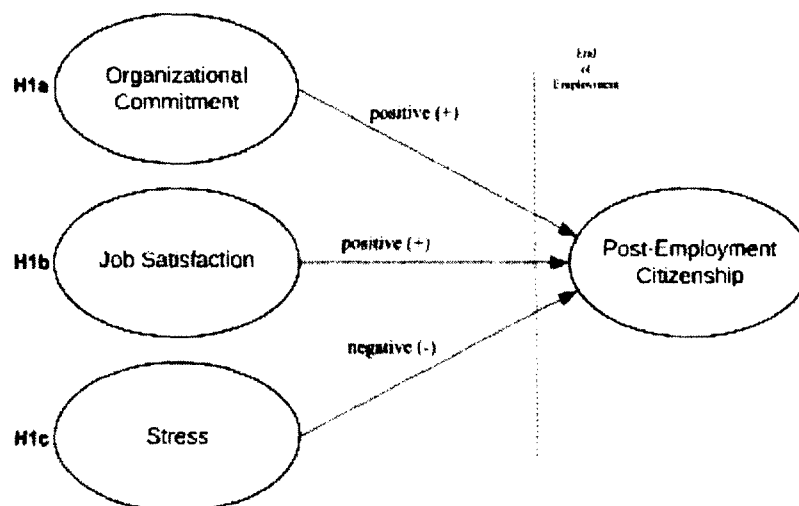


Figure 4. Hypothesis 1 on antecedents to PEC

Stress is a known predictor of job satisfaction and organizational commitment (Elangovan, 2001; Gregson, 1992; Reed, Kratchman, & Strawser, 1994). Hypotheses 1a and 1b contain the concept that organizational commitment and job satisfaction are likely to be *positively* associated with PEC. It has been seen in OCB research that both JS and OC can have a role in the relationship between stressors on the employee (e.g., role overload) and employee

behavioral outcomes (e.g., OCB [Eatough, Chang, Miloslavic, & Johnson, 2011]). Thus, it is likely that at least a portion of the relationship between stress and PEC is mediated by JS and OC. Therefore, I hypothesize:

H2a: The *negative* relationship between stress and post-employment citizenship will be mediated by organizational commitment.

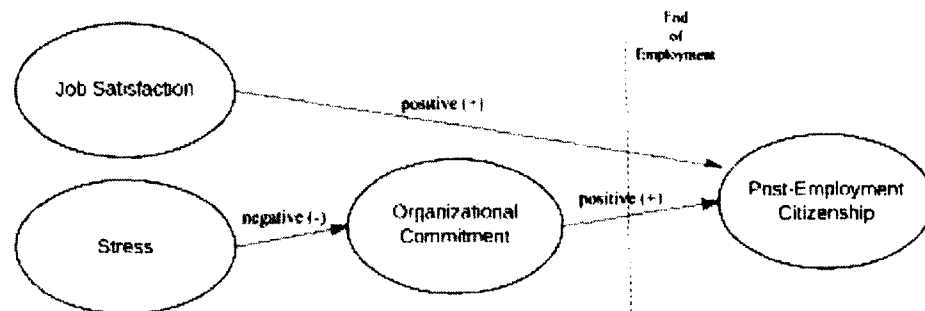


Figure 5. Hypothesis 2a

H2b: The *negative* relationship between stress and post-employment citizenship will be mediated by job satisfaction.

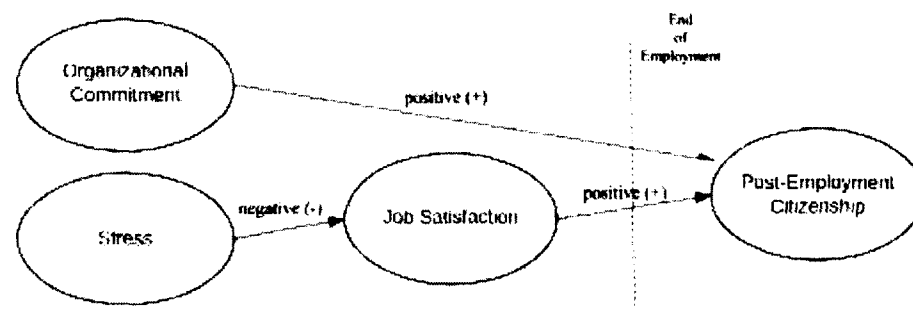


Figure 6. Hypothesis 2b

Research in the causal ordering of stress, job satisfaction, and organizational commitment suggests that there is an order of causality among their relationships. The research suggests that models including job satisfaction as antecedent to commitment do a better job at predicting

(Gregson, 1992) than stress as antecedent to job satisfaction (Elangovan, 2001). I do recognize that alternative models (e.g., different causal ordering) may exist as well as additional antecedents. I have restricted the focus of this research to these four variables to stay aligned with prior turnover research in accounting. Therefore, I hypothesize:

H3: Stress will primarily and *negatively* impact job satisfaction; in turn, job satisfaction will *positively* relate to organizational commitment, and organizational commitment will *positively* relate to post-employment citizenship.

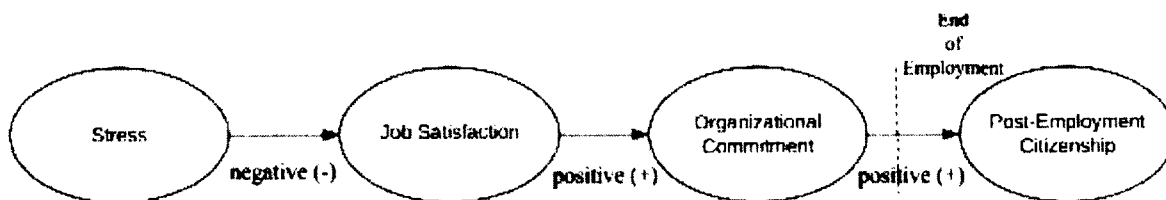


Figure 7. Hypothesis 3

Summary of Hypotheses

It is important to note that hypotheses 1a, 1b, 1c, 2a, 2b, and 3 are mutually exclusive of each other. Each one builds towards the primary hypothesis, hypothesis 3. The hypotheses to be tested are summarized as follows.

H1a: Organizational commitment will be positively correlated with post-employment citizenship.

H1b: Job satisfaction will be positively correlated with post-employment citizenship.

H1c: Stress will be negatively correlated with post-employment citizenship.

H2a: The negative relationship between stress and post-employment citizenship will be mediated by organizational commitment.

H2b: The negative relationship between stress and post-employment citizenship will be mediated by job satisfaction.

H3: Stress will primarily and negatively impact job satisfaction, job satisfaction in turn will positively relate to organizational commitment, and organizational commitment will positively relate to post-employment citizenship.

IV. Methodology

The methodology section will cover the ideal target population, sample and respondents' demographics, the survey instruments used, and the data analysis techniques employed to test the hypotheses developed in the previous chapter.

Target Population

Three characteristics I sought for the study population were client service industry, high turnover, and a strong base of prior research on employee attitudes. Public accounting is the ideal domain for this research because its population has these three characteristics.

First, the client service industry is regularly cited as an industry that recognizes and attempts to foster relationships with their alumni (Iyer, 1994). McKinsey Consulting is often referred to as an exemplary leader in relationship management due to their willingness and ability to work with alumni, and as pioneers in cultivating alumni relations in the service firm industry ("Gone but Not Forgotten," 2014). Public accounting firms are client service firms (e.g., PwC), offering services that consist of auditing, tax, and consulting.

Second, an industry with high turnover provides a larger possible population from which to collect data. Accounting firms have a large number of alumni due to high levels of staff turnover (Tyra, 1980).

Finally, a strong base of research evidence concerning employee attitudes and subsequent attitudinal outcomes is key for enabling the current research to build a model that can include relevant industry-specific employee attitudes and the known attitudinal outcomes, and then test these relationships in a new model. Accounting research has a robust body of research on employee attitudes (e.g., satisfaction) and their attitudinal outcomes (e.g., turnover). For example, accountants, by nature of public accounting which is inherently deadline driven, operate in a high-stress environment (Choo, 1987). In this study, accountants were surveyed on stress, and it was noted that most accountants' responses were towards the high end of the stress scale. Turnover research in accounting identifies stress as a major component in an employee's decision to leave their firm (Collins, 1993; DeZoort & Lord, 1997; Hermanson, et al., 1995; Sanders, Fulks, & Knoblett, 1995; Troutman, Burke, & Beeler, 2011).

Survey Instruments

The survey was divided into three sections for each variable class: independent, dependent, and control variables. Most items were surveyed on a five-point Likert scale; using 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. This ordering from strongly disagree to strongly agree is true to the original design (Rinker, 2014). A subset of these questions had their polarity reversed to address acquiescence bias. The scales used to measure the variables in this study can be found in Appendix C, and are described in depth below.

Post-employment citizenship (PEC).

Post-employment citizenship, the dependent variable, utilized a 10-item instrument (see Appendix C) to measure both intent to benefit and actual benefits given. *Intent to benefit* was

measured using a 6-item instrument from Herda (2010) which was partially derived from Iyer's instrument (Iyer, Bamber, & Barefield, 1997). *Actual* benefits given were assessed with a 4-item scale of "yes/no" questions based on Herda (2010) which were partially derived from Iyer's (1998) instrument. These instruments were used to replicate and then build upon the results found in the other two studies on accounting alumni. The reliability coefficient ($\alpha = 0.76$) was reported by Herda (2010) for the survey instrument used.

Overall job stress.

To measure overall job stress ("stress"), an independent variable, I adopted a 13-item scale from Parker and Decotiis (1983) (see Appendix C). Elangovan (2001) used the same instrument in his study on the causal ordering of stress, JS, OC, and turnover. This scale is one of the most commonly used job stress scales in empirical studies (Jamal, 2011) and has sound psychometric properties (Baba, Jamal, & Tourigny, 1998). The questions used in the instrument were updated to the past tense instead of the present tense to better represent the alumni's relationship to the questions asked in the instrument. The reliability coefficient ($\alpha = 0.88$) was reported by Elangovan (2001).

Job satisfaction (JS).

Independent variable JS was measured with a 3-item subscale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979) to quantify overall job satisfaction (see Appendix C). As with the stress instrument, the questions in the job-satisfaction instrument were also reworded to be in the past tense. Bowling and Hammond (2008) ran the most comprehensive analysis of this 3-item scale to date and found it highly reliable with a Cronbach's alpha of 0.85.

Organizational commitment (OC).

The independent variable OC utilized a 4-item scale measuring during-employment organizational affective commitment adapted from Allen and Meyer (1990) and used by Herda (2010) (see Appendix C). This scale was used to capture comparable answers between the other two studies on accounting alumni. The reliability coefficient ($\alpha = 0.84$) was reported by Herda (2010).

Control variables.

Demographic variables are customarily collected in stress research (Haar, 2006), and in the present study, were collected to control for potential influences such as age or gender. Based on prior research, additional variables on accounting alumni were also recorded, including length of employment, time from departure, level when departing, age, and line of service (Herda, 2010; Iyer, 1994). Two additional variables were added about firm size (e.g., Big Four) and office size (i.e., number of employees). Prior research suggests that firm size may influence JS, OC, and PEC. Sommer, Bae, and Luthans (1996) summarized prior research and supports firm size increases an individual's organizational commitment.

Variable characterization.

Each of the dependent, independent, and control variables is characterized in one of three ways: (1) nominal, (2) ordinal, or (3) scale. Nominal variables are categorical variables with two or more categories, but have no intrinsic order. An example of a nominal variable is gender. Ordinal variables have two or more categories, but the categories can also be ranked. An example of an ordinal variable would be a question about satisfaction levels of a service, where I

can rank satisfaction from highly dissatisfied to highly satisfied. Scale variables contain more information than ordinal variables. They order the variable and also provide a meaningful metric of the distance between values, allowing us not only to rank the items that are measured, but also to quantify and compare the magnitudes of differences between them. An example of a scale variable is age, where one year in age is a meaningful metric. Appendix C - Table C1 offers a list of the variable names, types, and characterizations, the scales used for measuring them, and the source of each instrument's questions.

Sample

Surveys were distributed by e-mail to 8,000 accounting professionals who were randomly selected from a list of 12,000. The list provided registration names, and information was obtained from the American Institute of Certified Public Accountants (AICPA), California Society of CPAs (CalCPA), and Nevada Society of CPAs (NVCPA).

The recruitment email included a link to an anonymous internet-based survey. Responses were collected over a three-week period in February 2016. During the three-week window, three reminder e-mails were sent. In Appendix B and Appendix C are the survey email and survey.

Respondents

In total, 362 former employees completed the survey, resulting in a total response rate of 4.5%; of these, 312 were from voluntary leavers and usable (3.9% usable response rate). In two similar studies, a response rate of 29% (207; 244 responses) was achieved (Herda, 2010; Iyer, 1994). Though the response rate was lower than desired, the total number of responses is consistent with prior studies (see Table 3). One explanation for a deflated response rate may be that we had no way to ascertain the validity of the e-mail addresses. Web-based survey response

rates for CalCPA were quoted in an email correspondence as “normally falling between 1-5%” and most often closer to 1-2%. This observation is consistent with Manfreda et al.’s (2008) meta-analysis on survey response rates. Their analysis of web and other survey modes show that on average, web surveys yield an 11% lower response rate compared to other modes.

Demographics

The average age of the 312 respondents was 50.7 years ($SD = 14.6$), mean tenure with their firm was 6.4 years ($SD = 6.7$), and mean time elapsed from their last day with the firm to the time of survey completion was 15.7 years ($SD = 12.3$). Compared to prior studies, the respondents here were older, had a longer tenure with their firm, and left their firm longer ago. A comparison of the respondents’ demographics to prior alumni surveys is in Table 3.

Table 3

Demographic Comparison

	Hoppe (2010)	Herda (2010)	Iyer (1994)
<i>N</i>	312	244	207
Age	50.7 ($SD = 14.6$)	37.1 ($SD = 9.0$)	41 ($SD = 9.7$)
Tenure	6.4 ($SD = 6.7$)	4.2 ($SD = 2.9$)	5.25 ($SD = 4.7$)
Time Elapsed	15.7 ($SD = 12.3$)	8.3 ($SD = 8.1$)	11.25 ($SD = 7.8$)

Participants were asked several demographic questions including: their staff level at departure, if the firm considered them a “high performer,” their line of service (e.g., tax), their firm’s size (e.g., Big Four), office size, age, gender, and whether they have actually provided a benefit to their prior firm. The respondents were evenly distributed across various job levels, lines of service, office sizes, and ages.

On the other hand, the sample was not representative of the accounting domain in terms of gender, firm sizes, high performers, or actual PEC benefits. The respondents were primarily male (71.1%, $n = 222$), came from either Big Four (46.2%, $n = 144$) or local (32.1%, $n = 100$) firms, were considered high performers (67.3%, $n = 210$), and most have executed an act of PEC since their departure such as recommending the firm (64.7%, $n = 202$). Additional demographic information is found in Appendix A, Table 1.

V. Data Analysis and Analysis Methods

In this chapter, I discuss data quality, how the variables were constructed, and their reliability from the survey data. I also present evidence of checks for bias in the data.

Quality of the Data and Construction of Variables

Since multi-item scales were used to measure the independent and dependent variables in this study, some items were combined into a composite score. The questions were subjected to factor analysis to confirm questions explained their variable (i.e., stress questions explain the stress variable). Reliability of scales in the survey instrument was calculated using Cronbach's alpha. Details of these measures and their reliability are described in depth below.

Composite Scores

Composites of Likert-scale ratings using the average score (total score divided by number of items) were calculated for the following variables: (1) post-employment citizenship, (2) overall job stress, (3) job satisfaction, and (4) organizational commitment.

Before computing the composite scores, I tested the measures using factor analysis to ensure that the measures being combined related together and would be appropriately

represented in a composite score. The reliability of factor analysis depends on the sample size. Field (2013) reviewed many suggestions and found that 300 cases, with a Kaiser-Meyer-Olkin (KMO) score over 0.5, would likely be adequate for most factor analyses. This study's sample size is 312 and has a KMO of 0.91. Based on Field's guidance, I determined factor analysis to be satisfactorily reliable to create composite scores.

The questions representing stress, JS, and OC grouped as expected. PEC intentions (questions 1-6) grouped into two separate factors: purchasing services and referring the firm. PEC did not lend itself to further subcategories in this study. My results indicate that different types of PEC are testable and there is potential for more versions of PEC. This finding is noted in the conclusion, areas for future research.

The two separate PEC intention factors -- purchasing services and referring the firm -- did not overlap with stress, JS, or OC questions. Therefore, I kept those questions (1-6) combined for the composite score results. Results of the composite scores are found in Table 4. Factor analysis results are found in Appendix A - Table A.2. The PEC scores here are lower than Herda's (2010) 3.34 ($SD = 0.95$) and higher than Iyer's (1994) 2.39 ($SD = 0.89$). The composite scores were used to test the hypotheses.

Table 4

Composite Scores

Variable	M	SD
PEC - Intent (6 items)	2.86	1.02
Stress (13 items)	3.21	0.95
Job Satisfaction (3 items)	3.54	1.04
Organizational Commitment (4 items)	3.40	0.93

Reliability of Scales

Cronbach's alpha is the most common measure of internal consistency and is used to assess the reliability of a scale. An alpha greater than 0.70 is interpreted to mean that the items measure the same construct (Nunnally, 1978).

I report the normal, versus the standardized, Cronbach's alpha. The normal alpha is appropriate when multiple items on a scale are summed to produce a composite score. The standardized alpha is not appropriate in these cases (Field, 2013). Reliability results for the variables are found in Table 5.

To ensure the scale produced the highest reliability, I analyzed the questions in each set to confirm that each question improved the scale's Cronbach's alpha. The process was done by reviewing the "Cronbach's Alpha if item Deleted" results and comparing them to the overall alpha (e.g., PEC = 0.74). If an item was deleted from the question set and the Cronbach's alpha increased I considered removing that question to improve the reliability of the scale. The test results did not indicate the need to remove any items (i.e., stress) from the scales. Each item improved reliability results. See Appendix A, Table A.4 for results.

Also from the SPSS output, "Corrected Item Total" was reviewed for the correlation between each item as well as for the total score from the questionnaire. In a reliable scale, all items should correlate with the total. A score of less than 0.30 means the item does not correlate with the total and may need to be removed from the scale. All of the items rated over 0.30, and I did not have to remove any questions to improve reliability. This was the expected result because the reliability of the scales was proven in prior studies. See Appendix A, Table A.4 for results.

Table 5

Reliability Coefficients

Variable	Cronbach's Alpha	
	Expected	Actual
PEC - Intent (6-items)	0.76 (Herda, 2010)	0.74
Stress (13-items)	0.88 (Elangovan, 2001)	0.94
Job Satisfaction (3-items)	0.85 (Bowling & Hammond, 2008)	0.89
Organizational Commitment (4-items)	0.84 (Herda, 2010)	0.85

Non-Response Bias

A concern of a survey is that the sample does not adequately represent the population, as those who responded may be different from those who did not respond. A standard practice to test for non-response bias is to look for differences in the demographics and responses between those who answered the initial survey request to those who responded later (Armstrong & Overton, 1977). This procedure is known as the successive questionnaire. Late responders represent non-responders in testing for non-response bias. On the first day the survey was open, I received 186 responses (the survey was open from February 4 through February 21, 2016). To have an adequate sample size of late respondents (i.e., over 30), I included responses from February 17 to February 21. The total late-respondent sample size is 33. There were no significant differences between the two groups at a 95% confidence interval. I concluded that a non-response bias was not present. A comparison of the groups is found in Table 6.

Table 6

Comparison of Early and Late Respondents

	Late	Early	Late	Early
	<i>M</i>		<i>SD</i>	
Departed Firm	17.41	14.89	12.00	13.94
Tenure	7.06	6.09	7.28	5.90
High Performer	0.68	0.73	0.47	0.45
Job Title	2.89	2.46	1.26	1.44
Line of Service	1.83	1.88	0.74	0.74
Firm Size	2.94	3.30	1.84	1.94
Office Size	1.75	2.00	0.79	0.83
Gender	1.23	1.15	0.43	0.51
Age	53.17	48.80	13.39	18.96
PEC Intention	2.84	2.84	1.11	0.78
Stress	3.13	2.93	0.91	1.11
Job Satisfaction	3.62	3.71	1.04	1.09
O-Commitment	3.49	3.23	0.92	0.97
Firm Policies	2.96	3.14	0.71	0.80
PEC Actual	0.68	0.64	0.47	0.49
<i>N</i>	186	33		

VI. Results and Discussion

In this chapter, I present the results of the hypothesis testing, discuss what was found, and consider the limitations and contributions of this research. I conclude with the practical implications of the findings for business managers and present possible future research directions.

Hypothesis Tests

Hypotheses 1a, 1b, and 1c were tested first using simple linear regression, and a second time under multiple linear regression. Simple linear regression models the relationship between

one dependent variable and one explanatory (i.e., independent) variable. Multiple regression evaluates the degree of influence each explanatory variable has on the dependent variable while controlling for the other variables.

Hypotheses 2a and 2b test mediation using Preacher & Hayes' (2004) mediation tools, which are recommended by Field (2013) as they provide a well-established method and are easy to apply and understand. Field specifically recommends Andrew Hayes's macro for SPSS, called PROCESS. The PROCESS macro is available free online from Hayes.

Hypothesis 3 was tested using linear regression. The results of the test are reported in the following paragraphs and summarized in Table 7.

Hypothesis Results

H1a: Organizational commitment will be *positively* correlated with post-employment citizenship.

Hypothesis 1a tested the relationship between the alumni's during-employment organizational commitment and their post-employment citizenship. The simple regression of OC to PEC revealed a significant relationship of $b = 0.365 (0.243, 0.491)$, $R^2 = 0.110$, $p < .05$. The multiple regression (which controls for other explanatory variables) indicated a significant relationship of $b = 0.197 (0.051, 0.343)$, $R^2 = 0.131$, $p < .05$. I failed to reject H1a.

H1b: Job satisfaction will be *positively* correlated with post-employment citizenship.

Hypothesis 1b tested the relationship between the alumni's during-employment job satisfaction and their post-employment citizenship. The simple regression of JS to PEC found a significant relationship of $b = 0.302 (0.198, 0.414)$, $R^2 = 0.094$, $p < .05$. The multiple regression

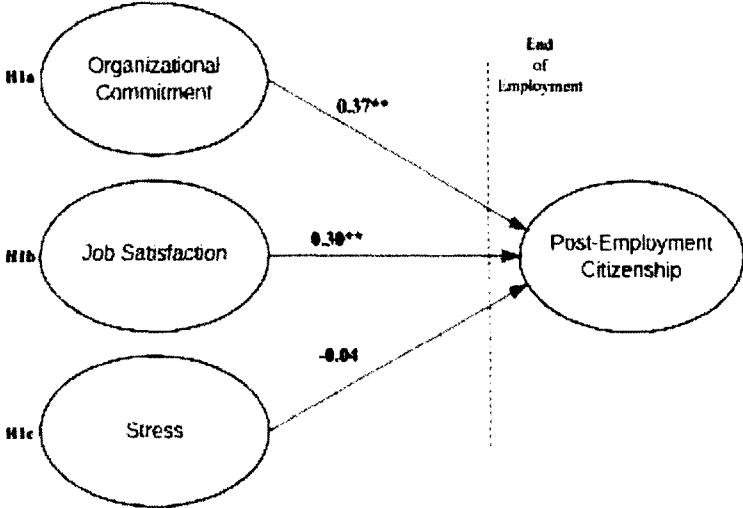


Figure 8. Results of Hypotheses 1 Simple Regression
** p < .05, regression coefficient

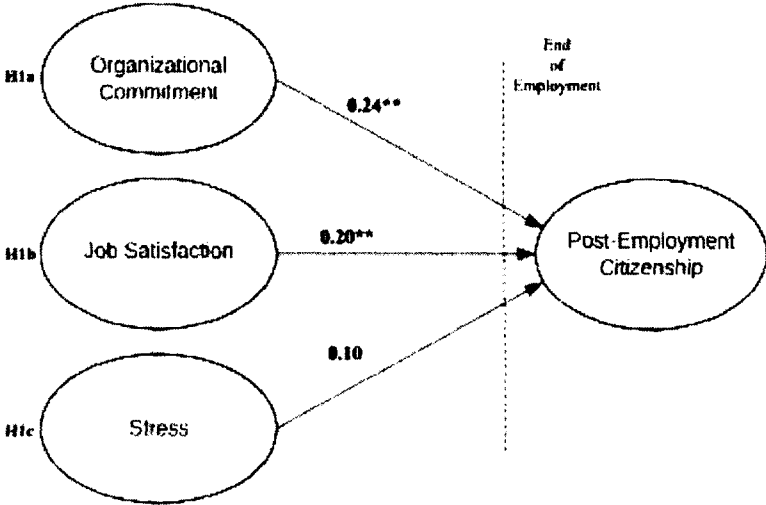


Figure 9. Results of Hypotheses 1 Multiple Regression
** p < .05, regression coefficient

(which controls for other explanatory variables) revealed a significant relationship of $b = 0.243$ (0.089, 0.396), $R^2 = 0.131$, $p < .05$. I failed to reject H1b.

H1c: Stress will be *negatively* correlated with post-employment citizenship.

Hypothesis 1c tested the relationship between the alumni's during-employment overall job stress and their post-employment citizenship. The simple regression of stress to PEC indicated a non-significant relationship of $b = -0.039$ (-0.166, 0.072), $R^2 = 0.001$, $p = .519$. The multiple regression found a non-significant relationship of $b = 0.100$ (-0.023, 0.223), $R^2 = 0.131$, $p = .111$. Thus, I reject the hypothesis that there is a direct relationship between stress and PEC.

Interestingly, the relationship of stress to PEC is negative in the simple regression but positive in the multiple regression. Neither test reports a relationship that is large ($b = -0.04$ and 0.10) or significant ($p > .05$). We expected stress to negatively correlate to PEC. The responses here provide a clue that the impact of stress in accounting may not be consistent and can result in variable outcomes in relation to PEC. For instance, some stress may be good for PEC given that some alumni feel stressed yet are satisfied with their job.

These findings are consistent with Elangovan's (2001) results, which indicated that stress does not directly influence turnover intentions. However, he reported that stress does directly impact employee attitudes (e.g., satisfaction), which in turn directly impacts turnover intentions. This relationship is tested in hypotheses 2a, 2b, and 3.

H2a: The *negative* relationship between stress and post-employment citizenship will be mediated by organizational commitment.

Hypothesis 2a examined the idea that organizational commitment mediates alumni's overall job stress and their post-employment citizenship. An SPSS analysis was run with

PROCESS by Andrew Hayes. Direct effect results were significant for both stress to OC ($b = -0.22$, $R^2 = 0.049$, $p < .05$) and OC to PEC ($b = 0.37$, $R^2 = 0.111$, $p < .05$). Also significant were the indirect effect of stress on PEC through OC ($b = -0.08$, 95% CI [-0.14, -0.31]). This indirect effect represents a small effect size $K^2 = .077$, 95%, BCa CI [0.03, 0.13]. We conclude OC does mediate stress and PEC.

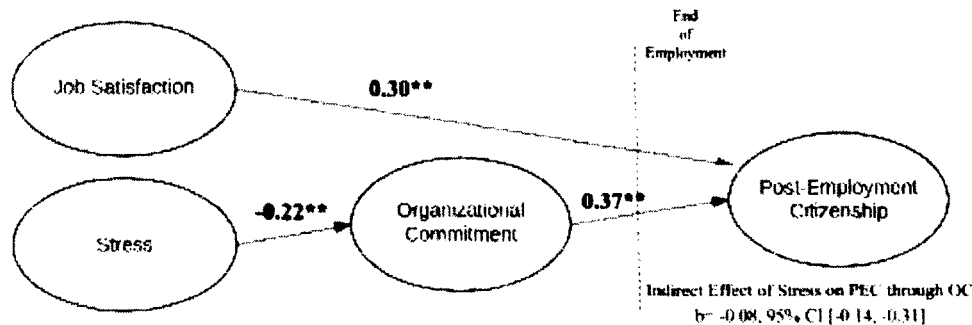


Figure 10. Results of Hypothesis 2a
** $p < .05$, regression coefficient

In hypothesis 1c, stress did not have a significant relationship with PEC. Yet in hypothesis 2a, we have a significant indirect relationship (i.e., mediation). Kenny (2016) describes situations in which there is mediation while the direct relationship is not significant.

K^2 measures the magnitude of an indirect effect. K^2 can be equated to the indirect effect version of r^2 (Field, 2013). Values near 0 indicate that the indirect effect is very small relative to its maximum possible value, while those closer to 1 indicate an effect as large as it could possibly be given the research design. A small effect is .01, a medium effect around .09, and a large effect in the region of .25 (Preacher & Kelley, 2011). We use a bias-corrected and accelerated confidence interval (BCa), as it is a slightly more accurate bootstrap method in SPSS (Field, 2013).

H2b: The *negative* relationship between stress and post-employment citizenship will be mediated by job satisfaction.

Hypothesis 2b addressed whether the relationship between alumni's overall job stress and their post-employment citizenship was mediated by job satisfaction. SPSS analyses were run with PROCESS by Andrew Hayes. Direct effect results were significant for both stress to JS ($b = -0.44$, $R^2 = 0.163$, $p < .05$) and JS to PEC ($b = 0.34$, $R^2 = 0.104$, $p < .05$). Also significant were the indirect effect of stress on PEC through JS ($b = -0.15$, 95% CI [-0.24, -0.08]). This indirect effect represents a medium effect size $K^2 = .134$, 95%, BCa CI [0.08, 0.20]. We concluded that JS does mediate the relationship between stress and PEC.

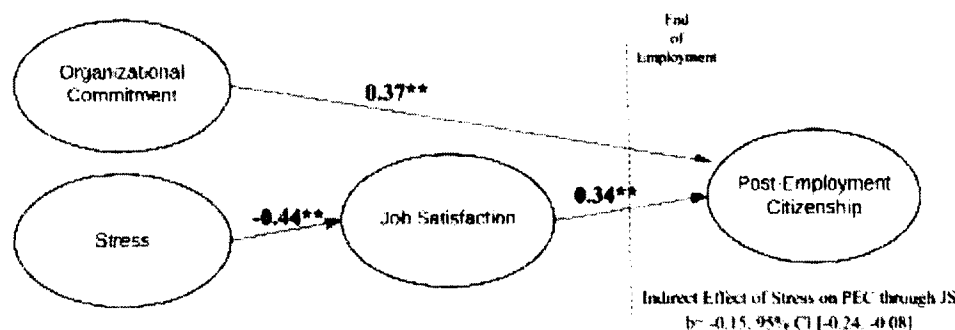


Figure 11. Results of Hypothesis 2b
 $^{**} p < .05$, regression coefficient

H3: Stress will primarily and *negatively* impact job satisfaction, job satisfaction in turn will *positively* relate to organizational commitment, and organizational commitment will *positively* relate to post-employment citizenship.

Hypothesis 3 tested the relationship between the variables in a specific order based on prior research (see Chapter II). Each relationship was tested using a simple regression. The simple regression of stress to JS output $b = -0.44$, $R^2 = 0.163$, 95% CI, BCa [-0.57, -0.30]. The relationship was significant and negative. The simple regression of JS to OC was $b = 0.59$, $R^2 =$

0.433, 95% CI, BCa [0.50, 0.66]. There was a significant positive relationship between JS and OC. The simple regression of OC to PEC resulted in $b = 0.37$, $R^2 = 0.110$, 95% CI, BCa [0.25, 0.49], which was also a significant and positive relationship.

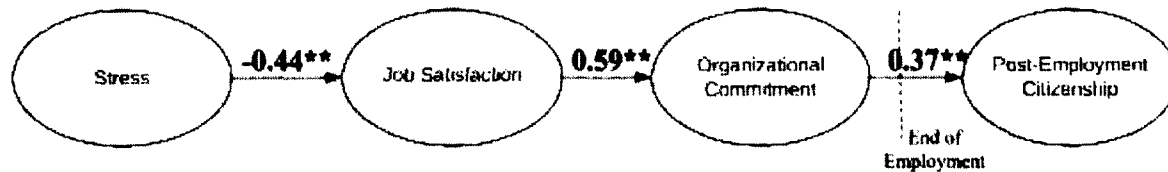


Figure 12. Results of Hypothesis 3

** $p < .05$, regression coefficient

To ensure the strength of this causal ordering model, I tested an alternative causal ordering. More often, accounting research has JS before OC instead of OC before JS (Elangovan, 2001; Gregson, 1992; Reed, Kratchman, & Strawser, 1994). The alternative model switches the order of JS and OC to “OC then JS.”

This alternative model resulted in a weaker link between stress and its following variable ($b = -0.22$ vs. $b = -0.44$) and a stronger b value between OC and JS ($b = 0.74$ vs. $b = 0.59$). However, the final link to PEC was weaker ($b = 0.30$ vs. $b = 0.37$). The r^2 for the alternative model was also weaker except in one instance: the pairing of OC and JS, regardless of ordering had the same r^2 ($r^2 = 0.433$). Overall, the original model with JS before OC resulted in a stronger causal ordering from stress to PEC. See Table A.10 in Appendix A for the alternative model results and Table A.11 for a comparison to the original. Table 7 presents a summary of the hypothesis-testing results.

Table 7

Summary of Hypotheses Results

Hypothesis	Result
Hypothesis 1a	Accept
Hypothesis 1b	Accept
Hypothesis 1c	Reject
Hypothesis 2a	Accept
Hypothesis 2b	Accept
Hypothesis 3	Accept

Discussion of Results

I examined how the primary drivers in accounting turnover models can interact with and deepen our understanding of post-employment citizenship. Turnover is often seen as a negative consequence of high stress, low job satisfaction, and low organizational commitment. In this model, I hypothesized the following direct relationships: (1) job stress would negatively predict job satisfaction, which in turn would (2) positively predict organizational commitment, which finally would (3) predict post-employment citizenship. I also hypothesized an indirect relationship in which stress affects post-employment citizenship through the mediation first of job satisfaction, and then organizational commitment.

The results provide evidence consistent with the hypotheses, except for the relationship of stress to PEC. In two tests of stress and PEC, I saw two different relationships. Testing only stress and PEC, the relationship was negative though not statistically significant. That means more stress indicates less PEC. Yet, when testing stress and PEC while controlling for satisfaction and commitment, the relationship was positive but also not statistically significant;

nonetheless, this is an interesting finding. Public accounting is known to be a stressful, deadline-driven profession. This finding may be a result of accounting alumni expecting some amount of stress during employment, and finding the stress level acceptable. Future research should explore how expectations versus reality of experience impact these findings.

The hypotheses also empirically support (1) Herda's (2010) claim that antecedents to post-employment citizenship are likely to be the same as antecedents found in the behavioral-accounting literature, (2) Gregson's (1992) causal ordering of job satisfaction before organizational commitment as the stronger model, and (3) Elangovan's (2001) findings that stress does not directly impact an attitudinal outcome such as post-employment citizenship or, as in his study, turnover.

Contribution

For academia, this research demonstrates connections between post-employment citizenship and turnover antecedents from accounting research I expanded the scope of the research on antecedents to PEC and supported the proposition that additional antecedents may be found in prior behavioral research. Prior accounting alumni studies from Iyer (1994) examined organizational prestige, socialization process, personnel counseling, mentor relationship, sentimentality, and identification as predictors of PEC. Herda (2010) examined organizational fairness, perceived support, commitment and citizenship. This study brings overall stress, job satisfaction, and commitment into the fold of post-employment citizenship.

For practitioners, this relationship is of particular importance in client-service industries such as accounting, where ex-employees are often uniquely positioned to substantially benefit their former firm. Our findings call for firms to understand that employees' stress is complex in

relation to PEC, and indicate the employers must monitor and encourage job satisfaction and organizational commitment in order to improve the chances that former employees will exhibit post-employment contribution behaviors. In addition, because our results show that stress negatively impacts both job satisfaction and organizational commitment -- which, in turn, both positively contribute to PEC -- employers should monitor whether the level or amount of stress is negatively impacting either JS or OC. Employment engagement and pulse surveys could be useful in this regard.

In the study, 65% of ex-employees did in fact demonstrate PEC. In Herda (2010) 83% of ex-employees reported performing an act of PEC. The difference could be in part due to the sample in the present study representing firms of all sizes, whereas Herda's respondents were only from Big Four firms. The Big Four respondents here did have a higher rate of actual PEC by 10 percentage points (75%) compared to the actual PEC rate of the overall study (65%). Differences related to firm size may be worth exploring in the future.

A majority of the alumni respondents reported that they were considered high performers. It is plausible that high performers, although desirable for retention, often do leave their firm. That is, high performers tend to leave their firms, leaving non-high performers behind. This trend may be a cause for concern among accounting firms, as their non-high performers comprise the pool of those retained to move up the ranks.

Limitations

Various factors of the study design naturally created limitations, including exclusive reliance on self-reported data. In an effort to mitigate the effects of bias in self-reporting, I followed the procedure from Herda (2010) to guarantee respondent anonymity. Although

anonymous responses may be more honest because alumni no longer rely on their income and employment from their previous employer, the accuracy of responses may still contain bias due to retrospection.

Reports are retrospective because respondents have already left their firm and are responding to their perception of the past. This limitation is consistent with other PEC research both within (Herda, 2010; Iyer 1994) and outside of accounting (Carnahan & Somaya, 2015). There is a chance of hindsight bias (i.e., seeing the past through rose-colored lenses) and failure to accurately recollect. However, even if the perceptions are subject to these limitations, the respondents are operating and making decisions today based on their past feelings (whether rose-colored, skewed, or not). The study had an average time passed since working for the firm of 12.6 years; this figure is close to Iyer's (1994) reported 10.9 years and higher than Herda's (2010) 8.3 years. Time elapsed since departure was not significant to the findings in this study, and that finding is similar to Herda and Iyer.

The respondents evenly represented various job levels, lines of service, office sizes, and ages. On the other hand, I did not have even representation in gender, firm sizes, high performance levels, or actual PEC benefits. The respondents were primarily male, came from either Big Four or local firms, were considered high performers, and have actually executed an act of PEC (e.g., recommended the firm). Prior studies have focused primarily on accounting professionals from the Big Four (Herda, 2010; Iyer, 1994). We have the opportunity to take the first look into the responses from firms other than just the Big Four. A future survey could more specifically target different firm sizes if the data can provide a reason to expect meaningful differences.

Finally, respondents' selection bias could result from the subject line of the recruitment email, despite pilot test efforts on the subject line with both academics and practitioners. Yet, some respondents who represent the population differently may have never opened the email because of the subject line. Given the definite trend towards email survey requests inside and outside academia, this element is an important consideration.

Implications

This study demonstrates that favorable organizational outcomes resulting from time *during* employment may continue *after* worker tenure with the firm has ended. The evidence clearly suggests that firms that treat their employees in ways that support *during*-employment positive behavioral outcomes (e.g., organizational commitment and job satisfaction) will reap the benefits of PEC if the employee does ultimately leave. Alumni with a high PEC are more inclined to -- and are more likely to actually act to -- benefit their former employer. Further, a watchful eye on stress levels is called for so that job satisfaction and organizational commitment are not adversely impacted which would lead to lower PEC post-employment.

More specifically, client service businesses like accounting see the reduction of worker stress to have two advantages for their firms. First, it reduces turnover. Second, if employees -- especially high-performers -- choose to leave, the fact that the firm helped to reduce stress during employment will improve their satisfaction with and commitment to the job. High satisfaction and commitment will significantly improve the likelihood that departing employees will give back to their firm in some concrete way.

And finally, we recommend that accounting firms and practitioners explore the utility of alumni focus groups and adjust exit interview questions to support the firm's understanding of

the individual's PEC, and to stay attuned to issues that may otherwise lower PEC. Focus groups are an avenue to question alumni specifically on factors that may impact PEC; however, given the resources required, focus groups may be less practical for smaller firms.

Future Research

Further research to improve our understanding of stress and PEC is suggested by this study. That is, we might benefit from better measures of stress that capture and differentiate "good" from "bad" stress. Such a refinement of the variable could help us to understand how stress works to affect PEC through job satisfaction and organizational commitment. For instance, is a certain amount or type of stress good for job satisfaction, but too much of it could have the opposite effect? Likewise, future research should attempt to unpack the mediating effect of JS and OC on PEC. It is not clear from this study just how they interact.

This dissertation is the first known study to address the alumni's perceived performance (i.e., "Did the firm consider you a 'High Performer'?"). Accounting practitioner research tends to categorize high performers more favorably as a source of competitive advantage (Tysiac, 2013), and retaining qualified staff is consistently a top concern in the industry according to the AICPA *PCPS CPA Firm Top Issues Survey* (American Institute of CPAs [AICPA], 2015). An analysis of how high performers who have left their firms rate stress, satisfaction, PEC, and other factors as compared to non-high performers would be worthwhile.

Another unique aspect of this research is the responses from various firm sizes. Prior alumni research has focused its efforts solely on Big Four alumni. This study is the first known research to include data from a variety of firm sizes and types: Big Four, international, national,

regional, and local firms. I found that PEC varied by firm size. A larger size sample of international, national, and regional firms would be helpful to explore differences further.

This research did not fully address (although it did ask questions) surrounding alumni's expectations versus reality; that is, the amount of stress expected versus experienced. Gaps between expectations and experience have been examined in public accounting research, with results showing that expectations change attitudes and performance (Byrne & Willis, 2005). The perspective of PEC as an output for expectations, however, represents a novel approach. I have also collected data on differences between tenure expectations versus actual experiences. Future research using the data from the present study could enhance our understanding of how expectations of experience change PEC outcomes beyond the results reported in this study.

As the study of PEC in accounting is in its infancy, it holds a great deal of potential for exploration, particularly as it relates to population demographics. One example of such a possible line of inquiry is alumni's age as a predictor of professionalism. The Polk-Lepson Research Group found generational differences in perceptions of whether employee behaviors reflected qualities of professionalism (Center for Professional Excellence, 2013). Younger employees were more likely to either text or email when a direct conversation was more appropriate, which (makes sense because they're more accustomed to communicating via those media). These respondents were less likely to attribute a lack of focus to multi-tasking. Older employees perceive these behaviors as inefficient and problematic, and overall as a lack of professional behavior in the workplace.

PEC has to date been treated as a single factor. My research findings suggest that multiple types of PEC may exist. In the factor analysis results, I found two types of PEC: one centered

around referring business and another around purchasing services from the firm. Future investigations could focus on expanding the knowledge surrounding different types of PEC. There may be types of PEC that are more of a concern for firms both inside and outside of public accounting.

Finally, as with prior PEC research, our understanding of factors that lead to PEC intentions and actual acts of PEC must be further developed. A review of this research based on turnover models in accounting provides only a foundational understanding of the connections and mechanisms beneath how employee attitude models, like turnover, affect PEC.

VII. Conclusion

Post-employment citizenship and the concept of ex-employees providing benefits to their former firms have long been part of the business environment. However, in academia, alumni behavior is a novel, emerging topic. Iyer has been integral to building the early foundation on alumni research which began with his 1994 dissertation. He has since built on his work, finding that PEC was solidified during employment (Iyer, Bamber, & Barefield, 1997). Herda (2010) bridged the gap between during-employment factors and post-employment citizenship. This study furthers our understanding of antecedents to PEC by researching stress's effects on PEC as mediated by job satisfaction and organizational commitment.

This dissertation is the first study with the primary purpose of understanding what, if any, direct and mediated impact stress has on PEC. It was hypothesized that PEC would have the same antecedents as those found in accounting turnover studies (i.e., stress, satisfaction, commitment). Consistent with the hypotheses, based on prior literature, PEC was predicted by job satisfaction and commitment. Stress's relationship to PEC was more complex. Studying

turnover antecedents for PEC is important because an employee needs to leave his/her firm (i.e., turnover) to become an alumnus. Only alumni have the opportunity for PEC, and whether the alumni have PEC is determined during employment (Iyer, Bamber, & Barefield, 1997). It appears that the factors that may lead to turnover are the same ones that may cause the alumni to be less likely to demonstrate PEC.

The findings here are of particular importance to leaders in client service industries such as accounting, where ex-employees are often in the unique position of being able to significantly benefit their former firm. The policies and examples set by those leaders hold the key to company health through both current and former employers.

VIII. References

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Appendix A

Tables and Data

Table A.1 - Demographics Information of Respondents

N = 312

<u>Function with firm</u>			<u>Gender</u>		
Audit	114	36.5%	Male	222	71.2%
Tax	142	45.5%	Female	86	27.6%
Other	55	17.6%	Decline to State	4	1.3%
Decline to State	1	0.3%	Total	312	100.0%
Total	312	100.0%			
<u>Job title with firm</u>			<u>Age Range</u>		
Staff	50	16.0%	Under 40	77	24.7%
Senior	104	33.3%	40-60	141	45.2%
Manager	65	20.8%	Over 60	80	25.6%
Senior Manager	51	16.3%	Decline to State	14	4.5%
Partner	38	12.2%	Total	312	100.0%
Decline to State	4	1.3%			
Total	312	100.0%	<u>"High Performer"</u>		
			Yes	210	67.3%
			No	102	32.7%
			Total	312	100.0%
<u>Firm Size</u>			<u>Office Size</u>		
Big 4	144	46.2%	Under 50	125	40.1%
International	21	6.7%	50-200	99	31.7%
National	8	2.6%	Over 200	88	28.2%
Regional	33	10.6%	Decline to State	0	0.0%
Local	100	32.1%	Total	312	100.0%
Decline to State	6	1.9%			
Total	312	100.0%			

Table A.2 - Factor Analysis - Rotated Component Matrix

Factor	1	2	3	4	5
Q1 - PEC					0.854
Q2 - PEC					0.878
Q3 - PEC			0.584		
Q4 - PEC			0.918		
Q5 - PEC			0.899		
Q6 - PEC			0.535		
Q11 - Stress	0.656				
Q12 - Stress	0.658				
Q13 - Stress	0.740				
Q14 - Stress	0.796				
Q15 - Stress	0.791				
Q16 - Stress	0.844				
Q17 - Stress	0.700				
Q18 - Stress	0.768				
Q19 - Stress	0.833				
Q20 - Stress	0.689				
Q21 - Stress	0.687				
Q22 - Stress	0.767				
Q23 - Stress	0.784				
Q25 - JS				0.617	
Q26 - JS				0.575	
Q27 - JS				0.625	
Q28 - OC		0.685			
Q29 - OC		0.826			
Q30 - OC		0.866			
Q31 - OC		0.791			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table A.3 - Factor Analysis - PEC Intentions and Actual

Factor	1	2	3
Q1 - PECI			0.861
Q2 - PECI			0.873
Q3 - PECI	0.637		
Q4 - PECI	0.873		
Q5 - PECI	0.877		
Q6 - PECI	0.557		
Q7 - PECA		0.83	
Q8 - PECA		0.851	
Q9 - PECA	0.548		
Q10 - PECA	0.73		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

List of PEC Questions (also in Appendix C)

PEC - Intention

Factor 3 - Q1. I would like to see the firm be our auditors (if they are not currently our auditors)

Factor 3 - Q2. I would NOT like to see the firm provide us other services

Factor 1 - Q3. If the right opportunity came along, I would return to work for the firm.

Factor 1 - Q4. I would encourage anyone interested in working for the firm to accept a job there

Factor 1 - Q5. I would have no problem recommending the firm to others

Factor 1 - Q6. Since I have left the firm, I have tried to help the firm get more business

PEC - Actual

Factor 2 - Q7. I have purchased audit services from the firm

Factor 2 - Q8. I have purchased other services from the firm

Factor 1 - Q9. I have referred the firm to those seeking professional services, either within my current organization or at other organizations

Factor 1 - Q10. I have recommended the firm to those interested in working there

Table A.4 - Reliability of Variables

	A. Corrected Item-Total Correlation	B. Cronbach's Alpha if Item Deleted	C. Cronbach Alpha	D. Alpha Analysis D = [B-C]
Q1 - PEC	0.474	0.706	0.74	-0.034
Q2 - PEC	0.38	0.738	0.74	-0.002
Q3 - PEC	0.441	0.713	0.74	-0.027
Q4 - PEC	0.587	0.678	0.74	-0.062
Q5 - PEC	0.58	0.679	0.74	-0.061
Q6 - PEC	0.461	0.708	0.74	-0.032
Q11 - Stress	0.634	0.935	0.938	-0.003
Q12 - Stress	0.563	0.937	0.938	-0.001
Q13 - Stress	0.726	0.932	0.938	-0.006
Q14 - Stress	0.758	0.931	0.938	-0.007
Q15 - Stress	0.799	0.93	0.938	-0.008
Q16 - Stress	0.796	0.93	0.938	-0.008
Q17 - Stress	0.699	0.933	0.938	-0.005
Q18 - Stress	0.73	0.932	0.938	-0.006
Q19 - Stress	0.789	0.93	0.938	-0.008
Q20 - Stress	0.615	0.936	0.938	-0.002
Q21 - Stress	0.65	0.935	0.938	-0.003
Q22 - Stress	0.732	0.932	0.938	-0.006
Q23 - Stress	0.74	0.932	0.938	-0.006
Q25 - JS	0.76	0.86	0.888	-0.028
Q26 - JS	0.759	0.862	0.888	-0.026
Q27 - JS	0.828	0.8	0.888	-0.088
Q28 - OC	0.595	0.84	0.846	-0.006
Q29 - OC	0.681	0.806	0.846	-0.04
Q30 - OC	0.772	0.765	0.846	-0.081
Q31 - OC	0.692	0.801	0.846	-0.045

*Column A - remove items under alpha value of 0.3

*Column B - alpha is question is removed (e.g., Q31 - OC)

*Column C - alpha of original question set (e.g., OC alpha is 0.846)

*Column D - negative results mean removal of question did not increase alpha.

*Analysis Result - I did not remove questions to improve reliability.

Table A.5 - Hypothesis 1 SIMPLE Regression Test Results

Model Summary

Hypotheses	R	R-Sq	Adj. R-Sq	Std. Error of the Estimate
H1a	.331a	0.11	0.107	0.96861
H1b	.307a	0.094	0.092	0.97683
H1c	.037a	0.001	-0.002	1.02582

Coefficients

Hypotheses		Unstandardized		Standardized		Sig.
		B	Std. Error	Beta	t	
H1a	(Constant)	1.616	0.208		7.768	0
	Org. Com.	0.365	0.059	0.331	6.178	0
H1b	(Constant)	1.788	0.196		9.12	0
	Job Sat.	0.302	0.053	0.307	5.686	0
H1c	(Constant)	2.983	0.204		14.601	0
	Stress	-0.039	0.061	-0.037	-0.646	0.519

Bootstrap for Coefficients

Hypotheses		B	Std. Error	Sig.	BCa 95% Conf.		
					Lower	Upper	
H1a	(Constant)	1.616	-0.004	0.192	0.001	1.244	1.982
	OC	0.365	0.001	0.06	0.001	0.243	0.491
H1b	(Constant)	1.788	-0.007	0.184	0.001	1.423	2.136
	JS	0.302	0.002	0.055	0.001	0.198	0.414
H1c	(Constant)	2.983	0.012	0.236	0.001	2.514	3.503
	Stress	-0.039	-0.004	0.066	0.546	-0.166	0.072

Table A.6 - Hypothesis 1 MULTIPLE Regression Test Results

Dependent Variable: PEC Intention

Predictors: (Constant), Organizational Commitment, Stress, Job Satisfaction

Model Summary

R	R-Sq	Adj. R-Sq	Std. Error of the Estimate
.362a	0.131	0.122	0.96006

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.768	3	14.256	15.467	.000b
Residual	283.888	308	0.922		
Total	326.655	311			

Coefficients

	Unstandardized		Standardized		95% Conf B		
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.016	0.352		2.887	0.004	0.323	1.708
Stress	0.1	0.063	0.093	1.597	0.111	-0.023	0.223
JS	0.197	0.074	0.2	2.654	0.008	0.051	0.343
OC	0.243	0.078	0.22	3.111	0.002	0.089	0.396

Table A.7 - Hypothesis 2a Test Results

Model Variables		Model Paths	
Dependent (Y)	PEC	Path A	Stress>OC
Independent (X)	Stress	Path B	OC>PEC
Mediator (M)	OC	Path C	Stress>PEC

MULTIPLE REGRESSION

Outcome: OC

R	R-sq	MSE	F	df1	df2	Sig.
0.2214	0.049	0.8243	15.9838	1	310	0.0001

Variable	coeff (b)	Std. Error	t	Sig.	
constant	4.0906	0.1808	22.62	0	
Stress	-0.216	0.054	-3.998	0.0001	PATH A

MULTIPLE REGRESSION

Outcome: PEC

R	R-sq	MSE	F	df1	df2	Sig.
0.3332	0.111	0.9397	19.3	2	309	0

Variable	coeff (b)	Std. Error	t	Sig.	
constant	1.4514	0.3144	4.6172	0	
OC	0.3745	0.0606	6.1752	0	PATH B
Stress	0.0415	0.0591	0.7011	0.4838	PATH C

INDIRECT EFFECTS

Indirect effect of X on Y				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
OC	-0.0809	0.0263	-0.1365	-0.0314

Completely standardized indirect effect of X on Y				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
OC	-0.0752	0.0238	-0.1266	-0.0304

Froehner and Kahler CIBD-Kaplan-Meier				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
OC	0.0768	0.0234	0.0328	0.1263

Normal theory test for indirect effect			
Effect	Std. Error	Z	Sig.
-0.0809	0.0243	-3.3254	0.0009

Table A.8 - Hypothesis 2b Test Results

Model Variables		Model Paths	
Dependent (Y)	PEC	Path A	Stress>JS
Independent (X)	Stress	Path B	JS>PEC
Mediator (M)	JS	Path C	Stress>PEC

MULTIPLE REGRESSION

Outcome: JS

R	R-sq	MSE	F	df1	df2	Sig.
0.4042	0.1634	0.9125	60.5389	1	310	0

Variable	coeff (b)	Std. Error	t	Sig.	
constant	4.9588	0.1903	26.0627	0	
Stress	-0.4422	0.0568	-7.7807	0	PATH A

MULTIPLE REGRESSION

Outcome: PEC

R	R-sq	MSE	F	df1	df2	Sig.
0.3219	0.1036	0.9476	17.8609	2	309	0

Variable	coeff (b)	Std. Error	t	Sig.	
constant	1.279	0.3464	3.6927	0.0003	
JS	0.3437	0.0579	5.9379	0	PATH B
Stress	0.1126	0.0633	1.7777	0.0764	PATH C

INDIRECT EFFECTS

Indirect effect of X on Y				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
JS	-0.152	0.0388	-0.24	-0.0846

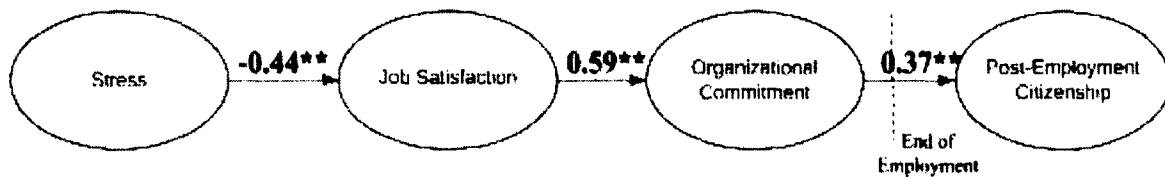
Completely standardized indirect effect of X on Y				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
JS	-0.1413	0.0349	-0.2192	-0.0812

Preacher and Kelley (2010) Kernel-controlled				
Variable	Effect	Boot SE	Boot LLCI	Boot ULCI
JS	0.1344	0.0303	0.0816	0.201

Normal theory CI for indirect effect			
Effect	Std. Error	Z	Sig.
-0.152	0.0324	-4.6959	0

Table A.9- Hypothesis 3 Test Results

Hypothesis 3



Summary	H3-1	H3-2	H3-3
R Square	16.10%	43.20%	10.70%
F	60.539	237.057	38.171
Sig.	.000b	.000b	.000b
b	-0.442	0.587	0.365
B low	-0.566	0.497	0.247
B High	-0.302	0.663	0.488

H3-1 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.404a	0.163	0.161	0.95524

Predictors: (Constant), Stress

H3-1 Coefficients	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	4.959	0.19		26.063	0
Stress	-0.442	0.057	-0.404	-7.781	0

Dependent Variable: Organizational Commitment

H3-2 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.658a	0.433	0.432	0.70086

Predictors: (Constant), Organizational Commitment

H3-2 Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.32	0.141		9.389	0
Job Satisfaction	0.587	0.038	0.658	15.397	0

Dependent Variable: Composite Job Satisfaction

H3-3 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.331a	0.11	0.107	0.96861

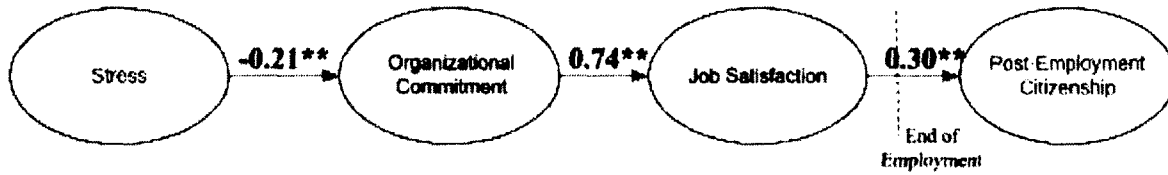
Predictors: (Constant), Job Satisfaction

H3-3 Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.616	0.208		7.768	0
Organizational Commitment	0.365	0.059	0.331	6.178	0

Dependent Variable: PEC Intention

Table A.10 - Hypothesis 3 Alternative Model

Alternative Hypothesis 3



Summary	A3-1	A3-2	A3-3
R Square	4.60%	43.20%	9.20%
F	15.984	237.057	32.336
Sig.	.000b	.000b	.000b
b	-0.216	0.738	0.302
B low	-0.334	0.656	0.189
B High	-0.099	0.827	0.403

A3-1 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.221a	0.049	0.046	0.90793

Predictors: (Constant), Stress

A3-1 Coefficients	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	4.091	0.181		22.62	0
Stress	-0.216	0.054	-0.221	-3.998	0

Dependent Variable: Organizational Commitment

A3-1 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.658a	0.433	0.432	0.78616

Predictors: (Constant), Organizational Commitment

A3-3 Coefficients	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	1.031	0.169			6.103	0
Organizational Commitment	0.738	0.048	0.658		15.397	0

Dependent Variable: Composite Job Satisfaction

A3-3 Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.307a	0.094	0.092	0.97683

Predictors: (Constant), Job Satisfaction

A3-3 Coefficients	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	1.788	0.196			9.12	0
Job Satisfaction	0.302	0.053	0.307		5.686	0

Dependent Variable: PEC Intention

Table A.11 - Comparison of Hypothesis 3 to Alternative Hypothesis 3

	H3-1*	A3-1	H3-2*	A3-2	H3-3*	A3-3
Adj R-Sq	16.10%	4.60%	43.20%	43.30%	10.70%	9.20%
F	60.539	15.984	237.057	237.057	38.171	32.336
b	-0.442	-0.216	0.587	0.738	0.365	0.302
B low	-0.566	-0.334	0.497	0.656	0.247	0.189
B High	-0.302	-0.099	0.663	0.827	0.488	0.403

*I concluded H3 (not the alternative) as a stronger overall model to PEC.

Appendix B

Copy of Survey Email

SUBJECT: A Quick 5 Minute Survey for Doctoral Research in Accounting

Hi [Recipient's Name],

I am a Doctoral candidate in San Francisco and am contacting you for your help with completing our research in public accounting. You are among only a small number of people being asked to respond to this survey and your input is incredibly important. We really appreciate and value your time responding.

-TAKE THE SURVEY (BUTTON)-

Participation Reward

Win a \$150 Amazon Gift Card! Enter to win at the end of the survey.

Survey Length

The survey takes *about 5 minutes* to complete.

About the Research

We are conducting a study on public accounting firm alumni. The study will help us understand the role that your experiences while employed with your firm plays in cultivating your loyalty as an ex-employee (“alumni”).

Participation is Anonymous

Participation is completely voluntary and anonymous. You may quit the survey at any time. No identifying information will be mentioned in reporting any results from this survey.

Just In Case the Button Does Not Work For You

You may need to copy/paste the link into your browser

<http://goo.gl/forms/VYwPWnPJJ1>

Please feel free to contact me should you have any questions.

Thank you,

Scott D. Hoppe, CPA
Doctoral Candidate
Golden Gate University

Appendix C
Scales Used Survey Instrument

Job Satisfaction

- 1 All in all, I was satisfied with my job at the firm
- 2 In general, I did not like my job at the firm (REVERSED)
- 3 In general, I liked working for the firm

Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979)

Organizational Commitment

- 1 I enjoyed discussing the firm with people outside it
- 2 I did not feel 'emotionally attached' to the firm (REVERSED)
- 3 The firm had a great deal of personal meaning for me
- 4 I did not feel a strong sense of belonging to the firm (REVERSED)

Allen and Meyer (1990) used by Herda (2010)

FEC - Intentions

- 1 I would like to see the firm be our auditors (if they are not currently our auditors)
- 2 I would not like to see the firm provide us other services (REVERSED)
- 3 If the right opportunity came along, I would return to work for the firm.
- 4 I would encourage anyone interested in working for the firm to accept a job there
- 5 I would have no problem at all in recommending the firm to others
- 6 Since I have left the firm, I have tried to help the firm get more business

Based on Konovsky and Folger (1991) and Iyer (1997) used in Herda (2010)

FEC - Actual

- 1 I have purchased audit services from the firm
- 2 I have purchased other services from the firm
- 3 I have referred the firm to those seeking professional services, either within my current organization or other organizations
- 4 I have recommended the firm to those interested in working there

Based on Konovsky and Folger (1991) and Iyer (1997) used in Herda (2010)

Overall Job Stress

- 1 I had felt fidgety or nervous as a result of my job
- 2 It was hard to spend enough time with my family
- 3 The job got to me more than it should
- 4 I spent so much time at work, I couldn't see the forest from the trees
- 5 There were lots of times when my job drove me right up the wall
- 6 There was little time for other activities
- 7 Sometimes when I thought about my job I got a tight feeling in my chest
- 8 I frequently got the feeling I am married to the firm
- 9 I had too much work and too little time to do it in
- 10 I felt guilty when I took time off from job
- 11 I sometimes dreaded the telephone ringing at home because the call might be job-related
- 12 I felt like I never had a day off
- 13 Too many people at my level got burned out by job demands

Parker & DeCotiis (1983)

Table C1 - Variables Information and Accompanying Scale

Variable (V)-Name	V-Type	V-Scale	Based on
PEC - Intent (3-items)	Dependent, <i>ordinal</i>	five-point likert scale (1 = strongly disagree...)	Iyer, Bamber, & Barefieldl. (1997), Herda (2010)
PEC - Actual (4-items)	Dependent, <i>nominal</i>	"yes or no" questions	Iyer (1998), Herda (2010)
Stress (13-items)	Independent, <i>ordinal</i>	five-point likert scale (1 = strongly disagree...)	Parker and Decotiis (1983)
Stress Expectation (1-item)	Independent, <i>ordinal</i>	three-point likert scale (higher, lower, or as expected)	Developed for Study
Job Satisfaction (3-items)	Independent, <i>ordinal</i>	five-point likert scale (1 = strongly disagree...)	Cammann, Fichman, Jenkins, & Klesh, (1979)
Organizational Commitment (4-items)	Independent, <i>ordinal</i>	five-point likert scale (1 = strongly disagree...)	Herda (2010)
Age	Control, <i>scale</i>	Actual number reported	Herda (2010)
Gender	Control, <i>nominal</i>	1 = male, 2 = female 0 = decline	Haar (2006)
Current Profession	Control, <i>nominal</i>	1 = accounting 0 = outside accounting	Developed for Study
Tenure at prior firm	Control, <i>scale</i>	Number of months	Iyer (1994)
Time elapsed from prior firm	Control, <i>scale</i>	Number of months	Iyer (1994)
Level when departing	Control, <i>ordinal</i>	5 = partner, 4 = senior manager, 3 = manager, 2 = senior, 1 = staff	Herda (2010)
Line of Service	Control, <i>nominal</i>	1 = audit, 2 = tax, 0 = other	Herda (2010)
Firm Size	Control, <i>ordinal</i>	5 = Big Four, 4 = International, 3 = National, 2 = Regional, 1 = Local, 0 = decline	Developed for Study

Appendix D

Abbreviations

AICPA	American Institute of Certified Public Accountants
CALCPA	California State Society of Certified Public Accountants
CPA	Certified Public Accountant
JS	Job Satisfaction
NVCPA	Nevada Society of Certified Public Accountants
OC	Organizational Commitment
OCB	Organizational Citizenship Behavior
PEC	Post-Employment Citizenship

Appendix E

Firm Revenue and Structure at Time of This Paper

Big Four Revenue and Headcount

Public accounting is made up of firms ranging in size from over 200,000 to just 1. This wide range in size leads to five categories of firms (from largest to smallest): the ‘Big Four’, International, National, Regional, and small local-CPA firms.

Big Four Headcount by Employee Type

Employee Type	Ernst & Young	Deloitte	PwC	KPMG
Partners	31,527	143,111	9,597	14,275
Senior Staff	34,771	130,537	9,500	21,800
Staff	35,192	157,505	10,189	100,000
Other	26,841	119,675	8,664	100,000
% of Total Headcount	18%	77%	5%	100%
Average	32,083	137,707	9,488	110,277

Note: E&Y partner count is an estimate based on the average of the other three firms, as they do not release the information

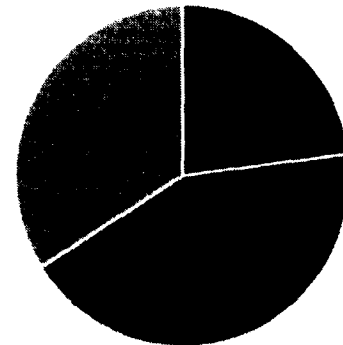
Source: FY2013 Press Releases for Ernst & Young, Deloitte, PwC, and KPMG

Each of the ‘Big Four’ on average employ 180,000 people worldwide and have revenues of \$28.5 billion. Compare this to International firms, such as BDO USA or Grant Thornton, who average 6,200 employees and \$1.25 billion in revenue; or National firms, like Moss Adams, may employ up to 2,000 with about \$350 million in revenue; and Large Regional as well as small local-CPA firms who are even smaller in both size and revenue.

Big Four Revenue by Practice Area - \$ Billions

Practice Area	Ernst & Young	Deloitte	PwC	KPMG
Corporate	8.2	14.8	9.2	10.0
Government	6.9	10.9	8	10.0
Individual	6.1	13.1	13.2	10.0
Other	5	10.2	8.2	10.0
% of Total Revenue	23%	43%	34%	100%
Average	6.6	12.3	9.7	10.0

Source: FY2013 Press Releases for Ernst & Young, Deloitte, PwC, and KPMG



Firm Structures (Typical)

The ‘Big Four’ firms operate in a pyramid structure. College graduates start the profession with the title ‘Associate’. As time and promotions progress, each level has a lower headcount than the level before it (i.e., the pyramid structure). The pyramid structure is designed for each level to leverage the group below it (i.e., use the cheaper labor to drive revenues up).