

# Turnover in Public Accounting Firms: The Effect of Position, Service Line, Ethnicity, and Gender

Hossein Nouri, *The College of New Jersey, Ewing, New Jersey*

hnouri@tcnj.edu

## Executive Summary

Using actual voluntary turnover data of 40,310 employees during 1991 through 2006, obtained from a "Big-4" public accounting firm, this study examines the effect of gender, race, position, and service line on turnover. The results indicate that turnover is higher among women, African-Americans, senior and manager professionals, and professionals in the audit area, compared to men, Caucasians, partners, executive directors, senior managers, and staff, and professionals in the tax area, respectively.

In addition, the findings show that Hispanic and Caucasian females have higher voluntary turnover rate than their male counterparts, Caucasian males have higher voluntary turnover than African-American and Asian males, and senior and staff females have higher voluntary turnover than senior and staff males, respectively.

## Objective and Contribution

Public accounting firms generally expect a high turnover rate of their staff. Although some turnover is desirable, it is also "costly and detrimental to firms needing talent at the managerial and partnership level (White and Hellriegel, 1973, p. 86)." According to Istvan and Wollman (1976, p. 21), "excessive turnover is often considered a 'plague' of the public accounting profession." According to Sorensen, Rhode, and Lawler III (1973, p. 42):

While some turnover of professional personnel provides for the infusion of new ideas and an opportunity for promotion and also aids in retaining and attracting client business, few firms would dispute the desirability of reducing turnover, especially in the case of those staff members who exhibit partner potential.

Turnover in public accounting firms has been the subject of many prior studies for the last 50 years (Grossman, 1964; Rhode, Sorensen, and Lawler III, 1976; Gaertner, Hemmeter, and Pitman, 1987; Pasewark and Viator, 1996; Moyes, Williams, and Koch, 2006; Hall and Smith, 2009; Parker, Nouri, and Hayes, 2011). This study differs from prior studies; it contributes to the literature in its use of actual turnover data from a "Big-4" accounting firm over a 16 year period from 1991 to 2006.

*"excessive turnover is often considered a 'plague' of the public accounting profession."*

The majority of prior research on this subject rely on turnover intentions of public accounting firm employees (e.g., Dillard and Ferris, 1979; Hall and Smith, 2009; Parker, Nouri, and Hayes, 2011) rather than actual turnover. Tett and Meyer's (1994) meta-analysis "calls into question the use of intention/cognition measures as surrogate of actual turnover (p.280)."

The meta-analysis conducted by Hom et al. (1992) showed that turnover intention and actual turnover is related in the .3 range. According to Tett and Meyer (1994, p.286), these levels of correlations between turnover intention and actual turnover "suggest limits in intent to quit as a surrogate of turnover."

Therefore, the objective of this study is to investigate actual turnover of public accounting employees, using firm related factors of position and service line and demographic factors of ethnicity and gender.

*Despite the fact that a flexible schedule significantly increases the length of stay in public accounting firms, females continue to leave public accounting firms sooner than males.*

The remainder of this paper is organized as follows. The next section provides literature review and the related hypothesis with regard to variables of this study, followed by the methods and results sections. The last section presents conclusion, limitations, and practical implications of the findings.

## Literature Review and Hypotheses

Prior research has examined turnover and turnover intentions of public accounting employees using demographic determinants such as marital status (Barkman, Sheridan, and Peters, 1992), personality determinants such as personality differences between partners and other professional staff (DeCoster and Rhode, 1971), firm specific determinants such as team effectiveness, job pressure, and advancement (White and Hellriegel, 1973), and external determinants such as financial inducements by joining industry (White and Hellriegel, 1973; Half, 1982).

This study uses firm-related factors of position and service line, and demographic factors of

ethnicity and gender, to examine voluntary turnover behavior of professional employees of public accounting firms.

## Position

Istvan and Wollman (1976) interviewed 227 individuals who left public accounting firms. They found that 47 of 227 (21%) left in the third year of their employment (third year syndrome), and 53 of 227 (23%) left in the fifth year of their employment (fifth year syndrome).

Istvan and Wollman (1976) note that professional staff leave public accounting firms because they cannot take the pace of public accounting, or they had only joined a public accounting firm to get experience needed for CPA certification, were offered more money for less work, or could not see themselves becoming a partner in the firm.

Robson, Wholey, and Barefield (1996) obtained turnover data from the personnel files of three "Big Six" (Big Eight at the time of the study) accounting firms located in California, Arizona, and New Mexico to investigate if obtaining CPA certification had any impact on turnover.

The data for the study came from 405 employees who voluntarily resigned and had been hired from 1974 to 1984. They "found that the interaction of certification requirements and job duties affected early career resignation rates of accounting firm employees (p.397)."

Marxen (1996) sent a survey to 530 randomly selected individuals from "Big-6" public accounting firms alumni list. Responses were received from 121 individuals followed by a telephone interview. Marxen found that the majority of respondents joined public accounting as a stepping stone for future careers and gain a variety of experiences.

Finally, Gaertner, Hemmeter, and Pitman (1987) found that junior staffs were more likely than

senior level staffs (managers and partners) to leave the firm because of general cutbacks in staff, a high level of competitiveness, and maternity/paternity leave.

The findings of these studies suggest that positions within the firm affects turnover in public accounting firms. In particular, turnover should be highest among seniors because by the time they obtain experience for CPA certification and experience, entry-level staffs have moved to senior level. The related hypothesis in alternative form is:

**H1:** There is a higher turnover among seniors of "Big-4" public accounting firms than other positions.

## Service Line

Gaertner, Hemmeter, and Pitman (1987) conducted a survey of 161 professionals who had left public accounting firms in the past three years of 1983 through 1985. They reported that tax professionals were more likely to leave because of better opportunity in self-employment than professionals in other functions (audit and consulting). Auditors were more likely to leave because of travel demand than tax and consulting professionals.

These researchers did not examine whether there were differences between various service lines. Purvis and Panich (1986) reviewed the personnel records of 509 staff professionals in several CPA firms and found a much higher turnover rate among auditors than tax professionals.

On the other hand, Barkman (1992) examining the personnel file of 2,979 accountants from 1980-1988 in 18 western and southwestern offices of national public accounting firms, found that turnover was higher among tax professionals than audit professionals.

Because of the conflicting results of prior studies, and since both audit and tax

professionals may leave the firm because of different reasons, this study examines voluntary turnover of audit and tax professionals during a longer time period: from 1991 to 2006. The related hypothesis stated in alternative form is:

**H2:** There is a difference between audit and tax professionals of "Big-4" public accounting firms in their voluntary turnover decisions.

## Ethnicity

No study in accounting has investigated the effect of ethnicity on turnover decisions of professional public accounting employees. However, there are abundant studies of race and turnover in organizational behavior. For example, Ghiselli, La Lopa, and Bai (2001) examined turnover intention of food service managers and found that Caucasians had higher probability of short-term intent to leave.

Zatzick, Elvira, and Cohen (2003) examined personnel data from a Fortune 500 service company from January 1990 to January 1993 to examine the effect of race on turnover. They found that "individuals' likelihood of turnover decreases as the proportion of employees in a job from one's own race increases (p.483)." Their results also indicate that "turnover decreases as the proportion of employees from one's own race increases in the level above an employee's job (p.483)."

On the other hand, Lee (2012), using a large national sample, did not find any effect of race/ethnicity on voluntary turnover. In this study we examine if voluntary turnover is different among various race/ethnicity groups (i.e., Caucasians, African-Americans, Hispanics, Asians, and American Indians). The related hypothesis in alternative form is:

**H3:** There is a difference among various race/ethnicity employees of "Big-4" public accounting firms in their voluntary turnover decisions.

## Gender

The American Institute of Certified Public Accountants (2002) reported that in 2001, women represented 42 percent of professional staff employed by all CPA firms, and the rate of turnover was higher for females than males.

The study by Gaertner, Hemmeter, and Pitman (1987) showed that females were more likely to leave the firm because of dissatisfaction with firm direction, quality of job assignments, lack of guidance, overtime demands, length of job assignment, unfavorable promotion, physical illness, and maternity leave than males.

In a survey of employees of large public accounting firms, Padgett et al. (2005) found that despite the fact that a flexible schedule significantly increases the length of stay in public accounting firms, females continue to leave public accounting firms sooner than males.

Collins (1993) collected data for her study in two separate phases. The individuals who received and responded to the original questionnaire were sent another survey a year later. With this procedure, Collins (1993) could identify those who actually left the firm.

She found that female professionals experienced more stress (advancement and time demands) than male professionals, who only experienced advancement stress. This stress was associated with higher turnover.

Overall, prior research show that females have a higher voluntary turnover than males due to travel requirements (Gaertner, Hemmeter, and Pitman, 1987), marital status (Barkman, Sheridan, and Peters, 1992), work-family conflict (Pasewark and Viator, 1996), working condition and lack of opportunities (Marxen, 1996), and stress (Scheuermann et al., 1997). Based on these findings, the related hypothesis in alternative form is:

**H4:** Females have a higher voluntary turnover than males in "Big-4" public accounting firms.

Stovall (2011) contends that females may join public accounting "for the sole purpose of attaining their certification. Once certified, they leave the firm in search of better opportunities, including a more flexible schedule, to allow a balance between a family and a career (p.274)."

*the main reason for individuals in the tax area leaving public accounting firms is self-employment, and females are shown to be less likely to leave their jobs for self-employment*

These findings suggest that voluntary turnover of females could be different based on position at the firm. That is, there would be a higher turnover among females at staff and senior level than compared to their male counterparts, but not at the other position levels. The related hypothesis in alternative form is:

**H4a:** Staff and senior level females have a higher voluntary turnover than males in "Big-4" public accounting firms but not at other position levels.

As discussed previously, Gaertner, Hemmeter, and Pitman (1987) reported that tax professionals were more likely to leave because of better opportunity in self-employment than professionals in other functions (auditing and consulting).

In addition, auditors were more likely to leave because of travel demand than tax and consulting professionals. Since travel is one factor that affects female turnover (Gaertner, Hemmeter, and Pitman, 1987), we expect females' voluntary turnover to be higher than males' in the auditing area.

On the other hand, since the main reason for individuals in the tax area leaving public accounting firms is self-employment, and females are shown to be less likely to leave their jobs for self-employment (Georgellis and Wall, 2005), it is expected that male voluntary turnover will be higher than females in the tax area. This leads to the following hypothesis, stated in alternative form:

**H4b:** The voluntary turnover of females is higher than males working in the audit area, but lower in the tax area in "Big-4" public accounting firms.

In a study of the effect of gender and race on organizational attachment, Tsui, Egan, and O'Reilly (1992) showed that the effect on organizational attachment was stronger for Caucasians and males than for non-Caucasians and females.

*"focusing only on race or only on gender provides only a piece of the puzzle, but it is not the whole puzzle..."*

Cocchiara, Bell, and Berry (2006) investigated the challenges associated with career mobility for African-American and Latina women in organizations. They found that human capital investments did not equitably impact employment outcomes for African-American and Latina women compared to their Caucasian female counterparts and men across ethnic groups.

In addition, Bell and Nkomo (2001) reported that 51 percent of African-American women surveyed in their study felt accepted by their organizations compared to 81 percent of Caucasian women.

According to Smith and Joseph (2010, p.745), "To better understand the experiences of African-American women and men, it is also important to understand the experiences

of their race or gender counterparts (e.g. understand African-American men through examination of Caucasian men, and understand African-American women through examination of Caucasian women).

As Hill (1999) and Spelman (1988) suggest, "focusing only on race or only on gender provides only a piece of the puzzle, but it is not the whole puzzle (Smith and Joseph, 2010, p.747)." Based on these studies, it is expected that gender and race affect turnover of females and males differently based on their ethnicity. The related hypothesis, stated in null form, is:

**H4c:** There is a difference in voluntary turnover among females and males based on their ethnicity in "Big-4" public accounting firms.

## Methods

Data for the study was obtained from one of the "Big-4" public accounting firms from 1991 to 2006. Data was provided for employees in the United States of America. During this period, the firm employed 214,604 individuals of which 46,640 left the firm. The data provided by the firm included gender, ethnicity, position, service line<sup>1</sup>, birth date, and type of turnover (voluntary versus involuntary).

From 46,640 employees who left the firm, I deleted 34 observations due to inaccurate date of birth in the data set<sup>2</sup> and 6296 observation for involuntary turnover<sup>3</sup> which resulted in 40,310 voluntary turnover data for further analysis. For ethnicity, observations for unknown and one Hawaiian were removed, which resulted in 40,217 voluntary turnover data for further analysis<sup>4</sup>.

## Results

Table 1 presents voluntary turnover data based on position, as well as data for all employees and percentage of turnover for each position level.

**Table 1:**  
**Voluntary Turnover Data Based on Position**

Position	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Grand Total
Partner/Principal	123	99	71	57	88	90	75	77	75	106	107	105	119	117	104	77	1490
Executive Director	0	5	8	3	12	7	12	11	17	19	16	18	33	28	39	44	272
Sr. Manager	226	258	260	242	252	234	226	253	304	380	291	291	340	432	354	288	4631
Manager	370	388	443	405	384	412	481	524	623	657	430	486	523	586	515	519	7746
Senior	1053	1103	1234	1059	1047	1123	1162	1146	1200	1311	806	996	1238	1357	1179	1203	18217
Staff	479	419	414	399	357	397	345	452	611	655	408	457	480	648	648	785	7954
<b>Grand Total</b>	<b>2251</b>	<b>2272</b>	<b>2430</b>	<b>2165</b>	<b>2140</b>	<b>2263</b>	<b>2301</b>	<b>2463</b>	<b>2830</b>	<b>3128</b>	<b>2058</b>	<b>2353</b>	<b>2733</b>	<b>3168</b>	<b>2839</b>	<b>2916</b>	<b>40310</b>

Partner/Principal	1,506	1,401	1,334	1,288	1,323	1,352	1,381	1,477	1,561	1,588	1,600	1,701	1,730	1,715	1,742	1,791	24,491
Executive Director	10	52	72	91	118	162	201	202	236	273	330	393	425	421	419	418	3,823
Sr. Manager	1,542	1,446	1,417	1,445	1,511	1,619	1,739	2,015	2,341	2,381	2,464	2,545	2,540	2,364	2,283	2,348	31,999
Manager	1,683	1,650	1,549	1,470	1,565	1,780	2,205	2,566	2,783	2,623	2,550	2,587	2,454	2,345	2,446	2,550	34,805
Senior	3,310	3,159	3,013	2,947	3,006	3,239	3,953	4,270	3,952	3,736	3,734	3,995	4,135	4,153	4,330	4,774	59,707
Staff	4,035	3,651	3,412	3,309	3,124	2,962	2,771	3,153	3,781	3,605	3,683	3,653	3,729	4,154	5,105	5,652	59,779
<b>Grand Total</b>	<b>12,086</b>	<b>11,359</b>	<b>10,797</b>	<b>10,550</b>	<b>10,647</b>	<b>11,114</b>	<b>12,250</b>	<b>13,682</b>	<b>14,654</b>	<b>14,206</b>	<b>14,360</b>	<b>14,873</b>	<b>15,014</b>	<b>15,153</b>	<b>16,324</b>	<b>17,534</b>	<b>214,604</b>

Partner/Principal	8%	7%	5%	4%	7%	7%	5%	5%	5%	7%	7%	6%	7%	7%	6%	4%	6%
Executive Director	0%	10%	11%	3%	10%	4%	6%	5%	7%	7%	5%	5%	8%	7%	9%	11%	7%
Sr. Manager	15%	18%	18%	17%	17%	14%	13%	13%	13%	16%	12%	11%	13%	18%	16%	12%	14%
Manager	22%	24%	29%	28%	25%	23%	22%	20%	22%	25%	17%	19%	21%	25%	21%	20%	22%
Senior	32%	35%	41%	36%	35%	35%	29%	27%	30%	35%	22%	25%	30%	33%	27%	25%	31%
Staff	12%	11%	12%	12%	11%	13%	12%	14%	16%	18%	11%	13%	13%	16%	13%	14%	13%
<b>Grand Total</b>	<b>19%</b>	<b>20%</b>	<b>23%</b>	<b>21%</b>	<b>20%</b>	<b>20%</b>	<b>19%</b>	<b>18%</b>	<b>19%</b>	<b>22%</b>	<b>14%</b>	<b>16%</b>	<b>18%</b>	<b>21%</b>	<b>17%</b>	<b>17%</b>	<b>19%</b>

As shown in Table 1, there are differences in voluntary turnover based on position. In addition, Table 1 shows an average turnover of 19% during the period of this study (1991-2006), with seniors at the highest (31%) level and partners at the lowest (6%) level.

A one-way Analysis of Variance (ANOVA) was run to test **hypothesis one** with percentage of turnover in each of the 16 years as the independent variables. There were no outliers in the data, as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box.

An inspection of Q\*Q plot of position and turnover indicated that data is not normally distributed for partners and staffs (Shapiro-Wilk significance of .029 and .035, respectively). However, the one-way ANOVA is robust to non-normality (Maxwell & Delaney, 2004).

Voluntary turnover was statistically significantly different between levels of position, Welch's  $F(5, 40.586)=150.948$ ,  $p<.001$  (effect size  $\omega^2 = 0.89$ ). The results of Games-Howell<sup>5</sup> post hoc analyses showed that there were significant differences among positions ( $p<.001$ ), except for partners and executive directors as well as senior managers and staff.

The highest turnover was among seniors, followed by managers, senior managers and staff, and executive directors and partners. The results support H1.

**Hypothesis two** posits that there is a difference between audit and tax professionals of "Big-4" public accounting firms in their voluntary turnover decisions. Table 2 presents voluntary turnover data based on service line as well as data for all employees and percentage of turnover for each service line.

**Table 2:**  
**Voluntary Turnover Data Based on Service Line**

Service Line	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Grand Total
AABS	1549	1603	1721	1557	1491	1593	1465	1600	1909	2131	1356	1656	1914	2310	2031	2247	28133
Tax	702	669	709	608	649	670	836	863	921	997	702	697	819	858	808	669	12177
<b>Grand Total</b>	<b>2251</b>	<b>2272</b>	<b>2430</b>	<b>2165</b>	<b>2140</b>	<b>2263</b>	<b>2301</b>	<b>2463</b>	<b>2830</b>	<b>3128</b>	<b>2058</b>	<b>2353</b>	<b>2733</b>	<b>3168</b>	<b>2839</b>	<b>2916</b>	<b>40310</b>

  

AABS	8,257	7,741	7,410	7,412	7,205	7,204	7,625	8,564	9,207	8,788	8,735	9,205	9,834	10,644	11,964	12,900	142,694
Tax	3,829	3,618	3,387	3,138	3,442	3,910	4,625	5,118	5,446	5,418	5,626	5,668	5,181	4,509	4,361	4,634	71,910
<b>Grand Total</b>	<b>12,086</b>	<b>11,359</b>	<b>10,797</b>	<b>10,550</b>	<b>10,647</b>	<b>11,114</b>	<b>12,250</b>	<b>13,682</b>	<b>14,654</b>	<b>14,206</b>	<b>14,360</b>	<b>14,873</b>	<b>15,014</b>	<b>15,153</b>	<b>16,324</b>	<b>17,534</b>	<b>214,604</b>

  

AABS	19%	21%	23%	21%	21%	22%	19%	19%	21%	24%	16%	18%	19%	22%	17%	17%	20%
Tax	18%	18%	21%	19%	19%	17%	18%	17%	17%	18%	12%	12%	16%	19%	19%	14%	17%
<b>Grand Total</b>	<b>19%</b>	<b>20%</b>	<b>23%</b>	<b>21%</b>	<b>20%</b>	<b>20%</b>	<b>19%</b>	<b>18%</b>	<b>19%</b>	<b>22%</b>	<b>14%</b>	<b>16%</b>	<b>18%</b>	<b>21%</b>	<b>17%</b>	<b>17%</b>	<b>19%</b>

AABS= Assurance & Advisory Business Services

The results in Table 2 indicate that voluntary turnover is higher for Assurance and Advisory Business Services (AABS) than for tax, and this difference is statistically significant ( $t= 3.30$ ,  $p<.01$ ). These findings support H2.

*...gender and race affect turnover of females and males differently based on their ethnicity.*

Voluntary turnover could be higher in audit area than tax for a number of reasons. First,

professionals in audit tend to travel more than professionals in tax. Second, there is more opportunity in the industry for professionals in audit than in tax. Finally, passing the CPA exam and getting CPA certification is more important in the audit area than in the tax area, which may hamper promotion.

Hypothesis three predicts that there is a difference among various race/ethnicity employees of "Big-4" public accounting firms in their voluntary turnover decisions. Five groups

**Table 3:**  
**Voluntary Turnover Data Based on Ethnicity/Race**

Service Line	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Grand Total
American Indian	1	1	2	2	4	1	6	6	10	8	8	11	7	8	7	7	89
Asian	107	109	164	104	116	177	198	210	298	363	236	245	310	391	439	519	3986
African-American	35	35	33	34	39	39	40	77	91	98	70	82	104	129	136	169	1211
Hispanic	40	47	38	46	55	62	73	73	100	115	77	85	126	117	118	124	1296
Caucasian	1987	2071	2191	1979	1926	1984	1984	2097	2331	2544	1667	1930	2186	2523	2139	2096	33635
<b>Grand Total</b>	<b>2170</b>	<b>2263</b>	<b>2428</b>	<b>2165</b>	<b>2140</b>	<b>2263</b>	<b>2301</b>	<b>2463</b>	<b>2830</b>	<b>3128</b>	<b>2058</b>	<b>2353</b>	<b>2733</b>	<b>3168</b>	<b>2839</b>	<b>2915</b>	<b>40217</b>

  

American Indian	5	7	9	10	12	15	28	33	29	21	40	35	31	35	36	37	382
Asian	518	550	544	565	618	732	906	1,132	1,359	1,384	1,506	1,543	1,626	1,883	2,432	2,770	20,068
African-American	137	128	137	143	145	184	247	341	397	423	479	480	509	579	666	724	5,719
Hispanic	202	209	217	229	248	283	325	390	464	461	503	537	544	577	639	651	6,479
Caucasian	10,876	10,422	9,882	9,603	9,625	9,901	10,745	11,786	12,405	11,917	11,832	12,278	12,304	12,079	12,550	13,350	181,554
<b>Grand Total</b>	<b>11,737</b>	<b>11,316</b>	<b>10,789</b>	<b>10,549</b>	<b>10,647</b>	<b>11,114</b>	<b>12,250</b>	<b>13,682</b>	<b>14,654</b>	<b>14,206</b>	<b>14,360</b>	<b>14,873</b>	<b>15,014</b>	<b>15,153</b>	<b>16,323</b>	<b>17,532</b>	<b>214,201</b>

  

American Indian	20%	14%	22%	20%	33%	7%	21%	18%	34%	38%	20%	31%	23%	23%	19%	19%	23%
Asian	21%	20%	30%	18%	19%	24%	22%	19%	22%	26%	16%	16%	19%	21%	18%	19%	20%
African-American	26%	27%	24%	24%	27%	21%	16%	23%	23%	23%	15%	17%	20%	22%	20%	23%	21%
Hispanic	20%	22%	18%	20%	22%	22%	22%	19%	22%	25%	15%	16%	23%	20%	18%	19%	20%
Caucasian	18%	20%	22%	21%	20%	20%	18%	18%	19%	21%	14%	16%	18%	21%	17%	16%	19%
<b>Grand Total</b>	<b>18%</b>	<b>20%</b>	<b>23%</b>	<b>21%</b>	<b>20%</b>	<b>20%</b>	<b>19%</b>	<b>18%</b>	<b>19%</b>	<b>22%</b>	<b>14%</b>	<b>16%</b>	<b>18%</b>	<b>21%</b>	<b>17%</b>	<b>17%</b>	<b>19%</b>

of ethnicity were provided by the "Big-4" firm: American Indians, Asians, Hispanics, African-Americans, and Caucasians. Table 3 presents voluntary turnover data based on ethnicity, as well as data for all employees, and percentage of turnover for each ethnicity group.

Table 3 shows that there are differences in voluntary turnover based on ethnicity. Furthermore, Table 3 indicates American Indians had the highest voluntary turnover during the period of study (23%), followed by African-Americans (21%), Asians and Hispanics (20%), and Caucasians (19%).

A one-way Analysis of Variance (ANOVA) was run to test hypothesis three. There were no outliers in the data, as assessed by

inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. An inspection of Q\*Q plot of ethnicity and turnover indicated that data is normally distributed (Shapiro-Wilk  $p > .05$ ). Levene's test of homogeneity of variance was significant ( $p = .001$ ); therefore, Welch's F test and Games-Howell post hoc were used for testing of H3.

The results showed that Voluntary turnover was statistically significantly different between levels of ethnicity, Welch's F (4, 36.597) = 2.969,  $p < .05$ . The results of Games-Howell post hoc analyses showed that there was a significant difference between Caucasians and African-Americans ( $p < .05$ ), with African Americans having a higher turnover rate than Caucasians. These findings support H3.

**Table 4:**  
**Voluntary Turnover Data Based on Gender**

Service Line	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Grand Total
Female	1009	1031	1136	955	946	992	999	1060	1232	1339	912	1116	1282	1481	1325	1308	18123
Male	1242	1241	1294	1210	1194	1271	1302	1403	1598	1789	1146	1237	1451	1687	1514	1608	22187
<b>Grand Total</b>	<b>2251</b>	<b>2272</b>	<b>2430</b>	<b>2165</b>	<b>2140</b>	<b>2263</b>	<b>2301</b>	<b>2463</b>	<b>2830</b>	<b>3128</b>	<b>2058</b>	<b>2353</b>	<b>2733</b>	<b>3168</b>	<b>2839</b>	<b>2916</b>	<b>40310</b>

  

Female	4,415	4,160	3,982	3,854	3,898	4,076	4,558	5,236	5,751	5,773	5,966	6,270	6,373	6,407	6,901	7,531	85,151
Male	7,671	7,199	6,815	6,695	6,749	7,038	7,692	8,446	8,903	8,433	8,394	8,603	8,641	8,746	9,424	10,003	129,453
<b>Grand Total</b>	<b>12,086</b>	<b>11,359</b>	<b>10,797</b>	<b>10,550</b>	<b>10,647</b>	<b>11,114</b>	<b>12,250</b>	<b>13,682</b>	<b>14,654</b>	<b>14,206</b>	<b>14,360</b>	<b>14,873</b>	<b>15,014</b>	<b>15,153</b>	<b>16,324</b>	<b>17,534</b>	<b>214,604</b>

  

Female	23%	25%	29%	25%	24%	24%	22%	20%	21%	23%	15%	18%	20%	23%	19%	17%	21%
Male	16%	17%	19%	18%	18%	18%	17%	17%	18%	21%	14%	14%	17%	19%	16%	16%	17%
<b>Grand Total</b>	<b>19%</b>	<b>20%</b>	<b>23%</b>	<b>21%</b>	<b>20%</b>	<b>20%</b>	<b>19%</b>	<b>18%</b>	<b>19%</b>	<b>22%</b>	<b>14%</b>	<b>16%</b>	<b>18%</b>	<b>21%</b>	<b>17%</b>	<b>17%</b>	<b>19%</b>

**Hypothesis four** posits that females have a higher voluntary turnover than males in "Big-4" public accounting firms. Table 4 presents voluntary turnover data based on gender, as well as data for all employees, and percentage of turnover for females and males.

The findings in Table 4 indicate that voluntary turnover is higher for females (21%) than for male (17%), and this difference is statistically significant ( $t = 4.63$ ,  $p < .001$ ). These results support H4.

**H4a** posits that staff and senior level females have a higher voluntary turnover than their male counterparts in "Big-4" public accounting firms, but not at other position levels. Table 5 presents mean and standard deviation of voluntary turnover data for females and males based on their position at the firm.



**Table 5:**  
**Voluntary Turnover for Females and Males Based on Position**

Position	Females		Males	
	Mean	SD	Mean	SD
Partners	.0520	.02246	.0616	.01106
Executive Directors	.0713	.05132	.0670	.03037
Senior Managers	.1541	.04127	.1466	.02068
Managers	.2311	.04040	.2251	.03127
Seniors	.3296	.06440	.2931	.04183
Staffs	.1422	.01887	.1229	.02381
Total	.2183	.03373	.1720	.01838

Table 5 shows that the mean turnover for females is higher than males for all positions except for partners. However, only seniors and staff females are statistically significantly different than males. That is, senior females had higher voluntary turnover than senior males ( $t=1.90$ ,  $p<.05$ ) and staff females had higher voluntary turnover than staff males ( $t=2.53$ ,  $p<.01$ ). These results support H4a.

**H4b** predicts that the voluntary turnover of females is higher than males working in audit area but lower in tax area in "Big-4" public accounting firms. Table 6 presents mean and standard deviation of voluntary turnover data for females and males based on their service line at the firm.

*Table 5 shows that the mean turnover for females is higher than males for all positions except for partners.*

Table 6 indicates that the mean turnover for females is higher than males for both audit and tax area. Females in the audit area had

higher voluntary turnover than their male counterparts ( $t=5.08$ ,  $p<.001$ ) and females in the tax area had higher voluntary turnover than their male counterparts ( $t=3.51$ ,  $p<.01$ ). These findings support H4b for audit area but not for tax area. In fact, we found the reverse of our hypothesis to be true for the tax area.<sup>6</sup>

**H4c** posits that there is a difference in voluntary turnover among females and males based on their ethnicity in "Big-4" public accounting firms. Table 7 presents mean and standard deviation of voluntary turnover data for females and males based on their ethnicity at the firm.

Table 7 shows that the mean turnover for females is higher than males for all ethnicity groups except for American Indians. However, only Hispanic and Caucasian females are statistically significantly different than their male counterparts. That is, Hispanic females had higher voluntary turnover than Hispanic males ( $t=2.13$ ,  $p<.05$ ) and Caucasian females had higher voluntary turnover than Caucasian males ( $t=5.02$ ,  $p<.001$ ). These results support H4c.

**Table 6:**  
**Voluntary Turnover for Females and Males Based on Service Line**

Service Line	Females		Males	
	Mean	SD	Mean	SD
AABS	.2331	.03268	.1791	.02202
Tax	.1948	.03924	.1573	.01699
Total	.2140	.03354	.1682	.01720

**Table 7:**  
**Voluntary Turnover for Females and Males Based on Ethnicity/Race**

Position	Females		Males	
	Mean	SD	Mean	SD
American Indians	.2388	.14184	.2451	.14498
Asians	.2132	.04398	.1971	.03466
African-Americans	.2305	.04423	.2086	.05329
Hispanics	.2181	.03915	.1899	.03563
Caucasians	.2180	.03485	.1686	.01845
Total	.2182	.03375	.1719	.01844

As an additional test, a one-way ANOVA was run for females based on their ethnicity to see if there were differences among females belonging to different race group.

No significance between group differences were found,  $F(4, 75) = .33, p > .10$ . However, the results of a one-way ANOVA for males based on their ethnicity showed significant differences.

*Hispanic and Caucasian females have higher voluntary turnover rate than their male counterparts, but no difference between other ethnicity groups.*

There were no outliers in the data, as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. An inspection of Q\*Q plot of ethnicity and turnover indicated that data is normally distributed (Shapiro-Wilk  $p > .05$ ).

Levene's test of homogeneity of variance was significant ( $p = .001$ ); therefore, Welch's  $F$  test and Games-Howell post hoc were used for testing of H3. The results showed that Voluntary turnover was statistically significantly different between levels of ethnicity for males, Welch's  $F(4, 35.194) = 4.522, p < .01$ .

The results of Games-Howell post hoc analyses showed that there was a significant difference between Caucasian and African-American males ( $p < .10$ ) and Caucasian and Asian males ( $p < .10$ ), with African American and Asian

males having a higher turnover rate than Caucasian males.

## Conclusions and Implications

This study investigates voluntary turnover among professionals of public accounting firm using data obtained from a "Big-4" firm. In addition, this study extends prior research by examining the effect of gender by position, service line, and ethnicity on voluntary turnover of professionals in public accounting firms.

An examination of 40,310 voluntary turnovers over the period of 1991-2006 indicates that there are differences in turnover among professionals based on position, service line, race, and gender. In particular, this study finds that the highest turnover was among seniors, followed by managers, senior managers and staff, and executive directors and partners.

*... females have a higher voluntary turnover rate than males.*

Similar to the results of the study by Purvis and Panich (1986), this study finds that professionals in the Assurance and Advisory Business Services (audit) had higher voluntary rate than professional in the tax area.

The results also show that there is a significant difference between Caucasians and African-Americans, with African Americans having a higher voluntary turnover rate than Caucasians. In addition, the findings show that Hispanic and Caucasian females have higher voluntary

turnover rate than their male counterparts, but no difference between other ethnicity groups.

As for the same sex and race turnover, this study finds no significant difference among various ethnicity females, but finds a significant difference between Caucasian and African-American males and Caucasian and Asian males, with African American and Asian males having a higher turnover rate than Caucasian males. Prior research (e.g., Zatzick, Elvira, and Cohen, 2003) suggests that working with others of the same race reduces the likelihood of minority exits.

*Public accounting firms can reduce female turnover by providing a more positive work environment and increasing job satisfaction of their female employees.*

The findings also support the notion that females have a higher voluntary turnover rate than males. The results show that senior females had higher voluntary turnover than senior males and staff females had higher voluntary turnover than staff males, but no other differences among other position levels. Females in both audit and tax areas had higher voluntary turnover rate than their male counterparts.

To alleviate voluntary turnover for females, Moyes, Williams, and Koch (2006) suggest that public accounting firms can reduce female turnover by providing a more positive work environment and increasing job satisfaction of their female employees.

These researchers also reported that the younger female accounting professionals perceive fewer advancement opportunities than the younger males. Therefore, better communication and mentoring of female professionals may reduce their voluntary turnover (Padgett et al., 2005).

To mitigate voluntary turnover, international public accounting firms could employ a few strategies including using an internal marketing strategy (Taylor and Cosenza, 1998), increasing job enrichment (Sorensen, Rhode, and Lawler III, 1973), using mentoring to “improve the ethnic and gender diversity of CPA firm employees” (Reinstein, Sinason, and Fogarty, 2012, p. 40) and using para-accountants for routine, tedious, and non-stimulating tasks (Half, 1982).

In addition, understanding the factors that affect career choice of entry-level staff could reduce voluntary turnover. The results of the study by Nouri, Parker, and Samanta (2005) indicate that the amount of travel and family life has a negative effect while salary, job variety, overtime pay, and professionalism/advancement has a positive impact on choosing a career in public accounting firms.

## Limitations

The findings are subject to several limitations. First, this study uses data from one “Big-4” public accounting firm. Therefore, the results may not be generalizable to other firms, especially local and regional firms.

*Younger female accounting professionals perceive fewer advancement opportunities than younger males. Therefore, better communication and mentoring of female professionals may reduce their voluntary turnover.*

Gaertner, Hemmeter, and Pitman (1987) find that employees of local/regional firms left the firm because of lack of opportunity for promotion, better opportunity for self-employment, client quality, and better opportunity with another CPA firm, while employees of national firms left their firm because of better opportunity in industry, professional burnout, and travel and overtime demands.

Future research can further examine this issue and see if there are differences among professionals based on the type of firm.

Second, the data was provided by the firm with no control over or cross checking of the data. The results would be affected if extensive mistake in classifications are in the data. However, since the data is an extensive turnover data (40,310 voluntary turnovers) over a period of 16 years, there is minimal possibility of classification mistakes affecting the results of the study.

*The amount of travel and family life has a negative effect while salary, job variety, overtime pay, and professionalism/advancement has a positive impact on choosing a career in public accounting firms.*

Third, some voluntary turnover could be because of retirement, which is not considered in this study. In particular, voluntary turnover at the partner and senior manager level may be due to retirement, which may have affected the findings of the results. Future studies may examine turnover by separating different types of voluntary turnover.

Fourth, the data is over a large span of time (1991-2006) and does not consider the impact of major events, if any, such as the collapse of Arthur Andersen during this span of time. As explained in Endnote 4, the data provided by the Big-4 firm does not allow further additional robustness tests. Future studies may try to obtain more current and detailed data from the firms.

Finally, there is a possibility of three-way interaction among variables of this study which is not examined here. For example, there is a possibility that gender, service line, and position interact to affect turnover. Future research can investigate this and similar three-way interaction issues.

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## Endnotes

- <sup>1</sup> The data provided by the Big-4 firm separated the service line as Assurance and Advisory Business Services (AABS) and Tax.
- <sup>2</sup> The 34 observations had date of birth from 1/1/1993 to 11/26/2029. Date of birth for individuals in the data set was from 3/13/1930 to 2/9/1985.
- <sup>3</sup> The Big-4 firm providing the data identified the voluntary and involuntary turnover in the data set. Involuntary turnover was deleted because the focus of the study is on voluntary turnover.
- <sup>4</sup> The Big-4 firm provided turnover data for individuals without their identifications. For all employees, data was provided in summary format by head counts. For example, the head count for senior white female working in assurance services in 2006 was 1066.67.
- <sup>5</sup> Since Levene's test of homogeneity of variance was significant ( $p < .001$ ), Welch's  $F$  test and Games-Howell post hoc analysis are used.
- <sup>6</sup> ANOVA with an interaction between gender and service line was run and the results showed no significant interaction ( $p > .05$ ).

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