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An Econometric Analysis of Birth Order, Wages, and Happiness in a
Legal Profession

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Birth order has long been proposed to have an effect on an individual's future achievement, but evidence supporting this proposition is mixed. Likewise, the amount of money an individual makes is arguably related to his/her level of happiness. This research examines whether or not birth order has an effect on an attorney's billable rate and if his/her billable rate has an effect on happiness. Survey data is collected and analyzed from a large law firm, reaching two main conclusions. First, birth order has no significant effect on an attorney's billable rate within the firm. Second, an attorney's billable rate has no significant effect on their level of happiness.

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I. Introduction

Significant literature exists that focuses on the potential effect an individual's place in his/her family's birth-order can have on achievement later in life. Economically this is important to an individual because birth order is related to tradeoffs and decisions made within a family that can impact later adulthood success. Economists, as well as sociologists, examine the connections between birth order and success and postulate theories as to why this relationship either exists or is non-existent. Economists, Hotz and Pantano (2013), argue that a first time parent does not have the experience to know what is right or wrong in terms of raising a child. This suggests that parents would try to invest as much of themselves in their first child, and as they have more children this investment diminishes because of the experience they gain in the process. As a result, first-born children possess more qualities related to compliance, attentiveness, and leadership. Given this information, parents may or may not parent their second child or subsequent children with lenience knowing that it may have a detrimental effect on that child's future success. Studies in this field find more often than not that earlier-born children possess higher achievement qualities; however, there is still an uncertainty amongst published literature. Due to this discrepancy in published information, this study examines survey data from a large law firm to analyze the effects of birth order on an attorney's hourly billable rate.

In 2013, Forbes published information where it cited being an associate attorney as the number one ranking of the unhappiest jobs in America. (Smith 2013). Psychologist Dr. Martin Seligman of the University of Pennsylvania also describes how attorneys face a much greater risk of developing depression compared to the general population. Researches at John Hopkins University find that lawyers are suffering from depression at a rate 3.6 times higher than the generally employed person, topping the list (Seligman 2013). These statistics open the

perception that lawyers are generally unhappy and highly stressed individuals. This notion holds considerable merit due to the very nature of the profession being that, attorneys take the burden of someone else's problems and try to solve them through respective representation. This then raises the question, "how happy are you as an attorney?" The attorney profession can be taxing on an individual, and is therefore economically important to examine if one's utility gained from financial compensation is enough to reduce this presumed unhappiness. In today's society, an obvious hierarchy is present in a multitude of law firms, and the happiness of individuals can very well be correlated with not only their compensation, but also their position in the firm and their experience of being an attorney. In this study, I examine both the effects that birth order has on attorneys' billable rates within the firm and the effects that these rates have on their individual levels of happiness.

II. Literature Review

Theoretical Literature-Birth Order

The theoretical elements of birth order have gained much attention since its inception. Alfred Adler (2005) proposes that the order in which a person is born affects his/her personality, which influences all aspects of their life from work to personal entertainment. Thus, for theorists such as Adler, birth order is an essential tool in shaping how adults will turn out and see the world. Adler states, "When correctly understood in relation to the rest of an individual's life, early recollections contain the central interests of that person" (Adler 2005, 212). From this theory, Becker and Tomes (1976) created a utility maximization model and explore the effect that family size has on children's socioeconomic status later in life. They assume that individual households have utility functions that depend on the consumption of parents, the number of children, and the economic success of each child. The child's subsequent income as an adult is determined by

his/her human and nonhuman capital from parents but also endowments. They find that parents will make tradeoffs based on the number of children and the quality under which these children are raised. Under the assumption that the quality of a child's parenting is relative to his/her future success in life, the utility function can describe the proposed inverse relationship between birth order and the attributes of success, such as education and wages. Given that such utility exists within households, having more children could lead to a declining marginal utility, ultimately effecting the decision making of parents. It is seen by much of modern society that having children is a costly burden, especially amongst the increasing numbers of teenage births where income is a tightening constraint. Television shows, such as *16 and Pregnant*, capture this reality and show that hardships are associated with having a child and a low income. Parents may also find that they improve their child-raising skills for earlier children and then mature as time passes, which lead to different parenting styles for latter children.

Leman (1985) discusses first-borns and the types of behaviors they possess. A first-born is someone who is the "first child in a family or the first child of that gender born in a family" (Leman 1985, 20). He finds first-born children to possess to a greater degree traits of leadership, perfectionism, aggressiveness, and tend to abide by the law. He creates an experiment to test these characteristics by placing all participants into a group based on their birth order. He then asks them to talk to one another while he walks around and places a piece of paper face down at each group. He walks to the front of the group, gives no instructions, and pretends to do work. He examines the role that birth order has on the situation and nearly all the first-born or only child groups are the first to pick up the piece of paper. The second-born children soon follow and the paper remains unnoticed by the last-born group. He attributes these findings to the idea that first-borns often take on a leadership roll from a young age to set an example for younger siblings. In

addition, first-born children often feel pressured by their parents to succeed in order to motivate their siblings to do well.

Psychologists, such as Zajonc and Sulloway, have also argued theories for birth order, yet in a different perspective. Zajonc (1976) proposes that birth order is not necessarily the motive for success, but the average age of maturity per household. If two parents have their first child, the average age of that household of three will be less than the initial if the parent's decide to have a second child. Therefore, because the average age of the household is lower for every additional child thereon, newborns will be subject to a lower maturity level, which is the reason for the characteristic traits in those children. Sulloway (2001) examined birth order in relationship to the Darwinism perspective of family dynamics. Sulloway finds a similar relationship between the hierarchal structure of humans in their quest for dominance and the tactics they employ at different stages through the effects of birth order similar to what Darwin finds in birds. The results yield that firstborns act as "surrogates" and are more conscientious in their personalities where those who are born later have more "agreeable and nonconforming" tactics to employ (Sulloway 2001, 39). Solloway finds that in adulthood these personality characteristics continue to thrive and are as prevalent as they were when trying to gain parents' investment.

Empirical Literature-Birth-Order

Empirical studies on this topic are not limited to one academic field of study. The studies vary from psychology, sociology, and economics, which all seek to show effects that birth order can have across various disciplines and still produce similar results. Kessler (1991) provides a comprehensive analysis on the effects that birth order and one's childhood family size have on future achievement. He measures future achievement by examining an individual's hourly wages. He uses data from the National Longitudinal Survey of Labor Market Experience Youth

(NLSY) from the years 1979 until 1987.¹ His methodology includes a probit regression model where the natural log of wages is the dependent variable, and X_i is a vector of controls.² The other variable Z_i , represents a matrix of birth order and family size variables. His results do not support a correlation between birth order and an individual's success. The author found that neither birth order nor family size has a significant influence on an individual's future achievements in terms of his/her wages. However, he does note that this study, reduced-form estimation, does not imply that birth order is irrelevant. He suggests that the insignificance of these variables may be the "age of the cohort examined." Amongst the empirical literature on birth order theory, educational/intellectual success has been a heavily researched topic by most. Confirmed by Eckstein, Aycock, Sperber, McDonald, Wiesner, Watts, and Ginsberg (2010), 200 studies were reviewed and the most commonly cited category across the four levels of birth (only, firstborn, middle born, and lastborn child) is educational/intellectual success. The effect of one's educational success is a factor that can have significant influence on his/her future endeavors. For this reason, studies that examine the educational effects of birth order (Black et al. 2005; Booth and Key 2005; Hotz and Pantano 2013) contribute relevant information in understanding future income.

Black et al. (2005) analyze the effects that birth order and family size have on the education of children.³ Control variables such as gender, income, and age during a specific year are also included. The results show that there is a negative correlation between family size and children's education. In terms of birth order, they discovered that the later a child is born, the more negative of an effect it has on a child's education. After examining adult income in relation

¹ The sample consisted of 6,111 men and women who were between the ages of 14 and 21.

² These include race, age, gender, parent's education, and if a library card present in household.

³ The authors use panel data on the entire country of Norway from 1986 until 2000 with their data set containing information on 1,437,100 children from 647,035 families.

to their education, they found a strong correlation between birth order and the outcomes they had. Booth and Kee (2005) further this analysis by taking into account the elements that relate to both birth order and family size in relation to educational success. The authors attempt to either approve or disprove the common theory that children born earlier compared to their siblings are prone to more success in their educational endeavors. They create a birth-order index to assess if siblings receive equal shares in the family's educational resources if family size is both present and eliminated from the regression. The results show that children who are born into a larger family have a lower educational level and possess a negative birth order effect. These results validate that parents possess more time to commit to earlier-born children versus the later-born children following the theory proposed by Becker and Tomes (1976). This relationship can be attributed to parental income, and family size is likely to reduce the per capita resources available for not only education, but also other means of child investment. They also found that contrary to previous studies, once birth order is controlled, family size does continue to be relevant.

Hotz and Pantano (2013) construct a quasi analysis of a child's birth order and his/her school performance. The authors create a theoretical game where a parent and a child interact with one another and the child observes the punishment placed upon the older child by the parent for poor school performance. This is a finitely repeated game where a sequential equilibrium exists and three phases of the game are repeated. As a result, it is expected that first-born or earlier-born children will do better in school. Hotz and Pantano then collect data on children of the NLSY from 1990 until 2008. Their regression methods include an Ordered Probit, Probit, and LPM by OLS. Overall, the results illustrate that the authors' findings coincide with the game theory model in addition to previous theories that birth order is indeed a significant factor in

academic success. This paper most importantly shows that parental dynamics may explain birth order and its correlation to school performance. To help explain parental dynamics, the cognitive ability of children in relation to parental behavior must be examined, and also the tradeoffs as proposed by Becker and Tomes (1976) in relation to the allocation of time and resources. Price (2008) for example, uses data found in the American Time Use Survey⁴ to illustrate the amount of quality time that first-born children receive from parents or caregivers compared to younger siblings. The results from the survey data show that children who are born first receive on average 20-30 more minutes of quality time from their parents than their younger siblings. He suggests an interesting theory in that by trying to show equal treatment amongst children actually creates inequality in time allocation. This is because parent and child interaction decrease as the children age. Based on this relationship, the second child will therefore receive less time from the parent than the first-born child did at that age.

In his research, Lehmann et al. (2014) finds that the cognitive ability of children in their early developmental stages is associated with the behavior exhibited by parents.⁵ In order to examine cognitive functions of children from birth to age 14, the author uses various test scores, such as MSD, PPVT, PIAT-M, and the PIAT-R.⁶ His methodology consists of cognitive and non-cognitive summary indices in which they use to estimate a family fixed effects model to measure the effect of birth order on adult outcomes. Overall, this paper upheld the negative correlation between birth order and educational achievement and how it begins at a young age.

His suggestion for the negative correlation points towards a “broad shift in parenting style with

⁴ This survey is administered by the Bureau of Labor Statistics and has a sole purpose of collecting data on how people allocate their time by asking questions related to their previous day activities.

⁵ The data used in this study is found in the National Longitudinal Survey of Youth 1979 (NLSY79), which is comprised of individuals who were interviewed periodically beginning in 1979 from the ages 14 to 21.

⁶ Motor and Social Development Score (MSD)- A Mother’s response to questions relating to their child’s motor skills through dichotomous answers. PPVT: A vocabulary test administered to children between the ages of 3 and 14. PIAT-M- A test assessing mathematical concepts to children ages 5-14. PIAT-R- A test that assesses reading skills of children ages 5-14. (Lehmann et al. 2014)

respect to parents' ability to foster early cognitive development" (Lehmann et al. 2014, 35). In other words, parents who are more experienced with the child rearing process might exhibit a more relaxed behavior towards non-essential methods for later born children.

Theoretical Literature-Happiness

Happiness economics was formulated in the late 20th century where one theorist, Richard Easterlin, proposes that raising the income of all will not increase the happiness of all. Easterlin (1995) finds that happiness is correlated with income within a country, but not between them. This is known as the Easterlin paradox. What Easterlin suggests is that high incomes do correlate with happiness, but long-term, increased income doesn't correlate with increased happiness. In 2001, Easterlin furthers his theory and suggests that at an individual level happiness does not correlate with income, but there is in fact a correlation between happiness and wealth at the lower-income bracket. This suggests that the degree of happiness levels off at higher incomes. This work lays the foundation for what most research in this field builds upon. Graham (2005) helped formulate the standard micro-econometric linear equation where W is the reported well-being of an individual and X is a vector of controls based upon socioeconomic and demographic characteristics.⁷ Graham's work is most commonly affiliated with research in the field of income inequality and the affects of individual welfare. Noble-Laureate Daniel Kahneman builds upon Easterlin's theory through empirical analysis and suggests that there is a threshold near a higher level of income where an individual's happiness levels off.

Empirical Literature-Happiness

The empirical literature in happiness economics is concentrated around the fact that once a person is able to reach an income to suffice their basic needs, money does not increase

⁷ Micro-econometric happiness equation: $W_{it} = \alpha + \beta x_{it} + \varepsilon_{it}$ (Graham 2005)

subjective well-being. According to Diener and Biswas-Diener's (2002) present review of previous literature, they find in their analysis that a higher income will increase happiness if one is considered poor. Also, middle and upper-income people who live in developed nations are not subject to greater enhancements in happiness from increased wealth. Studies have also shown that a rising wage/income leads to negative effects. Thoits and Hannan (1979) present examples, which include increases in levels of stress. In a legal market for example, achieving a higher status within the firm leads to an increased billable rate; however, it comes with greater responsibility and expectations. A recent analysis by Kahneman and Deaton (2010) thoroughly analyzes the effects that money has on happiness. The analysis of happiness is conducted in two forms: emotional well-being and life evaluation. The data used in this study is collected in the form of a survey through the Gallup Organization.⁸ Emotional well-being is measured through questions relating to emotional experiences the previous day and life evaluation is measured through Cantril's Self Anchoring Scale.⁹ The responses were categorized into positive affect, not blue, ladder, and stress free.¹⁰ When examining the relationship of these results to the respondent's log annual household income, the authors found that both emotional well-being and life evaluation rise steadily. However, when these measures reach \$75,000, the income past this threshold improves one's evaluation of life, but not their emotional well-being. They also conclude that a low-household income is associated with low emotional well-being and self-evaluation.

⁸ Gallup Organization and Healthways Corporation included basic demographic information for each of the respondents. The organization had collected more than 450,000 responses by surveying 1,000 people daily for the entire year of 2009

⁹ Cantril's Self Anchoring Scale is a scale that represents the worst possible life for you and the best possible life for you, 0 and 10 respectively (Kahneman and Deaton 2010)

¹⁰ Not blue represents 1 minus the average population reporting sadness. Positive affect is the average population responses reporting smiling and enjoyment. Stress free, is those who did not report any stress the previous day. Ladder represents the Cantril's Self Anchoring Scale average responses.

III. Methodology

In this analysis, I use data from a survey administered to lawyers within a Pittsburgh law firm to analyze the correlation between birth order and success and also the relationship between money and happiness. Two OLS regression models are used to examine the propositions. The first model, shown below examines the effect of birth order on an attorney's billable rate.

$$\log(\text{billablerate}_i) = \alpha + \mathbf{Z}_i' \boldsymbol{\beta}_1 + \mathbf{X}_i' \boldsymbol{\beta}_2 + \varepsilon_i \quad (1)$$

The dependent variable “*billablerate*” is representative of an attorney's budgeted billable rate per hour.¹¹ I chose to use attorneys' billable rate instead of income for both simplicity purposes when designing the survey and because their billable rate is a fair representative measure of success within their industry. Generally, the more experience an attorney possesses along with their respective successful track record will be represented by how much a client is charged on an hourly basis. However, these billing rates are not always the rates that a client is billed. Rates vary from client to client though; clients are usually “offered” a discounted rate in order to capture their business. It shows the client that an attorney is willing to do the same work for a lesser billing rate. Some attorneys are unhappy with their billable rates, if their set billable rate is too high, it may impair engaging the client, therefore, it may help if a discounted rate is offered. This discounted rate is most closely related to the value of their budgeted rate. Z_i represents a vector of birth order variables. This vector includes an index of dummy variables as shown in table 1.

¹¹ A budgeted billable rate is the lowest rate that an attorney can be billed to a client for their services. Within the firm there are three classifications of billable rates; national, market, and budgeted. Of these three, budgeted is the closest value for providing their services.

Table 1. Equation 1: Birth Order Variable Definitions

Variable Name	Definition
<i>OC</i>	Only child Individuals (1=Yes, 0=otherwise)
<i>FB</i>	First born Individuals (1=Yes, 0=otherwise)
<i>MB</i>	Middle born Individuals, anyone between the first and last born sibling (1=Yes, 0=otherwise)
<i>LB</i>	Lastborn Individuals (1=Yes, 0=otherwise)
<i>FBM</i>	First born males, individual is the first born male amongst siblings (1=Yes, 0=otherwise)
<i>FBF</i>	First born females, individual is the first born female amongst siblings (1=Yes, 0=otherwise)
<i>LBM</i>	Last born males, individual is the last born male amongst siblings (1=Yes, 0=otherwise)
<i>LBF</i>	Last born females, individual is the last born female amongst siblings (1=Yes, 0=otherwise)

This set of dummy variables is similar to Kessler's with the exception of excluding the interaction of family size with the variables. This approach analyzes whether or not an individual is an only child, first-born, middle-born, or last-born individual. Family size is still included but as an integer within the control variables of this model. The difference in this analysis from other literature is examining birth order at a more refined level by examining one being a first/last born male/female. Leman (1985) argues that birth order is gender dependent. For example, a man can have four older siblings where they are all females, which would make him the last-born child in the family. He is still the first-born male because he has no other male siblings. Being the first-born male/female in the family can have a psychological effect in how the parents raise or treat a child, which eventually will translate into their personality and wages according to theory. Following the previous example, raising a male is different than raising a female. For this reason, parents are likely to face the same first-time parent situation with their son as they had with their first-born daughter. The same holds true for last-born male/females, which will also be analyzed.

This data is typically not analyzed at a macro-level because of the limitations imposed in data collection. However, in this analysis, the data is provided from question in the survey, number 16, in Appendix A. This data is worth examining because it can have a significant impact on the previous literature and the theory of birth order if found to be insignificant. The vector, X_i represents a set of control variables in the model, which can be shown along with the dependent variable, *BillableRate*, in table 2.

Table 2. Equation 1: Variable Definitions

Variable Name	Definition
<i>BillableRate</i>	Attorney's budgeted billable rate per hour
<i>YAA</i>	Number of years as an attorney
<i>YAF</i>	Number of years worked at the firm
<i>FS</i>	Status within the firm. (1=Associate, 2=Counsel, 3=Partner)
<i>HouseClass</i>	An individuals household growing up (Scale 1-5, 1=Poor 5=Upper Class)
<i>FE</i>	Father's highest degree of education (1=HS Diploma/GED, 2=Associate's, 3=Bachelor's, 4=Master's, 5=M.D., 6=J.D., 7=Ph.D.)
<i>ME</i>	Mother's highest degree of education (1=HS Diploma/GED, 2=Associate's, 3=Bachelor's, 4=Master's, 5=M.D., 6=J.D., 7=Ph.D.)
<i>LawSchool</i>	An individual's law school alma mater. (1 = Top 14 Law School, 0=otherwise)
<i>LSH</i>	An individual's law school honors (1 = served on law review or moot court, 0=otherwise)
<i>Height</i>	The CDC's average height for men and women subtracted from an individual's height in inches
<i>Age</i>	How old an individual is in years
<i>Gender</i>	The sex of an individual (1=male, 0=otherwise)
<i>FamilySize</i>	The total amount of children in the family including the respondent.
<i>HW</i>	Average number of hours worked per week

In a report released by CEB and Datacert|TyMetrix, the authors find that the important factors in determining billable rates are, from most to least important, firm size, location, lawyer

experience, lawyer position, and practice area (Simmons 2014).¹² For this reason, variables such as age, years at the firm, years as an attorney, firm status and average hours worked per week are included in the study. Additionally, Booth and Kee (2005) suggest that parental income is a factor attributed to the negative birth order effect, which is the result of more investment being placed on earlier born children. This implication suggests that a greater investment leads to greater success based on previous theories, such as Adler's. For this reason, questions are asked regarding the participants' childhood family income and both their mother and father's highest degree of education. Childhood income is measured on a scale from 1-5. The reason for this odd numbered scale is so the participants have the option to choose if they found themselves to be of middle class while growing up. Using an even numbered scale pushes a person to choose between lower and upper middle class, which does not completely capture the range of all possible socioeconomic classes or their true perception of childhood income. This in turn creates a biased sample collection. A parent's educational level is also representative of the household income to a degree, which explains inclusion as a control variable. Various studies have examined birth order and the effects it has on one's educational success, such as those presented earlier by Black et al. (2005); Hotz and Pantano (2013); and Booth and Key (2005). For this reason, two important control variables, law school Alma mater and law school honors, are included in this regression. Law school is evaluated by a dummy variable where 1 represents going to a "Top Fourteen" law school and 0 otherwise.¹³ The law school honors are evaluated through an individual serving on either law review or moot court. Both variables are extra

¹² This report analyzed 16.2 billion dollars in legal fees paid by 90 companies from 2007-2013 to 5,600 law firms comprised of more than 206,000 attorneys.

¹³ The "Top Fourteen" represents law schools that have remained at the top 14 spots of the law school rankings consistently with little variation since its inception. This term is informal yet; it is widely known throughout the legal community. These schools include Harvard, Yale, UC Berkley, Columbia, Cornell, Stanford, Georgetown, Univ. Michigan, Univ. Chicago, Northwestern, Univ. Virginia, Duke, NYU, and Univ. Penn. (Lat 2014)

circular activates and most are only open to the top ten percent of the class (Wecker 2012). Also, it is reported in a U.S. News article by Wecker that serving on law review is more attractive to employers. The demands are typically an additional “20 hours a week” on top of the 40-50 hours that are spent in class/studying. Given the rigorous qualifications to be involved with either of these extra circulars, it is seen as a strong measure to one’s success in a legal profession, which is why it is used as a control. The last control used in this model is height. This variable is chosen because Judge and Cable (2004) they found that height plays a significant difference in workplace success. For example, a man that is 6’0” tall is predicted to earn \$166,000 more than a man who is 5’5” over a 30-year time frame (Judge and Cable 2004). In their analysis, Judge and Cable controlled for gender by using the averages for men and women. In this study, these averages were used and reported by the CDC (2012). The average is then subtracted from the individual’s reported height and those values are used in the regression to analyze the effect height has on wages.

In the second regression model, shown in equation 2, happiness is analyzed as a function of an attorney’s wages. This model incorporates the standard form of the micro-econometric happiness equation.

$$H_i = \alpha + \beta_1 \text{BillableRate}_i + \mathbf{X}'_i \boldsymbol{\beta}_2 + \varepsilon_i \quad (2)$$

In this regression the dependent variable is an attorney’s happiness. The dependent variable is measured through survey questions using the methodology of Lyubomirsky and Lepper (1999). In this survey, four questions were asked on a scale from 1-7, regarding an individuals happiness on what is known as the Subjective Happiness Scale.¹⁴ In the first three questions, the responses

¹⁴ The subjective happiness scale was validated in 14 studies that consisted of 2,732 participants both domestically and globally. Its function is to measure an individual’s happiness by asking different questions

are in the format from negative to positive, 1 to 7, respectively. However, in the fourth question, the response is reversed and goes from positive to negative. For this reason, the last question must be in reverse order. The four responses were used to generate an index of happiness by averaging the individual answers. To simply ask a single question on self-reported happiness entails a biased response because it only captures one perspective. However, by asking four, capturing the individuals true degree of happiness becomes more accurate. Happiness is a difficult variable to measure and four questions can be viewed as simplistic; however, it is the most plausible solution given the design specifications of the survey. The independent variable in this model is an attorney's budgeted billable rate. This is the key variable of interest because it is assumed that the more an attorney is compensated for the work he/she does, their level of happiness is likely to level out. Kahneman and Deaton (2010) suggest that there is a plateau where once income increases to a certain point, \$75,000, then the level of emotional well-being from earning money plateaus as well. The average salary for a first-year associate at a large law firm within the Pittsburgh region is \$111,429 (Collins and Leipold 2013). Therefore, it seems likely that this study will produce the same conclusion.

The dependent variable, the variable of interest *BillableRate*, and the vector of control variables represented by X_i , are described in table 3.

related to their perception of happiness. Even though the test is simplistic and short, it was shown to exceed the minimum psychometric criteria for measurement accuracy. (Lyubomirsky and Lepper 1999)

Table 3. Equation 2: Variable Definitions

Variable Name	Definition
<i>H</i>	The average number received from the Subjective Happiness Scale responses
<i>BillableRate</i>	Attorney's budgeted billable rate per hour
<i>YAA</i>	Number of years as an attorney
<i>YAF</i>	Number of years worked at the firm
<i>FS</i>	Status within the firm. Associate, Counsel, or Partner
<i>Age</i>	How old an individual is in years
<i>Gender</i>	The sex of an individual (1=male, 0=otherwise)
<i>HW</i>	Average number of hours worked per week
<i>Children</i>	Number of children an individual has
<i>Exercise</i>	Average amount of time spent on exercise per week in hours
<i>Married</i>	Individual being married (1=yes, 0=otherwise)
<i>MarriedT</i>	Number of times an individual has been married
<i>Music</i>	Individual listens to music while working (1=yes, 0=otherwise)

Variables such as years as an attorney, years at the firm, firm status, and hours worked per week, are all used as controls to capture some of the aspects of happiness attorneys receive from work. Variables such as children, exercise, and marriage status are used to capture aspects of happiness outside work. Ahmed et al. (2011) discuss psychosocial influences on health and causes of stress, such as getting married/divorced and having a child. These stresses can have adverse effects on one's level of happiness, which is why it is important to include as a control variable in this analysis. The CDC (2011) suggests that a way to improve mental health and mood is through

regular physical activity. They suggest that involvement in some sort of exercise for 30 to 60 minutes for 3-5 days a week can provide mental health benefits; however, even lower amounts of exercise have been shown to be beneficial. Music has also been shown to have positive influences on one's mood. Ferguson and Sheldon (2013) conducted two studies that examined the brain activity of their participants. The first group listened to American composer Aaron Copeland while the second group listened to only upbeat music for two weeks. The authors concluded that pleasant, upbeat music could successfully raise one's mood levels.

IV. Survey Design

The survey is constructed not only to collect the required variables, but also to address constraints concerning simplicity purposes and time limitations. One of the most important aspects of this study is the time constraint. The optimal amount of time to complete this survey is between two and three minutes. This time limit is the result of the survey being distributed to attorneys during their working hours, and in order to achieve a successful response rate, it was designed to consume minimal time to complete but with enough information to produce credible input data. It is also important to have a low completion time so that it is more attractive to the participants who will feel more of an obligation to complete the survey. The same reasoning applies to the limited amount of questions asked and also for the simplicity within the questions themselves. One of the important aspects of this survey is its anonymity. By creating an anonymous survey, those answering it will feel more compelled to answer truthfully and honestly. Another method used to insure truthful answers is mentioning the purpose of the survey. The purpose is for personal research purposes only and all information collected will remain private and will be eventually destroyed after completion of the research project. This survey is designed to capture variables at a micro level of analysis. Much to the opposition of

previous studies conducted in this realm of analysis, most previous studies used longitudinal surveys or data at a macro level, which can play a large difference in the comparison of this survey to others.

After the survey was constructed, it was distributed to people who were not used in the research to gauge the amount of time needed to complete the survey and also to ensure that the questions were being answered correctly. This method is known as a piloted test sample. Even though there were questions within the survey directed towards attorneys, those who were not attorneys were simply asked to fill in any response to those particular questions and proceed with the remainder of the survey as they normally would. From the piloted test, a revealed issue was from a question similar to number 16, as shown in Appendix A. Those taking the survey were doing one of two things: forgetting to include themselves or forgetting to circle themselves. As a result, the simplest solution was to include two questions prior to number 16 asking the respondent's age and gender, numbers 11 and 12, respectfully. If respondents either omitted or did not circle themselves in question number 16, then there was still a way to identify their gender and birth order. Happiness questions were also added at the end of the survey to avoid self-referential bias.¹⁵

The survey was personally delivered to every attorney available at the firm with very minimal instructions other than asking them to complete it when they had the opportunity. The only other information provided to the participants was that the survey would be used for a senior thesis project. The minimal instruction ensured no biased responses while completing the survey. By personally delivering the survey, it is suspected that the response rate would be greater than sending a version of the survey electronically through an email. The survey was

¹⁵ Self-referential bias occurs when respondents answer questions based on how they answered previous questions in the survey. (Rogers et al. 1977)

distributed and picked up within one or two hours. If the survey was distributed by any other method besides hand-delivery, then the possibility of prolonging the response time greatly increases and is ultimately forgotten.

V. Data

The survey was distributed to 171 out of 190 attorneys at a local law firm. There are two reasons why the survey was not distributed to all 190 attorneys. First, certain attorneys were not available during the time the survey was distributed, as they were traveling for business or simply out of the office. The second reason is due to the fact that multiple attorneys have a secondary office in another location. Of the 171 surveys distributed, 129 were completed and returned. Therefore, this survey resulted in a 75% response rate. The summary statistics of the variables in both regressions can be found in in table 4 shown below. The proportions of birth order variables for both men and women are shown in Appendix B, tables B.1 and B.2.

Table 4. Summary Statistics: Equation 1 & 2

Variable Name	Mean	Std. Dev	Min	Max
<i>Billable Rate</i>	525.75	145.01	300	870
<i>YAA</i>	16.68	37.64	1	50
<i>YAF</i>	11.93	12.18	1	50
<i>FS</i>	1.92	0.94	1	3
<i>Age</i>	43.74	14.29	25	79
<i>Gender</i>	0.71	0.45	0	1
<i>HW</i>	52.86	10.08	20	80
<i>Children</i>	3.31	2.12	0	11
<i>Exercise</i>	3.80	2.59	0	12
<i>Married</i>	0.85	0.35	0	1
<i>MarriedT</i>	1.00	0.50	0	3
<i>Music</i>	0.41	0.49	0	1
<i>HouseClass</i>	3.03	.88	1	5
<i>FE</i>	3.25	2.02	1	7
<i>ME</i>	2.56	1.36	1	7
<i>LawSchool</i>	0.26	0.44	0	1
<i>Happiness</i>	5.31	1.13	1.5	7
<i>LawReview</i>	.48	.50	0	1
<i>Height</i>	1.47	2.67	-5.3	7.2
<i>TotalChildren</i>	3.02	1.66	1	10

VI. Results

The estimates of Y , $\log(\text{billablerate})$, from the equation 1 appear in table 5. Model 1 is the primary regression output and the results explained in this section are in reference to these estimates. Model 2 is used to show robustness within the model. This robustness check was performed to account for correlation concerns between gender and the birth order variables. This model is also tested for various anomalies that could cause potential issues within the results of the regression. The model is also tested for heteroskedasticity using the White's test and it is found that the model is homoskedastic as shown in Appendix C table 3. However, to account for other minor issues, such as normality or observations with large residuals, a robust standard error estimation is used. Multicollinearity is accounted for by using the variance inflation factor (VIF) and a correlation matrix where it is found to be present. In order to account for this anomaly, the two variables were dropped from the regression, age and YAF. The VIF results for this regression after correcting for multicollinearity are shown in table C.1 of Appendix C, and the correlation matrix in Table D.1 of Appendix D.

The most significant result in this model is that the joint effect of birth order variables is not statistically significant leading to the conclusion that birth order does not have an effect on an attorney's billable rate.¹⁶ This can be illustrated in model 1 below. This conclusion runs contrary to previous studies conducted on birth order in which researchers find that birth order has a significant effect on an individual's education, wages earned, and other measures of success. This finding, however, is consistent with Kessler's results regarding the effect that birth order and family size has on an individual's wage. Even though family size is not directly interacted

¹⁶ The First-Born dummy (*FB*) variable was run separately in the regression amongst the control variables and was still found to be insignificant.

with the birth order variables, such as in Kessler’s methodology, it is still controlled for in the regression and is found to be an insignificant factor in relation to billable rates.

Table 5. Equation 1: Results

	Model 1		Model 2	
	Coefficient	Robust Standard Error	Coefficient	Robust Standard Error
Constant	5.960***	0.133	5.957***	0.131
<i>OC</i>	- 0.083	0.083	-0.079	0.074
<i>FB</i>	0.005	0.053	0.009	0.039
<i>MB</i>	0.025	0.055	0.030	0.048
<i>FBM</i>	- 0.017	0.035	-	-
<i>LBM</i>	- 0.016	0.053	-	-
<i>LBF</i>	- 0.009	0.068	-	-
<i>YAA</i>	0.012***	0.002	0.012***	0.002
<i>FS</i>	0.065***	0.022	0.065***	0.021
<i>HouseClass</i>	- 0.003	0.020	-0.003	0.018
<i>FE</i>	- 0.004	0.009	-0.005	0.009
<i>LawSchool</i>	0.073**	0.036	0.074**	0.035
<i>LawReview</i>	- 0.003	0.032	-0.003	0.031
<i>MootCourt</i>	0.022	0.034	0.022	0.034
<i>HW</i>	- 0.001	0.002	-0.001	0.002
<i>Gender</i>	-	-	-0.026	0.032
<i>Height</i>	0.011*	0.006	0.011*	0.006
<i>FamilySize</i>	- 0.008	0.012	-0.007	0.012
F-statistic	23.27	Prob. > 0.000	27.05	Prob. > 0.000
R ²	.705		.706	

OLS estimates; 129 observations

Significance Levels: * p < 0.10, ** p < 0.05, ***p < 0.01

Variables within the regression that were found to be highly significant at the 1% level are years as an attorney (*YAA*) and firm status (*FS*).¹⁷ This analysis indicates that for every additional year one is an attorney, they can expect a 1.2% increase in their billable rate. Likewise, as an attorney increases his/her status in the firm, from an associate to counsel or counsel to partner, they can expect a 6.5% increase in their billable rate. This increase makes

¹⁷ Years at the Firm (YAF) and Age were initially included in this regression however, both were dropped due to the multicollinearity that existed between them and the years as an attorney. Mothers education (ME) is also excluded from the model due to its high insignificance

sense because it can be assumed that an attorney with more experience and in a position of higher authority will have a higher billable rate. These results are also in line with the report released by CEB and Datacenter|TyMetrix suggesting that two of the most important features that make up an attorneys' billable rates are their experience as an attorney and their position within the firm.

Two other variables that were significantly correlated at the 5% and 10% level are law school and height, respectively. This suggests that an attorney who attended a "Top 14" law school within the firm can expect to have a billable rate that is 7.3% higher than those who did not. For height, the results in this study are in line with the study done by Judge et al. suggesting that those who are taller are expected to earn a higher wage. This analysis shows that for every one-inch increase over the average height for one's respected gender, that individual can expect a 1.1% increase in his/her billable rate. This result is interesting given the amount of recent popularity it has gained through literature and the popular media. There is not a clear-cut explanation for this result; however, it is commonly related with perception of such individuals possessing leadership characteristics. It is interesting to note that the average height amongst the respondents in the firm is 71 and 65 inches for men and women, respectively. These heights are both about a margin of 1.5-inches taller than the national averages for men and women reported by the CDC (2012), which can be seen in the summary statistics of table 4.

The estimates of Y , Happiness (H), for equation 2 appear in table 6. This model is also tested for both multicollinearity and heteroskedasticity. Multicollinearity is analyzed through the VIF, as shown in table C.2 and also the correlation matrix shown in table D.2. The VIF had originally shown YAA to be highly correlated with Age . Both variables happen to be measuring the same thing therefore; YAA is dropped from the regression. The correlation matrix also shows

that none of the estimates reach values that are close to -1 or 1. Heteroskedasticity was accounted for using the White's test as shown in table C.4 where the model is found to be homoskedastic. However, the model is estimated using a robust standard errors estimation to account for other small anomalies, such as normality and estimates with large residuals.

Table 6. Equation 2: Results

	Coefficient	Robust Standard Error
Constant	2.42	0.929
BillableRate	0.001	0.001
YAF	-0.001	0.013
FS	-0.038	0.183
Age	0.014	0.015
Gender	-0.330	0.223
HW	0.017	0.012
Children	0.076	0.053
Exercise	0.122 ***	0.038
Married	0.611 *	0.295
MarriedT	-0.170	0.220
Music	0.242	0.215
F-statistic	3.26	Prob. > 0.001
R ²	.212	

OLS estimates; 129 observations

Significance Levels: * p < 0.10, ** p < 0.05, ***p < 0.01

The most interesting result in this regression is that an attorney's billable rate is not significantly correlated with his/her level of happiness. In the Kahneman et al. (2010) research, they found that emotional well-being plateaus after one has reached an income of \$75,000. As shown in the summary statistics in table 4, the lowest reported budgeted billable rate is \$300. The fact that the average amount that a first year associate makes at this firm lies anywhere between \$100,000-\$160,000 a year helps to explain this result. An attorney's billable rate is directly related with their income, meaning that the higher the billable the higher the income. Because this range is over the threshold that Kahneman suggests should lead to lead to greater emotional well-being, happiness, it makes sense that the billable rate is insignificant.

Asides from the key variable of interest, it is surprising to see that the average amount of time worked per week and firm status is insignificant. One explanation for these insignificant variables is because those at the firm do not view their status as a hierarchy, which in this case explains why there would be no relation to happiness. For average hours worked per week (*HW*), a plausible explanation would be that those at the firm truly enjoy what they do and the amount of time spent at work has no effect on their level of happiness.

The two variables that show significance within the model are exercise and being married. The average amount of time one spends towards exercise was highly correlated with the happiness results. This result was not surprising given that previous studies within the realm of medical research have shown that exercise increases an individual's mood level. For every additional hour a person spends towards exercise per week, they can expect a .12 increase in their averaged response towards happiness. Whether or not one is married is also significantly correlated with happiness at the 10% level. Again, this is not a surprising result. Having a companion in one's life is likely to affect a person's level of happiness, whether it is positive or negative. In this study, there is a positive relationship shown between both variables, and if a person is married, they can expect an increase of .61 in their averaged responses through the Subjective Happiness Scale.

This study has its own set of biases, which can account for the discrepancy between studies, starting with the microanalysis. Only one firm is analyzed in this study and, although the response rate to the survey is sufficient, it is still a relatively small number of observations to be analyzing for what could be a small effect as Hauser and Sewell (1985) suggest. Also, this survey examines one profession and one point in time. A disadvantage is only being able to collect information on those who were present during the distribution of the survey. This

limitation excludes those who have left the firm and the reasons behind it, which can be related with their happiness and billable rate.

The happiness questions in this survey are intended to capture an accurate response within a short amount of time. This along with the inability to ask numerous questions associated with happiness is a potential flaw. One's level of religious/spiritual worship is an example of an omitted response that could be related to happiness. These types of questions were not included in the survey for reasons surrounding the limited amount of available space and time.

VII. Conclusion

Studies in economics, sociology and psychoanalysis have explored several theories that relate to birth order and happiness. Most suggest that being an only child or a first-born leads to greater success in life, where as those born later are compelled to be more "relaxed" in nature and not achieve as much success. It is also popularly theorized that there is a level to how much money makes one happy. The purpose of this study is to analyze both questions in an in-depth, econometric analysis within the legal market.

Two conclusions can be drawn from this analysis. First, it is shown that birth order has no effect on an attorney's billable rate. It is also found that an attorney's law school and how tall he/she is leads to incremental percentage differences in their billable rate. In the second model, it is shown that billable rate has no significant effect on an attorney's level of happiness. Two other variables in this model that are correlated with happiness are exercise and marriage. Kessler (1991) finds results similar to those found in this study and the same occurrence is interesting. However, he suggests that the birth order effect should not be ruled out simply because of the results he found. A bias in his results is attributed to the age of the cohort in the sample analyzed. In this sample, the ages ranged from 25 – 79, a much greater range than what he had at hand, and

the same results were in effect. This is interesting though literature tends to suggest that birth order is significantly correlated with measures of success, such as wages.

Happiness is a key factor that drives success for companies. The legal industry is consistently categorized as one of the most stressful and unhappiest jobs. In 2013, Associate Attorneys topped Forbes list as the unhappiest job in America (Smith 2013). The question then asked is the amount of money they are making compensate for this unhappiness? Happiness in this analysis is not correlated with an attorney's billable rate. This result is associated with the claim made by Kahneman and Deaton (2010) where they suggest the limit for gaining happiness from wealth is at \$75,000. Meaning that attorneys' level of happiness is not affected by money given their salary is beyond this threshold. This then gives reason for the insignificant relationship between an attorney's billable rate and their happiness in this study. Two significant variables that are correlated with happiness in this study are marriage and amount of exercise. To further the notion that people should exercise regularly, it is shown in this analysis that those who exercise more are happier individuals. Also, having a companion in one's life is shown to increase happiness. As mentioned before, happiness is a very difficult thing to measure and there are many factors that contribute to this difficulty. It is not an easy task to ask people to assess how happy they are. However, by seeing results such as these, employers can encourage more exercise/activity and set-aside time for their employees to do such activities.

Both questions in this analysis are essential to the selection of employees, especially in a market that has become selective after the 2008 financial crisis. Many large law firms, nationally and within the region, used to bring in 30-40 summer associates before the crises and now that number has dropped to 5-6. The competitiveness within the market is staggering and, although it has improved in recent years, it has not moved past its current level. If two candidates are being

interviewed for the same job and are both equally qualified, yet one candidate is a first-born, would he/she not be the greater asset to choose based on the research shown that first-borns tend to become more successful? Research being conducted at a micro level of analysis can give more insight into this type of question and the larger theory surrounding birth order.

Birth order in this study is not significantly correlated with billable rates. However, this finding alone should not be used to discredit past findings on birth order. To reach a true consensus, more research needs to be conducted with a micro level of analysis for both law firms and other industries. If birth order is significantly correlated with wages, then it is suggested that further research is done on parent-child psychology and the interaction between siblings because it seems as if this is where the issue stems, not solely from one's birth order. Price (2008) found that parents tend to allocate more time to first-born children, which can explain the characteristics associated with those children. Therefore, one suggestion is to allocate more time to each child as if they were your first-born.

Implications for future research should be to continue this type of analysis amongst multiple firms within the legal market and other industries. This study analyzes the effects that birth order imposes on wages and the effects that money has on happiness. Once a more conclusive answer is found within these relationships, can we then only start to search for an answer as to why they are occurring.

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Appendix A: Survey

<p>1. Years as an Attorney: _____</p> <p>2. Number of years worked at the firm: _____</p> <p>3. Budgeted billable rate per hour in U.S. Dollars: _____</p> <p>4. Status in Firm: Partner Counsel Associate</p> <p>5. Which describes your household growing up:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">Poor</td> <td style="text-align: center;">Lower Middle Class</td> <td style="text-align: center;">Middle Class</td> <td style="text-align: center;">Upper Middle Class</td> <td style="text-align: center;">Upper Class</td> </tr> </table> <p>6. Father's Highest Degree/Education:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">HS Diploma/GED</td> <td style="text-align: center;">Associate's</td> <td style="text-align: center;">Bachelor's</td> <td style="text-align: center;">Master's</td> </tr> <tr> <td>Doctorate: J.D.</td> <td>M.D.</td> <td>Ph.D.</td> <td>Other _____</td> </tr> </table> <p>7. Mother's Highest Degree/Education:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">HS Diploma/GED</td> <td style="text-align: center;">Associate's</td> <td style="text-align: center;">Bachelor's</td> <td style="text-align: center;">Master's</td> </tr> <tr> <td>Doctorate: J.D.</td> <td>M.D.</td> <td>Ph.D.</td> <td>Other _____</td> </tr> </table> <p>8. Law School Alma Mater: _____</p> <p>9. Served on: Law Review Moot Court Neither</p> <p>10. Height (Feet): _____</p> <p>11. Age: _____</p> <p>12. Gender: Male _____ Female _____</p> <p>13. Average Number of Hours Worked Per Week _____</p> <p>14. How many children do you have? _____</p> <p>15. Time spent on exercise per week (in hours): _____</p>	1	2	3	4	5	Poor	Lower Middle Class	Middle Class	Upper Middle Class	Upper Class	HS Diploma/GED	Associate's	Bachelor's	Master's	Doctorate: J.D.	M.D.	Ph.D.	Other _____	HS Diploma/GED	Associate's	Bachelor's	Master's	Doctorate: J.D.	M.D.	Ph.D.	Other _____	<p>16. List you and your siblings by gender, oldest to youngest. Please circle yourself. (Ex. 1 = Firstborn)</p> <p>M/F: _____</p> <p>Age: _____</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> </tr> </table> <p>17. Are you currently married? Yes _____ No _____ Divorced _____</p> <p>18. How many times have you been married? _____</p> <p>19. Do you listen to music while working? Yes _____ No _____</p> <p>20. In general, I consider myself:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">Not Very Happy</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Very Happy</td> </tr> </table> <p>21. Compared to most of my peers, I consider myself:</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">Less Happy</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">More Happy</td> </tr> </table> <p>22. Some people are generally very happy and get the most out of everything. To what extent does this describe you?</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">Not at all</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">A great deal</td> </tr> </table> <p>21. Some people are generally not very happy and, though not depressed, they never seem as happy as they might be. To what extent does this describe you?</p> <table style="margin-left: 40px; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">Not at all</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">A great deal</td> </tr> </table>	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	Not Very Happy						Very Happy	1	2	3	4	5	6	7	Less Happy						More Happy	1	2	3	4	5	6	7	Not at all						A great deal	1	2	3	4	5	6	7	Not at all						A great deal
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Appendix B: Men/Women Proportions

Table B.1 Proportions of Men and Women in Sample

	Men	Women	Both
Only Children	.0869	.1081	.0930
Firstborns	.4565	.3243	.4186
Middle-born	.250	.2702	.2558
Last-born	.2065	.2972	.2325
Total	1.00	1.00	1.00

Total number of obs. 129

Total Men obs. 92

Total women obs. 37

Table B.2 Proportions of First/Last-born Men and Women Amongst Siblings

	Men	Women	Both
Firstborn	.6956	.5405	.6511
Last-born	.1956	.2702	.2170
Other	.1088	.1893	.1319
Total	1.00	1.00	1.00

Total number of obs. 129

Total Men obs. 92

Total women obs. 37

Appendix C: Anomaly Testing

Variance Inflation Factor: Multicollinearity

Table C.1 Equation 1 – Model 1

	VIF	1/VIF
<i>FB</i>	3.36	0.298
<i>MC</i>	3.19	0.313
<i>YAA</i>	2.84	0.352
<i>FS</i>	2.44	0.410
<i>FamilySize</i>	2.12	0.472
<i>OC</i>	2.02	0.494
<i>LBM</i>	1.90	0.526
<i>FBM</i>	1.90	0.527
<i>LBF</i>	1.78	0.561
<i>FE</i>	1.45	0.689
<i>HouseClass</i>	1.34	0.746
<i>HW</i>	1.28	0.781
<i>MootCourt</i>	1.23	0.814
<i>LawSchool</i>	1.19	0.837
<i>Height</i>	1.12	0.895
<i>LawReview</i>	1.10	0.909
Mean VIF	1.89	

Table C.2 Equation 2

Variable	VIF	1/VIF
<i>Age</i>	5.69	.1728
<i>YAF</i>	4.06	.2463
<i>BillableRate</i>	3.67	.2723
<i>FirmStatus</i>	2.43	.4117
<i>MarriedT</i>	1.61	.6211
<i>Married</i>	1.56	.6417
<i>Children</i>	1.46	.6860
<i>HoursWorked</i>	1.36	.7339
<i>Gender</i>	1.21	.8255
<i>Music</i>	1.18	.8470
<i>Exercise</i>	1.13	.8862
Mean VIF	2.31	

White's Test: Heteroskedasticity

Table C.3 Equation 1- Model 1

Source	Chi2	df	p
Heteroskedasticity	129.00	128	0.4586
Skewness	19.30	16	0.2536
Kurtosis	0.19	1	0.6610
Total	148.49	145	0.4043

White's test for Ho: Homoskedasticity

Ha: Unrestricted Heteroskedasticity

$\text{Chi}^2(128) = 129.00$

$\text{Prob} > \text{Chi}^2 = 0.4586$

Table C.4 Equation 2

Source	Chi2	df	p
Heteroskedasticity	86.00	74	0.1607
Skewness	20.89	11	0.0345
Kurtosis	0.01	1	0.9026
Total	106.90	86	0.0630

White's test for Ho: Homoskedasticity

Ha: Unrestricted Heteroskedasticity

$\text{Chi}^2(74) = 86.00$

$\text{Prob} > \text{Chi}^2 = 0.1607$

Appendix D: Correlation Matrix

Table D.1: Equation 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) OC	1	-0.27	-0.19	0.11	-0.13	-0.09	0.01	-0.09	0.02	0.11	0.05	0.12	-0.12	0.02	-0.03	0.11	-0.39
(2) FB	-0.27	1	-0.50	0.48	-0.34	-0.25	-0.03	-0.06	0.09	0.14	0.03	-0.06	0.28	-0.04	0.12	-0.08	-0.14
(3) MB	-0.19	-0.50	1	-0.33	0.07	-0.10	0.06	0.12	-0.01	-0.15	-0.07	0.01	-0.17	-0.02	-0.02	0.02	0.61
(4) FBM	0.11	0.48	-0.33	1	-0.40	-0.29	0.20	0.13	0.06	-0.06	0.22	-0.09	0.08	-0.09	0.63	-0.05	-0.19
(5) LBM	-0.13	-0.34	0.07	-0.40	1	-0.12	-0.09	-0.11	0.06	-0.05	0.01	0.02	0.03	0.09	0.26	0.00	0.02
(6) LBF	-0.09	-0.25	-0.10	-0.29	-0.12	1	-0.09	-0.04	0.02	-0.03	-0.11	0.01	-0.10	0.02	-0.46	0.05	-0.07
(7) YAA	0.01	-0.03	0.06	0.20	-0.09	-0.09	1	0.72	-0.08	-0.26	0.22	-0.11	-0.22	-0.41	0.25	-0.15	0.18
(8) FS	-0.09	-0.06	0.12	0.13	-0.11	-0.04	0.72	1	-0.13	-0.30	0.09	-0.02	-0.24	-0.18	0.17	-0.17	0.19
(9) HouseClass	0.02	0.09	-0.01	0.06	0.06	0.02	-0.08	-0.13	1	0.38	-0.05	-0.04	0.06	0.05	0.03	0.14	-0.09
(10) FE	0.11	0.14	-0.15	-0.06	-0.05	-0.03	-0.26	-0.30	0.38	1	-0.17	0.05	0.07	0.11	-0.19	0.05	-0.08
(11) LawSchool	0.05	0.03	-0.07	0.22	0.01	-0.11	0.22	0.09	-0.05	-0.17	1	-0.19	-0.06	-0.07	0.22	0.09	0.03
(12) LawReview	0.12	-0.06	0.01	-0.09	0.02	0.01	-0.11	-0.02	-0.04	0.05	-0.19	1	-0.12	0.05	-0.08	-0.05	-0.05
(13) MootCourt	-0.12	0.28	-0.17	0.08	0.03	-0.10	-0.22	-0.24	0.06	0.07	-0.06	-0.12	1	0.14	0.01	0.03	-0.16
(14) HW	0.02	-0.04	-0.02	-0.09	0.09	0.02	-0.41	-0.18	0.05	0.11	-0.07	0.05	0.14	1	-0.04	0.12	-0.03
(15) Gender	-0.03	0.12	-0.02	0.63	0.26	-0.46	0.25	0.17	0.03	-0.19	0.22	-0.08	0.01	-0.04	1	0.03	0.10
(16) Height	0.11	-0.08	0.02	-0.05	0.00	0.05	-0.15	-0.17	0.14	0.05	0.09	-0.05	0.03	0.12	0.03	1	0.04
(17) FamilySize	-0.39	-0.14	0.61	-0.19	0.02	-0.07	0.18	0.19	-0.09	-0.08	0.03	-0.05	-0.16	-0.03	0.10	0.04	1

Table D.2: Equation 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(10)	(11)
(1) BillableRate	1	0.7785	0.6683	0.8166	0.2009	-0.3176	0.429	0.1607	0.3043	0.3289	-0.1458
(2) YAF	0.7785	1	0.6624	0.8414	0.1998	-0.3351	0.3365	0.2394	0.1815	0.2452	-0.1933
(3) FS	0.6683	0.6624	1	0.7191	0.1671	-0.1815	0.4119	0.2032	0.2224	0.3285	-0.1981
(4) Age	0.8166	0.8414	0.7191	1	0.251	-0.4119	0.4078	0.1625	0.2368	0.3706	-0.243
(5) Gender	0.2009	0.1998	0.1671	0.251	1	-0.0395	0.2495	0.0542	0.2684	0.1453	-0.2262
(6) HoursWorked	-0.3176	-0.3351	-0.1815	-0.4119	-0.0395	1	-0.3364	-0.002	-0.1386	-0.2027	0.0352
(7) Children	0.429	0.3365	0.4119	0.4078	0.2495	-0.3364	1	-0.0006	0.2488	0.2008	-0.0235
(8) Exercise	0.1607	0.2394	0.2032	0.1625	0.0542	-0.002	-0.0006	1	0.0063	0.1286	-0.1842
(9) Married	0.3043	0.1815	0.2224	0.2368	0.2684	-0.1386	0.2488	0.0063	1	0.5254	-0.1794
(10) MarriedT	0.3289	0.2452	0.3285	0.3706	0.1453	-0.2027	0.2008	0.1286	0.5254	1	-0.2305
(11) Music	-0.1458	-0.1933	-0.1981	-0.243	-0.2262	0.0352	-0.0235	-0.1842	-0.1794	-0.2305	1