The Analysis of Heuristics in the Cognitive Process of Catholic High School Selection

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The Analysis of Heuristics in the Cognitive Process of Catholic High School Selection

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ABSTRACT

Research about the cognitive process that a parent uses in selecting a high school for their child could help increase Catholic school enrollment, which would serve the dual purpose of evangelizing more students and providing increased financial stability through higher tuition revenue. Heuristics, shortcuts the brain uses to make difficult decisions, provide insight into this cognitive process of high school selection. The affect heuristic suggests that a person makes a judgment based upon emotion, the availability heuristic occurs when someone makes a judgment based upon the ease of recall of information, and the representativeness heuristic is used when a judgment is based upon the degree to which a sample is thought to share characteristics of the parent population. The purpose of the study is to determine the extent to which parents use the affect, availability, and representativeness heuristics in forming opinions about Catholic schools and making decisions about sending their children to a Catholic high school.

Two surveys were crafted to analyze this problem. In the first survey, 465 parents of 7th and 8th graders at Catholic elementary schools responded to four stimuli that tested for the affect, availability, and representativeness heuristics. In the second survey, 187 parents of applicants at a Catholic high school answered questions about the various sources of information for learning about a school. Chi-Square analysis, Pearson product-moment correlation coefficients, and regression analysis were used to analyze the data from both instruments.

The results suggest that parents use some combination of the affect, availability, and representativeness heuristics when forming opinions about Catholic high schools and when deciding for their child to apply to and enroll in a Catholic high school.

The findings provide admissions directors and administrators at Catholic schools greater insight into how to better attract, enroll, and retain students.

This dissertation by Nicholas Haas Huck fulfills the dissertation requirements for the doctoral degree in Catholic Educational Leadership approved by John J. Convey, Ph.D., as Director, and by Merlyann J. Schuttloffel, Ph.D and Leonard DeFiore, Ph.D. as Readers.

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DEDICATION

       This dissertation is dedicated to my wife, Elizabeth, for her sustained support throughout the process of earning a doctorate. It is also dedicated to my son, Thaddeus, a gift from God.

       This dissertation is dedicated to the Blessed Virgin Mary under the patronage of Our Lady of Lourdes.

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CHAPTER 1

INTRODUCTION

"Because education truly forms human beings, it is especially the duty and responsibility

of the Church, who is called to serve mankind from the heart of God and in such a way that no

other institution can." - Cardinal Jorge Bergoglio (Pope Francis) (Lucas, n.d., p. 3)

Pope Francis' quote underscores the true mission of Catholic schools: to form students

for the world and for heaven. Catholic schools have formed students in the United States since

the oldest Catholic school, Ursuline Academy, opened in 1727 (Kealey, C. & Kealey, R, 2003).

Yet in more recent years, the enrollment in Catholic schools has decreased dramatically since its

height in the mid-1960s (McDonald & Schultz, 2010). The current crisis in enrollment has two

profound consequences: the divine, a decrease in the number of children formed for heaven, and

the human, a decrease in tuition revenue which accounts for the majority of revenue for a

Catholic school. While it is known that parents send their children to Catholic schools primarily

for the Catholic values, quality academics, and strong discipline system (Convey, 1992), it is

unknown how parents arrive at the decision to send their child to a Catholic high school. An

analysis of parents' cognitive decision making process in selecting a high school as well as how

parents apply information to the high school selection process is a worthy exercise. This

dissertation attempts to analyze how parents make judgments about Catholic high schools, how

they decide to have their children apply to Catholic high schools, and, ultimately, how they make

the decision to send their child to a Catholic high school.

Benefits of Catholic Schools

Research since the 1960s indicates that Catholic school students outperform public

school students academically, spiritually, and civically. Academically, researchers Greeley and

Rossi (1966, 1977) were among the first to empirically document the academic achievement difference in their study *The Education of Catholic Americans,* which stemmed criticism that Catholic schools were inferior to public schools. The 1982 *High School Achievement* study put forth by Coleman, again, reported that Catholic school students outperform public school students and noted that the differences were most profound in students from disadvantaged backgrounds. Bryk (1993) further substantiated Coleman's work in his study, *Catholic Schools and the Common Good,* where he determined that Catholic school students outperform public school students. Similar to Coleman, the greatest difference in achievement occurred in minority and lower socio-economic status students. Bryk observed that achievement differences were substantial even when various influences such as family background were factored out and attributed Catholic these differences to Catholic schools' superior curriculum, communal organization, decentralized governance, and inspirational ideology. He observed achievement differences even when various influences such as family background were factored out. More recent research continues to indicate that faith based schools improve student achievement and have greater positive impacts on minority students than public schools (Jeynes, 2007; McCloskey, 2009). The degree of the positive impact on students is inversely proportional to the student's socio-economic status: the lower the socio-economic status, the greater the possible positive influence.

In addition to their superior academic achievements, Catholic school students and graduates alike demonstrate more religious practices than their non-Catholic school counterparts. Catholic school attendance is a significant predictor for Mass attendance for both graduates and current students (Guerra, Donahue, & Benson, 1990). Catholic school graduates report more regular practice of their religion through reception of the sacraments and daily prayer than non-

Catholic school graduates (Convey, 1992; D'Antonio, Davidson, Hodge, & Meyer, 2001; D'Antonio, Davidson, Hodge, & Gautier, 2007) and they are more likely to consider a religious vocation (Fee, Greeley, McCready, & Sullivan, 1981). Greely, et al. (1976) observed a direct relationship between the length of time in a Catholic school and the strength of religious practices and conventions. Even lapsed Catholics who attended Catholic school are more likely to return to the faith as compared to those who did not attend Catholic schools (Fee, Greeley, McCready, & Sullivan, 1981). This "Catholic school effect" also refers to religious knowledge. Students in Catholic schools, including non-Catholics, outperform students in parish religious education programs on tests about their faith (Convey, 2010; Convey & Thompson, 1999). Greeley (1977) asserted that an investment in Catholic education was an investment in the Church's future: Catholic school graduates put twice as much in the collection plate than non-Catholic school graduates (Sander, 2001).

Catholic schools also produce students who display better civic values compared to non-Catholic school students. One might think that a state education would form better citizens of the state. Yet to the contrary, Catholic school graduates display better civic values such as tolerance, political knowledge, and volunteering than public school graduates (Wolf, 2007). Recent research also indicates that Catholic schools have a profoundly positive impact on their local communities. Catholic schools are not merely educational institutions; they serve as community institutions that provide human capital, social capital, and economic benefits (Brinig & Garnett, 2014). Closures of Catholic schools in urban areas are linked to increased crime and disorder. In this symbiotic relationship, the communities provide students for the schools and the Catholic schools provide greater local stability for the communities.

Decline of Enrollment

Despite the wealth of research about the positive academic, religious, and civic benefits of Catholic schools, the number of Catholic schools and number of students enrolled in Catholic schools has declined since its peak in the 1960s (McDonald & Schultz, 2010). The number of Catholic schools decreased from 12,893 schools in 1960 to 7,094 schools in 2010. The data of Catholic school students has a similar trend. Today's enrollment of 2 million students is approximately 60 % less than the 5 million students who attended Catholic schools in the 1960s (McDonald & Schutlz, 2010).

A variety of reasons are responsible for this extraordinary decline including changing demographics, weak leadership, academic problems, strong competition, weak Catholic identity, and lack of parental support for Catholic schools (DeFiore, Convey, & Schuttloffel, 2009). Additionally, the abuse scandals in the Catholic Church significantly erode the bishops' accountability as well as abraded the Church finances (D'Antonio, Davidson, Hogue & Gautier, 2007; Cook, 2004). There has also been a significant cultural shift in Catholic parents. Today's Catholic parents can be described as post-differential – they no longer "pray, pay and obey" (Heft, 2011) and, as a result, bishops and church leaders can no longer lean on their positional authority. DeFiore (2011), former president of the National Catholic Education Association, put forth the "multiple whammy" theory as to why enrollment decreased. The theory contends that not one factor initiated the decline in enrollment but rather changing demographics, the demise of religious congregations – which had unfavorable financial and leadership impacts – the halting of building new schools, and the declining rates of contribution to the Church all played a role in this woeful decrease.

The problems aforementioned are plentiful but ultimately finances are the major reason Catholic schools close (DeFiore, Convey, & Schuttloffel, 2009; Cook, 2004). Researchers DeFiore et al. (2009) asserted that "in the vast majority of cases, Catholic schools close because the financial circumstances of the schools have become untenable" (12). The increasing cost of operating a school is the primary factor why a Catholic school's finances are cumbersome. Today, less than half of Catholic schools in the nation are financially strong and stable (Dwyer, 2005) and secure funding has sometimes become a pre-requisite for outside organizations to assist besieged Catholic schools (Dallavis & Cisneros, 2013).

A significant change in the staff at Catholic schools fueled Catholic schools' financial challenges. In the past, Catholic schools were funded by the generosity of religious sisters, brothers, and priests. Declining vocations and more varied religious apostolates meant an increase in lay staff and, thus, an increased cost of salaries and benefits. This situation is compounded by the increase in total staff within a school (McDonald & Schultz, 2010) despite declining enrollment. Even though enrollment is less than half of what it was in 1960, total staffing is greater than that of 1960 largely due to small class sizes and the increased complexity of high schools. In other words, Catholic schools faced two major financial challenges as a result of personnel. First, it had to pay the laity larger salaries than the religious and, second, the number of salaries increased because the size of the staff increased. The increased cost of a Catholic education has been largely passed along to parents in the form of tuition and fees.

While salaries and benefits occupy the majority of most Catholic high school's expenses, the schools generate income from four major sources: tuition, subsidies from the parish or diocese, fundraising, and government funding (Cidade & Saunders, 2013). Tuition is the most significant component and accounts for roughly 80% of a Catholic high school's income. At a

national average of $9,612 in tuition per student, a decrease of ten students has a decrease on the budget by nearly $100,000. It is difficult to overstate the importance of tuition in the budget at a Catholic high school. As tuition based institutions, the majority of high schools face annual financial anxiety because of uncertainty in the following year's enrollment.

Proposed Methods to Stabilize and Increase Enrollment

Educators, administrators and researchers have proposed a variety of solutions to combat the downward trend in the number of Catholic school students (DeFiore et al., 2009; Hamilton, 2009; Cook, 2008). Government funding through voucher or school choice programs remains a popular solution (DeFiore, Convey, & Schuttloffel, 2009; Cook, 2004; Garnett, 2014). There have been recent strides in this area, but many states still lack the benefits of school choice (Garnett, 2014). Some schools engineered new models to combat the financial challenge (Heft, 2011; Cook, 2004) such as Cristo Rey schools (Kearney, 2008) and regionalized school systems (Britt, 2013). Students at Cristo Rey high schools work one day a week at a law firm, hospital, or other business center to pay for part of their tuition. Regionalized school systems, which have had limited success, attempt to create financially viable schools by consolidating several schools together under one management (Britt, 2013).

Another popular solution to the troubling finances in Catholic schools is for the schools to more closely emulate the financial policies and practices at colleges and universities (Gates, 2012; Heft, 2011; Cook, 2008). Like Catholic elementary and high schools, the majority of colleges are tuition driven. Colleges found a way to survive financially and, therefore, might provide insight into how Catholic elementary and high schools, too, can survive financially. Colleges created boards, developed sophisticated advancement offices, and implemented enrollment management practices to achieve financial stability (Heft, 2011; Epstein 2010).

Colleges also benefit from government funding which is unavailable to the same extent for Catholic high schools. While not necessarily intentionally following the lead of colleges, numerous Catholic high schools have developed boards and more advanced development offices to increase operations. However, enrollment management – which serves to attract and enroll a sufficient number of students to make the school financially viable – has not garnered significant attention. Notably, there has been a small shift toward enrollment management (Marketing Catholic Schools, n.d.) that has been met with success (Gates, 2013; Riley, 2012) on both the diocesan and high school levels. The Diocese of Allentown, the only diocese in the northeast who recently enjoyed two straight years of enrollment growth, attributed their success in part to the influence of a new enrollment management position. Likewise, the enrollment management efforts at Assumption High School in Louisville, Kentucky garnered an additional 30 students in their 2012 incoming freshmen class. Despite these successes, statisticians remain unconvinced when n = 2. Thus, there is a need for research about enrollment management on the high school level.

As mentioned before, the goal of enrollment management is to attract and enroll students in order to create a financially stable school. Thus, empirical research about how parents select a high school for their children is important. Researchers already discovered the reasons that parents select Catholic schools (Convey, 1992). Still, there is question as to how parents form opinions about Catholic high schools and ultimately make decisions about sending their child to a Catholic high school. It is important to take a look at the cognitive process that goes into how parents form judgments and make decisions about where to send their children to high school.

Decision Making, Bounding Rationality, and Heuristics

Most people hold the notion that decision making is based upon a rational, logical analysis of a situation, its potential solutions, and the consequences (Boumans, 2011). This concept can be traced back to the Renaissance when scientists had a mindset that the world could be understood through rationalism and empiricism (Berstein, 2004), which continues today (Kuhn, 1996). Yet recent research suggests that people do not always employ a strictly rational algorithm for making decisions. Often, people settle for satisfactory answers and do not systematically review all possible solutions (Hilbert, 2011; Plous, 1993; Simon, 1990). Moreover, people settle for answers unknowingly, thinking their minds derive the answer from a logical analysis of information (Kahneman, 2011). Simon (1969, 1990), who received a Nobel Prize for his work, asserted that humans have a bounded rationality, meaning that there are limits to the rational and logical thought processes. The bounded rationality is a resultant of a psychological condition of a limited cognitive working memory, which leads to the inability to process significant amounts of information at a given moment. A bounded rationality explains why people often break larger tasks into smaller tasks or focus on one out of several decisions at a time.

There are two profound consequences of a bounded rationality. The first is that the complexity of an environment subconsciously influences a person's behavior, judgments, and decision-making process. Small environmental factors can have a significant effect on a person's behavior without their knowledge. As examples, exposure to signs of money or wealth will make a person more introverted and less likely to help another person (Vohs, 1990); voters are more likely to approve school funds if the voting takes place in a school (Berger, Meredith, & Wheeler, 2008); and thinking about words associated with the elderly makes a person walk

slower (Mussweiler, 2006). The second major consequence of the bounded rationality is the utilization of short-cuts or systematic strategies to decrease the mental workload. These short-cuts, often referred to as heuristics, provide easier methods to achieve solutions with a modest amount of mental power as compared to a comprehensive analysis which would employ a significant amount of brain power. The combination of these consequences means that people often make irrational decisions.

Nobel Prize winners Tversky and Kahneman's (1974) performed groundbreaking work on the specific heuristics employed to make judgments under uncertainty. They put forth three main heuristics: availability, representativeness, and anchoring. Of these three, the availability heuristic and representativeness heuristic (Tversky & Kahneman, 1974) along with the affect heuristic developed by Finucane et al. (2000) are three potential heuristics that prospective parents of Catholic high school students may employ when making judgments about a future Catholic high school. (See Figure 1.) The availability heuristic states that an individual makes a judgment based upon the frequency and saliency of experiences that come to mind (Tversky & Kahneman, 1974). For example, a person might think there are more words in the English alphabet that begin with the letter "k" than words that have the third letter "k" since words that begin with the letter "k" are easier to recall than words with that have the third letter "k". The representative heuristic claims that an individual makes a judgment or decision about an entire population based upon an experience or representative of that population. For example, a person may think all Canadians are friendly people after a pleasant encounter with one Canadian. Finally, the affect heuristic states that judgments are made based upon one's feelings toward an object. For example, a person eating at a restaurant might order a delectable brownie Sundae

draped in hot fudge and whipped cream simply because he knows he will enjoy eating it despite knowing that it is not part of his diet.

OBJECTIVES

There are two objectives of this study. The first objective is to ascertain if parents of elementary school students utilize the affect, availability, and representativeness heuristics to make judgments about Catholic high schools. The second objective is to determine if parents who had a child apply to a Catholic high school utilized the affect, availability, and representativeness heuristics when applying and deciding to enroll their child at the high school.

QUESTIONS

1. Do parents of elementary school students utilize the affect, availability, and representativeness heuristics when making judgments about a high school?

2. Do parents who had a child apply to a Catholic high school use the affect, availability, and representativeness heuristic when deciding for their child to apply to the high school?

3. Do parents who had a child apply to a Catholic high school use the affect, availability, and representativeness heuristic when deciding to enroll their child at the high school?

HYPOTHESES

1. The majority of parents utilize the affect, availability, and representativeness heuristics when making judgments about a Catholic school.

2. Parents utilize the affect, availability, and representativeness heuristics when deciding for their child to apply to a Catholic high school.

3. Parents utilize the affect, availability, and representativeness heuristics when deciding for their child to enroll in a Catholic high school.

SIGNIFICANCE OF THE STUDY

The number of students in Catholic schools in the United States decreases and this study provides information that may help reverse this trend. There is a strong base of research about why parents select Catholic schools (Convey, 1992) but there is little knowledge about the decision making process for Catholic high school selection. Knowledge about the use of heuristics that parents employ to make judgments about a Catholic high school can help admissions representatives frame their marketing materials and prospective families' experiences with the school. Ultimately, the study is of significance because its findings may be used to help stabilize and increase enrollment in Catholic high schools, which could lead to financial stability.

Figure 1

Conceptual Framework Relating the Dual Process Theory of Decision Making to how Parents

Make Decisions about High School Selection

CHAPTER 2

REVIEW OF LITERATURE

ENROLLMENT MANAGEMENT

Boston College stood at a crossroads in the mid-1970s. A failed attempt to become the

Catholic Harvard left them as a commuter school with lack a vision. Each semester school

administrators fretted over the next semester's enrollment, hoping that enough students would

enroll to balance their checkbook (Epstein, 2010). Like most private educational institutions,

Boston College was tuition based and tuition depended upon enrollment. The GI Bill, the Civil

Rights movement and the baby boomers had fueled college enrollment but the future looked

bleak (Bontrager, 2004). Furthermore, rising costs, decreasing high school enrollments, and a

national conversation about the financial value of a college education complicated the situation

(Maguire, 1976) and forward looking administrators worried about who would eventually

replace current students. The financial viability of Boston College – and therefore the entire

institution – was at stake because their enrollment was at stake.

Boston College administrators considered whether they were "at the mercy of runaway

economic and cultural forces that doom any optimistic vision of [their] future" or if they could

"plan in such a way as to force [their] fortunes to be decidedly different from others with less

foresight" (Maguire, 1976). Taking the latter position, administrator John Maguire responded to

the challenges by creating a sophisticated and intentional process to strategically attract and

retain students. He termed the process "enrollment management" and put forth five components

of enrollment management: marketing admissions, research and information flow, market

prediction and institutional response, financial aid strategy, and retention transfer (Maguire,

2010). Maguire created a systematic approach to enrolling a sufficient number of students to

generate enough money for financial viability and, thereby, transformed the way the entire college viewed enrollment. His foundational work in enrollment management contributed to Boston College's transformation from a commuter school with an uncertain future to its current state of financial stability and student selectivity. In 2014 Boston College accepted about one third of students who applied (Boston College, 2015) largely due to the enrollment management pathway that Maguire initiated (Epstein, 2010).

Many Catholic high schools find themselves in the same predicament as Boston College in the 1970s. Like Boston College, these Catholic high schools depend upon tuition to balance the budget. A decline in tuition revenue accompanies a decline in enrollment, which is troublesome because costs almost always increase. These rising costs are commonly passed along to parents in the form of tuition but often at an unsustainable rate for parents. Tuition at Catholic high schools increased by 139% over a ten year period from 2003 to 2013 (Bath, 2013), a staggering amount especially considering the time period included an economic depression. Enrollment management may be a means of achieving financial stability in Catholic high schools just as it was for Boston College and many other colleges.

Enrollment management is a process that responds to the challenges of attracting students that adequately fit the school's mission to optimize tuition revenue (Baker, 2012a, Baker, 2012b; Huddleston Jr., 2000). All enrollment management practices in a Catholic school should support the school's mission of evangelization, which should be at the heart of every Catholic school (Miller, 2005). Prior to being elected Pope, Cardinal Bergoglio (Pope Francis) asserted that the goal of education is to form human beings and it is, therefore, the Church's responsibility because no other institution has the same ability to form children as the Church (Lucas, n.d.). The school's Catholic identity should emanate throughout the entire curriculum and activities of

the school (Benedict XVI, 2008), and the entire school population – administrators, faculty, parents, and students – should have a clear understanding of the school's Catholic identity (DeFiore, Convey, & Schuttloffel, 2009). Successful Catholic schools will manifest a strong Catholic identity (DeFiore et al., 2009; Cook, 2008; Bramble, 2010) and researchers identified the lack of a strong Catholic identity as a factor in school closures (DeFiore et al., 2009; Cook, 2008).

This mission of evangelization and the divine mandate to "go and make disciples of all nations" (Mt. 28:19 The New American Bible) becomes less tenable as the enrollment decreases in Catholic schools. The decline results in two profound consequences, both of which are negative: the first, fewer children become formed for heaven and, the second, finances at schools become strained. Success in the former is only possible with success in the latter. A fruitful enrollment management in a Catholic school serves the ultimate purpose to make God known, loved, and served thus fulfilling the evangelical mission of Catholic schools.

The enrollment management processes vary between institutions because different mission and, of course, demographics so there, therefore, is no ideal enrollment management model. Schools should adapt the model to fit their particular mission statement, demographics, and needs. Enrollment management is meant to be an organic and evolving process that changes each year depending upon different challenges or strengths (Penn, 1999; Hossler, Bean, & Associates, 1999; Lehmacher, 2012). There are numerous aspects that can be included on the enrollment management continuum. At the college level, the basic end of the continuum is a process that includes only marketing and admissions. The middle ground contains research, recruitment, financial aid, orientation, registration, and the basic functions. Finally, the comprehensive end of the continuum includes strategic planning, curriculum development,

student services, academic advising, assessment, and career planning in addition to the middle ground functions. High schools are far less complex organization than colleges and, thus, require fewer components, which are: admission, retention, research, and marketing (Baker, 2012a).

Admission refers to the process of responding to inquiries, accepting applications and making decisions about applications. This most basic part of the enrollment management process is performed by all schools.

Retention describes the process of ensuring students stay at the school through graduation and is essential for a school's reputation (Baker, 2012c). Notably, this is not a significant problem for most Catholic high schools. More than 90% of Catholic high schools retain 80% of their students yearly, and almost all of Catholic high schools report that 90% of all seniors graduate (Cidade & Saunders, 2013). Retaining students is not a challenge for most Catholic schools; enrolling students is the challenge.

Performing research is good practice for any financial operation and is, therefore, important for Catholic high schools. Data collection is important for creating sound decisions (Hamilton, 2009; Fried, 2012) and helps institutions become proactive rather than reactive (Healey, Eriksen, & Cassin, 2013; Fried, 2012). Diocese should closely monitor schools and create intervention strategies when necessary. In particular, monitoring the areas of academic, religious, demographic, and financial information is essential for viable Catholic schools (DeFiore et al., 2009; McNiff, 2010).

Marketing, the fourth major function of enrollment management in Catholic high schools, is recognized by many to be a critical element to increase enrollment (DeFiore et al, 2009; Hamilton, 2008; McNiff, 2010; Bramble, 2010; Meyer, 2007). While some dioceses guide the

marketing program (Gates, 2012), other dioceses push the marketing function on the individual schools (Bramble, 2010). Successful marketing plans should be based upon the school's mission and data about why parents select their schools (McMahon & Land, 2012). In reference to Catholic high schools, it is important for schools to understand the needs of parents who usually make decisions about where to educate their children. For example, if quality academics are the primary reason why parents choose to send their children to Catholic schools (Gallanter, 1994; Biddle, 1997), marketing should highlight Catholic schools' academic successes more than strong Catholic identity or superior athletics. The evolution of technology and social media provides a means to create an effective marketing plan on a small budget (Warren, 2012).

Any successful enrollment management program will have a good understanding of the parents who select their school. Researchers identified quality academics and Catholic identity as the main reasons why parents select a Catholic high school (Convey, 1992) yet how parents make the decision about which Catholic high school remains a mystery. In other words, we know *why* parents select a high school but we do not know *how* they select a particular high school. How does a parent determine if a Catholic high school has good academics? What metric, if any, is used to conclude to a high school has a good disciplinary system? It is worthy to take a look at the cognitive process of how parents apply information to construct a judgment or make a decision. Recent research suggests that people might not always employ a strictly rational decision making process. Tversky and Kahneman (1974) detected heuristics, mental shortcuts, as a technique that people use for making judgments and decisions instead of logically assessing all the information. It is then possible that parents use heuristics when forming opinions and making decisions about the high school their children should attend.

HEURISTICS

Psychology researchers in the 1970s formulated ideas of a dual-process brain, which

refers to the two separate mechanisms of how the brain functions (Evans & Frankish, 2009). The

development was slow and incremental as researchers independently began assigning various

processes and attributes to the two different processes (Epstein, 1994; Fodor, 1983; Schneider &

Shiffrin, 1977; Chaiken, 1980; Evans, 1989) which are best known as System 1 and System 2

(Evans, 2008). The attributes of each system are opposite each other. System 1 can be described

as unconscious, implicit, automatic, low effort, rapid, high capacity, emotional, and associative

whereas System 2 is described as conscious, explicit, controlled, high effort, slow, low capacity,

analytic, reflective, and neutral (Evans, 2008; Kahneman, 2003). Put more simply, System 1 is

intuitive based and System 2 is reasoning based (Kahneman, 2003). Table 1 contains the

attributes of each system.

Table 1

Characteristics of System 1 and System 2 of the Dual Process Theory

System 1(Intuition based)	System 2 (Reasoning based)
Unconscious	Conscious
Implicit	Explicit
Automatic	Controlled
Low effort	High effort
Rapid	Slow
High capacity	Low capacity
Emotional	Reflective, neutral
Associative	Neutral

System 2's lazy behavior often forces System 1 to make decisions and judgments. This is not ideal since System 2 is analytic whereas System 1 is emotional and associative. The challenge is that many questions in life are not simple questions. Questions such as "Do you think the United States should stop fracking?" and "What do you think about the new mayor?" require serious thought and consideration, which in turn requires System 2. Frequently, the mind substitutes an easier question for a complex question (Kahneman & Frederick, 2005; Kahneman, 2011). Instead of awakening the slothful System 2, System 1 inserts an easier question that the brain can more easily answer. "Does fracking benefit me?" and "Do I like the new mayor?" are potentially, easier questions the mind could substitute. Strack et al. (1988) illustrated this phenomenon in an experiment about happiness. They asked people two questions: "How happy are you these days?" and "How many dates did you have last month?" There was no correlation between the answers for the first group of individuals. When the questions were reversed – "How many dates did you have last month?" was asked first – the correlation between answers spiked to 0.66, a high correlation for a psychology experiment. The second group of individuals likely inserted the easy question "How many dates did you have last month?" for the challenging question "How happy are you these days?" Similar experiments involving marriage and health reveal the same substitution process (Smith, Schqarz, Roberts, & Ubel, 2006). This experiment also illustrates priming, the effect occurred when exposure to one stimulus influences the reaction to another stimulus (Schwartz et al., 1991). This research also points to the brain's ability to automatically create associations between stimuli even when they might not be connected (Morewedge & Kahneman, 2010). In Strack et al.'s experiment, participants in group one did not associate dating with happiness. However, participants in group two associated

dating with happiness because the questions were reversed although few would likely admit this is why they were or were not happy.

Heuristics are methods that people employ to answer questions, make decisions, and create judgments utilizing System 1. They can be thought of as rules of thumb to make judgments under uncertainty. Tversky & Kahneman, known as the first to research heuristics, offered three heuristics – the availability heuristic, representative heuristic, and adjusting and anchoring heuristic – as means to making judgments in their landmark paper in 1974. Later, Finucane et al. (2000) presented the affect heuristic as another method to make judgments. The affect heuristic, the availability heuristics, and the representativeness heuristic are potential means of how prospective parents of Catholic high school students make judgments and decisions about where to send their children. The following provides a summary of each heuristic.

Affect Heuristic

Haidt (2001) stated, "The emotional tail wags the rational dog." This assertion, which references the affect heuristic, illustrates the mental short-cut whereby people make decisions based upon their emotions or the favorability of an event. This mental shortcut created by relying on favorability or unfavorability is commonly referred to as the affect heuristic. Like most heuristics, the mind substitutes an easier question for a hard question and, in this instance, relies on affect to achieve an answer. The affect heuristic influences preferences about various technologies (Peters & Slovic, 1996), preferences about cities and states (Slovic et al., 2001), preferences about companies for investing in the stock market (MacGregor, Slovic, Dreman, & Berry, 2000), and even future behavior (Slovic et al., 2001). An understanding of how the brain creates impressions and associations helps explain how people employ the affect heuristic.

Each day an individual receives and processes millions of stimuli both quickly and automatically. The brain quickly and accurately forms impressions (Albright, Kenny, & Malloy, 1988) of words, images, events, facial expressions, and photos (Bargh, Chaiken, Raymond, & Hymes, 1996; Greenwald, Draine, & Abrams, 1996; Murphy & Zajonc, 1993; Hermans, De Houwer, & Eelen, 1994). The impression created within the first few seconds of viewing a stimulus is nearly identical to the impression created over a sustained period of time (Ambady & Rosenthal, 1992). In an experiment to document this phenomenon, researchers Ambady and Rosenthal (1992) asked individuals to make a judgment about a teacher's effectiveness after viewing a clip of the teacher in class. The judgments about teacher efficacy were independent of the duration participants viewed the clip. Furthermore, their judgments were the same as students who spent the entire semester with the professor. The other words, the impressions were the same regardless of duration. Ambady and Rostenthal termed the ability to create a judgment in a short window of time a "thin-slice."

In addition to rapidly processing the stimuli, each impression contains an affect – a favorability or unfavorability – about the image. People do not see objects or other people in neutrality; instead, they automatically make judgments (Zajonc, 1980). Zajonc (1980) claims that "we do not just see 'a house': we see 'a handsome house,' 'an ugly house,' or 'a pretentious house'" (Zajonc, 1980, p. 154). Humanity is judgmental by nature and these automatic judgments contain an affect about another person or object. The old adage "first impressions matter" contains truth because people look for information and assign characteristics that fit a pre-determined schema often formed by the first impression (Rothbart, Fulero, Jensen, Howard, & Birrell, 1978; Klauer & Stern, 1992). The halo effect, which often works in concert with this aspect of affect, describes how attributes are assigned to a judgment only if the attributes support

the initial impression; evidence not supporting the initial judgment is discarded (Thorndike, 1920). Historians often prescribe the halo effect to both good and bad leaders (Rosenzweig, 2007) when they praise the good qualities of good leaders while over-exaggerating the negative qualities of poor leaders. Rarely does someone find any fault with a good leader and, similarly, positive attributes are almost never assigned of a poor leader. The halo effect is frequently seen in politics when people extol the qualities of a particular political party while refusing to admit the other political party has any merit.

The importance of a good first impression was further illustrated by an experiment performed by Asch (1946). He created two lists of six adjectives to describe an individual. One list started with positive words and ended with negative words and the second list contained the same adjectives but reversed the order putting negative words first and positive words last. People judged the person described by the former list more favorable than the later list. Changing the order of the descriptive words changed the impressions. Unfortunately, the ease of stereotyping is displayed by Thorndike's halo effect and the impact of sequence illustrated by Asch (Devine, 1989). Stereotypes are difficult to break because an individual will continue to find reasons to support the stereotype and will have difficulty moving beyond the initial impression.

First impressions are malleable and easily manipulated and influenced by attitude, mood, hunger, and irritability (Forgas & East, 2008; Danziger, S., Levav, & Liora Avnaim-Pesso, 2011). Moods can be positively altered by something as simple as a smile or an aesthetically pleasing photo. Smiling criminals received lighter sentences and hungry judges were less benevolent (LaFrance & Hecht, 1995). Likewise, moods can be negatively influenced when primed by a repulsive thought or unhappy face (Strack, Martin, & Stepper, 1988). Someone with

a full stomach after a night of plenty of sleep and greeted pleasantly by the usher is more likely to enjoy a play than the individual who is hungry, tired, and grunted at by the usher.

While most impressions are irrevocable, some impressions can be changed if the proper information is presented. Finucane et al. (2000) asked individuals to evaluate a controversial form of energy as favorable or unfavorable. The researchers then systematically presented the individuals with information designed to alter their affect. The majority of the individuals changed their initial position after reading the new information. It is unclear what caused people to change their initial impressions. Still, this is significant because marketers, lobbyists, and politicians could manipulate an individual's preferences through affect.

In 1980, Zajonc characterized affect by describing its attributes. First, Zajonc claims that affect is a basic function of the human brain. Children quickly create preferences based upon their impressions. A child either likes or dislikes his teacher. Affective reactions are inescapable and often irrevocable. Ross, Lepper, & Hubbard (1975) created a novel experiment that illustrated this idea. People performed a task and then gave positive or negative feedback. The participants were later informed that the feedback was erroneous and predetermined but the majority of participants still maintained that their performance mirrored the fabricated feedback. Zajonc also stated that affect judgments always implicate the individual; in other words, one can learn a lot about an individual from their affect judgments. One can tell if person is introverted or extroverted, enjoys the beach or the mountains, and prefers steak or lobster. Affective reactions are also often difficult to verbalize. The book Blink by author Malcom Gladwell begins with the anecdote about a fake Roman statue that passed the physical and scientific tests of age but could not fool the experts (Gladwell, 2011). The experts' initial impression – that it was not authentic – was correct but it took some time before the expert could articulate why he

thought the statue was a fake. Finally, Zajonc claimed that affective reactions can be separated from details about the situation; the brain creates an impression with an affect but the person cannot remember the details about what causes the impression. For example, a person might remember he enjoyed a particular book but might not be able to provide a summary of the book.

Intensity matching, the ability to determine the degree of favorability or unfavorability of an impression, works in conjunction with the affect heuristic (Kahneman, 2011). For example, someone viewing a house can determine if they find the house favorable or unfavorable but also the degree of favorability or unfavorability. In other words, the mind quickly makes comparisons based upon affect. Thus, descriptions are immensely important because words carry different intensities (Slovic et al., 2006). Describing a student as "brilliant" conveys more favorability than a "smart" student. Additionally, the amount of exposures and distance between the exposures affects the impression (Slovic, Finucane, Peters, & MacGregor, 2006). Suppose a person hears a list of twelve characteristics about a group and the word intelligent is mentioned twice. The individual is more likely to describe the group as intelligent if the word is spaced out by other words compared to if the word intelligent is mentioned close together. Additionally, the more the word is used, the more likely the person will term the group intelligent.

Hsee (1998) created the term evaluability to describe the ability for the mind to quickly make comparisons using affects. Some judgments are easy such as deciding between a beautiful painting and an ugly painting. However, many real life situations lack this precision (Hsee, 1996a) so there is often ambiguity in a situation such as which car to purchase or which candidate to hire. The mind uses intensity matching to create judgments and adeptly compares different weights. Each adjective receives a weight or intensity; multiple adjectives that describe an impression receive multiple weights. Notably, adjectives with greater precision carry more

weight or intensity than adjectives without that precision (Mellers, Richards, & Birnbaum, 1992). As mentioned before, "brilliant" thinker carries greater precision and, therefore, greater weight than a "smart" student. The affect for the former is more favorable than the affect for the latter.

Evaluability can create some bizarre results such as the one illustrated in the following experiment by Hsee (1998). The researcher asked people to assign a price they were willing to pay for two dictionaries, that was new with 10,000 entries and one that had a torn cover with 20,000 entries. When taken separately, people were willing to pay more for the new dictionary yet when evaluated jointly, the dictionary with 20,000 entries and torn cover took a higher value. Left alone, the dictionaries are hard to value but there is greater precision in the description when they are evaluated together. The ease of comparison is relevant especially when an attribute is difficult to evaluate independently. For example, consider a 60 Hz flat screen TV. The meaning of 60 Hz is difficult for most people to evaluate independently but a comparison is more easily made when comparing it to a 120 Hz TV. Needless to say, evaluability carries significant implications for marketing. Companies should encourage an advertisement that facilitates a joint-evaluation when a description or attribute is difficult to evaluate. On the other hand, a joint-evaluation should never be used when a description is easy to evaluate and the product is inferior (Hsee, 1996b).

The presentation of material also plays an important role in affect heuristics. People tend to care more about the proportion than the amount won or lost (Slovic et al., 2006; Kahneman, 2011). A few examples highlight this phenomenon. An ice cream container overflowing with ice cream is more attractive than the same amount of ice cream put in a larger container (Hsee, 1998). The gift of a $45 scarf is more generous than a gift of a $50 jacket when the most expensive scarf is $50 and the most expensive jacket is $500 (Hsee, 1998). Twenty-four plates

in good condition are valued more highly than a package of 31 plates in good condition and 9

broken plates (Hsee, 1998). References or comparisons between items are substantially easier to

evaluate than a number alone which explains why marketers and lobbyists sometimes use

percentages because they carry built in reference points whereas a single number lacks a

reference point (Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997). The following two

statements illustrate this.

Statement1 : A high school had 132 graduates attend college.

Statement 2: A high school had 97% of graduates attend college.

The second statement is more meaningful because it carries a reference point. The presentation

of material, along with evaluability and intensity matching, occurs quickly in the mind and often

influences affect.

The processing ability of information, known as fluency, plays an important role in affect

(Alter & Oppenheimer, 2014). Stimuli that is easier to process yields more favorable judgment

opposed to stimuli that is harder to process. Posters that contain clear photos and easy to read

words contains high ease. Taglines that rhyme also provide ease. Ease increases fluency which

results in material that appears more familiar, more true, more confident, and more memorable

than material with low ease. A person who hears a speech with disfluent markers such as "uh"

or "um" will judge a speech less favorable than the same speech heard by someone without the

disfluent markers (Brennan & Williams, 1995). The content of this dissertation would be judged

less favorably if the font was light pink and difficult to read.

The affect heuristic is employed beyond making judgment and influences the way people

make decisions. People frequently make decisions based upon emotion rather than follow a

cognitive process (Loewenstein, Weber, Hsee, & Welch, 2001). Zajonc (1980) suggests that

decisions are made via affect and not by rational thought. A person buys a car or a house based upon their feelings toward the car or house and rationalizes the decision when friends and neighbors ask why he or she bought the house or car. The buyer knows he or she likes the item so he or she does not need convincing; he or she only creates rational reasons to appease others. In conflict between the "want" and the "should", people will most always select that option that includes the "want" (Hsee, 1996). As mentioned above, Haidt (2001) may have said it best: "the emotional tail wags the rational dog" (814). It is plausible that when parents answer survey questions about why they select a Catholic high school the parents behave in the same manor by providing rational reasons to support an emotional choice.

The research provides numerous examples of people employing the affect heuristic to form opinions and make decisions. It is likely that the affect heuristic has significant implications on how people perceive Catholic high schools. As stated above, the old adage is true: first impressions are important and quite often irrevocable. Often those decisions are reinforced through the halo effect. A Catholic high school admission director should be mindful of this when prospective families are visiting. The school should be presentable and welcoming for guests. Little details such as greeting people with a smile or ensuring the hallways are clean help create a favorable mood, which positively impacts judgment. For example, at a private Benedictine school in New Jersey host students welcome prospective families at the entrance to the school with a smile. This single action creates a positive first impression, which parents build upon using the halo effect throughout the interview and tour. The school also provides light refreshments, which serve the dual purpose of helping to keep the prospective families in a good mood and fulfilling the Benedictine charism of hospitality. Creating a welcoming, positive environment that families want to become a part of is important because emotions often drive

decisions. Finally, schools should be mindful about the information they present as well as how they present this information. The school may internally know about their many successes but these strengths need to be communicated to parents in a means that generates a positive response from parents.

The affect heuristic may be a means of how parents create judgments Catholic schools and make decisions about sending their children to Catholic schools.

Availability Heuristic

Tversky and Kahneman (1973) put forth the availability heuristic as a mental short cut to make judgments and decisions based upon the frequency of which an individual can recall examples. The strength of association between the frequency of instances recalled and the probability of an event are related because more frequent events are more easily recalled or imagined and, therefore, are judged more probable (Tversky & Kahneman, 1974). The converse holds true that less frequent events or events that are difficult to recall are judged less probable. Tversky and Kahneman (1982) asserted that the availability heuristic relied on the processes of retrieval of instances and the construction of examples or scenarios. The researchers devised a novel experiment to first illustrate the availability heuristic. Participants were asked if there were more words in the English language that begin with the letter "k" or words that have the third letter "k" (Tversky & Kahneman, 1973). Even though the correct answer is words that have the third letter "k", most participants predicted that more words began with the letter "k" because words that begin with the letter "k" are more easily recalled. Similarly through the availability heuristic, one might think that accidents account for more deaths than strokes because one can more easily recall instances of deaths by accidents than deaths by strokes. However, strokes account for more deaths than accidents (Lichtenstein, Slovic, Fischoff,

Layman, & Combs, 1978). Likewise, many people think that air travel is more dangerous than car travel although statistically there are more car accidents than flying accidents. Flying accidents are more easily recalled and, therefore, deemed more common (Davis & Palladino, 2000).

Like forming impressions, the availability heuristic can be manipulated to encourage specific behavior. Schwarz et al. (1991) illustrated this ability by priming individuals to describe themselves using the availability heuristic. He first asked participants to create a list of either 6 or 12 instances of personal behavior that was assertive or unassertive and then describe themselves as assertive or unassertive. Those who created a list of 6 instances were more likely to agree that their behavior was assertive or unassertive. Participants instructed to generate a list of 12 examples were less likely to agree their behavior was assertive or unassertive. Schwarz reasoned that recalling 6 items is easier than recalling 12 items and that easily recalling 6 items made people think they agree they were either assertive or unassertive. Conversely, recalling 12 items is more challenging and the difficulty in recall made people disagree that they were either assertive or unassertive.

The frequency of which events occur, known as frequency distribution, is another key component of the availability heuristic. Events are perceived more frequent if they occur independently rather than collectively (Underwood, 1996). Likewise, items on a list appear more frequent if they appear spaced out in the list (Hintzman & Block, 1971). For example, suppose a high school publishes an alphabetical list of graduates and the corresponding colleges the graduates will attend and four out of 100 graduates will attend The Catholic University of America. The perceived number of students attending The Catholic University of America will be greater if the last names are spaced out such as Bonner, McDevitt, Shanahan, and Wood as

compared to the last names close together such as McDevitt, Neumann, O'Hara, and

Prendergast.

Rothbart et al. (1978) identified memory-load as another important influence of the

availability heuristic. Memory load refers to the amount of information that the brain processes

at a given moment; recalling associations during a high memory load is more challenging

compared to recalling associations during low memory load. In their experiment Rothbart et al.

(1978) created several lists of names paired with traits. Participants had a more challenging time

recalling traits as the list of names – and, therefore, the memory load – increased, which caused

the group to be unjustly characterized by the traits of a few people. The implications are

significant. The world is a high-memory load environment and, thereby, easily facilitates the

characterization of a group based upon a few salient moments. A high school with two or three

exemplary sports programs might be enough for one to think the entire athletic program is above

par and, conversely, a few bad apples can spoil the entire barrel if one relies upon the availability

heuristic (Rothbart et al., 1978).

Understanding that the salience of an event increased the ease of recall, Tversky and

Kahneman's initial definition of availability, previously limited to ease and frequency of recall

was expanded to include salience as a contributing factor to recall (McCauley & Durham, 1985;

Nisbett & Ross, 1980). Researchers established a relationship between the salience of a recalled

event and the perceived risk of a future event of that nature (McCauley & Durham, 1985).

McCauley et al. (1985) found that patients with successful kidney transplants suggested a higher

rate of success than patients who had unsuccessful transplants. Other researchers found that

people who saw a picture of natural disaster and those with personal experience of a natural

disaster judged a greater chance of a natural disaster than those who did not see the picture or did

not have experience with a natural disaster (Keller, Siegrist, & Gutscher, 2006; Greening, Dollinger, & Pitz, 1996). These experiments have two significant implications. The first is that each experiment used real experience opposed to experimentally induced stimuli. The second is that each involves a perceived risk and misjudging risks can be dangerous. A person could easily forego a beneficial surgery if he or she recalls a neighbor who recovered poorly from the surgery. Likewise, a person might underestimate hurricane warnings if he or she never experienced the severity of a natural disaster.

Salience of events and the frequency of recall often result from the media's over-exposure of particular issues or events (Triplet, 1992; McKelvie, 2000). A majority of participants inaccurately created a strong association between AIDS and homosexuality (Triplet, 1992) and AIDS and drug use in America (Eisenman, 1993) due to the over-exposure of these topics in the media. Perhaps one of the most well-known social implications of the availability heuristic involves the Love Canal fiasco (Kuran & Sunstein, 1999). The Hooker Chemical Company filled the Love Canal with toxic chemicals and eventually sold it to the government, who built a neighborhood on top of it. Years later harmful chemicals leached from the ground. Testing performed by the Environmental Protection Agency revealed that the toxic levels were not threatening and the water was safe to consume. This was not enough to convince local homeowner Lois Marie Gibbs. Gibbs organized a coalition advocating for the site to be cleaned. She developed a "stump speech" and appeared on several media outlets which eventually lead to the cleanup of the Love Canal and ultimately to the creation of the Superfund Act. Despite empirical evidence that the water was safe, people relied on their availability heuristic which led to them to perceive the water was harmful.

People often utilize the availability heuristic to make judgments about the future events but can using the availability heuristic influence future behavior? Carpenter et al. (1982) set upon the task of determining if the availability heuristic could in fact influence future behavior. The researcher asked participants to place themselves in scripted scenarios and estimate the likelihood of the scenarios taking place. Not surprising, the researcher later observed behavior similar to the scenario. In other words, imagining a scenario increased the probability that the scenario would take place. Imagining an event means the event could potentially occur and, thus, the scenario occurs because the mind easily recalls the potential occurrence of the event and does not need to search for other potential outcomes. Other researchers confirmed the ability of the availability heuristic to influence future behavior; people are more likely to vote when asked if they will vote (Greenwald, Carnot, Beach, & Young, 1987), more likely to recycle when asked if they will recycle (Sprott, Spangenberg, & Perkins, 1999), and more likely to exercise having thought about exercise (Milne, Rodgers, Hall, & Wilson, 2008). Proctor and Gamble asked people to write short stories praising their product sometimes providing a financial prize (Cialdini, 1984). They hoped the storytellers would be more inclined to purchase their product after writing a profoundly moving story – fiction or non-fiction – about the wonders of the product.

Needless to say, not all imagined events have the potential to occur. Imagining yourself winning the lottery does not make you any more likely to win the lotter. Understandably, events more challenging to imagine have a lower likelihood of occurring and events easier to construct in one's mind are more likely to occur (Sherman, Cialdini, Schwartzman, & Reynolds, 1985). A person who envisions himself finishing a marathon will be more likely to actually run the marathon than a person who cannot envision running the 26 miles. This concerns availability

because the more easily a person can recall an event, the more likely the event will occur. Lee (2001) suggests that Gibbs' frequent recitation of the stump speech about the dangers of the Love Canal convinced herself that there was imminent danger despite the empirical evidence that the chemical levels in the water were not hazardous.

The availability heuristic is significant to Catholic high schools for a several reasons. Prospective families will recall what they know about a particular school utilizing the availability heuristic. Research about prospective families, an important aspect of enrollment management, should indicate why families might select or not select a Catholic high school. Marketing should make it easy for prospective families to recall the favorable attributes and not recall the unfavorable attributes. For example, parents are primarily interested in Catholic schools for the quality academics (Convey, 1990) and, therefore, a Catholic school should market their academics so that parents (and everyone in the community) can easily recall that their Catholic school has quality academics. The Diocese of Allentown, the only diocese in the northeast to boast two consecutive years of enrollment growth, shifted their marketing approach to increase enrollment (Gates, 2012). They reasoned that the majority of prospective families know the difference between values taught in Catholic schools and public schools but knew little about the difference in academics. The Diocese began publishing a comparison of the college attendance rates for public schools and Catholic schools. They also initiated an advertising campaign stating that 97 percent of Catholic school graduates attend college. Families, in turn, can easily recall that Catholic schools appear to have strong academics. They attribute their gains in enrollment in part to this shift in marketing.

Catholic high school admission directors should be aware that the media influences the availability heuristic (McKelvie, 2000; Eisenman, 1993). The promotion of sports by the media

might lead prospective families to question a school's academics. Likewise, a negative story that the media drags on could make prospective families wonder if the school has any positive attributes. Social media allows admission directors greater control over how their school is portrayed.

Finally, Catholic high school admission directors should provide prospective students and parents with the ability to see themselves at the school. If envisioning something makes it more likely to occur, then prospective families should be able to easily envision themselves at the school. Inviting parents to visit the school and students to enjoy "shadow days" are all effective salient events that enable families to imagine themselves as part of the school community.

Representativeness Heuristic

The representativeness heuristic is the third heuristic covered in this dissertation. People often create judgments by focusing exclusively on how a sample fulfills a stereotype or preconceived notion of the overall population's characteristics (Kahneman and Tversky, 1972). The representativeness heuristic suggests that the likelihood that sample A is a sample of class B or generated from class B is directly related to the degree that the characteristics of sample A is similar to class B or represents the salient features of class B. Kahneman and Tversky eloquently defined the representative heuristic as a judgment based upon "the probability of an uncertain event, or a sample, by the degree to which it is: (i) similar in essential properties to its parent population; and (ii) reflects the salient features of the process by which it is generated" (Kahneman & Tversky, 1972, p. 431).

Kahneman and Tversky (1972) illustrated the representativeness heuristics in their classic experiment involving Tom W. Three different groups were created: a base-rate group, a similarity group, and a prediction group. The base rate group estimated the percentage of

students enrolled in nine different fields of graduate studies. The similarity group was asked to
rank the nine fields that Tom W. might be enrolled in based upon the following information:

Tom W. is of high intelligence, although lacking in true creativity. He has a need for
order and clarity, and for neat and tidy systems in which every detail finds its appropriate
place. His writing is rather dull and mechanical, occasionally enlivened by somewhat
corny puns and flashes of imagination of the sci-fi type. He has a strong drive for
competence. He seems to feel little sympathy for other people and does not enjoy
interacting with others. Self-centered, he nonetheless has a deep moral sense.

The prediction group was also asked to rank the graduate area for Tom W. They were given the
similarity group with the additional information:

The preceding personality sketch of Tom W. was written during Tom's senior year in
high school by a psychologist, on the basis of projective tests. Tom W. is currently a
graduate student. Please rank the following nine fields of graduate specialization in order
of the likelihood that Tom W. is now a graduate student in each of these fields.

The base rate group predicted the percentage of students enrolled in the nine fields of graduate
specialization. Both the similarity group and the prediction group identified Tom W. as an
engineering or computer sciences major at a higher percentage than the base rate group
suggested. Participants relied upon the stereotypes of engineering and computer science students
which led more to place Tom W. in one of these areas than the base rate group.   Insensitivity to
the base rate is common when making judgments (Nisbett & Borgida, 1975) and the
representativeness heuristic is no exception (Kahneman & Tversky, 1972). Rather than applying
a statistical probability, people rely on a sample's characteristics to make their judgment. A

sample's similarity to the parent population or its salience encourages an individual to employ the representativeness heuristic (Kahneman & Tversky, 1972).

While the representativeness heuristic can reflect causal and correlational beliefs, people generally neglect to analyze what caused an event or what makes a sample and population related. Careful analysis of a situation requires System 1 to operate but it is lazy and prefers not to work unless needed. Rather, people consider the information at hand and think that it reflects the entire population. Therefore, the likelihood of an outcome is projected based upon the stereotypical circumstances at hand rather than considering the entire population.

An insensitivity to sample size, known as the gambler's fallacy, reflects the inaccurate notion that a small sample adequately represents the entire population and is often characteristic of the representative heuristic. Two consequences are an overconfidence in one's judgments and the inability to accept information about a population that runs counter to the small sample (Barberis et al., 1998; Tversky & Kahnman, 1971). After meeting three nice students, one might think all students are pleasant even after meeting two obnoxious students. The individual reasons that the obnoxious students do not represent the entire population. Another thought experiment illustrates this: suppose five flips of a coin yield five straight heads. Most people would predict with high probability that the next flip would land tails even though there is only a 50% chance the next flip will be tails. Five coin flips is a very low sample size. On a more practical level, people are quick to judge a sample favorable or unfavorable after only limited contact. Tversky and Kahneman (1971) went so far as to accuse fellow psychological researchers of falling victim to insensitivity to sample size.

Salience also plays an important role in employing the representativeness heuristic. Among other things, a sample's salience plays a role in why a thought comes to one's mind

(Kahneman & Frederick, 2005, p. 271). Events that are judged more salient - those that are more vivid in one's mind - are more likely to be representative of a population. There are two competing models on how the mind utilizes the representativeness heuristic, the prototype model and the exemplary model. In each model, the sample represents the salient features of the greater population (Tversky & Kahneman, 1983, p. 296). The prototype model suggests that the mind creates a prototype for each sample that is an average of the entire population or what is most typical of the entire population (Kahneman & Frederick, 2002). According to this model, objects that share fewer characteristics with the parent population are neglected. Using the exemplary model, the mind stores concrete examples of samples, which may not always be representative of the entire population (Juslin & Persson, 2002). Thus, the former model creates an abstract sample while the latter model creates images based upon concrete samples. Notably, a greater frequency of salient events makes them more likely to be representative of the entire population (Nilsson, Juslin, & Olsson, 2008). This finding is profound because it relates the availability and representativeness heuristics.

Similar to the affect heuristic and availability heuristic, the representative heuristic spans many disciplines ranging from recruiting baseball players to voting. The book *Moneyball* tells the story of how the Oakland Athletic's general manager, Billy Beane, decided to stop recruiting baseball players by looking at qualitative statistics and focus on quantitative statistics (Lewis, 2004). Previously, scouts looked for the baseball player that fit their description of a good ball player: good speed, strong presence, quick reflexes, and good at the plate. Beane then instructed scouts to recruit players who statistically performed better in the field and got on base more. His recruiters balked at first but then realized that Bean's method was superior and the Athletics enjoyed some success, which is attributed to this new method.

The representativeness heuristic also helped President Warren Harding's political career (Gladwell, 2005). Harding lacked the characteristics that most people desire in a president but he had one redeeming quality: he looked like a president. Harding's physical appearance corresponded with the image that most people had of a president and, thus, people elected the United States' 29th president despite his numerous shortcomings. Both examples – scouting baseball players and voting for a president – illustrate individuals making what they would consider an intelligent decision based upon a stereotype. In addition to baseball and voting, researchers linked the representativeness heuristic to dieting (Gilovich & Savitsky, 2002) and medical diagnosis (Garb, 1996).

The representativeness heuristic influences Catholic high schools first through how the school displays itself to match the characteristics of a Catholic high school envisioned by prospective parents. Strong, positive experience may incline prospective parents to send their children to a Catholic school. A small boys school in New Jersey creates a memorable morning for prospective parents and students. They achieve this by requiring the prospective families to visit the school for an interview, tour, and presentation about the school. Afterwards, parents frequently comment about the quality of the boys that welcomed them to the school and guided the tour. Parents also comment positively about the descriptive video shown during the presentation about the school. Finally, they are impressed by the brief talks given by current parents. Few prospective parents stop to consider that the boys and parents involved were hand-picked by the admission director and, thus, probably do not represent an average student or parent. Still, the prospective parents leave with an image that all – if not most – boys at the school always hold the door open, never have their shirts untucked, and thoroughly enjoy all their classes. Likewise, prospective parents leave with an image that all parents are immensely

pleased with the school never giving a thought to the law of small numbers. Perhaps most notably, parents are immensely confident that their judgments about the school are correct.

In addition to creating positive, salient experiences, admissions directors should attempt to match the positive stereotypes of Catholic high schools held by prospective parents. For example, a Catholic high school may conjure images of a healthy Catholic identity or strong academics. Schools should, therefore, market themselves in a way that harmonizes with prospective parents' images.

SUMMARY

Colleges adapted as tuition based institutions, in part, by establishing enrollment management practices, which provided colleges with the financial stability to ensure their survival and sustain their mission. This practice could yield similar benefits for financially ailing Catholic high schools. Current research already indicated the reasons parents select a Catholic high school but lacks an understanding of the cognitive process for how judgments and decisions about where to send their child are attained. Research identified *why* parents select a Catholic high school; this research intends to understand *how* they select a Catholic high school. The use of the affect, availability, and representativeness heuristics may provide insight into this quest. The affect heuristic is used when outcomes are based upon emotions or favorability; the availability heuristic is used when outcomes are based upon the ease of recall of the frequency and saliency of an event; the representativeness heuristic is used when outcomes are based upon the degree to which a sample is thought to represent the parent population.

CHAPTER 3

METHODOLOGY

The methodology contains two studies that attempted to ascertain if parents use heuristics in the decision making process of sending their child to a Catholic school. The first study was designed to analyze the use of the affect, availability, and representativeness heuristics in parents of seventh and eighth graders. The second study was designed to analyze the use of the affect, availability, and representativeness heuristics in parents who applied to a Catholic high school. For ease of reading, the methodology is divided into two sections. The first section details the methodology for Study 1 while the second section details the methodology for Study 2.

STUDY 1

Question

Do parents utilize the affect, availability, and representativeness heuristics when forming judgments about high schools?

Sample

The sample comprised of parents of children in seventh and eighth grade at Catholic elementary schools in two dioceses in the United States. Responses were collected from 465 participants.

Instrument

The instrument consisted of four stimuli to test for the use of heuristics. One stimulus tested for the affect heuristic, one stimulus tested for the availability heuristic, and two stimuli tested for the representativeness heuristic.

During the test for the affect heuristic, participants viewed two images of websites that contain similar information but differ in fluency and quality of the design. One website

contained clearer photos, more vibrant colors, and font that is easier to read than the other website image. After viewing the images of the websites, participants selected the school they thought would provide better academics, the school that their child would have more success at, and the school that both their child and they would be happier with. Participants who use the affect heuristic will select the more appealing website.

The test for the availability heuristic divided the participants into two groups. The first group, the control group, rated the importance of five factors – small class size, strong community, quality of faculty, school values, and healthy disciplinary climate – when selecting a high school. The second group, the treatment group, read a paragraph about the importance of small class size prior to ranking the five factors. Participants who read about the importance of small class size will have that information more available to them and, therefore, will likely use the availability heuristic to rank small class size higher than those participants who did not read about the importance of small class size.

One test for the representativeness heuristic sought to determine if parents use this heuristic when forming an opinion of the characteristics of a Catholic school student. Participants asked participants to predict the high school that a student attends based upon the description of the student. The student was described as having strong academics, involved in school activities, and volunteering in the local community. Participants were provided the percentages of students who attend public high school, Catholic high school, private non-religious high school, and charter high school, which are 85%, 8%, 5%, and 2%, respectively. The student has the highest chance of attending the public high school, yet participants who use the representativeness heuristic will not select the public high school. More specifically, it was thought that most participants will think the student attends a Catholic school.

The second test for the representativeness heuristic determined if parents formed a judgment about a school based upon important name descriptors. Parents were divided into two groups and both groups selected a high school for their child to attend after reading two high school mission statements. However, the first group saw the first school identified as Jesuit and the second group saw the second school identified as Jesuit. It was thought that participants would select the Jesuit school because they enjoy a strong academic reputation (Jones, 2014). The Jesuits enjoy a reputation for providing a quality education and, therefore, people who utilize the representativeness heuristic will select the school with Jesuit in its mission statement.

The instrument concluded with a word of gratitude for the participant's time. The mechanism for the survey was SurveyGizmo.com.

Pilot

A pilot was sent to parents of seventh and eighth graders at two schools in the same diocese. There were 44 respondents and the results influenced the instrument used in this study.

Procedures

The link for the survey was distributed to principals of Catholic elementary schools. The principals forwarded this link to the seventh and eighth grade parents at their school.

Analysis

The test for the affect heuristic was analyzed by calculating the percentages of each website selected and performing a z test to determine if those percentages are statistically significant. The Pearson correlation value was also calculated to determine if the correlation between the answer to the first question and subsequent questions.

The test for the availability heuristic was analyzed by calculating the average ranking of each item and performing a Chi-Square analysis. The control group did not read the paragraph

about small class size and exposure to the paragraph about the impotence of small class size was the independent variable.

The first stimulus testing for the representativeness heuristic was analyzed by determining the frequency of each high school selected.

The second stimulus testing for the representativeness heuristic was analyzed by performing a Chi-Square analysis.

STUDY 2

Questions

1. Do parents who applied to a Catholic high school use the affect, availability, and representativeness heuristic when deciding for their child to apply to the high school?

2. Do parents who applied to a Catholic high school use the affect, availability, and representativeness heuristic when deciding to enroll their child at the high school?

Sample

The sample consisted of parents of applicants who applied to seventh and ninth grade at a Catholic school. The school is a Benedictine, independent boys school with a very strong academic reputation. The school receives approximately 375 applications for 125 seats and responses were obtained from 189 participants.

Instrument

The instrument contained several question designed for participants to provide information about how they learned about the school, decided to apply to the school, and decided to enroll their child at the school. The first question asked participants how they first learned about the school. The second question asked participants to rate their experience with 14 possible sources of information about how the parents may have learned about the school. These

sources of information included contact with current students, contact with the religious community who sponsors the school, and contact with the school's social media platforms. The rating options were excellent, good, fair, poor, and not applicable. Of these 14 sources of information, 3 encounters represented the affect heuristic, 8 sources of information represented the availability heuristic, and 3 sources of information represented the representativeness heuristic. The 14 sources of information than their respective heuristics can be found in Table 2. The third question asks participants how the 14 sources of information in the previous question affected their decision to apply to the school. The response options are more likely to apply, no effect on the decision to apply, less likely to apply, and not applicable. At this juncture the survey separated participants based upon their child's admissions decisions. The survey was concluded for parents of students who were declined or waitpooled and continued for parents of accepted applicants. Parents of accepted students were then asked to evaluate their experience with 5 sources of information that could have taught parents more about the school that occurred during the application process. Of the 5 encounters, 2 represent the affect heuristic, 2 represent the availability heuristic, and 1 represents the representativeness heuristic. Table 3 contains the 5 encounters and their corresponding heuristics. Similar to the second question, parents rated these 5 sources of information on a scale containing the response options excellent, good, fair, poor, and not applicable. The next question asks parents if these sources of information influenced the decision to enroll their child at the school. The response options were more likely to enroll, no effect on the decision to enroll, less likely to enroll, and not applicable. Participants were then separated into those who enrolled their child and those who did not enroll their child. The survey concluded for those who enrolled their child. Parents with children who were accepted but did not enroll are asked for the main reason why they did not enroll their child.

The instrument concluded with an acknowledgement of gratitude to the participants. Surveygizmo.com was the mechanism for the instrument.

Pilot

Seven parents of eighth grade students at the school completed pilot survey to determine if the survey adequately addressed the questions posed in this dissertation. The pilot did not reveal any weaknesses in the instrument.

Procedures

The Dean of Admissions at the school emailed the link to the survey to parents of students who applied. A follow-up email was sent one week and then two weeks after the initial email.

Analysis

The analysis began by calculating the percentage of participants who experienced each source of information as well as the level of influence conditional on experiencing the source of information. Rating responses were calculated to numbers where excellent equaled 4, very good equaled 3, fair equaled 2, and poor equaled 1 and then means and standard deviations were calculated. A Pearson correlation was performed to determine a source of information's level of influence and its rating. Additionally, a z-test and t-value were computed for variation between parents of enrolled students and parents students not enrolled for each source of information's level of influence and the rating. Several Chi-squares were then calculated to determine the difference in ratings between parents of enrolled students and parents of students not enrolled. This helped to preform a step-wise regression to create a model for predictors of student enrollment.

It was necessary to determine if a source of information suggested use of the heuristic when deciding to apply. To do so, it was assumed that participants who used a heuristic indicated that the sources of information influenced their decision to apply. Conversely, participants who did not use the heuristic were not influenced to apply by a source of information. For each source of information, the percentage of parents who were influenced was determined and responses of not applicable were removed prior to computing the percentage. A z-test with an alpha value of 0.05 and μ equal to 0.50 determined if the percentage of parents who used were influenced was statistically significant. A statistically significant z-score for a source of information suggested presence of the heuristic that the source of information tested for.

The process outlined above was used to analyze the data collected to determine if parents use heuristics when deciding to enroll their child.

Table 2

Sources of Information to Test for Use of the Affect, Availability, and Representativeness

Heuristics When Deciding to Apply

Affect heuristic	Availability heuristic	Representativeness Heuristic
• Visit to school prior to applying • The school website • Social media such as Facebook and Twitter	• Contact with the religious community • Contact with teachers/faculty • Contact with students • Contact with alumni • Contact with parents of students • Media stories about the school • Advertising about the school • High school fair	• Contact with other Catholic schools • Contact with single-sex schools • Child attended school summer camp

Table 3

Sources of Information to Test for Use of the Affect, Availability, and Representativeness

Heuristics When Deciding to Apply

Affect heuristic	Availability heuristic	Representativeness Heuristic
• The interview • The tour after the interview	• Presentation for parents during testing • Student for a day program	• Group learning activity

CHAPTER 4

ANALYSIS AND FINDINGS

Chapter 4 presents the analysis of the data collected in this study. The research was conducted in two studies and the analysis is presented for study 1 and then for study 2.

STUDY 1

Introduction

The first research question asked if parents used heuristics when forming judgments about Catholic high schools. A survey containing stimuli designed to test for the possible use of the representativeness, availability, and affect heuristics was distributed to parents of students in 7th and 8th grade in Catholic elementary schools from four dioceses, three from the northeast and one from the south. Responses were obtained from 465 participants (Table 4).

Table 4

Dioceses of Participants

Diocese	Frequency	Percentage
A	313	67.3
B	84	18.1
C	37	8.0
D	31	6.7
Total	465	100

Affect Heuristic

To examine the possible use of the affect heuristics, parents answered questions after viewing images of websites for two high schools, Archangel Gabriel High School and Central Catholic High Schools, that differed in fluency. Fluency refers to the metacognitive ease of processing information and stimuli higher in fluency are deemed more pleasing (Alter and Oppenheimer, 2009) and images easy to understand, print easy to read, and overall attractiveness are characteristics of stimuli with high fluency. In this stimulus, Archangel Gabriel High School

had lower fluency and Central Catholic High School had higher fluency. Parents indicated that they would rather send their child to Central Catholic High School by a 3 to 1 ratio ($z = 12.3$) (Table 5). Parents also thought that Central Catholic had better academics ($z = 11.1$) and that their child would be more successful at Central Catholic ($z = 11.9$). Finally, parents indicated that both they and their child would be happier if their child attended Central Catholic by a similar ratio ($z = 11.5$ and $z = 11.9$, respectively.) The large variation in high schools selected likely resulted from the differences in fluency, the mega-cognitive ease of viewing the website, and attractiveness of the website. The affect heuristic is used when individuals make decisions based on an emotion and/or how they feel about a stimulus (Finucane et al., 2000). In this stimulus, Central Catholic's website was more attractive and had greater fluency. It is likely that parents selected Central Catholic high school because it was a more favorable website, thus suggesting use of the affect heuristic.

Notably, there is a strong correlation between the high school selected for the first question and the high schools selected for subsequent questions. Participants likely judged a high school more favorably in the first question and then thought it also more favorable for the remaining questions simply because it was their answer to the first question. This data supports use of the cognitive bias: the halo effect. The halo effect occurs when individual extrapolate an initial or overall impression onto the object's other characteristics or attributes (Thorndike, 1920). This data supports the old adage, "First impressions matter."

Table 5

Percentage of High Schools Selected (n = 466)

	Archangel Gabriel High School	Central Catholic High School	z-test
Question 1: Which high school would you rather your child attend?	21.4	78.6	12.3*
Question 2: Which school has better academics?	24.3	75.7	11.1*
Question 3: At which school would your child be more successful?	22.5	77.5	11.9*
Question 4: At which school would your child be happier?	23.4	76.6	11.5*
Question 5: At which school would you be happier if your child attended?	22.6	77.5	11.9*

* indicates significant at alpha = 0.05

Table 6

Correlations between the Response to the First Question and the Subsequent Four Responses

	Question 1 (School to Send Child) Pearson Coefficient
Question 2 (Better Academics)	0.41*
Question 3 (Child Success)	0.42*
Question 4 (Child Happier)	0.38*
Question 5 (Parents Happier)	0.40*

* indicates significance at alpha = 0.05

Availability Heuristic

To examine the possible use of the availability heuristic, parents were divided into two groups: a control group and a treatment group. The control group ranked the importance of five characteristics about a school, one of which was small class size. The treatment group ranked

the same five characteristics, but read a paragraph about the importance of small class size prior to ranking. The control group ranked small class size fourth with an average rank of 3.67, while the treatment group ranked small class size third with an average rank of 3.16 (Table 7). Small class size was ranked first or second by 37% of the treatment group versus only 21% of the control group (Table 8). A Chi-Square analysis of the rankings indicated that class size was ranked significantly higher by the treatment group ($\chi^2 = 16.85$).

The availability heuristic occurs when individuals make decisions based upon the frequency and saliency of recalled events (Tversky & Kahneman, 1974). This difference in ranking likely resulted from the information about class size being made available to the treatment group, which suggests use of the availability heuristic when forming opinions about educational topics.

Table 7

Mean Ranking of the Importance of Various Factors when Selecting a High School

		Control Group	Treatment Group – Read Prompt about Class Size
1	Catholic Values	2.00	2.35
2	Quality Faculty	2.08	1.88
3	Strong Community	3.24	3.74
4	Small Class Size	3.67	3.16
5	Discipline	3.99	3.85
n		217	211

Table 8

Chi-square Analysis of Selection of Small Class Size Between Control and Treatment Groups

Rank for Class Size	Control Group	Treatment Group	χ^2 Value
1st or 2nd	21.4%	36.6%	16.86*
3rd	19.5%	23.0%	
4th or 5th	59.1%	40.4%	

* indicates significant at alpha = 0.05

Representativeness Heuristics

Two stimuli tested for the possible use of the representativeness heuristic. The first stimulus asked participants to select which high school they would prefer their child attend after reading two nearly identical mission statements. However, the first mission statement identified the school as Jesuit for half of the participants. The other half of the participants read the second school described as Jesuit. It was assumed that Jesuits, who enjoy a favorable reputation for education (Jones, 2014), would be selected more frequently if participants used the representativeness heuristic. The Chi-square value was 97.79, which indicated that there was significant variation between the frequencies of selecting the school with the Jesuit mission statement (Table 9). A lower Chi-square value was expected if participants selected the school based upon the Jesuit description.

The high selection of the second mission statement – with or without the Jesuit descriptor – suggests there was something within that mission statement that attracted parents. The second mission statement states that students "develop their mind, body, and spirit" which is not included in the first mission statement. It is possible that parents latched onto than the "Jesuit"

term when selecting schools. As such, the analysis of this stimulus suggests that parents do not always use the representativeness heuristic when evaluating schools.

Table 9

Chi-Square Analysis of Two Groups Selecting a High School Based Upon the Mission Statement

	Mission Statement 1	Mission Statement 2	χ^2 Value
Contains Jesuit Descriptor	25	75	97.79*
Does not Contain Jesuit Descriptor	29	71	

* indicates significance at alpha = 0.05

In the second stimulus testing for use of the representativeness heuristic, participants read a paragraph about a fictitious student and were informed of the percentages of students attending various high schools in town. They then selected the high school they thought the student attended. Approximately 3 in 5 participants thought the student attended a Catholic school despite reading that only 8% of children in the town attended a Catholic school (Table 10). The high frequency of Catholic school responses suggests that parents have an impression of a Catholic school student and generated one of Catharine, the student in the paragraph, that matched.

Representativeness is defined as the degree to which characteristics are thought to match the parent population. The heuristic is used when an individual uses representativeness to answer a question. It is likely participants thought Catharine's characteristics were more similar to characteristics of Catholic school students than characteristics of public, private, or charter school students. Parents selected a Catholic school despite knowing that there was only an 8% chance that Catharine attended a Catholic school. The high percentage of those selecting Catholic schools suggests that parents use the representativeness heuristic when forming opinions about Catholic schools.

Table 10

Frequency of High Schools Selected for Described Student (n = 454)

School	Frequency	Percent
Catholic school	274	60.4
Public school	98	21.6
Private school	58	12.8
Charter school	24	5.3
Total	454	100.0

Findings from Study 1

The study used quantitative research techniques to determine if parents possibly used the affect, availability, and representativeness heuristics when forming judgments about Catholic schools. The data suggest that parents may use the affect heuristic when forming opinions and judgments about a high school. Parents likely selected a high school based upon the attractiveness of its website which would indicate the affect heuristic. In addition to probably using the affect heuristic to select a high school best for their child, parents may have also used the affect heuristic when making decisions about the quality of academics, their child's future success, and their family's happiness. Additionally, participants could have employed the halo effect by extrapolating their impression of a high school onto unknown characteristics of the high school.

Parents likely used the availability heuristic when deciding about the importance of various school characteristics. The importance of small class size was made more available to a treatment group who ranked it more important than the control group who did not read about small class size.

It is likely that parents used the representativeness heuristic when identifying characteristics of the students who attend different schools. In the stimulus, participants thought Catharine attended a Catholic school likely because her characteristics matched their idea of a

Catholic school student more than their ideas of students from public, private or charter schools. Another stimuli suggested that parents may not always use the representativeness heuristic because parents were not swayed by the "Jesuit" label in a mission statement. It is possible that some parents were unfamiliar with the Jesuit education reputation or that they were swayed more by the nature of the mission statement. Moreover, the participants were all parents of Catholic school students and had direct contact with Catholic school students. This could explain why they were likely to use the representativeness heuristic when deciding that the fictitious student attended a Catholic school; they may not have had contact with Jesuit schools.

In summary, the data indicates that parents likely use the affect, availability, and representativeness heuristics when forming opinions about Catholic schools.

STUDY 2

Introduction

The second research question tested for parents' possible use of the affect, availability, and representativeness heuristics when deciding that their children should/will apply to and enroll in a Catholic high school. The survey instrument included questions to determine whether parents' interactions with their sources of information about the school influenced their decision to apply. Of the 187 parents who responded to the survey, 58% were parents of applicants who were accepted and enrolled, 5% were parents of applicants who were accepted but did not enroll, 10% were parents of applicants who were placed in the waitpool, and 26% were parents of applicants who were declined (Table 11). The survey was divided into two sections; the first covered 14 sources of information that may have influenced the decision to apply and the second covered 5 sources of information that may have influenced the decision to enroll.

Table 11

Admissions Response for the Children of Participants

Response	Frequency	Percentage
Parents of applicants accepted and enrolled	109	58.3
Parents of applicants accepted and not enrolled	10	5.3
Parents of applicants waitpooled	19	10.2
Parents of applicants declined	49	26.2
Total	187	100.0

Sources of Information Affecting the Decision to Apply

Prior to applying, most parents had contact with current students at the school (96.1%) and parents of current students (90.6%) and visited the school prior to applying (90.0%) (Table 12). The least common sources of information were viewing social media (41.9%), having their child attend a Catholic elementary school (39.2%), and visiting the school's booth at a school fair (36.8%).

Table 12

Percent of Participants who Experienced Various Sources of Information

Encounter	Percent
Contact with students	96.1
Contact with parents	90.6
Visit prior to applying	90.0
Contact with faculty	87.1
School website	85.0
Contact with alumni	83.9
Media stories	68.9
Advertising	56.6
Contact with religious community	55.1
Contact with other single-sex schools	52.5
Child attended summer camp	51.5
Social media	41.9
Experience at child's Catholic elementary school	39.2
School Fair	36.8

Conditional on experiencing the source of information, a visit prior to applying (85.8%), contact with students (84.2%), and contact with alumni (84.1%) had the greatest positive influence on the decision to apply (Table 13). Social media (84.0%) and advertising (78.6%) were least likely to positively or negatively affect the decision to apply.

Table 13

Source of Information's Effect on the Decision to Apply Conditional on Experiencing the Source

of Information

Source of Information	Positive Influence to Apply	No Effect
Visit prior to applying	85.8	13.0
Contact with students	84.2	15.2
Contact with alumni	84.1	14.6
Contact with faculty	72.9	23.3
Child attended summer camp	72.8	27.2
Contact with parents	71.8	26.4
Contact with other single-sex schools	63.8	34.0
Experience at child's Catholic elementary school	58.2	36.6
Contact with religious community	57.1	39.8
Website	40.5	58.2
School fair	37.3	59.7
Media stories	33.9	59.7
Advertising	21.4	78.6
Social media	13.3	84.0

Affect Heuristic

Three sources of information – visit prior to applying, viewing the school's website, and viewing social media – tested for the affect heuristic which states that a person makes a decision based upon their emotions towards an object. The visit prior to applying ($z = 9.38$) statistically influenced participants to apply (Table 14). It is probable that the campus's favorable physical appearance influenced participants to apply, thereby suggesting use of the affect heuristic. Viewing the school's website ($z = -1.95$) and viewing the school's social media (-5.81) were also statistically significant but their z test values suggest that these sources of information do not influence the decision to apply.

Participants rated each source of information on a four point Likert scale ranging from excellent to poor. Responses were computed to scores where 4 equaled excellent, 3 equaled very

good, 2 equaled fair, and 1 equaled poor. The visit prior to applying (mean = 3.62) rated close to excellent whereas both the school's website (mean = 3.46) and social media (mean = 3.08) rated closest to very good.

There were strong positive correlations between rating of the source of information and the influence of the source of information on the decision to apply. In other words, participants with more favorable experiences of the sources of information were more likely to be influenced to apply. Likewise, participants with less favorable experiences were less likely to apply. These correlations, all significant when alpha equaled 0.05, again suggest use of the affect heuristic. The negative or positive feelings towards the sources of information likely influenced their decision to apply which, by definition, is the affect heuristic.

Table 14

Sources of Information Testing for the Affect Heuristic

Sources of Information's Influence on the Decision to Apply				
	n	Percent Influenced	Standard Deviation	z test (μ = 0.50)
Visit prior to applying	161	87	0.34	9.38*
School website	152	42	0.50	-1.95*
School's social media	74	16	0.37	-5.81*
Ratings of Experiences for Sources of Information				
	n	Mean	Standard Deviation	
Visit prior to applying	160	3.62	0.57	
School website	167	3.46	0.62	
Social media	48	3.08	0.77	
Correlation between a Source of Information's Rating and Influence on the Decision to Apply				
	n	Pearson Correlation	Significance (2-tailed)	
School website	143	0.424	0.000*	
Visit prior to applying	152	0.274	0.001*	
Social media such as Facebook/Twitter	41	0.205	0.009*	

* indicates significant at alpha = 0.05

Availability Heuristic

Use of the affect heuristic was tested by eight sources of information of which contact with students (z = 9.05), alumni (z = 8.71), faculty (z = 6.61), parents of students (z = 5.97), and the religious community at school (z = 2.02) influenced the decision to apply when alpha was 0.05 (Table 15). The availability heuristic indicates that a decision is made based upon the either the frequency or saliency of an experience. Participants could not interact with all the students, alumni, faculty, parents of students, and religious community and – therefore – only recalled the

encounters available to them. The influence of interactions suggests that parents used the availability heuristic when deciding to apply. At the same time, media stories ($z = -2.07$) and advertising ($z = 5.74$) were statistically significant in not influencing participants to apply.

The sources of information were rated on a four point Likert scale ranging from excellent to poor and means were calculated ranging from a high of 4 to a low of 1. Contact with students (mean = 3.58) and contact with alumni (mean = 3.54) rated closest to excellent. The other sources of information rated closest to very good.

There were strong positive correlations between ratings of the source of information and the influence of the source of information on the decision to apply. Favorable experiences with sources of information are likely to influence the decision to apply and unfavorable experiences are less likely to influence the decision to apply. These correlations, all significant when alpha equaled 0.05, suggest use of availability heuristic. Heuristics find satisfactory answers often by decreasing the cognitive load. It is likely that participants were not performing the thorough mental process of painstakingly reviewing every faculty member, member of the religious community or other sources of information; rather, they recalled the encounters and based their decision upon these encounters. This points to use of the availability heuristic.

Table 15

Sources of Information Testing for the Availability Heuristic

Sources of Information's Influence on the Decision to Apply				
	n	Percent Influenced	Standard Deviation	z test (μ = 0.50)
Contact with students	170	85	0.36	9.05*
Contact with alumni	151	85	0.35	8.71*
Contact with faculty	154	77	0.43	6.61*
Contact with parents of students	162	73	0.44	5.97*
Contact with religious community	98	60	0.49	2.02*
School fair	66	41	0.50	-1.48
Media stories	123	41	0.49	-2.07*
Advertising	102	22	0.41	-5.74*
Ratings of Experiences for Sources of Information				
	n	Mean	Standard Deviation	
Contact with students	174	3.58	0.59	
Contact with alumni	146	3.54	0.65	
Contact with parents of students	158	3.48	0.67	
Contact with faculty	158	3.35	0.76	
Contact with religious community	107	3.15	0.92	
School fair	46	3.00	0.84	
Advertising about school	78	2.99	0.75	
Media stories about school	104	2.96	0.87	
Correlation between a Source of Information's Rating and Influence on the Decision to Apply				
School fair	39	0.549	0.000*	
Contact with religious community	88	0.539	0.000*	
Contact with alumni	137	0.406	0.000*	
Contact with students	165	0.388	0.000*	
Advertising about school	67	0.377	0.002*	
Contact with parents of students	148	0.343	0.000*	
Media stories about school	89	0.346	0.001*	
Contact with faculty	141	0.249	0.003*	

* indicates significance at alpha = 0.05

Representativeness Heuristic

Three sources of information suggested the representativeness heuristic, which is defined as the making a decision based upon the degree to which a sample shares characteristics of the parent population (Kahneman and Tversky, 1972). Their son's experience at the school's summer camp ($z = 4.30$), contact with other single-sex schools ($z = 3.09$), and experience at a Catholic elementary school ($z = 2.25$) all influenced participants to apply when alpha was 0.05. It is likely that participants thought that the experience at summer camp was akin to the experience during the school year and that the school shared similar characteristics of other single-sex schools or Catholic schools. By most likely thinking these sources of information contained characteristics of the school, parents used the representativeness heuristic.

The sources of information were rated on a four point Likert scale ranging from excellent to poor and means were computed were the highest was 4 (excellent) and the lowest was 1 (poor). Their son's experience at summer camp was rated closest to excellent and contact with other single-sex schools and experience with their son's Catholic elementary school were rated closest to very good.

There were strong correlations between the rating of a source of information and the influence of a source of information on the decision to apply for their son's experience at summer camp and contact with single-sex schools. This points to use of heuristics because it is likely that participants used the experience of the sources of information as a factor of deciding to apply or not apply.

Table 16

Sources of Information Testing for the Representativeness Heuristic

	n	Percent Influenced	Standard Deviation	z test ($\mu = 0.50$)
Sources of Information's Influence on the Decision to Apply				
Son attended summer camp	91	73	0.45	4.30*
Contact with single-sex schools	94	66	0.48	3.09*
Experience at Catholic elementary school	71	63	0.49	2.25*
Ratings of Experiences for Sources of Information				
	n	Mean	Standard Deviation	
Son attended summer camp	89	3.61	0.58	
Contact with other single-sex schools	98	3.35	0.72	
Contact with son's Catholic elementary school	71	3.27	0.90	
Correlation between an Encounter's Experience Rating and Influence on the Decision to Apply				
	n	Pearson Correlation	Significance (2-tailed)	
Son attended summer camp	87	0.395	0.000*	
Contact with other single-sex schools	84	0.381	0.000*	
Contact with son's Catholic elementary school	66	0.119	0.342	

* indicates significance at $\alpha = 0.05$

There was little variation in the level of influence from a source of information between parents who enrolled and parents who did not enroll (Table 17). Only contact with parents of students, faculty, and the religious community influenced parents of enrolled students more than parents of students not enrolled. Those three sources of information along with the visit prior to

applying and viewing social media also had variation in their ratings between parents of enrolled

students and parents of students not enrolled.

Table 17

Variation in the Source of Information's Influence between Parents of Enrolled Students and

Parents of Students not Enrolled

Source of Information	Percent of Parents of Enrolled Students Influence	Percent of Parents of Students Not Enrolled Influenced	z-test
Affect Heuristic			
Visit prior to applying	90	81	1.60
Social media such as Facebook/Twitter	17	14	0.28
School website	43	40	0.45
Availability Heuristic			
Contact with parents of students	80	63	2.40*
Contact with faculty	82	66	2.25*
School fair	33	54	-1.66
Advertising about school	20	25	-0.62
Contact with religious community	66	44	1.97*
Contact with students	89	78	1.78
Media stories about school	43	36	0.80
Contact with alumni	88	81	1.21
Representativeness Heuristic			
Contact with other single-sex schools	67	65	0.17
Son attended summer camp	74	67	0.69
Contact with son's Catholic elementary school	65	61	0.38

* indicates significance at α = 0.05

Table 18

Variation in Ratings of Sources of Information for Parents of Enrolled Students and Parent of

Students Not Enrolled

Source of Information	Mean Ratings for Parents of Enrolled Students	Mean Ratings for Parents of Students not Enrolled	t-value	Significance (2-tailed)
Affect Heuristic				
Visit prior to applying	3.72	3.47	2.86	0.01*
Social media such as Facebook/Twitter	3.24	2.71	2.23	0.03*
School website	3.53	3.37	1.72	0.09
Availability Heuristic				
Contact with religious community	3.42	2.53	5.04	0.00*
Contact with faculty	3.57	3.02	4.76	0.00*
Contact with parents of students	3.60	3.26	3.03	0.00*
Contact with students	3.65	3.47	1.94	0.05
Contact with alumni	3.60	3.43	1.48	0.14
Media stories about school	3.03	2.81	1.16	0.25
Advertising about school	3.02	2.93	0.51	0.62
School fair	2.96	3.05	-0.35	0.73
Representativeness Heuristic				
Son attended summer camp	3.55	3.77	-1.57	0.12
Contact with other single-sex schools	3.30	3.40	-0.67	0.50
Contact with son's Catholic elementary school	3.30	3.22	0.33	0.74

* indicates significance at α = 0.05

Several Chi-square tests were used to analyze the relationship between the rating of a

source of information's and whether students enrolled at the school. The responses poor and fair

were grouped together as were very good and excellent. The probability of giving a very good or

excellent rating for contact with the religious community for parents who enrolled students was

77% versus only 23% for parents of students who did not enroll. Likewise, the probability of

giving a very good or excellent rating for contact with the faculty and contact with parents of

current students was higher for parents of students who enrolled. More favorable ratings for

contact with the religious community ($\chi^2 = 15.17$), contact with faculty ($\chi^2 = 21.99$), and contact

with parents ($\chi^2 = 4.56$) were statistically significant, indicating that parents who enrolled their

children were more likely to favorably rate their experience (Table 19). A stepwise regression

indicated that contact with the religious community was the greatest predictor of student

enrollment. The R value was 0.421, the standard error of estimate was 0.397, and 0.463 was the

beta value for contact with the religious community (Table 20). The model indicates that contact

with a religious community, which represents the availability heuristic, is the best predictor of

student enrollment. As such, the model suggests use of the availability heuristic. As the lone

predictor in the model, this means that people likely think about the available encounters with the

religious community when making their decision, thus suggesting the availability heuristic.

Table 19

Chi-Square Analysis for Ratings of Sources of Information and Parents of Enrolled Students and

Parents of Not Enrolled Students

	Rating	Percent for Parents of Enrolled Students	Percent for Parents of Students not Enrolled	χ^2
Contact with the religious community	Poor/Fair	35	65	15.17*
	Very good/Excellent	77	23	
Contact with the faculty	Poor/Fair	10	90	21.99*
	Very good/Excellent	67	33	
Contact with parents	Poor/Fair	41	59	4.56*
	Very good/Excellent	61	39	

* indicates significance at $\alpha = 0.05$

Table 20

Summary of Stepwise Regression Results for Predictors of Enrollment for All Participants[a] (n = 86)

Model	R	R²	Std. Error of the Estimate	R² Change	F Change	Sig. F Change
1	0.463	0.215	0.372	0.215	22.95	0.000
Model	B	Std. Error	Beta	t	Sig.	
1 (Constant)	0.113	0.145		0.785	0.435	
Contact with monastic community	0.210	0.044	0.463	4.790	0.000	

   a. Dependent variable: Enrollment in the school
   b. Predictors: (Constant) Contact with religious community

Sources of Information Affecting the Decision to Enroll

Several questions addressed a subset of five sources of information that occurred during the application process to ascertain their effect on parents' decision to enroll their child. One hundred nineteen participants, of which 91.6% were parents of enrolled students and 8.4% were parents of students not enrolled, completed this portion of the survey (Table 21). More than 92% of participants experienced each of the five sources of information with the interview being the most common at 99.2% (Table 22). The 'student for a day' program had both the largest positive influence (81.4%) and the largest negative influence (3.5%) on the decision to enroll (Table 23). The group learning activity was the least influential; approximately 2 in 3 parents said it had no effect on their decision to apply.

Table 21

Enrollment Decisions for Children of Participants who Answered Questions about Enrollment

Response	Frequency	Percentage
Parents of applicants accepted and enrolled	109	91.6
Parents of applicants accepted and not enrolled	10	8.4
Total	119	100.0

Table 22

Percentage of Participants who Experienced Each Source of Information

Source of Information	Percent
Interview	99.2
Tour of the school	96.6
Program for parents	96.6
Student for a day	94.2
Group learning activity	92.2

Table 23

Source on Information's Effect on the Decision to Enroll Conditional on Experiencing the

Source of Information

Source of Information	Positive Influence to Enroll	No Influence to Enroll	Negative Influence to Enroll
Student for a day	81.4	15.0	3.5
Tour of the school	79.8	20.2	0.0
Program for parents	65.6	32.7	1.8
Interview	60.2	38.1	1.7
Group learning activity	36.8	62.3	0.9

Affect Heuristic

Two sources of information tested for the affect heuristic, which states that people make decisions based upon emotion or cognitive ease. Both the tour of the school ($z = 7.89$) and the interview ($z = 2.67$) influenced a significant number of participants. It is likely that parents were influenced to enroll based upon the favorability of the tour of the school and the interview, suggesting use of the affect heuristic. The tour and the interview are intentionally designed to be appealing, which leads to their favorability. Consequently, their ability to influence parents points to use of the affect heuristic.

The sources of information were rated on a four point Likert scale ranging from excellent to poor. Responses were converted to numbers and averaged where 4 equaled excellent and 1 equaled poor. Both the tour of the school (mean = 3.71) and the interview (mean = 3.57) were rated closest to excellent.

There were strong correlations between each source's rating and its level of influence, which also suggests the affect heuristic. More favorable ratings led to a positive influence to enroll. This suggests that parents are making decisions based upon the favorability of tour and the interview, which may indicate the affect heuristic.

Table 24

Sources of Information that Test for the Affect Heuristic

Sources of Information's Influence on the Decision to Enroll				
	n	Percent Influenced	Standard Deviation	z test (μ = 0.50)
Tour of the school	113	80	0.40	7.89*
Interview	117	62	0.49	2.67*
Ratings of Experiences for Sources of Information				
	n		Mean	Standard Deviation
Tour of the school	115		3.71	0.51
Interview	117		3.57	0.75
Correlation between a Source of Information's Rating and Influence on the Decision to Enroll				
	n		Pearson Correlation	Significance (2-tailed)
Interview	116		0.000*	0.382
Tour of the school	112		0.000*	0.342

  * indicates significance at α = 0.05

Availability Heuristic

The availability heuristic, tested for by the presentation for parents, influenced the

decision to enroll for a significant number of participants ($z = 3.81$). This heuristic states that

people make decisions based upon the frequency of recall or saliency of an event. The

presentation includes a professionally created video about the school and speakers such as the

Admissions Director, Headmaster, students, alumni, and parents, some of whom are prominent

members in the community. The presentation is intentionally scripted and, like any good school

marketing tool, only includes information that would encourage parents to enroll their son.

Because of the presentation's saliency and because only positive information is made available,

parents likely use the availability heuristic.

The presentation for parents was rated on a four point Likert scale ranging from excellent

to poor and received a rating closest to excellent (mean = 3.55). The strong correlation between

the presentation's rating and its influence on the decision to enroll points towards use of the availability heuristic. It is likely the ability to recall the favorable presentation made parents more likely to enroll.

Table 25

Sources of Information that Test for the Availability Heuristic

Sources of Information's Influence on the Decision to Enroll			
	n	Percent Influenced	Standard Deviation	z test (μ = 0.50)
Presentation for parents during testing	112	67	0.47	3.81*
Ratings of Experiences for Sources of Information			
	n	Mean	Standard Deviation
Presentation for parents during testing	113	3.55	0.63
Correlation between a Source of Information's Rating and Influence on the Decision to Enroll			
	n	Pearson Correlation	Significance (2-tailed)
Presentation for parents during testing	111	0.000*	0.488

* indicates significance at α = 0.05

Representativeness Heuristic

The representativeness heuristic, tested by the 'student for a day' program and group leading activity, suggests that a person makes a decision based upon the degree to which characteristics represent the parent population. The student for a day program (z = 10.24) influenced the decision for a significant number of people. Participants likely thought their son's 'student for a day' experience accurately represented their son's potential high school experience at the school. Because of this, it is probable that parents used the representativeness heuristic.

Statistically, the group learning activity, which provides students with a sample classroom

activity, did not influence participants to enroll ($z = -2.52$).

The sources of information were rated and responses were averaged on scale where

excellent equaled 4 and poor equaled 1. The 'student for a day' program (mean = 3.60) rated

closest to excellent while the group learning activity (mean = 3.41) rated closest to very good.

There was a strong correlation between the rating of a source of information and the influence of

a source of information on the decision to enroll. This also suggests use of the

representativeness heuristic because participants with more positive experiences were more

likely to enroll.

Table 26

Sources of Information that Test for the Representativeness Heuristic

		Sources of Information's Influence on the Decision to Enroll		
	n	Percent Influenced	Standard Deviation	z test ($\mu = 0.50$)
Student for a day program	111	85	0.36	10.24*
Group learning activity	105	38	0.49	-2.52*
		Ratings of Experiences for Sources of Information		
	n	Mean	Standard Deviation	
Student for a day program	111	3.60	0.64	
Group learning activity	104	3.41	0.63	
	Correlation between a Source of Information's Rating and Influence on the Decision to Enroll			
	n	Pearson Correlation	Significance (2-tailed)	
Group learning activity	101	0.009*	0.247	
Student for a day program	111	0.007*	0.256	

* indicates significance at $\alpha = 0.05$

There was no variation between the level of influence for parents of enrolled students and parents of students not enrolled. There was variation in the ratings for the presentation for parents and the 'student for a day program' between parents of enrolled students and parents of students not enrolled. In each case parents of enrolled students provided higher ratings.

Table 27

Variation in the Source of Information's Influence between Parents of Enrolled Students and

Parents of Students not Enrolled

Sources of Information	Percentage for Parents of Enrolled Students	Percentage for Parents of Students Not Enrolled	z-test	Significance (2-sided)
Affect Heuristic				
Interview	62	76	-0.27	0.79
Tour of the school	81	67	1.00	0.32
Availability Heuristic				
Presentation for parents during testing	69	44	1.50	0.14
Student for a day program	85	86	-0.07	0.95
Representativeness Heuristic				
Group learning activity	37	50	-0.716	0.475

* indicates significance at $\alpha = 0.05$

Table 28

Variance between Parents of Enrolled Students and Parents of Students not Enrolled

Sources of Information	Mean Ratings for Parents of Enrolled Students	Mean Ratings for Parents of Students Not Enrolled	t-value	Significance (2-tailed)
Affect Heuristic				
Interview	3.60	3.25	1.27	0.21
Tour of the school	3.74	3.44	1.66	0.10
Availability Heuristic				
Presentation for parents during testing	3.59	3.11	2.22	0.03*
Student for a day program	3.64	3.00	2.66	0.01*
Representativeness Heuristic				
Group learning activity	3.42	3.29	0.05	0.58

* indicates significance at $\alpha = 0.05$

Chi-square analyses were used to determine the goodness of fit between ratings for sources of information and parents' decision to enroll. The probability of parents of enrolled students rating the presentation for parents as very good or excellent was 94% as compared to 78% for parents of students not enrolled (Table 29).   Similarly, 93% of parents of enrolled students rated the 'student for a day' program as very good or excellent versus only 71% of parents of students not enrolled.   A stepwise regression suggested that the rating of the 'student for a day' program was the only significant predictor of parents deciding to enroll their child after being accepted at a school (Table 29). The R value was 0.249, and the R-squared value was 0.061. The model indicates that the 'student for a day' program, which tested for the representativeness heuristic, was the lone predictor of student enrollment. Therefore, the model suggests that parents use the representativeness heuristic when deciding to enroll. Parents likely

thought the 'student for a day' program was indicative of the experience their son would have if he enrolled and this influenced their decision to enroll.

Table 29

Chi-Square Analysis for Ratings of Sources of Information between Parents of Enrolled Students and Parents of Students not Enrolled

	Rating	Percentage for Parents of Enrolled Students	Percentage for Parents of Students Not Enrolled	χ^2
Presentation for Parents	Poor/Fair	6	22	5.033*
	Very good/Excellent	94	78	
Student for a Day	Poor/Fair	7	29	4.199*
	Very good/Excellent	93	71	

　　* indicates significant at alpha = 0.05

Table 30

Summary of Stepwise Regression Results for Enrollment for Accepted Participants[a] (n = 92)

Model	R	R²	Std. Error of the Estimate	R² Change	F Change	Sig. F Change
1	0.249	0.061	0.243	0.061	6.731	0.011
Model	B	Std. Error	Beta	t	Sig.	
1 (Constant)	21.409	0.134		159.269	0.000	
Student for a Day	-0.096	0.037	-0.249	-2.594	0.011	

a.　Dependent Variable: Accepted and Enrolled

b.　Predictors: (Constant), Student for a Day

Findings from Study 2

Several sources of information pointed to use of the heuristics when parents decide for their child to apply to or enroll in a Catholic school. The affect heuristic was suggested by the ability of three sources of information – a visit prior to applying, a tour of the school and the

interview – to influence the decision to apply or enroll. Parents likely had emotionally positive or negative experiences, which influenced their decision. The availability heuristic was suggested by the influence of contact with alumni, students, faculty, parents of current students, and the religious community as well as the presentation for parents. In each case, either specific experiences of contact with people were available for recall or only specific information was made available to parents. Because participants likely relied on only information they were able to recall, they probably used the availability heuristic. Finally, their son's experience at summer camp, contact with other single-sex schools, experience at their son's Catholic elementary school, and the 'student for a day' program indicate parents' probable use of the representativeness heuristic when deciding to apply. In each case, parents probably thought various aspects of the high school would be similar to characteristics of the sources that they experience, which exemplifies the representativeness heuristic.

Of note, the majority of influential sources of information – both positive and negative – came through direct contact with people or salient experiences such attending summer camp, visiting the school, or the 'student for a day' program. More salient events are more memorable and are likely to have stronger degrees of favorability or unfavorability (Kahneman, 2011). Conversely, more passive sources of information such as advertising, media stories, and the school fair were less influential on the decision making process.

Strong correlations between the rating of a source of information and the influence of a source of information reinforced the notion that parents use heuristics and indicate that a source of information can positively or negatively affect the decision to apply. Models suggested that the 'student for a day' program and contact with the religious community were the largest predictors of student enrollment.

As mentioned in Chapter 2, heuristics are mental shortcuts employed by the brain to make decisions. While the data presents strong evidence of the use of heuristics, it is inductive and findings were reached through inference. The actual thought process of participants was not illuminated in this research.

SUMMARY

Study 1 indicated the parents of 7th and 8th grade students at Catholic elementary schools use the affect, availability, and representativeness heuristics when forming opinions about Catholic schools. The representativeness heuristic was likely used when parents responded to the stimulus that invoked a more personal response but not used when the more institutional stimulus. The study also suggested that parents may use the halo effect when making decisions about Catholic high schools.

Study 2 indicated that parents use the affect, availability, and representativeness heuristics when deciding for their child to apply to and enroll in Catholic schools. Parents were most influenced by active experiences such as presentations or contact with people connected to the school. Study 1's data also suggests that heuristics are more likely to be applied when the stimulus is more personal. The data indicated strong correlations between the favorability or unfavorability of a source of information and its influence in the decision making process. Analysis also revealed that contact with the religious community and the 'student for a day' program were the largest predictors of student enrollment.

It was hypothesized that the majority of parents used the affect, availability, and representativeness heuristics when making judgments about Catholic schools and that parents would use the affect, availability, and representativeness heuristics when deciding for their child to apply to and enroll in a Catholic high school. The data suggests that the majority of parents

use these three heuristics when forming opinions about Catholic high schools and deciding to send their child to a Catholic high school.

CHAPTER 5

SUMMARY AND CONCLUSIONS

This study investigated the use of the affect, availability, and representativeness heuristics by parents when forming opinions about Catholic schools and when deciding for their child to apply to and enroll in a Catholic school. Nobel Prize winners Tversky and Kahneman (1974) posited the availability and representativeness heuristics, shortcuts the brain employs to answer challenging questions rather than performing a logical process to answer a question, as a means to make judgments under uncertainty. The availability heuristic states that an individual makes a judgment based upon the frequency and saliency of experiences that come to mind (Tversky & Kahneman, 1973) and the representative heuristic claims that an individual makes a judgment or decision about an entire population based upon an experience or representative of that population. These two heuristics along with the affect heuristic, which states that judgments are made based upon one's feelings toward an object (Finucane, Alhakami, Slovic, & Johnson, 2000), may be utilized by parents when making judgments and decisions about sending their child to a Catholic high school.

Two surveys were crafted to test for the use of heuristics. The first survey tested for use of the heuristics when forming opinions about Catholic schools and was distributed to parents of 7th and 8th grade students at Catholic schools. Parents responded to four stimuli: one testing for the affect heuristic, one testing for the availability heuristic, and two testing for the representativeness heuristics. Several stimuli presented in the study were based upon previous stimuli that also tested for these heuristics (Tversky & Kahneman, 1974; Smith, 1988). Responses were obtained from 465 participants.

The second survey tested for application of the heuristics when parents decided for their child to apply to and enroll in Catholic schools and was distributed to parents who students who applied to a Catholic high school. The survey asked questions about the influence of 19 sources of information that tested for the use of the heuristics. Five sources tested for the affect heuristic, 9 sources tested for the availability heuristic, and 5 sources tested for the representativeness heuristic. Participants first indicated if a source of information influenced their decision to apply and then rated their experience with a source of information on a four-point Likert scale. Responses were obtained from 187 participants.

DISCUSSION OF FINDINGS

The discussion of findings draws from two surveys designed to determine the use of the affect, availability, and representativeness heuristics. The first survey, distributed to parents of 7th and 8th graders at Catholic elementary school, contained 4 stimuli, of which one tested for the affect heuristic, one tested for the availability heuristic, and two tested for the representativeness heuristic. The second survey, distributed to parents who had a child apply to a Catholic school, asked questions about various sources of information that may have influenced their decision to apply.

Affect Heuristic

The affect heuristic suggests that individuals make judgments or decisions based upon their emotions or feelings (Slovic et al., 2001). People who use the heuristic often insert the question "Do I like something?" when answering a more difficult question. One stimulus from survey 1 and questions about five sources of information from survey 2 tested for use of this heuristic. In the stimulus provided to parents of 7th and 8th grade students at Catholic elementary schools, parents saw images of two websites, , more favorable and then answered

several, questions including which school they would rather send their child, at which school

their child and they would be happier, at which school their child would be more successful, and

which school had better academics. Parents consistently selected the more favorable website

which suggests use of the affect heuristic. Parents probably substituted "Which website do I like

more?" rather than answering the more challenging questions in the survey.

Data from the second survey revealed that parents likely use the affect heuristic when

making decisions about sending their child to a Catholic high school. A visit prior to applying, a

tour of the school during the application process, and an interview during the application process

influenced the decision to apply and enroll. Experiences with these sources of information likely

brought about positive or negative emotions in parents, which affected their decisions to apply or

enroll. Notably, parents also rated these three sources of information closest to excellent. These

sources of information also had strong correlations between their ratings and the influence on the

decision to apply or enroll. This also suggests use of the affect heuristic because a more

favorable or unfavorable experience leads to a positive or negative influence to apply. The affect

heuristic would not have been used if these sources of information did not affect the decision to

apply.

The decision to select a high school based upon a website's appearance or to apply to a

high school because of a favorable visit to campus suggests that emotions drive decision making

rather than rational thought. Damasio (1994) anatomically confirmed this heuristic by

identifying a "gut feeling" somatic marker in the brain and this further suggests the ramifications

of the affect heuristic. Additionally, the cognitive load that accompanies a visit to campus, tour

of the school, and interview can lead participants to rely on heuristics. Each of these experiences

can be intense, nerve-racking moments for both applicants and their parents. The cognitive load,

amount of mental effort being exerted, is high in these high-stress stimulus environments and can lead people to rely on heuristics (Kalyuga, Ayres, Chandler & Sweller, 2003). Additionally, seemingly large stimuli can go unnoticed and some stimuli can subconsciously have a greater influence on the affective decision making process than it might normally have when the cognitive load is lower (Most, Simon & et al., 2001; Maier, 1931). For example, the lack of air-conditioning in a relatively old building might go unnoticed, but a smiling student who welcomes prospective families upon arrival of an open house or interview places families in a good mood and prevents them from seeing the building's old age.

The data collected from both surveys suggest that parents use the affect heuristic when forming opinions about Catholic high schools and when parents decide to send their child to a Catholic high school.

Availability Heuristic

Presence of the availability heuristic, which states that a judgment is formed based upon the ease of recall and saliency of an experience (Tversky & Kahneman, 1973), was tested for by 1 stimulus to determine if the heuristic is used when forming judgments about Catholic schools and 9 sources of information to determine if the heuristic when parents decide for their child to apply or enroll. The stimulus that tested for use of the heuristic when forming judgments first divided participants into two groups, a control group and a treatment group. Each group ranked the importance of five characteristics of Catholic schools one of which was small class size. However, the treatment group read a paragraph about the importance of small class size prior to ranking. The treatment group ranked small class size higher than the control group, which suggests the availability heuristic is used when forming opinions about schools. The availability heuristic claims a person makes a decision based upon the ease of recall. In this case information

about the importance of small class size was made more available and, thus, parents primed by reading the text ranked small class size higher than those who did not read the text. It is probable that participants *knew* that the paragraph could have been a ploy for them to rank small class size high and they *still* ranked it higher than the control group. This experiment provides the greatest evidence to suggest that people use the availability heuristic when making decisions.

The ambiguity of the value of small class size may have also influenced the decision. The value of a GPA or SAT score is easier to identify because there is a known scale: GPAs are generally graded on a 4.0 scale and SAT scores are based out of 2400. However, there is no scale for small class size, strong community, quality faculty, or healthy discipline climate, which makes their importance more challenging to evaluate (Hsee, 1996b). By making information about items that lack a definitive value scale more available, the information becomes more influential. This stimulus also exemplifies the use of priming, the effect when exposure to one stimulus affects another stimulus (Schwartz et al., 1991). The treatment group was exposed to small class size, which primed them to be more aware of this during the ranking portion. Priming participants about the importance of a healthy discipline environment would likely have given it a higher ranking and lowered the ranking for importance of small class size.

Nine sources of information tested for utilization of the availability heuristic, of which the presentation for parents and contact with students, alumni, faculty, parents of students, and the religious community pointed to use of the heuristic. Each of these sources of information influenced the decision to apply. It is not likely that parents encountered enough students, alumni, faculty, parents or the religious community or devised a logical, thoughtout process to evaluate their encounters with people in the school to make a logical decision about how these encounters should influence their decision to apply. Rather, only some encounters were

available to them and, thus, their decision to apply or enroll was likely based on these encounters, suggesting use of the availability heuristic. The presentation for parents only made available information that would cause parents to decide to enroll their child. Thus, parents influenced by the presentation were likely using the availability heuristic because their decision was based upon only the information made available to them.

All of the sources of information were rated very good or excellent and, similar to the affect heuristic, there were strong correlations between a source's rating and its influence. This also suggests use of the heuristic because parents were more likely to apply or enroll if they had greater levels of influence and, on the contrary, parents were less likely to apply or enroll if what they recalled was negative.

The ease of recall is significant in the use of the availability heuristic. Parents could easily recall their experiences with people since encounters with people tend to be more impressionable than more passive encounters. The choreographed detail in the presentation for parents likely made it memorable for parents to recall. Encounters with sources of information such as media stories or a school fair were far less impressionable and therefore less likely to influence the decision to apply. Likewise, in the stimulus given to parents of 7th and 8th graders, information about the importance of small class size was easy to recall and, therefore, affected the ranking decision.

The data suggests that parents use the availability heuristic when deciding to send their child to a Catholic school.

Representativeness Heuristic

Individuals who use the representativeness heuristic base their decision on the degree to which a sample is thought to share characteristics of the parent population (Tversky & Kahneman, 1973). Two stimuli tested for use of the heuristic when forming judgments and five sources of information tested for this heuristic when parents decided for their child to apply to and enroll in a Catholic school. The first stimulus first divided parents into two groups and both groups selected a high school for their child to attend after reading two high school mission statements. However, the first group saw the first school identified as Jesuit and the second group saw the second school identified as Jesuit. It was thought that participants would select the Jesuit school because they enjoy a strong academic reputation (Jones, 2014). The results suggested that the Jesuit description did not influence the selection. This may be because there were no Jesuit schools in the majority of the areas where parents participated in the studies and therefore their reputation for academic excellence was not known.

The second stimulus indicated that parents used the heuristic when thinking about the characteristics of students at Catholic schools. In this stimulus, parents read a description about a fictitious student and then selected the school they thought she attended. The majority selected a Catholic school despite reading that there was only an 8% chance that the student attended a Catholic school. It is probable that parents thought the student's description in the paragraph represented all Catholic school students. In both stimuli, it was thought that the student and Jesuit high school would share characteristics of their parent populations, all Catholic school students and all Jesuit educational institutions. As such, participants likely only used the representativeness heuristic in Catharine's stimuli, the stimuli where parents selected the school they thought Catharine attended after reading a short biography of her. This may have occurred

because a description of a student is more personable than a Jesuit institution. The participants likely had numerous encounters with current Catholic school students that may have informed their decision to suppose that Catharine attended a Catholic school.

Five sources of information tested for the representativeness heuristic when deciding for their child to apply to and enroll in a Catholic school. Of these five, their son attending summer camp at the school, contact with other single-sex schools, contact with their child's Catholic elementary school, and the 'student for a day' program suggested use of the heuristic. There were strong correlations between the sources' influence and the sources ratings, which also suggest use of the representativeness heuristic. Moreover, a predictive model suggested that the 'student for a day program' experience was the primary determinant for a student to enroll. For each of these sources, parents likely thought that the high school contained similar characteristics as other single-sex schools or their child's Catholic elementary school that led these sources to influence their decision to apply or enroll. Similarly, parents probably thought that their son's experience at this high school would be similar to their son's experience in the school's summer camp and in the 'student for a day' program. The strong correlations and the predictive model provides greater certainty of this heuristic because parents with positive experiences of the 'student for a day' program were more likely to enroll their child and parents with negative experiences were less likely to enroll their child. Parents likely thought the high school shared characteristics of the sample population which influenced their decision.

The data suggests that parents use the representativeness heuristic when deciding to send their children to a Catholic school. It is probable that the three heuristics presented work in concert with each other to influence judgments and decisions. Some sources of information do not specifically represent one type of heuristic. For example, the presentation for parents may

fall into both the availability and the affect heuristic: availability because of the information presented and affect because the presentation could have created a positive emotional appeal for parents.

Review of Hypotheses

It was hypothesized that parents would use the affect, availability, and representativeness heuristics when forming opinions about Catholic schools as well as when deciding for their child to apply to and enroll in a Catholic school. The data indicates that parents likely use these three heuristics when forming opinions about Catholic schools and deciding for their child to attend a Catholic school.

Additional Findings

Findings from the studies were not limited to information about the use of heuristics. Both studies suggested that salient experiences and personal relationships influence parents more than more passive sources of information. Contact with parents, students, and faculty were more influential than seeing advertising, following the school on social media, or viewing the school website. Similarly, a personal connection between the description of a student in the stimulus testing for the representativeness heuristic may have caused parents to use the heuristic when answering the question. Experiences such as their child attending summer camp, participating in the 'student for a day' program, and seeing the presentation for parents all proved to be significantly influential. The data also suggested possible use of the halo effect, which indicates that an individual forms an opinion about aspects of a sample based upon their overall impression of a sample. First impressions become more crucial when people use the halo effect because that first impression influences subsequent assessments. Participants often thought that a school with good academics would also make students and parents happiest. It is likely these

participants would also think the school has good athletics and arts programs despite no knowledge of these programs.

The data also suggests that cognitive decisions about what school to attend correspond with the brain's dual processing systems (Evans, 1984). The dual process theory posits that there are two systems of thinking, System 1 and System 2. System 1 is fast, intuitive, and error-prone while System 2 is slow and deliberate but lazy and only called into service when pressed. The findings support the brain's impulse to jump to conclusions, a characteristic of System 1, through the illusion of "what you see is all there is" and overconfidence in small numbers. People often think that "what you see is all there is" and seldom look for more information unless System 2 is notified. For example, the tour of the school may have only promoted highlights of the school and parents may have thought those highlights accurately represented the entire building. In other words, parents thought there was no more information and solely based their decision upon what they saw. System 1's insensitivity to the quality or quantity of information leads people to make decisions using only the information at hand, which often does not tell the entire story. Moreover, this leads to over-confidence in a decision (Brenner, Koehler & Tversky, 1993) and to neglect of logic and statistics (Kahneman, 2011). Researchers, sports analysts, school analysts, and military officials also fall prey to the insensitive of numbers (Wainer & Zwerling, 2006; Feller, 1950; Gilovich, Vallone &Tversky, 1985). Parents, likewise, may think one or even a few teachers – for better or worse – represents the entire faculty or that a handful of students are representative of the entire school, and their belief that a small number represents the entire population, similar to the representativeness heuristic, leads them to erroneous logic. Applying both "what you see is all there is" and belief in small numbers, a few students are present at the school for the interview and the tour of the school. They open the door for prospective families,

welcome them, and serve as tour guides. These students are hand selected, trained accordingly, and generally do a fine job. Impressed parents may think these few students accurately reflect the entire student body and represent what their son would be like if they attended the school. It is likely that few parents stop to consider if all students are similar to the students they encounter.

The importance of knowing about these impressions should not be overlooked: judgments formed by the affect heuristic are often irrevocable and supersede judgments formed through deliberate thought and logic (Reber, 1993). System 1 and System 2 may reach different conclusions and often System 2 will disregard evidence because correct judgment is an effortful process (Chaiken & Trpe, 1999; Nisbett & Wilson, 1977). System 1 likely generates the initial affective judgments which hard to overcome even if the individual logically knows they are inaccurate. Meanwhile, the mind does not look to provide sufficient evidence to substantiate affective judgments. More akin to a lawyer defending a client rather than a scientist looking for truth, the brain seeks to find evidence that satisfies an affective decision rather than prove an affective decision. System 2 needs to work hard to generate an empirical correct answer, but its laziness often leads it to settle for incorrect answers. When pressed for evidence about an affective decision, it is generally poor evidence (Kuhn, 1991) or only explains one side (Baron, 1995; Perkins et al., 1991). Furthermore, people stop searching for evidence when their story makes sense (Perkins, Allen, & Hafner, 1983); their goal is to make sense of their judgments and not to get the correct answer. There is potential that the entire high school selection process may occur in this manner for some parents. Some parents may want their child to attend a particular high school, find reasons that support this decision, and then disregard information contrary to their decision.

IMPLICATIONS FOR PRACTICE

The findings have a variety of implications for admissions directors and school administrators. Perhaps the most notable is that Catholic high school selection, unsurprisingly, is not a straightforward, simple cognitive process. It involves a variety of influences and using those influences to shape a decision. Moreover, deciphering between logical fallacy through heuristics and judgments based on fact is likely challenging for parents. This research does not offer a silver bullet to increasing Catholic high school enrollment but instead suggests some practices that may influence parents to be more likely to apply and enroll.

A second noteworthy implication is that the decision to enroll in a high school is influenced by numerous factors beyond the school's control. This survey focused on parents who applied to the school and therefore were likely influenced positively by experiences with various sources of information. If parents were influenced to apply and enroll by these sources of information, it is reasonable to think that some parents were influenced not to apply by their encounters with these sources of information. Of course, a school cannot control the interactions between prospective families and current students or parents of teachers and one negative encounter may influence a prospective family not to apply. While the school's mission is to educate the students, administrators should be mindful of how their decisions affect parents, who likely talk to other parents about the school. It would be impossible for a school to appease every parent, but administrators should be cognizant of how their decisions affect the school community including teachers, parents, and alumni.

The following sections highlight other implications derived from the findings.

Affect Heuristic

The affect heuristic is employed when an individual bases his judgment or decision based upon his emotion. Frequently, people who use this heuristic will substitute the question "Do I like this?" for the more challenging question. For example, prospective parents should ascertain if a campus meets their student's needs for success. Rather than going to the logistics of answering this question, he or she might simply substitute "Do I like this campus?" to answer the question.

To address this heuristics, schools should not only be as "likeable" as possible but should also attempt to create environments where the school can be thought as more favorable. High fluency items are generally thought to be more favorable than low fluency items, and stimuli that are easier to process are judged more positively (Reber, Winkielman & Schwarz, 1998). Characteristics of high fluency stimuli include clean fonts, easy to read words, clear pictures, and sounds easy to understand. Ease of gathering information and communicating with the school are also able to influence an individual's affective feeling towards a school. In practice, a parent will judge the message from a well-groomed student in uniform speaking eloquently more positively than if the message were communicated by a student in a disheveled uniform whose microphone frequently squeaks.

An individual's mood also plays a role in the brain's ability to decide if stimuli are favorable or unfavorable and, therefore, mood also influences the affect heuristic. Snickers candy bars created several commercials about hungry people who were not acting like themselves and how a Snickers calmed the individuals. The new term "hangry" describes a person who is hungry and therefore angry. Hunger can often affect mood and people with full stomachs will judge items more favorably and are more lenient (Danziger, Levav, & Avnaim-

Pesso, 2011). People who smiled are also judged to be more favorable (Kahneman, 2011) which suggests that friendly people are judged more positively. A great deal of mood comes down to hospitality offered to prospective families, which is consistent with a Catholic ethos. In practice, light refreshments at an open house and a smiling student welcoming parents at the door is likely to make a school appear more positive than it would to hungry parents who are not welcomed at the door.

Availability Heuristic

The availability heuristic suggests that parents make judgments and decisions based upon the ease of recall or information made available to them. The presentation and means of presentation of information help inform opinions and make judgments. For many people, "what you see is what you get," which leads them to making decisions only based upon the information provided (Kahneman, 2011). The Diocese of Allentown embarked upon a campaign to raise the awareness of the strong academics in Catholic schools. Their campaign announced that 96% of Catholic school graduates attend college. They went so far as to publish a comparison of graduation rates of the local public schools in parish bulletins. A diocesan administrator credited this campaign in helping increase enrollment (Gates, 2013). Likewise, the Grand Traverse Area Catholic Schools (GTACS) published standardized test data that suggests GTACS academically out-performs the surrounding public schools. School administrators link this to the nearly 25 % increase in high school enrollment over the past few years (E. Chittle, personal communication, January 15, 2016). The GTACS superintendent stated that the extra tuition was appreciated, but he was also excited about the possibility to evangelize more students. In each case, the readily available information about the strong academics in Catholic schools may have influenced parents' opinions and decisions for their child to attend a Catholic school. In practice, the local

community should be aware that Catholic schools often academically out-perform their public school counterparts.

Another implication of the availability heuristic concerns how tuition is presented to parents. Tuition at most Catholic schools does not represent the actual cost to educate a student. In the United States, the average cost to educate a student is about $10,000 but the average tuition is $8,000 and parents receive a $2,000 discount (McDonald, 2010). Parents should be aware of the actual cost of the education is not reflected in their tuition. The availability this information is important because more expensive things are generally thought to be more favorable and people appreciate knowing they are getting a discount or deal. In practice, parents should be aware of any discounts they receive in their tuition.

Knowledge about the availability heuristic can also help determine what information to present in tours and presentations about the school. Needless to say, tours should promote the school's benefits and shy away from unfavorable aspects. Finally, less can be more when making information available (Hsee, 1998). As an example, one good faculty member is likely more appealing than two good faculty members alongside one poor faculty member. Likewise, one clean, well-done brochure is more appealing than several sloppy brochures. In practice, the information presented and the amount of information presented should be considered before presenting it to parents.

Representativeness Heuristic

The studies suggested that parents employ the representativeness heuristic when forming opinions and making decisions about Catholic high schools. Because the school is thought to be a sample in a larger population, some of these categories are out of the school's control. A parent who had a favorable experience at a Catholic single-sex school may think all Catholic

single-sex schools provide good experiences. Likewise, a parent who harbors negative

sentiments towards the Catholic Church will likely never consider sending his child to a Catholic

school even if the school would be best for his child.

However, the representativeness heuristic still provides the school opportunities for

helping parents make decisions about the school. The school can provide opportunities for the

student to experience the school such as summer camp experiences or 'student for a day'

programs. Free tickets and invitations to sporting or arts events provide parents with the

opportunity to experience the school and hopefully see themselves as part of the school.

Moreover, interaction with current parents could also help parents know the community better.

In practice, parents and students should have opportunities to see themselves as part of the school

community.

Personal Experiences

The data revealed that personal experiences were most influential in the decision making

process. Needless to say, the school cannot control parents, alumni, or students but they can help

their experiences at the school. Schools need to be mindful of parents and students when they

make decisions. It is often mentioned that a personal referral is best marketing and the data

presented supports this adage. Of course schools need to remain steadfast to their missions but

they should also work to make the community's experiences positive. In practice, schools

should attempt to create meaningful, positive interactions for prospective parents.

First Impressions and the Halo Effect

The data suggested that parents applied the halo effect to their first impressions and

parents who generally thought the school was favorable in attribute applied that same attitude

towards other characteristics. The school should always seek to inform parents about the truth in

their practices or promote school characteristics that may change parents' perceptions. The examples highlighted above about the Diocese of Allentown and the Grand Traverse Area Catholic Schools give example to how school systems worked to change parents' impressions of the school. People often unknowingly apply the halo effect (Thorndike, 1920), so it is likely that parents thought those schools were strong in other areas in addition to their academics. In practice, school administrators should constantly seek to promote a positive image of their schools and attempt to change negative public images when possible.

Mission and Benefits

School administrators should be cognizant of these heuristics, but as with all enrollment management strategies, the emphasis should be to build a student body that can fulfill the school's mission. No admissions work or marketing should ever contradict the school's Catholic mission. Evangelization should be at the heart of any Catholic school's mission. Planning and organizing with these heuristics in mind will likely help increase student enrollment, which fulfills the ultimate mission of the school. Of course, there is substantial benefit: the tuition that accompanies enrollment. Unstable finances are the most common reason for closing Catholic schools (DeFiore, Convey, & Schuttloffel, 2009; Cook, 2004) and tuition will often help increase revenue.

LIMITATIONS OF THE STUDY

The major focus of the study was determining if parents used heuristics in the decision making process, which was achieved through a quantitative process. Ascertaining exactly how parents made the decision was challenging to achieve through a quantitative means and would require a qualitative portion. Conclusions about use of the heuristics were not direct and often achieved through inference. This also meant that some sources of information could test for

more than one heuristic. For example, the tour tested for the affect heuristic, but it could also be used to test for the availability heuristic.

Other limitations could be made about sampling process. In study 1, the parents surveyed were from four dioceses all located in eastern United States. Only parents of 7th and 8th graders at Catholic elementary schools were surveyed. In study 2, parents of only one high school were used to test for use of heuristics during the decision making process of selecting a Catholic high school. Parents who showed interest in the high school but did not apply were not surveyed. A wider sample pool may have yielded different findings in both studies. Future studies can address these limitations.

RECOMMENDATIONS FOR FUTURE RESEARCH

Since this is the first major study on the parental cognitive process of selecting a high school for a child, there are many opportunities for future research that could create a fuller picture of the parental decision making process when selecting a high school. A potential study could examine and compare the sources of information that influence parents opinions at other Catholic high schools such as diocesan or coeducational. Another study could test for use of heuristics by parents when selecting an elementary school or preschool. The current study tested for use of heuristics in parents of 7th and 8th graders at Catholic elementary schools. A future study might also include Catholic parents of 7th and 8th graders who attend non-Catholic elementary schools. This study suggested the use of the heuristics by parents and a future study might determine if admissions representatives are aware of the use of heuristics because some parents let their children select the high school they want to attend. A study might test for the use of heuristics in students. This study tested parents who applied to a Catholic high school and a future study might include parents who inquired about a school but decided for their child not

to attend the school. As tuition and fundraising are the main sources of revenue for a Catholic school, a future study might test for use of heuristics when donors decide to support the school. This study was a quantitative study and conclusions about the practice were induced. The qualitative study such as interviewing prospective parents may reveal more information about which heuristics they used. The research performed used experimental manipulation such as small class size or images of websites. A future study might use to experimental manipulation such as graduation rates, social media images, or images of school facilities to see if heuristics are still employed. Each of these studies would provide more color to how students enroll in Catholic schools and provide admissions representatives with the tools to attract and enroll more students.

SUMMARY

Enrollment in Catholic schools has been on decline since its peak in the 1960s (McDonald & Schultz, 2010) despite the wealth of research identifying the academic, religious, and social benefits of Catholic schools (Bryk, 1993; Coleman, Hoffer, & Kilgore, 1982; Convey, 2010; Guerra, Donahue, & Benson, 1990; Brinig & Garnett, 2014). The precipitous decrease in enrollment has two profound effects: the first is a decreased ability to heed the divine mandate "to go and make disciples of all nations" (Mt. 28:19) and the second is the deterioration of healthy finances in a Catholic school. Success in the latter only makes possible success in the former. The research presented offers a glimpse into the parental cognitive process of selecting a Catholic high school for their children. The data suggested that parents utilized the affect, availability, and representativeness heuristics when forming opinions about Catholic schools and deciding to send their children to Catholic high school. Such information can help Catholic

school administrators better attract, enroll, and retain students, which in turn benefits their

schools' finances and provide broader evangelization opportunities.

APPENDIX A

IRB Approval

CUA

THE CATHOLIC UNIVERSITY OF AMERICA
Office of Sponsored Programs and Research Services
Washington, DC 20064
202- 319-5218

January 29, 2015

Mr. Nicholas Huck
230 Mendham Rd.
Morristown, NJ 07960

Subject: Project title **"Enrollment Management in Catholic High Schools"**
        Protocol No. **15-002**

Dear Mr. Huck:

Your research for the subject project was reviewed by the Committee for the Protection of Human
Subjects, and has been certified as exempt under 45 CFR 46.101. Certification expires **01/20/18** as long
as no changes are made to the protocol. If changes are made, or if the research continues beyond three
years, re-submission to the IRB must be made.

Enclosed is an approved copy of the exemption certificate.

Sincerely,

Ralph Albano
Secretary
Committee for the Protection of Human Subjects

Enclosure

cc: [ ] Dr. John Convey
        Dept. of Education

THE CATHOLIC UNIVERSITY OF AMERICA
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (CPHS)

EXEMPTION CERTIFICATE

Nicholas Huck
_____
Principal Investigator's Name

November 22, 2014
_____
Date

School of Arts & Science
_____
School

Education
_____
Department

Enrollment Management in Catholic High Schools
_____
Title of Study

Dr. John Convey
_____
Faculty Advisor (if Student PI)

FWA00004459

The project is exempt under the following category of 45 CFR 46.101:

1. (b) (1) ☐   Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as a) research on regular and special education instructional strategies, or b) research on the effectiveness of or the comparison among instruction techniques, curricula, or classroom management methods.

2. (b) (2) ☒   Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

3. (b) (3) ☐   Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior that is not exempt under (2), it: a) the human subjects are elected or appointed public officials or candidates for public office; or b) federal statues(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

4. (b) (4) ☒   Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

5. (b) (5) ☐   Research and demonstration projects which are conducted by or subject to the approval of the department or agency heads, and which are designed to study, evaluate, or otherwise examine: a) Public benefit or service programs; b) procedures for obtaining benefits or services under those programs; c) possible changes in methods or levels of payment for benefits or services under those programs.

6. (b) (6) ☐   Taste and food quality evaluation and consumer acceptance studies, a) if wholesome foods without additives are consumed or b) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Certification as Exempt:

_____
Secretary of the Institutional Review Board (IRB) for
Research with Human Subjects

1/26/15
_____
Date

APPENDIX B

Study 1: Survey A for parents with children in seventh and eighth grade

Study 1: Survey B for parents with children in seventh and eighth grade

Study 2: Survey for parents of children who applied to a Catholic high school

Study 1: Survey A

Survey for parents of students in seventh and eighth grade

Thank you for taking this survey. The following questions will provide valuable data that will help Catholic high school admissions departments. The survey is voluntary and you can refuse to answer any question. Any questions about the survey can be addressed to Nicholas Huck at 91huck@cardinalmail.cua.edu.

Instructions: Read the two high school mission statements below and answer the questions.

High School 1 is a coeducational, Jesuit high school founded in 1923 that offers a strong academic program. The school enjoys a long tradition of success in academics, athletics, the arts, and community service programs.

High School 2 is a coeducational, college-preparatory high school founded in 1923 that offers a superior curriculum in the Catholic tradition. Students at the high school develop their mind, body, and spirit through academics, athletics, arts, and community service programs.

1) To which school would you rather send your child?

☒ High School 1

☒ High School 2

Instructions: Rank the following factors based upon their importance when selecting a high school where 1 is the most important and 5 is the least important.

☒ Strong community

☒ Small class size

☒ Quality faculty

☒ School values

☒ Healthy discipline climate

Instructions: Please read the paragraph below and answer the questions.

Catherine lives in a small town with four high schools, one public, one Catholic, one private, and one charter. In Catherine's town, 85% of high school age children go to public schools, 8 % to Catholic schools, 5% to private schools and 2% to charter schools. Catherine is a junior in high school with three younger siblings. Academically, she currently takes 2 AP courses and has a 3.9 GPA. Her teachers describe her as disciplined, motivated, conscious, diligent, and polite. Catherine describes her school as having a warm, caring atmosphere. Outside the classroom, Catherine plays basketball and soccer, is a member of the National Honor Society, and volunteers once a week at a local YMCA tutoring elementary students.

3) Which high school does Catherine likely attend?

☒ Public high school

☒ Catholic high school

☒ Private, non-religious high school

☒ Charter high school

Validation: Must be percentage

4) How confident are you in your answer? (Provide whole number between 0 and 100.)

☒

Instructions: You will view two images of websites for two different high schools. Please answer the questions after viewing both websites.

STRONG VALUES .... CATHOLIC TRADITION .... ACADEMIC EXCELLENCE ... COMMITMENT TO SERVICE ...

5) To which school would you rather send your child?

☒ Archangel Gabriel High School

☒ Central Catholic High School

6) Which school do you think your child will do better academically?

☒ Archangel Gabriel High School

☒ Central Catholic High School

7) Which school do you think your will be more successful?

☒ Archangel Gabriel High School

☒ Central Catholic High School

8) Which school do you think your child will be happier?

☒ Archangel Gabriel High School

☒ Central Catholic High School

9) Which school would you make you happier if your child attended?

☒ Archangel Gabriel High School

☒ Central Catholic High School

Thank You!

Thank you for taking our survey. Your response is very important.

Study 1: Survey B

Survey for parents of students in seventh and eighth grade

Thank you for taking this survey. The following questions will provide valuable data that will help Catholic high school admissions departments. The survey is voluntary and you can refuse to answer any question. Any questions about the survey can be addressed to Nicholas Huck at 91huck@cardinalmail.cua.edu.

Instructions: Read the two high school mission statements below and answer the questions.

High School 1 is a coeducational, college-preparatory high school founded in 1923 that offers a strong academic program. The school enjoys a long tradition of success in academics, athletics, the arts, and community service programs.

High School 2 is a coeducational, Jesuit high school founded in 1923 that offers a superior curriculum in the Catholic tradition. Students at the high school develop their mind, body, and spirit through academics, athletics, arts, and community service programs.

1) To which high school would you rather send your child?

( ) High School 1
( ) High School 2

Instructions: Please read the following paragraph and answer the question below.

Student achievement for high school students in the United States has remained stagnant for the past several years. Still, there have been small pockets of academic gains based upon changes to the learning environment. Attaining higher quality faculty, ensuring a healthy disciplinary environment, building a strong community, and promoting quality values correlate to higher academic gains. Notably, small class sizes also have a significant impact upon student achievement. In February 2014, Dr. Diane Schanzenbach from Northwestern University published research results indicating that class size plays an important role in academic performance. Specifically, students perform better when placed in small classes due to increased time on tasks and an increased ability for teachers to tailor their instruction to specific students. Moreover, Schanzenback asserts that small class size leads to better life outcomes.

2) Rank the following factors based upon their importance when selecting a high school where 1 is the most important and 5 is the least important.

_____Strong community

_____Small class size

_____Quality faculty

_____School values

_____Healthy discipline climate

Instructions: Please read the paragraph below and answer the questions.

Catherine lives in a small town with four high schools, one public, one Catholic, one private, and one charter. In Catherine's town, 85% of high school age children go to public schools, 8 % to Catholic schools, 5% to private schools and 2% to charter schools. Catherine is a junior in high school with three younger siblings. Academically, she currently takes 2 AP courses and has a 3.9 GPA. Her teachers describe her as disciplined, motivated, conscious, diligent, and polite. Catherine describes her school as having a warm, caring atmosphere. Outside the classroom, Catherine plays basketball and soccer, is a member of the National Honor Society, and volunteers once a week at a local YMCA tutoring elementary students.

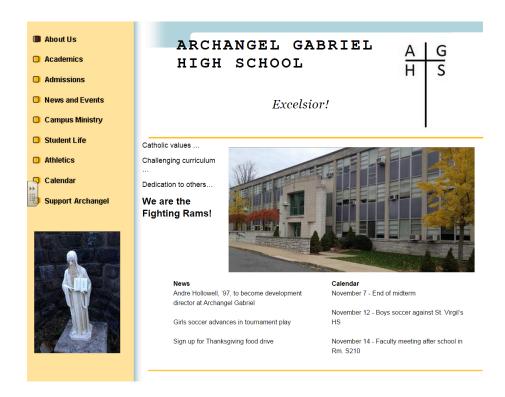3) Which high school does Catherine likely attend?

( ) Public high school

( ) Catholic high school

( ) Private, non-religious high school

( ) Charter high school

Validation: Must be percentage

4) How confident are you in your answer? (Provide whole number between 0 and 100.)

_____

Instructions: You will view two images of websites for two different high schools. Please answer the questions after viewing both websites.

ARCHANGEL GABRIEL HIGH SCHOOL

Excelsior!

A | G
—————
H | S

- About Us
- Academics
- Admissions
- News and Events
- Campus Ministry
- Student Life
- Athletics
- Calendar
- Support Archangel

Catholic values …

Challenging curriculum …

Dedication to others…

We are the Fighting Rams!

News

Andre Hollowell, '97, to become development director at Archangel Gabriel

Girls soccer advances in tournament play

Sign up for Thanksgiving food drive

Calendar

November 7 - End of midterm

November 12 - Boys soccer against St. Virgil's HS

November 14 - Faculty meeting after school in Rm. S210

5) To which school would you rather send your child?

( ) Archangel Gabriel High School
( ) Central Catholic High School

6) Which school do you think your child would do better academically?

( ) Archangel Gabriel High School
( ) Central Catholic High School

7) Which school do you think your child would be more successful?

( ) Archangel Gabriel High School
( ) Central Catholic High School

8) Which school do you think your child would be happier?

( ) Archangel Gabriel High School

( ) Central Catholic High School

9) Which school would make you happier if your child attended?

( ) Archangel Gabriel High School
( ) Central Catholic High School

Thank You!

Thank you for taking our survey. Your response is very important to us.

Survey for Study 2

Survey for Parents of Students who Applied to a Catholic High School

The following survey is being conducted to provide information about the admissions and data gathering process in Catholic schools. The survey should take 5-10 minutes. Your participation is completely voluntary and you have the right to refuse to answer any questions. Any questions or concerns can be directed to Nicholas Huck at 91huck@cardinalmail.cua.edu.

Thank you for your participation.

---

1) How did you first learn about Delbarton? (Select one.)

( ) Contact with the monastic community

( ) Contact with teachers/faculty at Delbarton

( ) Contact with students at Delbarton

( ) Contact with Delbarton alumni

( ) Contact with parents of students at Delbarton

( ) From my son's elementary school

( ) The Delbarton website

( ) Social media such as Facebook or Twitter

( ) Attended a Delbarton summer camp

( ) Media stories (newspaper, TV, etc.)

( ) Advertising about Delbarton

( ) High school fair

---

2) Rate your experience with the following.

	Poor	Fair	Very good	Excellent	n/a
Visit to Delbarton prior to applying	( )	( )	( )	( )	( )
Contact with the monastic community at Delbarton	( )	( )	( )	( )	( )
Contact with teachers/faculty at Delbarton	( )	( )	( )	( )	( )
Contact with Delbarton students	( )	( )	( )	( )	( )
Contact with Delbarton alumni	( )	( )	( )	( )	( )
Contact with parents of Delbarton students	( )	( )	( )	( )	( )
Experience with my son's Catholic elementary school	( )	( )	( )	( )	( )
Contact with single-sex schools like Delbarton	( )	( )	( )	( )	( )
The Delbarton website	( )	( )	( )	( )	( )
Son attended at Delbarton summer camp	( )	( )	( )	( )	( )

Social media such as Facebook or Twitter	( )	( )	( )	( )	( )
Media stories (newspaper, TV, etc.) about Delbarton	( )	( )	( )	( )	( )
Advertising about Delbarton	( )	( )	( )	( )	( )
High school fair	( )	( )	( )	( )	( )

3) How much did the following influence your decision to apply to Delbarton?

	Less likely to apply	No effect on decision to apply	More likely to apply	n/a
Visit to Delbarton prior to applying	( )	( )	( )	( )
Contact with the monastic community at Delbarton	( )	( )	( )	( )
Contact with teachers/faculty at Delbarton	( )	( )	( )	( )
Contact with Delbarton students	( )	( )	( )	( )
Contact with Delbarton alumni	( )	( )	( )	( )
Contact with parents of Delbarton students	( )	( )	( )	( )
Experience with my son's Catholic elementary school	( )	( )	( )	( )
Contact with single-sex schools like Delbarton	( )	( )	( )	( )
The Delbarton website	( )	( )	( )	( )
Son attended at	( )	( )	( )	( )

Delbarton summer camp				
Social media such as Facebook or Twitter	( )	( )	( )	( )
Media stories (newspaper, TV, etc.) about Delbarton	( )	( )	( )	( )
Advertising about Delbarton	( )	( )	( )	( )
High school fair	( )	( )	( )	( )

4) What was the admissions decision for your son?

( ) Accepted
( ) Waitpool, Declined

(Page Five)

Logic: Hidden unless: Question "What was the admissions decision for your son?" #4 is one of the following answers ("Accepted")

5) Did you decide to enroll your son at Delbarton?

( ) Yes
( ) No

(Page Six)

Logic: Hidden unless: Question "Did you decide to enroll your son at Delbarton?" #5 is one of the following answers ("No")

6) What was the main reason for not enrolling your son? (Select one.)

( ) Location
( ) Cost
( ) Academic reputation
( ) Desired a co-educational school
( ) Stronger Catholic values elsewhere
( ) Better athletic opportunities elsewhere
( ) Siblings attend another high school
( ) Your son did not want to attend
( ) Other

7) Rate your experience with the following.

	Poor	Fair	Very good	Excellent	n/a
The tour of the school before/after the interview	( )	( )	( )	( )	( )
The interview	( )	( )	( )	( )	( )
The group learning activity	( )	( )	( )	( )	( )
The program for parents during student testing	( )	( )	( )	( )	( )
The student for a day program	( )	( )	( )	( )	( )

8) How much did the following influence your decision to enroll your son at Delbarton?

	Less likely to enroll	No effect on decision to enroll	More likely to enroll	n/a
The tour of the school before/after the interview	( )	( )	( )	( )
The interview	( )	( )	( )	( )
The group learning activity	( )	( )	( )	( )
The program for parents during student testing	( )	( )	( )	( )
The student for a day program	( )	( )	( )	( )

Thank You!

Thank you for taking our survey. Your response is very important.

APPENDIX C

Study 1: Email to prospective superintendents and principals

Study 1: Email to prospective superintendents and principals

Dear Principal,

I hope this email finds you well. I graduated from Catholic schools and am currently working towards a doctorate in Catholic Educational Leadership and Policy through The Catholic University of America. My dissertation research calls for parents of 7th and 8th grade students in Catholic schools to respond to a 5 minute survey. The survey results will provide information about how Catholic schools can better attract, enroll, and retain students. Neither the parents nor the school will be mentioned in the dissertation.

Would you kindly consider your school participating in this survey? While there may be no direct benefits to your school, many Catholic schools will be able to enhance their enrollment management through this research. Your participation would require at most 10 minutes of your time and 5 minutes of you parents time.

I'd be glad to answer any questions!
Best,

Nick Huck

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