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The Effects Of Life History On Expedited Shipping

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THE EFFECTS OF LIFE HISTORY ON EXPEDITED SHIPPING

A Thesis Presented to a Graduate Faculty
at Fort Hays State University in
Partial Fulfillment of the Requirements for
the Degree of Master of Science.

by

Adam Jess Armijo

B.S., Fort Hays State University

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Approved _____
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Chair, Graduate Council

ABSTRACT

This is a thesis studying individual differences in making a selection to expedite shipping. Specifically, the following experiment tested how individuals would make the decision to pay money to expedite shipping based on a few psychological characteristics theoretically linked to how individuals perceive and value time. In the following thesis, life history theory, the monetary-choice questionnaire assessing delay discounting, and gender were used to predict differences in the maximum amount an individual will spend to expedite shipping (as a proportion of total product cost). This was conducted by collecting data from an online population to more closely simulate online purchasing. Participants were given questionnaires and vignettes to describe purchasing. In order to adequately analyze the hypotheses proposed in this thesis a 2 x 2 x 3 mixed Factorial ANOVA was performed with gender and median split mini-k as between group variables, and proportion of total product cost to expedited shipping of product type as a within group variable. None of the hypotheses were supported in this analysis but there was a statistically significant effect for product type, suggesting that participants may discount specific products differently. This study's main goal was to try and find a predictor for expediting shipping fees. Although none of the hypothesized predictors were significant, delay discounting did have a unique relationship with expedited shipping amount, thus confirming the idea that expedited shipping is related to time perception and delay of gratification.

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TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGMENTS	ii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF APPENDIX	viii
INTRODUCTION	1
Shipping and Handling Fees	1
Impulsivity and Delay Discounting	3
Individual Discounting Parameters	4
Impulsive Consumer Decisions.....	5
Life History Theory	7
Life History Theory and Psychological Research.....	10
Developmental Psychology.....	11
Mating Strategy	11
Decision Making	12
Impulsivity and Life History Theory	13
Gender Differences in Mate Attraction	14
Mate Attraction Through Consumer Products	15
The Proposed Study	16
Hypotheses	19

METHOD	20
Participants.....	20
Data Collection System.....	21
Materials.....	22
Mini-k.....	22
Monetary Choice Questionnaire.....	23
Demographics.....	23
Expedited shipping Vignettes	24
Procedure	25
RESULTS	26
Data Preparation.....	26
Data Cleaning.....	27
Main Analysis	29
Proof of Concept	32
DISCUSSION.....	34
Limitations	36
Future Research	37
References.....	39

LIST OF TABLES

Table	Page
1. Missing Values of t-T-test Results.....	27
2. Normality of the Variables.....	28

LIST OF FIGURES

Figure	Page
1. Two reward decisions as a form of Delay	4
2. Temporal Discounting	17
3. Fast and Slow Timelines	17
4. Slow Life and Slow Life History Time Line	19
5. Percent of Product on Expedited Shipping of Life History, Sex, and Product type	30
6. Effect of Product on Percentage of Cost on Expedited Shipping	31
7. Relationship of Geometric Mean of K and Control Product	33
8. Relationship of Geometric Mean of K and Beauty Product	33
9. Relationship of Geometric Mean of K and Status Product.....	34

LIST OF APPENDIX

A. Shopping Vignettes	43
B. Demographics Questionnaire	48
C. Mini-K Questionnaire	49
D. Monetary-Choice Questionnaire	50
E. Institutional Review Board Approval.....	51

INTRODUCTION

Online shopping is becoming a popular avenue to purchase products demonstrated by a 10% increase from 2009 to 2010 reaching \$142.5 billion in in the US (Koukova, Srivastava, & Steul-Fischer, 2012). This increase in online shopping is arguably due to the ability of consumers to obtain customizable items, and products not available in their immediate area; it could also be a way for consumers to distract themselves. The literature examining online shopping has looked at why, when, and how people shop in these digital environments (Javadi, Dolatabadi, Nourbakhsh, Poursaeedi, & Asadollahi, 2012). Although an extensive amount of consumer research has examined the traditional research areas of brand loyalty, brand personality, and product preference, there is a growing trend to explore novel ideas in the new consumer research areas. Even though online shopping is an important aspect of consumer psychology. In regards to online shopping one area has not as extensively researched, is shipping fees.

Shipping and Handling Fees

One aspect of online shopping is the necessity of getting the product from its holding location to your doorstep. This requires shipping, and is often subject to fees. However, sometimes these fees are waived for standard shipping, but there are often costlier shipping options, which provide the chance to receive the product sooner (i.e., expedited shipping). The research conducted on shipping fees has sought to understand the most profitable shipping fee structure for a company. For example, one study created a model to help understand the different shipping fee structures to determine the most economically safe for the online business (Lewis, Singh, & Fay 2006). This research

found that fees structured as a once a threshold was met shipping would be free this type was favored rather than a fixed model, shipping for a set weight at a set price. However, when the price was below the threshold of free shipping this was not favored over the fixed model. When shipping fees were represented as a way of a cost of doing business shipping fees were more favorable in both conditions. Additional research has also looked at the various structures of shipping fees, such as flat rate (a set amount for a set weight), compared to threshold shipping (once a certain amount of money has been spent the shipping will be free). Both pricing structures are popular ways to ship items, and this is important for businesses to understand. However, more pertinent to the current study, research on shipping prices has also examined whether these varied pricing options affect how people perceive the company, based on how the shipping prices were framed. The focus of much of the research has been to find ways of presenting shipping fees so consumers understand their necessity, with the hope this later mitigates any bad feelings toward the company (Koukova, Srivastava, & Steul-Fischer, 2012 Lewis, 2006; Lewis, Singh, & Fay, 2006). This is a common avenue in understanding shipping fee research. Only a few studies have looked into how the decisions for these fees can be affected.

Hantula and Bryant (2005) were interested in researching intertemporal choice as it related to shipping fees. Specifically, the researchers looked at the value of the purchased item in regards to how delayed the receiving time would be; this ultimately results in a discounted utility, where the product diminishes in value as it moves farther from the present moment. Their study found participants were exchanging amounts of money for time, spending more money for shipping in order to receive their purchased

product sooner. This research suggests people are making decisions for shipping fees—both whether to pay them, and how much—as a function of the delay in receiving their purchased product using free shipping. Despite the fascinating, and topical, nature of the Hantula and Bryant study, it is currently the only published study relating expedited shipping to intertemporal choice. There is also an unpublished thesis expanding on these concepts (Gesick, 2012).

Impulsivity and Delay Discounting

The research examining how consumers make decisions about whether to receiving items now or later is certainly susceptible to individual difference variables. One such variable is impulsivity. Impulsivity is often studied using temporal, or delay, discounting.

Delay discounting occurs when the perceived value of an item declines as a function of temporal distance from the present moment. The key term in delay discounting is *perceived* value. For example, \$100 now is worth the same monetary value as \$100 in 30 days. However, according to temporal discounting, the delayed option is valued less. Perceived value is, of course, inferred from a person's choices for one option or the other. Various changes to the two options in delay discounting tasks can result in different choices—and different perceived values—on the part of participants. For instance, making the later reward a larger absolute value, reducing the delay for receiving the larger reward will both result in a higher perceived value for the later reward, all other variables constant.

Individual discounting parameters. Delay discounting has long been used as a model for impulsivity (Ainslie, 1992). One of the most famous models is that created by Kirby et al. (Kirby, Petry, & Bickel, 1999; Kirby & Finch, 2010). In this model, impulsivity is defined as taking a smaller sooner reward over a larger later reward, whereas the larger later reward would be chosen when there is a sufficient longer delay to both rewards. In order to explain how delayed discounting can be inferred as impulsive, Figure 1 will be referred to for ease of interpretation.

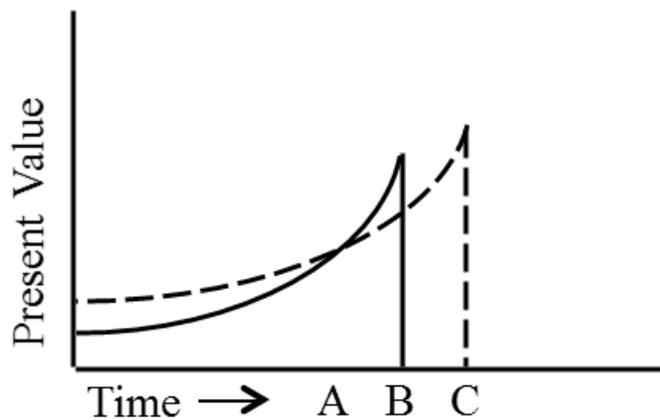


Figure 1. Two rewards discounted as a form of delay.

As the time increases the present value of the two rewards continues but will change as a hyperbolic function. In this figure point B is the reception of a smaller sooner reward and point C is the reception of a larger later reward. At point A, the two lines intercept and the smaller reward become valued more rather than the larger reward. This reversal of the options is because the time has increased and the second option is now preferable. According to the delay discounting model the window between point A and B

is a vulnerable point that is believed to be a moment of impulsive choices (Kirby et al., 1999; Kirby & Finch, 2010). This function can also be represented in an equation of the individual's discount rate. This discount rate can be recovered by an individual's choices on a series of tradeoff questions (e.g., "would you like X now, or Y later?"). In human subjects research the Monetary Choice Questionnaire (Kirby Petry, & Bickel, 1999) is the standard way to compute an individual's discounting parameter. This scale can be used to get a constant in the hyperbolic function made by Mazur (1987) represented below.

$$V = \frac{A}{1 + kD}$$

Equation 1. Hyperbolic Function used to obtain a discounting Parameter

In this equation V is equal to the present value, A is the delayed reward, D is equal to the time of the delay. For this model, k is the discounted parameter and can be considered a measure of impulsivity. As k increases there is an increased likelihood of taking the earlier choice and not delaying the reward and receive a larger one later. Therefore, higher k value is related to a higher impulsive value (Kirby & Finch, 2010). This discounting parameter has been used before to look at impulsivity in individuals addicted to heroin (Kirby, Petry, Bickel, 1999) and many other studies examining individual differences in impulsivity.

Impulsive consumer decisions. In the field of consumer psychology, impulsive buying is sometimes described as an "unplanned purchase." For any specific instance of consumer behavior there may many different individual difference variables leading to these unplanned, or impulsive, purchases. Research has identified that impulsive

purchasing can be influenced by external stimuli, internal stimuli, situational, product related, and socio-cultural factors.

In consumer psychology research, it is proposed delay discounting can be used to help understand some interesting decision making behavior. Past research has looked at how delay discounting can explain impulsive purchases in a way that suggest that an individual is not able to discount the time for the item later and instead will buy it now. Additionally, Hantula and Bryant (2005) used delay discounting to look at how time delays in receiving a CD changed the amount people were willing to pay for said CD. Similar to other species, this value (monetary, for human research) seems to follow a hyperbolic function.

In online shopping, an important decision made by the purchases is whether or not to pay for expedited shipping or to wait longer and receive the product through standard shipping. Expedited shipping costs more, but results in receiving the product sooner. Standard shipping costs less, or nothing at all, but results in receiving the product later. This is essentially a tradeoff between time and money, and one that can be explained using the delay discounting theoretical framework.

When understanding how shipping fees are decided, there is a tradeoff of money that occurs to receive the item sooner. More money spent (on expedited shipping) will allow for the product to be received sooner, less money spent (on standard shipping) will probably mean the product will be received later, but money will of course be saved. This is counter intuitive to temporal discounting theories and delayed gratification. This

process seems to be reversed. How can consumer decision be explained when choosing next-day shipping?

This research has demonstrated the exchange of money is a trade-off for when the product will be consumed. A higher monetary amount expended may mean the product can be consumed sooner, whereas a lower monetary value expended could limit consumption of the product to a later time, with “consumption” simply referring to when the consumer has the product in hand and is able to use it for its intended purpose. The time the product is consumed is important for consumers because they usually would prefer the product sooner than later. In fact, most people would prefer a product sooner rather than later. However, there are some individual differences in how motivated individuals may be to receive items sooner rather than later. Using evolutionary theory as a meta-theory to guide psychological research, we can then explore underlying mid-level theories consistent with evolution (Ellis, Figueredo, Brumbach, & Schlomer, 2009). One such mid-level theory, life history theory, has been used to explain how specific trade-offs are made in many aspects of behavior (e.g., time versus money) (Griskevicius, et al., 2010).

Life History Theory

Differential K theory, otherwise known as life history theory, is a mid-level theory under the umbrella of evolution by natural selection. Mid-level theories are consistent with the meta-theory, but do not, themselves, explain the full range of phenomena as the meta-theory; they are not redundant. As such, life history theory is used to explain unique behaviors and observations consistent with evolutionary theory.

Specifically, life history theory has been useful in explaining how specific trade-offs are made in order for an individual organism to maximize its biological fitness¹. The possible trade-offs in life history theory are resources—time and energy—devoted to the following activities, for example:

1. Survival
2. Reproduction

Each activity, of course, contains many different subsets of activities, but the differentiation between allocation resources remains consistent. At certain points in an organism's life, it is prudent to invest in personal survival (e.g., development during infancy). Eventually, it is important to invest in the survival and reproduction of offspring (e.g., parenting), but this may also include any steps necessary to have offspring, such as steps to attract a mate.

So, each individual is faced with a trade-off between investing in these two basic categories of activities. The pressure to make these trade-offs should often be present, but especially as an organism reaches reproductive maturity.

Mating strategies, physical maturation, and even risk taking can be explained using life history theory and its trade-off framework. Life history is best illustrated as a continuum of strategies ranging from fast (r) to slow (K). This is based on differential K theory, which states all animals fall on this continuum in how they have adapted to specific past ecological conditions. Furthermore, each species has a specific life history based on how the species adapted to past ecological experiences. For some environments,

¹ Biological Fitness is defined as reproductive success of specific traits (Buss, 1989).

species should have fast life histories, for other environments it makes sense to have a slower life history. For example, in *Homo sapiens*' ancestral past there were likely adaptations to live a longer life and push reproduction further and further back. This is not necessarily better or worse than the fruit fly, *Drosophila melanogaster*, whose life history is much faster (i.e., about 1 month from birth to death). In conclusion, a species' life history strategy can only be evaluated based on its fit with its current environment.

This species-specific type of strategy is modal and is often applied to an entire species. However, life history theory can also be applied to individuals *within* a certain species. For example, life history strategies ranging from fast to slow can be present at different levels within a species because of variable ecological and developmental conditions in a species' environment. Environments are not homogeneous, therefore life history theory allows for this within-species variability in life history strategy. Therefore, life history theory can also be used to explain individual differences in trade-off behavior as those behaviors pertain to reproduction and survival.

Species-typical life history strategies are determined through the long process of evolution by natural selection, as organisms slowly adapt to a stable living environment. However, individual differences in life history strategy can to some extent be modified during an organism's development. One of the most predictive ecological and developmental components useful in determining where an individual will fall on the r-K continuum is the unpredictability or harshness of the environment during the organism's infancy.

If the environment is harsh and unpredictable then the individual will probably adopt a life history strategy on the “fast” side of the continuum. An individual growing up in a predictable and safe environment will likely adopt a life history strategy on the “slow” side of the continuum. These fast and slow life history strategy adoptions within a species are organism-specific adaptations to variability in species-typical environments. So, an individual is using current and past information about their environment to regulate their life history strategy moving forward, with the implicit goal of maximizing biological fitness. In an unpredictable and harsh environment an individual is likely gaining information that the world is a harsh and unpredictable place. There is no reason to believe this will change; the best predictor of the future is indeed the past. Therefore, the individual’s strategy should change to deal with the possibility that their life span may be shortened by their current environment. This pushes up some major life events so they are sooner rather than later. For example, reproduction will occur at an earlier time compared to the average for that individual’s species. A stable, predictable, and safe environment, by contrast, “tell” the individual there is plenty of time to develop, survive, and then reproduce. These individuals will, on average, begin reproduction at a later point in time compared to their own species’ average.

Life history theory and human psychological research. Life history theory has been applied to many domains of psychology such as development, parental investment, mating strategies, and reward orientation. Since this life history theory is multi-disciplinary the research is broad and looks at the many different aspects of human

psychology in relation to the broad behavior patterns of many other species. Life history theory is also used in different sub-disciplines of psychology.

Developmental psychology. In developmental psychology, for example, life history is used to explain the individual differences in puberty, attachment, and reproductive strategy. From an early age if the attachment of parents were insecure there was an earlier onset of menarche in the female children (Belsky, Houts, & Fearogedo 2010). These findings were not dependent on mother's menarche but were more in line with support for how early life experiences (e.g., unpredictable and harsh environments) can cause females to enter puberty earlier than their slower life history peers.

Mating strategies. Another area that is researched in life history is how individuals will invest time in finding a sexual partner. This specific behavior pattern is sometimes called a *mating strategy*. There are two dominant mating strategies for humans, with both offering the possibility of fulfilling the primary biological goal of passing on genetic material to the next generation. One strategy is long-term mating, otherwise known as monogamy, or serial monogamy. This strategy is characterized by entering a relationship or searching for a partner that is interested in investing a large amount of their energy to keep the relationship intact. Long-term mating may help ensure the survival of offspring through more resource allocation to a single child. Another strategy is a short term mating, which is colloquially referred to as the "one night stand." This strategy can be expressed bluntly as quantity over quality. Individuals adopting a short-term mating strategy may end up having many more children than individuals involved in more long-term mating strategies. Both males and females can engage in

short- and long-term mating strategies. The decision of which strategy to use is ultimately a tradeoff between high resource investment in a child and number of children. Assuming resources are limited, as number of children increase—the biological function of short-term mating strategies—the amount available to invest in each child will decrease. As with other tradeoffs, life history theory can be used to explain how these different mate strategies are chosen by different people based on their early childhood environment. For example, an individual in a fast life history is more likely to use a short term mating strategy compared to a slow life history.

Decision making. More pertinent to the proposed research, life history has been used to also explore decision making and risk-taking. For individuals adopting a fast life history strategy, decisions made for reward orientation are categorized by high impulsivity, also resulting in a large devaluation of things in the distant future. By contrast, individuals adopting slow life history strategies for reward orientation are categorized by low impulsivity, resulting in smaller devaluations of things in the distant future. Therefore, individuals that are living a fast life history will be less likely to delay gratification and choose to get the rewards immediately, whereas slow life individuals will delay gratification and wait to receive a larger reward later (Griskevicious, et al., 2013). Research has demonstrated that individuals with a fast life history will choose to receive a small amount of money sooner than waiting thirty days to receive a larger amount of money. Conversely, slow life strategies are more likely to wait the thirty days to receive a larger amount of money (Griskevicious et al., 2013).

Often in these studies, childhood socioeconomic status (SES) is used as a measure of fast and slow life history. This is used as an indicator of life history because previous research has suggested that it is a reliable indicator of childhood resource availability and unpredictability (Belsky, Schlomer, & Ellis, 2012; Griskevicius, et al., 2013; Miller Et al., 2009; Simpson, Griskevicius, Kuo, Sung, & Collins, 2012). The underlying belief is that SES is related to harsh environments, because low SES is linearly related to all forms of mortality (Chen, Mathews, & Boyce, 2002). In life history an environment can be harsh if there is a high mortality rate in the childhood environment. Therefore, it is believed to be a good predictor when childhood and current SES are used as measure life history.

Impulsivity and Life History Theory

Impulsivity, or lack thereof, is a key component to understanding life history. Life history states that individual who are more impulsive are more likely to be higher on fast life history because in ancestral times if your child hood development was unpredictable or harsh it would lead you to allocate resources to best increase chances to find a mate. A less impulsive person will most likely be in a slow life history because their environment was predictable and less harsh they are able to allocate resources that will pay off in the long run such as delaying gratification of receiving money now for a larger sum later. Impulsivity is a key aspect to life history but it provides a developmental-evolutionary frame work to explain how the occurrence of this individual difference is present within human behavior. Within the Arizona life history battery there are questions addressing impulsivity and delaying gratification. Impulsivity is a specific construct within Life

history that is used to understand where an individual fall on the continuum. Therefore, impulsivity is already measured in the construct of life history as a time allocation of resources.

The gender of the individual is specific to understand how they will allocate their resources to the gender specific items such as lipstick or polos. Each sex has a preference for the items because they are specific to that gender. In research the items used for each individual when purchasing items online are non-gender specific but since this research is specifically looking at how individuals will purchase the specific item used to increase fitness the items will be gender specific.

Gender Differences in Mate Attraction

According to evolutionary theory, the purpose of mate attraction is to secure a healthy sexual partner with whom one can have multiple offspring. The selection of a quality mate is based on what the species has desired as an attractive or effective trait, and the term “effective” is dependent upon the environment in which a species lives. For example, many bird species are sexually dimorphic, meaning there are observable phenotypic differences between males and females. Peacocks (compared to peahens) for example have colorful plumes used to attract the more benignly colored peahens. The colorful plumes of peacocks are likely the result of runaway sexual selection, but their purpose is clear: colorful feathers are a signal of status and resource holding potential. Peahens (female) choose peacocks (male) based largely on plume size.

In most species the sex that incurs the most reproductive burden is able to be more selective in their mates. In human mating, females take on the bigger burden of

rearing a child, therefore they can be the more selective in mates. However, males also value certain features in females. Because males and females have vastly different minimum investment in offspring, males and females value certain qualities in opposite sex partners to varying degrees. Specifically, females select for males that show signs of status or resource holding potential, with the logic being those individuals have more resources available to invest in offspring. Males, conversely, being the sex investing very little, are less concerned about resource holding potential and status in their possible female mates. Rather, males value youth, and signs of it (e.g., beauty) due to its relationship with increased fecundity. Cross-cultural research examined these effects (Buss, 1988) and found that, although males and females are virtually indistinguishable in their preferences for the traits of potential mates, status and youth consistently show a sex difference in many different countries throughout the world.

These sex differences in valued potential mate characteristics lead males and females to engage in behaviors that enhance the desired characteristics of the opposite sex potential mates. Essentially, males do things to enhance status (e.g., buy expensive cars), and females do things to enhance youth and beauty (e.g., cosmetic surgery).

Mate attraction through consumer products. Certain consumer products are associated with pursuing the goals of status and beauty enhancement. Status, for example, can be achieved by purchasing expensive gender-specific products (e.g., designer purses or watches). Beauty can be achieved through the purchasing of lipstick—used to enhance one’s lips—or through hair gel—used to create the illusion of shiny, healthy hair. The

latter two products may not be expensive, but their applications offer temporary appearances of youth and attractiveness.

Further, the motivations to seek out these specific products can have been magnified during times of financial hardship. For example, in an economic decline females are more likely to purchase beauty enhancement products (Hill, et al., 2012), an observation known in evolutionary psychological circles as the “lipstick effect.” Additionally, Griskevicius et al. (2012) found that when primed to think of many other male competitors, males were more likely to upregulate their motivations to seek out status enhancing products by taking more risk. This was also observed in real world credit card debt between cities with differing male : female ratios. In conclusion, there is strong evidence to suggest not only that males and females show a clear difference between in who values status compared to beauty, but also that there exist strong motivations to secure products capable of enhancing these qualities.

The Proposed Study

Consumer decisions have been researched using delay discounting. Consumer psychology research has looked into how an item such as a laptop can decrease in value as time passes, even though it is the same product (Figure 2). Even though the laptop’s value does not change over time, the perceived value will decrease as the distance between the present moment and receiving the product increases. A laptop in the present will have a different perceived value than the same laptop seven days from now, one month from now, or even a year a year from now. The monetary and utilitarian value of the product does not change, but consumers will value it less than a laptop in the present.

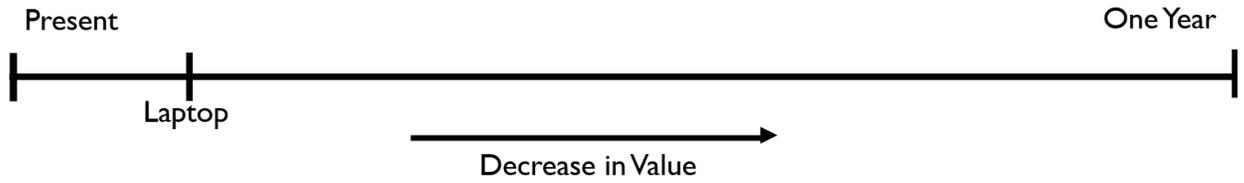


Figure 2. Temporal Discounting.

Previous research has studied life history theory and its relationship to delay discounting. This research has specifically studied how an individual will make delay discounting decisions based on a slow or fast strategies (Griskevicious et al., 2012; Griskevisious et al., 2011; Griskevicious, et al., 2010). As stated previously, individuals with fast life history strategies are more likely to take rewards now rather than delay the future and receive a bigger reward while slow life history is more likely to delay time and receive a larger reward latter. To illustrate, individuals with a fast life history should have a truncated life span, on average. This means any segment of time (e.g., one week) is a larger proportion of their life than an individual with a slower life history. This concept is presented in exaggerated form in Figure 3.

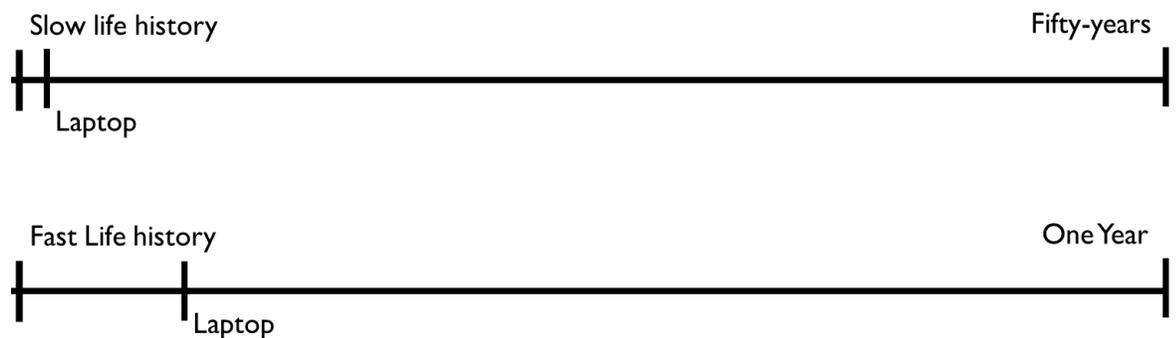


Figure 3. Fast and slow timelines

Therefore, this study will merge life history research and consumer research to study how a temporally based decision can be made. This research will apply the life history and delay discounting frameworks to a shipping decision context. Specifically, this study will seek to understand if normal consumer decisions can be predicted based on evolutionary psychological principles. To do this, a few conceptual steps need to be taken.

First, most delay discounting scenarios examine whether individuals will choose less money now or more money later. In an expedited shipping context, there is only one product, but what can be manipulated is the temporal distance of the product. To reduce distance, a person has to pay more money. This allows us to assign a real monetary value to a temporal distance—the amount an individual is willing to pay to make that temporal distance equal to zero.

As displayed in Figure 4, it is possible to look at the psychological distance of one week for different types of individuals based on life history, and also measure how much a week is worth to different individuals in monetary amounts. The current study will add life history as a predictor of the amount of money used to pay for a product. Illustrated in Figure 4, a person with a fast life history strategy will probably pay more to reduce one week to one day because one week is a larger proportion of their anticipated lifetime. This stands in contrast to an individual with a slow life history, who should pay less to reduce one week to one day because one week is a smaller proportion of their anticipated lifetime.

This study seeks to understand the value of reducing the temporal distance and receive the item sooner. Therefore, this study also aims to estimate the value associated with time for different individuals, and for different products. This study will also seek to understand if life history will predict that an individual will be willing to reduce the time to receive the product. Specifically, will fast and slow strategies act accordingly to their theoretical traits? Theoretically, individuals with a slow life history will perceive a longer life line and individuals with a fast life history will perceive a shorter life line.

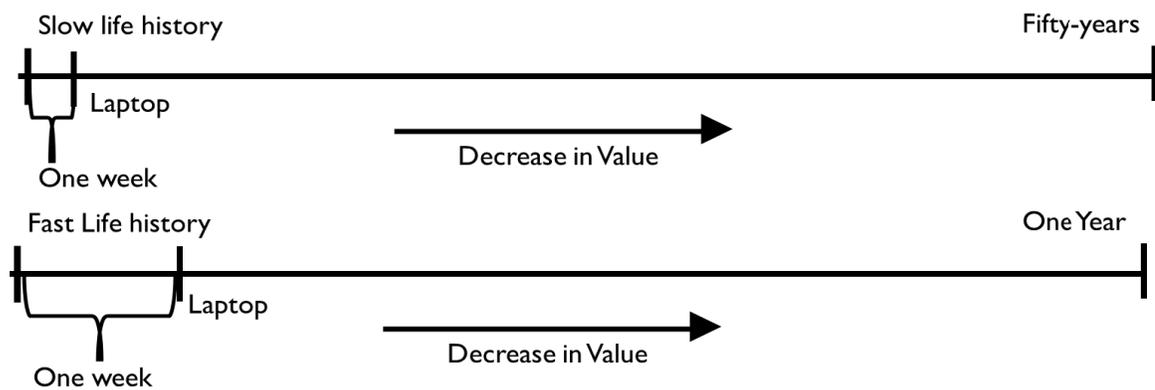


Figure 4. Slow Life History and Temporal Discounting

Hypotheses

Therefore, to study the above questions four hypotheses were formed to better understand how expedited shipping fees can be made.

H₁: There will be a main effect for gender on the proportion of cost to expedite shipping.

H₂: There will be a main effect for life history on the proportion of total cost to expedite shipping. Specifically, there will be a negative relationship with life history and proportion of cost of expedite shipping.

H₃: The effect of gender on proportion of total cost to expedited shipping will be moderated by item type.

H₄: The effects of gender and item type on proportion of total cost to expedited shipping will be moderated by life history.

This study will expand on the area of consumer decision making for shipping decision by looking at life history and temporal discounting. Which has not been looked at in the previous literature in consumer psychology. As previously stated, life history and consumer decision have been research separately to study temporal discounting but have never been studied together.

Method

Participants

For this study 71 participants (37 male, 34 female) were recruited from an online survey administration system, Amazon's Mechanical Turk™. This system allowed for a more demographically diverse sample of participants, which helped test the four hypotheses using life history theory and delay discounting; traditional college-age students may be more homogenous with respect to the aforementioned variables, thus truncating variability and limiting statistical power. In this sample participants age was different than a collage sample ($M = 37.08$ $SD = 10.19$) that is typically younger than the current sample. For marital status there were 19 individuals that labeled themselves as in

a relationship, 25 single, 1 separated, 25 married and 1 missing. For ethnicity there was a frequency of 54 Caucasian, 7 Hispanic or Latino, 5 African American, 3 Asian, and 2 Other. For this study since the life history of an individual is important and education of the individual can signify a fast or slow life strategy education was collected. The frequencies for the specific category are reported as follows 21 high school or equivalent, 41 for Collage, 8 for Graduate degree and 1 missing. Since this study also used Amazon's Mechanical Turk™ participant's member ship to Amazon Prime was recorded, 48 were not a member, 23 were Amazon Prime Members, and 1 missing. This was recorded since many Amazon Prime members can get free two-day shipping. The participants of this study were different from other populations that have been collected from a collage campus.

Data Collection System

Mechanical Turk is an online survey system designed to allow market researchers to test certain products, images, and/or ask survey questions. In return, participants are paid a minimal amount of money (e.g., 75 cents), which is then deposited into the survey taker's account. This allows survey takers—who are often market researchers themselves—to create surveys and administer them to other people in the system. Because surveys are created in this online environment, virtually anyone in the world with wide internet access is available as a participant. This allows researchers to collect a much wider range of participants than traditional college-age students. Because of the nature of life-history, it is important to have a highly demographically variable sample therefore Mechanical Turk was used.

Despite the wide possibilities for data collection from Mechanical Turk, data collection was restricted to only participation by individuals living in the United States. Also, age of participants was restricted between 18 and 65. There were no other restrictions for participation, other than participants had to be registered for Mechanical Turk in order to view the surveys.

Materials

Mini-K. For this experiment, participants' life history strategies were assessed using the Mini-K created by Figueiredo, Nowak, and Wright (2006). This self-assessment survey is a 20-item condensed version of the longer Arizona Life History Battery, which has 199 self-assessment items related to life history constructs. The Arizona Life History Battery has seven adapted surveys theoretically related to life history theory. This battery contains questions that measure parental relationships, family social contact and support, friends social contact and support, experience in close relationships, general altruism, and religiosity. Each of these are believed to be underlying constructs contributing to the life history strategies of an individual.

The Mini-K is used as an alternative to this long-form assessment. One benefit of the Mini-K is it does not fatigue the participant as much; it is easier to maintain focus during the time necessary to complete 20 items. The same cannot be said of completing 199 items. However, as with any brief measure, internal consistency and test-retest reliability is affected. The psychometric properties are still acceptable for the Mini-K. For example, in published research, internal consistency of the Mini-K (Cronbach's α) ranges from .66 to .82 (Dunkel, Mathes, & Papini, 2010; Figueiredo, Andrzejczak, Jones, Smith-

Castro, & Montero, 2011; Jonason, Koenig, & Tost, 2010), and the measure has shown high levels of consistency with the full Arizona Life History Battery (e.g., $r = .85$; Gladden, Sisco, & Figueredo, 2008). For the 20 items on the Mini-K a statement was given and participants assigned a number from -3 to 3 for each statement. A -3 was interpreted as “Not Like Me” and a 3, the statement is “Like Me”. Zeros were imputed if the question does not pertain to the individual. For this measure a mean of the items was used to determine where an individual score falls on the continuum from -3 fast life history to a 3 slow life history.

Monetary Choice Questionnaire. The 27-item Monetary Choice Questionnaire (MCQ-27) is a standard measure used to assess delay discounting in human subjects. For this instrument, participants were asked to select between a smaller reward sooner or a larger reward later. An example question from the MCQ is “Would you prefer \$31 today, or \$85 in 7 days?”. Participants were asked to select the option they preferred for 27 separate items with varying larger and smaller amounts, and varying delay durations for the larger amount. To score this measure the procedure used by Kirby, Petry, and Bckel (1999) was followed. This procedure requires that for each individual participant has an individual k value from equation one. To do this properly a geometric mean was gathered based on each individual’s answers from all of the items in the questionnaire. This k value can then be interpreted as an individual’s impulsivity score (Kirby & Finch, 2010).

Demographics Questionnaire. General demographic questions were asked using a self-constructed measure. The demographic data obtained from this questionnaire was: marital status, ethnicity, age, highest education, and gender. For each demographic item,

participants were given common options, but were allowed to provide their own free response if their self-identified demographics are not listed. The purpose of collecting demographic data, in addition to APA guidelines for research, is to have available several possible demographics that might serve as covariates in the results.

Expedited shipping vignettes. Five vignettes were created, four of them with gender specific products for status and youth, and the fifth as a control vignette describing the purchase of a water bottle. The specific vignette was assigned to participants based on their self-identified gender prior to beginning the study. The vignettes described buying specific products that were being purchased in an online environment. The vignette then informed the participant that they are browsing a few websites for products. They were then sent to three different types of items they were purchasing online. Then they were asked for each item, how much money they would be willing to spend to reduce the amount of time to receive shipping the next day. The products for females were a purse, and lipstick. The lipstick was chosen for beauty enhancement and the purse was used as a status enhancement item. The male items were a watch, and hair gel. The watch is chosen as a status enhancing item and the hair gel is used as a beauty enhancing item. Theoretically, the beauty and status products should help display traits that the other gender looks for in a mate based on cross-cultural consistencies observed in a few dozen countries (Buss, 1988). To check that the amount spent on expedited shipping is theoretically important from an evolutionary perspective, and not simply due to one gender being more likely to spend money, a theoretically

benign product—water bottle—was added as the third product for each gender. The water bottle was identical for males and females.

		Product Type		
		Status Enhancing	Beauty Enhancing	Neutral
Gender	Male	Watch	Hair Gel	Water Bottle
	Female	Purse	Lipstick	Water Bottle

Procedure

This study was placed online where participants were paid \$0.75 for their completion of a single survey. This is a standard amount that many studies use for Mechanical Turk. Two surveys were created and posted to Mechanical Turk, one for males and one for females. Participants were able to participate in the gender-appropriate survey. However, this data was to double-checked; self-reported gender from the demographics questionnaire was cross-referenced with the survey version each participant completed, and the anonymous user ID code was examined to ensure each participant only completed one survey.

Once selected, participants were given an informed consent and the ability to print it off from their computer. At this time, participants were informed that if they continued they were willing to participate in the study. The experiment only took ten to fifteen minutes to complete. Participants first completed the shopping vignettes. Each participant

completed one vignette, but each vignette asked questions for three separate types of products. These products were beauty enhancing (hair gel or lipstick), status enhancing (watch or purse) and neutral products (gender neutral water bottle), which served as a within-subjects independent variable of *product type*. Each participant saw all three products on a single screen. Next, participants were informed of the price of each product, and were asked to imagine they have recently purchased the product. They were then informed that the product was to be received in seven days due to standard shipping. Next, participants were informed to imagine the shipping company is examining price ranges for expediting shipping of different types of products. To get more information about appropriate expedited shipping rates, participants were asked to report the maximum amount in US dollars they would pay to receive each of the three products the very next day using expedited shipping. This monetary amount served as the dependent variable for all analyses in this project.

Next, participants completed the Mini-K to assess their life history strategy, followed by the Monetary Choice Questionnaire. A demographics questionnaire was administered to account for possible covariates, thus ending the data collection portion of the study. Then the study ended and participants were debriefed about the study, and were be provided with contact information for the university IRB and the researchers.

Results

Data Preparation

Before the data could be analyzed or cleaned, it had to first be prepared. This required some calculations for two different individual difference measures used in the present study. For the MCQ items, the geometric mean was calculated for all of the participants' responses using similar procedure as in Kirby, Pertry, and Bickel (1999). For the Mini-K, the mean of all twenty items was calculated for each participant, which is what is recommended (Figuredo et al., 2011)

Data Cleaning

After all of the data was prepared, the data were next examined for outliers, missing values, and violations of statistical assumptions. There were 15 participants who were removed from the data set because they did not answer all of the questions in the MCQ. In order to calculate the discounting parameter, each of the 27 questions of the MCQ must have an answer. Table 1 represents the results of an independent sample *t*-test that was run to determine if the missing data was missing at random for all other important variables in the study (Tabachnick & Fidell, 2007). From this table, it was determined that the variables were missing at random and therefore were deleted. Four participants were removed because they had either answered the question to age incorrectly (e.g., a value of "4") or were outside of the IRB approved age range; there were a couple participants who reported ages over 65 years.

Table 1.

Missing Values t-Test Results.

Variable Name	<i>df</i>	<i>t</i>	<i>p</i>
Sex	69	0.47	.640

Mini-K	69	0.11	.910
Beauty Product	68	1.03	.305
Control Product	68	0.82	.414
Status Product	68	0.36	.717

The presence of outliers was assessed by converting data to z -scores for the variables of age, MCQ, Mini-K, and the maximum amount spent for all three products (Beauty, Status, Control). Four participants were removed from the data set because they had z -scores in excess of $|3.29|$ for the maximum amount paid to expedite products of beauty and status. No other outliers were found. The final sample size moving forward was $N = 53$.

After outliers were removed, normality was checked for the all continuous variables (Mini-K, MCQ, and amount spent on all products). Skewness and kurtosis were calculated for all continuous variables (Table 2). Despite some violations of normality, the data was not transformed because the comparison of the transformed products would be difficult to compare against the non-transformed product of status. The benefit of not transforming the data is that any results retain the original scales of measurement.

Table 2.

Normality of the Variables

Variable Name	M	SD	Skew	Kurtosis
Mini-K	0.92	1.02	-1.39	-0.13

Geometric mean of k	0.04	0.07	6.33	5.18
Beauty Product	2.98	2.91	3.90	2.02
Control Product	2.40	2.56	4.06	2.30
Status Product	9.33	7.50	2.10	-0.62

Main Analysis

In order to adequately analyze the hypotheses proposed in this thesis, a 2 x 2 x 3 mixed Factorial ANOVA was run with gender and median split mini-k as between group variables, and proportion of product type as a within group variable. In order to conduct this analysis a median split was performed on the composite score of the mini-k. The median was determined to be 1.00 and all other numbers above that were on up was considered to have a slow life strategy ($n = 27$). All scores below 0.99 were considered a fast life strategy ($n = 26$).

First, to test statistical significance, sphericity could not be assumed because the statistical test checking this assumption was violated, Mauchly's $W = 0.62$, $\chi^2(2, N = 53) = 22.89$, $p < .001$. To adjust for this violation, Greenhouse-Geisser degrees of freedom were used in all within-subjects analyses.

The analysis showed a main effect for product type on proportion of total product cost to expedite shipping, $F(1.45, 71.05) = 31.21$, $p < .001$, partial $\eta^2 = .41$. The omnibus analysis revealed there was a difference somewhere between the three product types in terms of participants' proportion of cost of the product and the proportion of total product

cost to expedite shipping: Beauty ($M = 0.15$, $SD = 0.14$), Control ($M = 0.11$, $SD = 0.13$), and Status ($M = 0.04$, $SD = 0.03$). This demonstrated that each of the products had different amounts of money, as a proportion of total product cost, which would be paid to receive that product sooner. Overall, a higher proportion of total cost for the beauty product was paid in order to expedite shipping than any other product. Separate paired-samples t -tests showed all comparisons between the three different product types revealed statistically significant differences in proportion of total cost paid to expedite shipping.

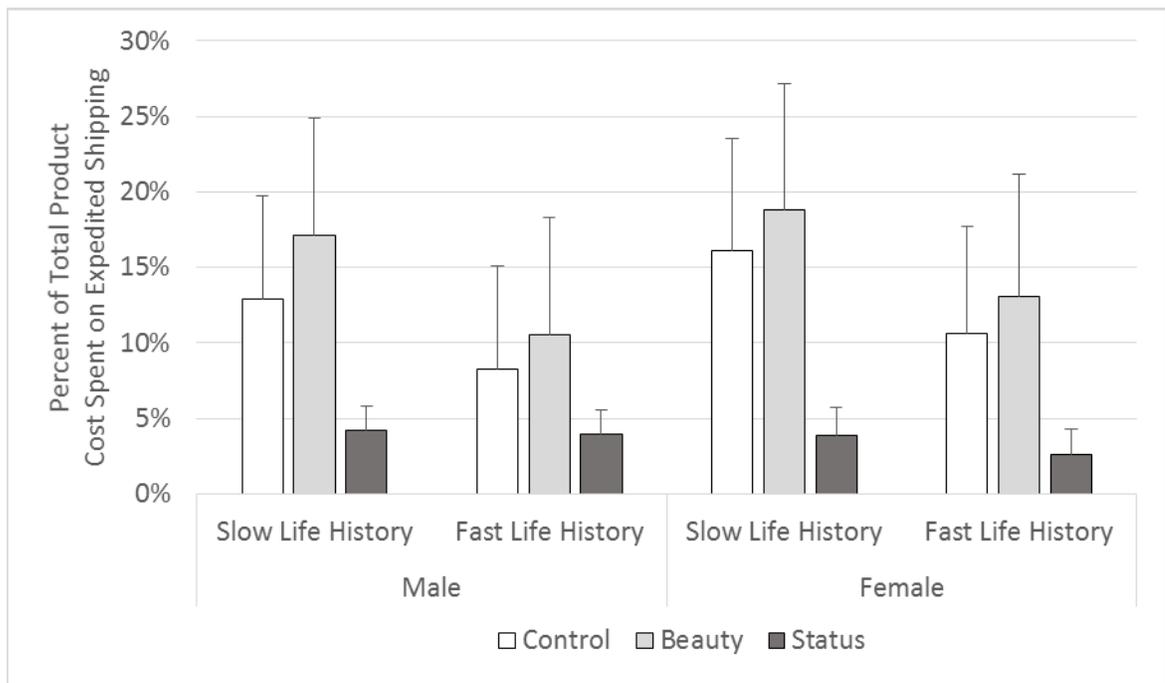


Figure 5. Percent of product cost to expedited shipping for life history strategies, sex, and product type.

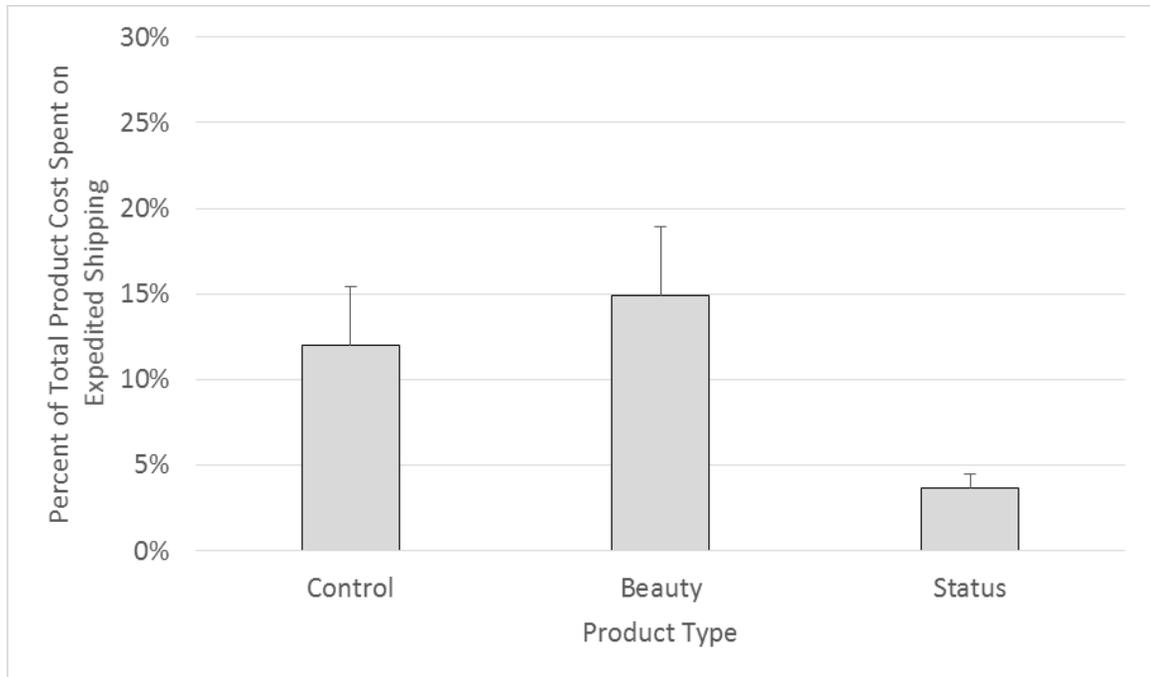


Figure 6. Effect of product type on percent of cost to expedited shipping.

There was not a statistically significant main effect for sex, $F(1, 49) = 0.27, p = .603$, partial $\eta^2 = .01$. For life history strategy, there was also not a statistically significant main effect, $F(1, 49) = 2.29, p = .137$, partial $\eta^2 = .05$. The interaction between sex and life history strategy was not a statistically significant, $F(1, 49) = 0.01, p = .941$, partial $\eta^2 < .01$. In this current analysis, the only significance that was found was the proportion of total product cost to expedite shipping for each of the products that were statistically significant from one another.

There was also not an interaction between product type and sex, $F(1.45, 71.05) = 0.94, p = .367$, partial $\eta^2 = .02$, or product type and life history strategy, $F(1.45, 71.05) = 2.07, p = .146$, partial $\eta^2 = .04$. Last, there was not a significant three way interaction between product type, sex, and life history strategy, $F(1.45, 71.05) = 0.08, p = .869$, partial $\eta^2 < .01$.

Proof of Concept

Due to the lack of findings in the data consistent with predictions, the data were examined to determine if proportion of total product cost to expedited shipping could at all be predicted from delay discounting. To test the concepts proposed in this study, the geometric mean of k was correlated with the proportion of total product cost spent on expedited shipping for the three different products assessed in the study. The results showed significant positive correlations between the geometric mean of k and proportion of total cost spent on expedited shipping for the control product, $r(51) = .32, p = .020$, and the beauty product, $r(51) = .35, p = .011$, but not for the status product, $r(51) = .11, p = .415$. This suggests that there could be a problem with the status product used in this study because the k parameter should directly predict willingness—or lack thereof—to wait for a product's arrival seven days later.

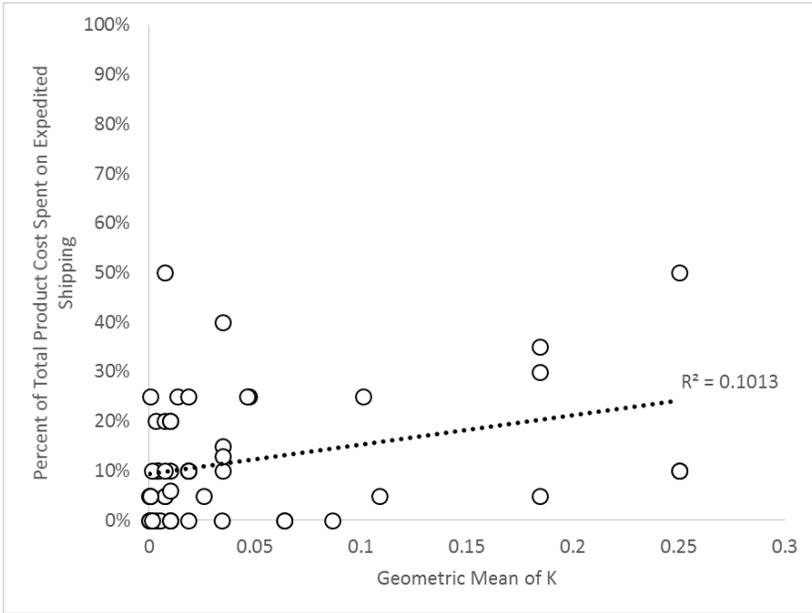


Figure 7. Relationship of geometric mean of k and proportion of total cost spent to expedite the control product.

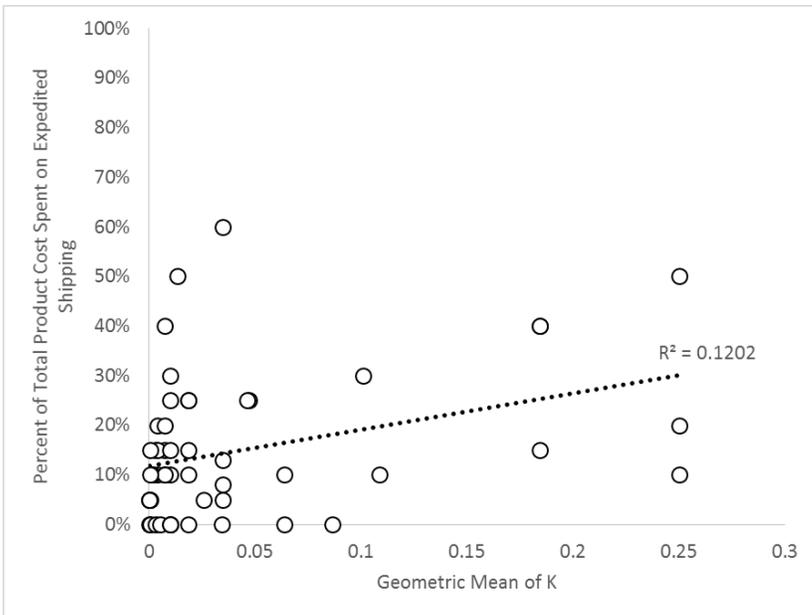


Figure 8. Relationship of geometric mean of k and proportion of total cost spent to expedite the beauty product.

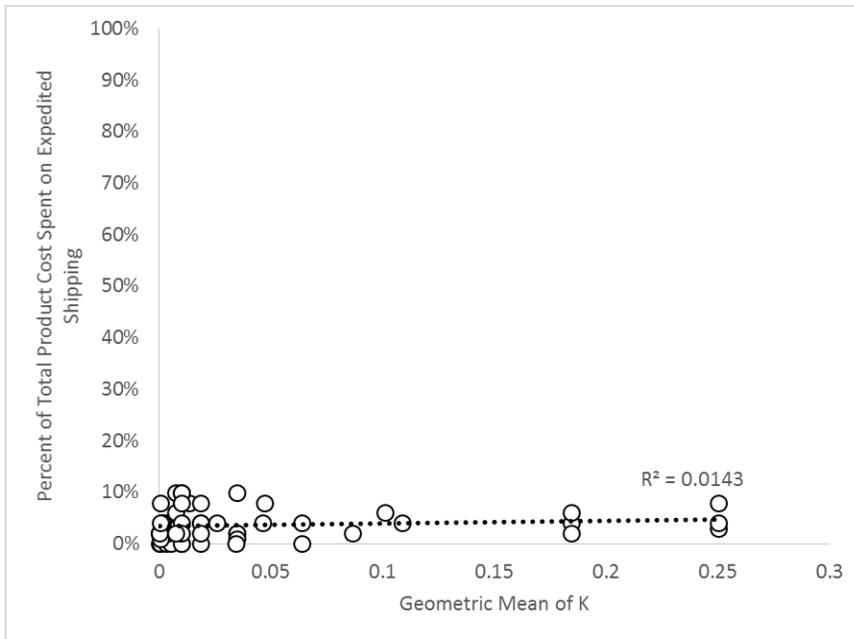


Figure 9. Relationship of geometric mean of k and proportion of total cost spent to expedite the status product.

Discussion

This thesis proposed four hypotheses. Unfortunately, results were not supportive of the proposal that life history theory, product type, and gender would interact in theoretically meaningful ways on proportion of total product cost to expedite shipping. It was hypothesized there would be a main effect for gender on the amount participants reported for the proportion of total product cost on expedited shipping for the products. In the analysis, males and females reported very similar monetary amounts of the proportion of total cost to expediting shipping, collapsing across product types. It was also proposed there would be a main effect for life history on the proportion of total product cost to expedite shipping. Participants with fast and slow life history strategies reported similar

proportion of total product cost to expedite shipping on products. Hypothesis three was not supported; the effect of gender on proportion of total product cost to expedite shipping did not depend on the specific product type. Thus the product type did not affect how males and females spent money for the proportion of total product cost to expedite the shipping. For the last hypothesis, the effects of gender and item type on proportion of total product cost to expedited shipping did not depend on life history strategy. Therefore, life history and gender did not further explain how individuals made decision to expedite shipping for specific products.

Although not hypothesized, there was a difference in the proportion of total product cost spent to expedite shipping among each product type, suggesting individuals based their decisions on what type of product they were purchasing. The status item was allocated more money to receive the item sooner followed by beauty and the control. This piece of evidence suggests participants were making their decisions as a function of price. The status item cost \$250 but the other two products cost \$20. However, when looking at the two \$20 items (control and beauty product), participants spent a smaller proportion of the total cost on the control product than the beauty product, suggesting participants perceived these products differently even though they were the same total explicitly stated value.

Because the hypotheses were not supported, it was important to demonstrate the data were not problematic using a proof of concept in delay discounting and proportion of total product cost to expedite shipping. Overall, participants' discounting parameters (k) were highly predictive of proportion of total cost spent on products. This is evidence the data were not problematic, but that the hypotheses may simply be misinformed. However,

when looking at product types separately, it is interesting the discounting parameters do not predict proportion of total cost spent on the status product. This geometric mean of k , a standard measure of discounting rate, has long been used in research. Theoretically, individuals who have a steep discounting rate (the value of a product decreases dramatically over time) should be willing to pay more to receive an item sooner. This was not the case for the status products for males and females, which suggests an avenue for potential future research.

Limitations

One limitation of the present study may be the different prices for the different product types. This problem was minimized in the present study by using as a dependent variable, the *proportion* of total product cost spent on expediting shipping. However, to remove some of the potential confounds in the study, three products of the same price, but different on the type of item, should be used in future research. Another way to achieve this is to not show the price of the product, and instead to have participants report their own estimate of the products, followed by an expedited shipping question. Not giving the participants a reference point (monetary anchor) to base their decision from, may help obtaining accurate estimates of a product's perceived value, and therefore the value associated with receiving it sooner through expedited shipping.

Besides the harshness of a past environment, life history theory also takes into account how harsh the current environment is. The harshness of the current environment that the individual lives in can affect the individuals utilization of their particular strategy, slow or fast. Previous research has looked at how priming this resource scarce or abundant

environment caused changes in preferences for specific decisions. For example, when asked for preferences of beauty enhancing products females had a higher willingness to purchase the product in a resource scarce environment rather than in a resource abundant environment (Hill et al., 2012). This study did not prime participants to be in a resource scarce or resource abundant environment. Based on previous research when this effect is not found there may need to be manipulation of how harsh the current environment is perceived. This priming can affect the different strategies and how investment of resources in specific tradeoffs will occur.

Future research

Future research should further analyze the relationship between shipping fees and individual differences. To further this model of expedited shipping fees, a resource scarce and a resource abundant environment should be implemented to further test life history theory. The addition of the manipulation may diverge participant's choices and decisions when making this trade off. Further research can also assess if decisions to pay for shipping is dependent on the cost of the product. This research would be valuable in the sense that individuals are willing to pay more for a product if it increases in price. Discovering why individuals may be making this difference can lead to a better understanding of how individuals perceive shipping options. If participants are inferring a higher price of the product with a safer shipping, more reliable, or other characteristics given to more expensive shipping options, they may expect the shipping to already be upgraded when it may not be. Future research should address other models that could predict the amount individuals are willing to pay to expedite the shipping and receive the product sooner.

This study added to the literature by in that it did not find a statically significant difference between life history and gender using the current method. There are multiple other ways to study how expedited shipping choices are made. This study did find a difference in the amount willing to spend on the product type. This is an interesting find because even when the items were similar in cost they were different, inferring that participants were discounting the item differently than the others. Suggesting that participants may be willing to receive specific products sooner. This difference in the amount of shipping should be further analyzed to assess what products are being discounted differently from one another products. This difference in the amount willing to pay for shipping can be further explored to identify what is predicting the amount spent to receive the item sooner.

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APPENDIX A

Vignettes

Male Vignette

Imagine you are shopping online for a few products. You looked everywhere around town but have not found the specific products you want. Specifically, you are looking for **hair gel**, a **watch**, and a **water bottle** to purchase online.

You find the products online at separate retailers. Below are descriptions of each product, alongside their brief descriptions. You add the products to your virtual shopping cart and enter your payment information and shipping address. The last step is to choose a shipping method.

You have two options:

1. Standard Shipping (Arrives in 7 Days)
2. Expedited Shipping (Arrive the Next Day)

To your surprise, the online retailers are conducting some research on different pricing options for expedited shipping.

Your task is to indicate the maximum amount you would be willing to pay to expedite shipping for each product.

[Male Beauty Enhancement Product]
Apollo Secrets 16oz Hair Styling Gel \$20.00



Product Description: Apollo Secrets comes second to none in quality and efficiency. Its unique scent, texture and viscosity are ideal for turning even the simplest of men into a stylish gentleman of the nobility.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

[Male Status Enhancement Product]

Michael Kors 'Gareth' Chronograph Leather Strap Watch \$250.00



Product Description: A trio of chronograph sub-dials mark the dial of a tachymeter-equipped round watch set in a durable stainless steel case. A smooth leather strap completes the classic design.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

[Gender Neutral Product]

Sport Berkey Water Bottle \$20.00



Product Description: The Berkey Sport Bottle is made of food grade BPA free materials. These are the new style sport bottles with a larger straw opening. Makes it easier to get water. The Sport Berkey Water Bottle is ideal to carry and durable.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

Female Vingette

Imagine you are shopping online for a few products. You looked everywhere around town but have not found the specific products you want. Specifically, you are looking for **lipstick**, **a purse**, and a **water bottle** to purchase online.

You find the products online at separate retailers. Below are descriptions of each product, alongside their brief descriptions. You add the products to your virtual shopping cart and enter your payment information and shipping address. The last step is to choose a shipping method.

You have two options:

3. Standard Shipping (Arrives in 7 Days)
4. Expedited Shipping (Arrive the Next Day)

To your surprise, the online retailers are conducting some research on different pricing options for expedited shipping.

Your task is to indicate the maximum amount you would be willing to pay to expedite shipping for each product.

[Female Beauty Enhancement Product]

Too Faced La Crème Color Drenched Lip Cream \$20.00



Product Description: La Crème Color Drenched Lipstick is a super-luxe combination of creamy color and intense hydration for unprecedented ultra-comfortable wear. This lipstick has hydrating, soothing, and lip-conditioning properties.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

[Female Status Enhancement Product]

Michael Kors Large Top Zip Leather Shoulder Tote \$250.00



Product Description: A Saffiano leather with polished gold tone hardware. An MK hanging logo charm, Interior zip pocket with multifunction slip pockets, fully lined; Jacquard lining.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

[Gender Neutral Product]

Sport Berkey Water Bottle \$20.00



Product Description: The Berkey Sport Bottle is made of food grade BPA free materials. These are the new style sport bottles with a larger straw opening. Makes it easier to get water. The Sport Berkey Water Bottle is ideal to carry and durable.

What is the maximum amount of U.S dollars that you are willing to pay in order to expedite the shipping and receive the product by the next day?

Amount \$ _____

APPENDIX B

Demographic Questionnaire

Please select the right choice or type the answer

What is your age?

What is your biological sex?

- A. Female
- B. Male
- C. Other

If other was selected, please specify

What is your Ethnicity?

- A. Caucasian
- B. African American
- C. Hispanic or Latino
- D. Asian
- E. Native American or Alaskan
- F. Hawaiian or Pacific Islander
- G. Other

If other was selected, please specify

What is your marital status?

- A. Single
- B. Married
- C. In a relationship
- D. Separated
- E. Other

If other was selected, please specify

APPENDIX C

Mini-K Questionnaire

Directions: Please indicate how strongly you agree or disagree with the following statements. Use the scale below and write your answers in the spaces provided. For any item that does not apply to you, please enter “0”.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Don't Know/Not Applicable	Agree Slightly	Agree Somewhat	Agree Strongly
-3	-2	-1	0	1	2	3

1. I can often tell how things will turn out.
2. I try to understand how I got into a situation to figure out how to handle it.
3. I often find the bright side to a bad situation.
4. I don't give up until I solve my problems.
5. I often make plans in advance.
6. I avoid taking risks.
7. While growing up, I had a close and warm relationship with my biological mother.
8. While growing up, I had a close and warm relationship with my biological father.
9. I have a close and warm relationship with my own children.
10. I have a close and warm relationship with my sexual partner.
11. I would rather have one than several sexual relationships at a time.
12. I have to be closely attached to someone before I am comfortable having sex with them.
13. I am often in social contact with my blood relatives.
14. I often get emotional support and practical help from my blood relatives.
15. I often give emotional support and practical help to my blood relatives.
16. I am often in social contact with my friends.
17. I often get emotional support and practical help from my friends.
18. I often give emotional support and practical help to my friends.
19. I am closely connected to and involved in my community.
20. I am closely connected to and involved in my religion.

APPENDIX D

Monetary-Choice Questionnaire

Directions: For each of the next 27 choices, please indicate which reward you would prefer:
the smaller reward today, or the larger reward in the specified number of days.

1. Would you prefer \$54 today, or \$55 in 117 days?
2. Would you prefer \$55 today, or \$75 in 61 days?
3. Would you prefer \$19 today, or \$25 in 53 days?
4. Would you prefer \$31 today, or \$85 in 7 days?
5. Would you prefer \$14 today, or \$25 in 19 days?
6. Would you prefer \$47 today, or \$50 in 160 days?
7. Would you prefer \$15 today, or \$35 in 13 days?
8. Would you prefer \$25 today, or \$60 in 14 days?
9. Would you prefer \$78 today, or \$80 in 162 days?
10. Would you prefer \$40 today, or \$55 in 62 days?
11. Would you prefer \$11 today, or \$30 in 7 days?
12. Would you prefer \$67 today, or \$75 in 119 days?
13. Would you prefer \$34 today, or \$35 in 186 days?
14. Would you prefer \$27 today, or \$50 in 21 days?
15. Would you prefer \$69 today, or \$85 in 91 days?
16. Would you prefer \$49 today, or \$60 in 89 days?
17. Would you prefer \$80 today, or \$85 in 157 days?
18. Would you prefer \$24 today, or \$35 in 29 days?
19. Would you prefer \$33 today, or \$80 in 14 days?
20. Would you prefer \$28 today, or \$30 in 179 days?
21. Would you prefer \$34 today, or \$50 in 30 days?
22. Would you prefer \$25 today, or \$30 in 80 days?
23. Would you prefer \$41 today, or \$75 in 20 days?
24. Would you prefer \$54 today, or \$60 in 111 days?
25. Would you prefer \$54 today, or \$80 in 30 days?
26. Would you prefer \$22 today, or \$25 in 136 days?
27. Would you prefer \$20 today, or \$55 in 7 days?

APPENDIX E

Institutional Review Board Approval



**FORT HAYS STATE
UNIVERSITY**

Forward thinking. World ready.

OFFICE OF SCHOLARSHIP AND SPONSORED PROJECTS

DATE: April 8, 2016

TO: Adam Armijo, BS

FROM: Fort Hays State University IRB

STUDY TITLE: [887577-1] Consumer Decisions

IRB REFERENCE #: 16-101

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: April 8, 2016

REVIEW CATEGORY: Exemption category #2

Thank you for your submission of New Project materials for this research study. The departmental human subjects research committee and/or the Fort Hays State University IRB/IRB Administrator has determined that this project is EXEMPT FROM IRB REVIEW according to federal regulations.

Please note that any changes to this study may result in a change in exempt status. Any changes must be submitted to the IRB for review prior to implementation. In the event of a change, please follow the Instructions for Revisions at <http://www.fhsu.edu/academic/gradschl/irb/>.

The IRB administrator should be notified of adverse events or circumstances that meet the definition of unanticipated problems involving risks to subjects. See <http://www.hhs.gov/ohrp/policy/AdvEvtGuid.htm>.

We will put a copy of this correspondence on file in our office. Exempt studies are not subject to continuing review.

If you have any questions, please contact Leslie Paige at lp Paige@fhsu.edu or 785-828-4349. Please include your study title and reference number in all correspondence with this office.