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Abstract

What role does risk play in rising mortality rates around the time income receipts arrive? Previous economic literature has found correlations between the reception of income receipts, higher consumption behaviors, and mortality rates. But there has been a lack of experimental data devoted to observing this ecological finding in a more controlled environment. My study sought to utilize risk-taking as a mediating variable addressing disparities that might occur in decision making under these different financial conditions, which could account for the shock increase in mortality rates. The researchers distributed two self-report risk scales, the DOSPERT and GRIPS, and behavioral measures observing 1) ambiguity aversion in a series of gambling tasks and 2) decision making during a time-delay rewards scenario. Electronic surveys were systematically emailed to faculty participants (N=96) or uploaded at a student (N=104) research participation website at a large public university. Faculty respondents were split into two groups according to a university designated payday date to find differences in risk preferences throughout the month and on payday. Students self-reported the days between and until their last and upcoming paycheck. These responses were then used to sort student participants into payday and non-payday groups. Results indicated that there were no statistically significant differences for nearly all measures of risk scores. However, student payday groups reported significantly higher scores in the series of gamble selections measuring aversion to ambiguity than those in the non-payday group.

Keywords: mortality, DOSPERT, GRIPS, payday, income receipt, risk-taking, time-delay, ambiguity, aversion

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According to CDC estimates, the age-adjusted mortality rate for 2019 was around 732 deaths per 100,000 individuals in the U.S. population, with the leading causes of mortality being heart disease, cancer, and accidents, or deaths by unintentional injuries (Centers for Disease Control and Prevention [CDC], 2019). While an overall decline in this rate has been seen for the past few decades, current literature has shown sporadic, but predictable increases in mortality rates. A recent study demonstrated this waning rate of mortalities that was soon followed by short term mortality boosts associated with the timed reception of income receipts (Evans & Moore, 2011). When sample groups, ranging from social security recipients to county-based military personnel, were observed following the arrival of their income receipts, all displayed a statistically significant increase in mortality rates. While there has been additional research conducted examining the dichotomy between income receipts, mortalities, and related health risks, they have been largely correlational to this point (Verhuel, Singer, & Christenson, 1997; Stephens, 2003; Riddell & Riddell, 2006; Andersson, Lundborg, & Vikström, 2015). And though there is some literature that identifies behavioral factors that might contribute to these money-induced mortality spikes (Mittleman et al., 1993; Möller et al., 2001; Lipovetsky et al., 2004) there is insufficient, recent empirical data that adequately explains how individuals' thinking and decision making may change as a result of the financial gains that payday receipts specifically stimulate.

Psychologists understand money as a highly influential resource that contributes to orienting human behavior and decision making. Moreover, modern-decision making paradigms have demonstrated that individuals often rely on irrational and errorful biases in thinking when dealing with financial rewards or spending behaviors. Consumption of goods, for example, is

commonly regulated by way of mental accounts, which has been shown to lead to inaccurate evaluations of product worth or lowered inhibitions during product selection (Levav & Mcgraw, 2009). Most importantly, overall increases in consumption and riskier behaviors have been shown to occur when consumers perceive newfound earnings as windfall gains (Epley, Mak, & Idson, 2006; Olaffson & Pagel, 2018). An erroneous understanding of earned finances, whether it be through windfall gains or heuristic-guided spending, may lead to riskier decisions and behaviors both in consumption and in other potential activities. Fundamentally, financial rewards play a role in reducing clear views of the consequences some decisions might have.

Conditions prior to these receipt-mortality phenomena also affect how individuals react to these events differently, particularly in terms of scarcity and individual risk personalities.

Money is not an infinite resource, and individual behavior is often affected when under strained financial conditions. When resources become scarce, income receipts have the ability to provide a necessary buffer in reducing both realities and perceptions of scarcity. Financially flush environments have been shown to cause an increase in the tendency to discount future investment in favor present circumstances or rewards (Ariely, 2002), a phenomenon commonly referred to as hyperbolic and temporal discounting. Consumption behaviors have also been affected by the degree of scarcity or surplus individuals experience (Kling, Roe, Keller, & Rolls, 2016). Conversely, when a "scarcity mindset" is predominant, human attention is directed towards those items in perceived demand or need, which in turn affect behavior. Those who are considered financially well off and do not experience the effects of scarcity as intensely as the poor have demonstrated inaccurate attention to product price (Rosa-Diaz, 2004) and a tendency to allow environmental biases to cloud judgement of their assessment of products' value across situations (Thaler, 1985). Thus, the amount of money one normally receives and possesses

(standardized salary) may have an effect on the strength of change in one's risk preferences and behaviors during an income-reception event.

Finally, one's previous risk inclinations should be considered. Like regular patterns of consumption, there exist regular patterns of risk preferences per individual. Theoretically, risk preferences, as an additional extension of other personality traits, should remain consistent over a long-term, phasic period throughout the life course, regardless of changing environmental conditions (Zhang, Highhouse, & Nye, 2018; Roberts, Walton, & Viechtbauer, 2006). However, given the changes in mortality rates observed in previous literature, the shock of different types of income receipts could be severe enough to fundamentally alter previously held risk inclinations prior to payday.

It is the researchers' contention that the income receipt-mortality relationship can be partially explained by the selection of riskier behaviors as a result of faulty decision making under the influence of both money as a windfall and the alleviation of stress by way of avoiding the negative effects scarcity produces. Payday is the essential factor that allows these myopia-induced decisions to occur since it helps blur consequences of key human behaviors. It is imperative to identify concrete changes in decision making initiated by payday, both on an economic and existential level.

Mortality, Consumption, and Income Receipts

Before an overarching framework is discussed, there is a necessity to examine some of the available correlational literature on the health risks associated with the timed reception of certain income receipts. The researchers' first exposure to the novel mortality data began with Evans and Moore (2011), which found a predictable within-month mortality cycle related to a rise in death after specific financial payments arrived: social security receipts, wages for military

personnel, tax rebates for 2001, and dividends for eligible Alaska state residents. For example, mortality rates among 25-64 year olds rose by 2.5% whenever the 2001 tax rebate checks were delivered to households. Likewise, Verhuel et al. (1997) saw a 40% higher average mortality rate due to increased drug usage and overdoses following the reception of income assistance checks, with higher than average rates lasting for three days. This latent three-day period of effect was also mimicked in Evan's study. Riddell and Riddell (2006) tracked the number of hospital admissions for injection drugs users according to the reception of check receipts on "Welfare Wednesday." It is notable that not only did hospital admissions increase significantly, but hospital discharges among the homeless, against medical advice, increased as well, which led to higher rates of hospital readmission throughout the week. This finding adds to previous empirical data finding associations between environmental and triggering drug consumption and risky decision making.

Unstable rates of consumption appear to be a significant factor resulting from the influence of income receipts on particular populaces—increases in health risks follow increases in consumption. There is some literature demonstrating that before anticipated income receipts, consumption or spending usually decreases. However, when the necessary payments arrive, consumption immediately goes back up, often overcompensating for the lackluster spending behaviors preceding check reception. Consider senior citizens who have been shown to increase perishable food consumption, particularly at restaurants and fast food locales, following the arrival of their social security payments (Stephens, 2003). Remembering that mortalities do not occur in a vacuum, what can be assumed here is that amplified travel to any number of locations where such perishable items are sold may preclude greater health risks by virtue of the sudden

increased activity. Every endeavor carries some percentage of risk of danger or even death. An increase in any activity increases the potential to experience these kinds of consequences.

Moreover, people's risk for mortality changes not just because of the frequency of the activity they engage in, but also the type of behavior they find themselves performing. Basic findings from medical literature demonstrate this fact simply—eating a heavy meal (Lipovetsky et al., 2004), sexual activity (Möller et al., 2001), and intensive physical exercise (Mittleman et al., 1993) are common risk factors for potential heart attacks. It is important to extrapolate causative, experimental results detailing adjustments in human judgement and decision making before and during these phenomena. Researchers should not be content with correlated findings in the medical or economic literature even. Two concepts may serve to achieve this purpose: 1) windfall gains as a sub-aspect of mental accounting regulation and 2) scarcity effects.

Windfall Gains and Mental Accounting

Typically, windfall gains refer to unexpected financial rewards one may receive that are not a part of any anticipated or pattern-driven income. These are transitory, or "one-off", earnings—winning the lottery or birthday money from a grandparent are common windfall associations since they are not components of a regular financial pay scheme. What is more, widespread windfall data has thoroughly demonstrated predictable behavioral responses to these gains, which can be explained largely by integrating theoretical frameworks from mental accounting literature. Mental accounting is a heuristic-guided system of cognitive "accounts" that individuals utilize to allocate money depending on their tagged use. Ideally, accounts should help individuals sort through financial decisions with speed and organization, but people seem to still consistently misvalue money. Coming across windfall gains are difficult moments to

manage because they are inevitably placed in transitory mental accounts, which means that this kind of money is easier to spend.

Consider Levav and McGraw (2009), which provides a basic analysis for how consumers pocket windfall gains for future use based on their emotional content. The researchers studied whether or not participants would report lower "willingness to pay" figures if windfall gains were tagged with negative connotations. Here, the question was not just about increased consumption, but controlling consumption through "affective tags" of both the source of income and the later purchase. In this study, participants were given one of three vignettes: a positive circumstance, in which they receive a check in the mail from an uncle that contains a cash reward for graduating high school, a negative circumstance, in which the mail letter and cash is followed by the realization that the uncle had been diagnosed with an illness, and a positive money circumstance, in which the only change to the first scenario is that a close family friend has been diagnosed with an illness, but the money is sent by an uncle regardless. Participants were directed with the option to spend the money on a stereo, and they reported their WTP, or willingness to pay figure. Findings suggested that individuals reported significantly smaller WTP figures in the negative circumstance condition, meaning they were less inclined to increase consumption in the face of the "bad" windfall, now affectively tagged with the uncle's illness. Those receiving windfall earnings in both the positive circumstance and positive money circumstance conditions reported significantly higher WTP figures. Because the windfall gain was not labeled with a negative emotional context, the new earnings could be spent as normal windfall gains typically are—with proportionally higher rates of spending.

A later experiment tracked the style of purchase outcomes in similarly designed, positive-negative circumstance scenarios, testing the way participants would distance themselves from the

negative source of the money by purchasing more utilitarian items. The money laundering effects the researchers were trying to find involved adding alternative options to spend the source-affected money. Now, participants could use the newfound money for a hedonic or utilitarian purpose: the tagged money could either be spent on a spring break beach vacation or "educational expenses." The results showed strong participant avoidance behaviors when the windfalls were received via a negative circumstance, but now, the participants were more likely to select educational costs to funnel their newfound money as a way to morally counteract the effects the negative situation had bestowed upon them. Conceptually, it is understood that spending behaviors in different categories and the perception of what a particular windfall represents interacts in an overall decision-making matrix.

Consider further Epley et al. (2006), in which a series of studies observed the relationship between perceptions of bonuses, or gains, and rebates, or returned losses. The researchers hypothesized that income perceived as a bonus would be more spendable than rebates—this was in light of the consumption behaviors after a 2001 tax rebate. Remarkably, the majority of Americans did not have much difficulty saving this newfound money, initially contradicting basic windfall theory. But the researchers believed this had less to do with an emergent consumer spending ethic and more with how the rebate was interpreted. So, the researchers devised several experiments to see how manipulating the perceptions of changes in income would affect different variables. Experiment 1 observed spending behaviors following the check receptions of the 2001 tax rebates. Participants simply read one of two descriptions in a questionnaire detailing proponent responses of the tax cut; the two conditions differentiated by the resulting conclusions of the act—it was either worded as a "tax surplus" which should be given back as "withheld income," or as a "budget surplus" to be returned as a "bonus." Participants reported spending

significantly more of their checks when in the bonus condition than when in the rebate condition. Experiment 2 used a similar 2 x 2 design, but simply provided people with a newfound $50, which was either labeled as a bonus or a rebate. 1 week later, participants would report their spending and saving behaviors. As expected, participants spent more money of the windfall when under the bonus condition. The implications here are profound, especially given that tax returns are an annually expected phenomenon. But the researchers show that it matters how these gains are interpreted.

Thus, in the context of the researchers' study, payday has the potential to be interpreted as a windfall gain and result in uncharacteristic consumption behaviors. After all the research discussed thus far, however, regular financial receipts may be initially thought to be incapable of fitting the available definition of a windfall. This is due to the fact that by their very nature, payday or income receipts are largely an expected phenomenon. Individuals may earn their respective financial receipts on different dates, but payday dates are calendared between the worker and the employer. Moreover, payday is an ecologically real occurrence; most of the previously discussed literature really only showcased windfall behaviors in a laboratory environment. How is it known if these results will generalize to real-world environments without the second-hand intervention by researchers? Luckily, there is economic literature suggesting that payday may be perceived with usual windfall interpretations and higher-than-average rates of spending, a good jumping off point for an experimental study.

In Olaffson (2018), data from an Icelandic banking app evaluated consumer spending in response to the arrival of payday receipts. Even though the researchers accounted for household liquidity that should have factored into spending responses, they found that individuals would spend, on average, significantly more money on and a few days post-payday reception,

regardless of the liquidity situation of the individual. The idea the researchers compounded on was that consumers feel a "license to spend" when it comes to their interaction with payday money. In other words, the Icelanders spent money simply because they had just received it, and moreover, perceived their paychecks as windfalls, which ensured greater than average spending. The implications here are enormous considering what should be wise financial decision making in lieu of future liquidity constraints or simply being strapped for cash. But the effect of the windfall was great enough to cause individuals to ignore future monetary struggles.

The Effects of Scarcity

Participating in the economic environment is a stressful and volatile enterprise. Recent literature has helped orient psychologists' perceptions on this landscape, not just from a mental accounting approach, but also through the way the environment effectively changes individuals' overall mindsets. It is the experience of scarcity, or lack thereof, that may provide more thorough explanation for uncharacteristic consumer behaviors. The scarcity mindset occurs when a resource has captured the mind and has fundamentally focused the individual's attention due to the lack of resources available (Mani, Mullainathan, Shafir, & Zhao, 2013). When there is an absence of a particular resource, more of the cognitive bandwidth leftover is devoted to awareness of this very absence, and this can affect efficiency in performance for different situations.

A famous study by Ariely (2002) observed respondent behavior when students were told they would write three short papers over the semester. In the fixed condition, some participants were given evenly spaced out deadlines to turn in each paper while those in the "free-choice" condition were able to turn in their papers whenever they wanted. Those in the latter condition had one adjustment that required them to announce their self-imposed deadlines by the

commencement of the second lecture. Those students in the free-choice condition largely set their deadlines on the last possible day so as to maximize the amount of learned knowledge about the material and, most especially, the time required to work on the papers. However, a large portion of students also set more stringent deadlines throughout the semester, suggesting a willingness to risk negative grade outcomes in favor of greater self-control mechanisms. Grade disparities were distinct, however. Those in the fixed deadline condition scored significantly higher averages on the papers than those in the free-choice condition. The important point to draw from this study is that even self-imposed parceling of time will not guarantee as high efficiency as externally designated deadlines.

With those students thinking that having more time to complete the papers would ensure better grades and performances, longer deadlines were set. This cushion represents a time-inconsistent approach in decision making that does not account for consequences of behavior as time goes on. Commonly referred to as temporal discounting, people often accept immediately apparent or small rewards in place of future benefits that may be reaped. Furthermore, there is a misunderstanding in tradeoffs. Losses are weighed more heavily than gains, and expedited returns are favored over delays of possibly beneficial results. Since the students were flush with time as their fundamental resource, their present bias was actually worse than those who were constrained by scarcer conditions. This explains why students in the free choice condition performed so poorly relative to those in the fixed deadline group—they were incapable of managing the unwieldy amount of time resources on hand. Surely, it’s hard to understand consequences so far into the future, but this phenomenon is worsened when too much resource cushion makes people err during decision making.

The effect witnessed in the above study represents how scarcity orients decision making, and as a result, future behaviors. In light of the short-term mortality data, it is assumed that payday somehow plays a part in changing consumer behaviors and perceptions. Earlier, it was discussed that increased consumption behaviors follow the reception of particular income-receipts or checks. Framing the situation through that of scarcity suggests that these behaviors could be partially explained by the effects an abundance of a particular resource have on decision making, much like how the abundance of time in Ariely's study changed student behavioral performances.

Consider further Kling et al. (2016), in which food consumption was shown to be highly contingent on the level of portion sizes made available. Researchers looked at how portion size and the energy density of presented food affects intake among preschool children. Multiple foods were included like chicken, macaroni and cheese, vegetables, applesauce, ketchup, and milk because they all vary in their respective energy densities. Using a within-subjects crossover design, the researchers distributed 6 meals over six weeks' time at one day a week. Food and drink was portioned at 3 sizes—100%, 150%, and 200% based on earlier reference volumes. Additionally, 2 levels of energy density, or ED, were assigned at 100% and 142%, respectively. Classrooms of preschool students were then randomly assigned to each condition sequence. 120 students' intake data were recorded. The researchers did not find a significant effect of ED; however, they did find an effect of portion size. Meal intake was 21% greater in 150% portion conditions and 26% greater in 200% portion conditions. This confirmed the researchers' previous assumption that portion size, at least, played a role in how much food children would consume, and has important implications for eating behaviors, particularly when it comes to unhealthy food and macronutrient intake. Likewise, payday environments flush individuals with

newfound cash, essentially increasing financial portions available for consumer agents. This added perspective may account for increases in consumption following the reception of income-receipts and the subsequent mortality phenomena.

Ecologically, those who are financially well off have also been shown to pay less attention to present purchases in microeconomic situations. Rosa-Diaz (2004) investigated consumers' understanding of the true prices of products. Former models of economic theory suggest that consumers take time to evaluate, and memorize for later use, the prices of particular goods. But this has been revealed to be untrue. The researchers hypothesized that consumers who considered the prices of goods as a fundamental aspect of their purchases, or those were considered financially strapped, were more likely to have an accurate knowledge of the purchase prices themselves. People were stopped outside of a supermarket and questioned by the psychologists to fill out surveys and list prices for products they had bought. Those shoppers reported to be in higher-income brackets were consistently less accurate with their recollection of prices while those in lower income brackets were not only better than their counterparts, but also generally accurate with their price judgements of goods they had just purchased. Those who were not under the relative financial constraints performed worse on what could essentially be considered a basic memory task. This is likely the case because those in higher income brackets were not forced to focus on their purchases, leading to a lack of what would be crucial price information to a poorer individual who does not have room to take financial risks. Thaler (1985) likewise demonstrated an inconsistency in value labeling between the rich and the poor, respectively. Participants were told to imagine a scenario in which they would tell a friend their willingness to pay figure for a beer in two conditions: a fancy resort or a grocery store. The friend would make the purchase if the price the respondent wrote down was at or below the

actual cost of the drink, but would not make the purchase if it was over. High earners were biased towards the fancy resort scenario by suggesting a higher price when their list prices should have been held stagnant between each condition—their responses were inconsistent in terms of the changing value of the drink relative to the environment. Poorer respondents were not necessarily more accurate. Indeed, a fancy resort may actually charge higher rates for products. But they were remarkably more consistent with how they answered per environment. Lower income individuals were less likely to be affected by environmental conditions in this sense; they knew the worth of a product and were not affected by the context of the situation. They relied on their experienced interpretation of worth simply because they have been forced to due to financial scarcity. They cannot afford to be swayed by external surroundings.

The purpose of the present study was to use an integrated, theoretical framework of the aforementioned literature in order to explain aggregate risk-taking response differences under payday and non-payday conditions. In this manner, insights into mortality data related to the timing of income receipts (Evans & Moore, 2011) may be further acquired. The literature concerning mental accounting and windfall gains (Epley et al., 2006; Levav & Mcgraw, 2009) have demonstrated that individuals frequently misinterpret financial earnings as a result of their source contexts and faulty perceptions of changes in income, which has been ecologically shown to be associated with uncharacteristic increases in consumption (Olaffson, 2018). Furthermore, when economic agents are unconstrained by scarce environments, they tend to misevaluate future consequences of decisions (Ariely, 2002) and show errors in financial observations and decision making in different environments (Thaler, 1985; Rosa-Diaz, 2004).

The current study sought to examine how payday receipts change risk taking and decision-making preferences. To test how risky decision-making changes as a result of payday,

the researchers assessed differences between aggregate participant responses in a payday condition and a non-payday condition. DOSPERT and GRIPS scales, which measure domain-specific and general risk-taking propensities, were distributed to both conditions. In addition to the risk-taking assessments, participants were tasked with completing two behavioral measures: a series of gambling scenarios wherein participants were tested on their aversion to ambiguity, a common way of measuring risk inclination in conditions of uncertainty, and a variation on a classic delay-discounting scenario by using a slider method to indicate how much money a participant would need to forgo an immediate reward for a future one.

It is hypothesized that:

- H1: Respondents under payday conditions will report, on average, higher risk-taking scores on DOSPERT measures than respondents under non-payday conditions.
- H2: Respondents under payday conditions will report, on average, higher risk-taking scores on GRIPS measures than respondents under non-payday conditions.
- H3: Respondents under payday conditions will be less aversive to ambiguous, riskier gamble selections than respondents under non-payday conditions
- H4: Respondents under payday conditions will report, on average, higher figures required to forgo an immediate reward rates than those under non-payday conditions.

Methods

Participants

The participant sample was composed of both faculty and student respondents from Louisiana State University. For faculty, a total of 906 surveys were electronically distributed. Faculty participants were pulled from an accessible public database and their responses coded to ensure anonymity. The final faculty sample included 58 males, 34 females, and 4 unidentified

individuals with a mean age falling between 46 to 50 years old. The total student sample came out to 104 participants after the survey was uploaded periodically to the SONA database, which has been commonly used for research participation credit. Student data was composed of 21 males and 83 females, with a mean age falling between 18 to 21 years old. Students were also given one research credit for their participation.

Measures

DOSPERT

The DOSPERT is specifically designed to measure risk responses across five domains, financial (investment and gambling), health and safety, recreational, ethical, and social using three different 5-point Likert sub-scales. The original DOSPERT consisted of 40-item selections in which participants would rate the likelihood of engaging in behaviors, the perceived riskiness of behaviors, and the benefits expected from specific behaviors (Weber et al., 2002). The DOSPERT has been used to repeatedly to assess risk response differences across a multitude of situations (Lauriola et al., 2007; Maner & Gerend, 2007; & Pleskac, 2008). For the present study, the researchers used a shortened version of the DOSPERT (Blais & Weber, 2006) that only has 30 items to be rated twice—one for the likelihood of engaging in behaviors and the other for perceived riskiness of engaging in those behaviors—on 7-point Likert scales. Additionally, the researchers omitted the ethical and social sections of the scale for the sake of relevance and conciseness to the study's purpose. Thus, there were only 19 items within the survey's two-section form.

GRIPS

The GRIPS assessment is a newer scale that measures general risk propensity. The goal is to identify a unidimensional risk trait that generalizes risk attitudes without getting bogged down

in domain-specific differences. This is a self-report measure that only has 8-items rated on a 5-point Likert scale; however, the GRIPS has been validated against responses typically given during the DOSPERT (Zhang et al., 2018). This scale is included for this study since a general risk attitude should be held constant, much like personality factors, across variable situations. If GRIPS scores are aggregately affected by payday and non-payday conditions, this would be further evidence of the drastic effects environmental cues have on reported personality inclinations.

Ellsberg Gamble Scenario—Ambiguity-Probability Tradeoff Task Series

The Ellsberg paradox was created to test participant selection aversion to options that are ambiguous. Daniel Ellsberg (1961) made the claim that when probabilities are not known, or are otherwise ambiguous, decision makers will be less likely to select such options in favor of those perceived to be less risky because the alternative options had concrete knowns or proportions. Traditional variations of the Ellsberg gamble scenario have been widely used and validated over time (Weber & Tan, 2012; Eliaz & Ortoleva, 2016) showcasing aversion to ambiguous options. The researchers distributed a simple contrivance of the Ellsberg choice task using the Ambiguity-Probability Tradeoff Task (Lauriola et al., 2007), a brief 10-item task survey during which participants were asked to draw from urns that each had a proportion of twenty balls that were one of two colors. Participants were tasked with identifying which urn would yield a "win" if they were to randomly pull a ball from either a known proportion in one urn, or another urn that had no proportion listed in order to select the right color.

Delay Discounting Rewards Scenario

Discounting preferences are commonly tested using binary option selections between immediate and future financial rewards. Literature has shown that the value of money decreases

as the temporal gap of its reception increases (Frederick, Loewenstein, & O'Donoghue, 2002). Thus, money earned now has more subjective value than money earned later. The researchers used a variation of typical reward preference choices (e.g., $10 now or $15 in two days) by integrating the scenario into a slider selection item. Participants were asked how much money it would take to forgo an immediate reward in favor of a reward in exactly one week's time. This allowed for the data to be organized into one manageable discounting score. Logically, the more money participants needed to accept a later reward, the more they were affected by present biases outlined in discounting theory. It is assumed that discounting phenomena may be variable under the different financial constraints as discussed in earlier literature.

Design

This study used a between-subjects design for both faculty and student data, comparing average differences between two independent groups under payday and non-payday conditions. The primary independent variable was payday date, and the four dependent variables were total scores on the DOSPERT, GRIPS, ambiguity aversion tasks, and slider question.

Procedures

Faculty participants were randomly split into either payday or non-payday conditions. Both groups received the survey using a Qualtrics email distribution schedule. Faculty at LSU typically received their paycheck on the 20th of every month, so this provided a predictable schedule to send the survey out for selected faculty participants in the payday group. Those faculty in the control group were sent surveys throughout the calendar month to get a diversified series of responses to collectively measure against the payday group's data. The email used a basic script asking participants to complete a survey on judgement and decision making without revealing too much about the study's content. Participants were instructed to complete the survey

as soon as possible, but access was coded to allow three days to respond to the email to account for earlier literature finding prolonged increases in mortality rates a few days after payday. Students were similarly split into payday and non-payday groups based on their responses to questions about the number of days it had been since they had been paid and the number of days until their next paycheck. Then, the researchers took these responses and narrowed down which sample respondents had taken the survey on their payday, or at least three days afterward—these students were placed in the payday group, and the rest were placed in the control group.

An online consent form was provided at the onset of the survey, and participants ensured consent through an electronic signature portal. Participants were then directed to fill out basic demographic and financial information. Faculty were asked what kind of position they held at LSU, their salaries, and if they had an idea of when their paydays were. Students were asked if they worked on or off campus, the regularity of their job (part time vs. full time), as well as the number of hours they worked and how much money they earned in two weeks. Participants were thanked for filling out these screens and reminded that their responses would not be identifiable by third-parties.

Next, participants submitted self-report scores for the GRIPS test followed by the DOSPERT measures. After completing these risk assessments, participants were directed to a screen with a new set of instructions explaining that the study is halfway done and to continue on to the next tasks. Participants were then responsible for completing the ten-item Ambiguity-Probability Tradeoff series of tasks. The researchers implemented images of two urns for each gamble, and a known proportion was written on one urn, and question marks, indicating ambiguity, were written on the other urn. Upon competition, participants were directed to the final screen assessing discounting preferences. Participants were instructed to choose how much

money would be required to forgo an immediate reward, which was set at $100, for another in one week by using their cursor to drag a slider across the screen, indicating their reward preference. The slider range extended to $500. After submitting their answer, participants were thanked for their time and reminded that their responses would remain anonymous.

Results/Analysis

Faculty

The payday group (N=48) had an average GRIPS score *M*= 21.98 (*SD*= 6.09), average DOSPERT score *M*=145.38 (*SD*= 18.08), average ambiguity aversion score *M*= 5.19 (*SD*= 2.04), and average slider score *M*= 143.25 (*SD*= 39.07). The non-payday group (N=48) had an average GRIPS score *M*= 21.29 (*SD*= 6.71), average DOSPERT score *M*= 144.83 (*SD*=16.08), average ambiguity aversion score *M*= 4.54 (*SD*= 1.71), and average slider score *M*=131.23 (*SD*= 36.14). To test for statistical significance between the payday and non-payday groups, an independent samples t-test was conducted. Table 1 indicates that aggregate responses were not statistically different enough for all four measures of risk. However, the ambiguity aversion tasks were the closest to having a statistically significant effect $t(95) = 1.68$, $p = .096$. Figure 1 shows the bar plot graphs for the measures of risk.

Independent Samples T-Test

		Statistic	df	p	Mean difference	SE difference		Effect Size
GRIPS	Student's t	-0.526	94.0	0.600	-0.688	1.308	Cohen's d	-0.1073
DOSPERT	Student's t	-0.185	94.0	0.854	-0.646	3.492	Cohen's d	-0.0377
Ambiguity Tasks	Student's t	-1.680	94.0	0.096	-0.646	0.384	Cohen's d	-0.3430
Thaler Slider	Student's t	-1.565	94.0	0.121	-12.021	7.682	Cohen's d	-0.3194

Table 1—Faculty Payday vs. Non-Payday Between Subjects t-Test

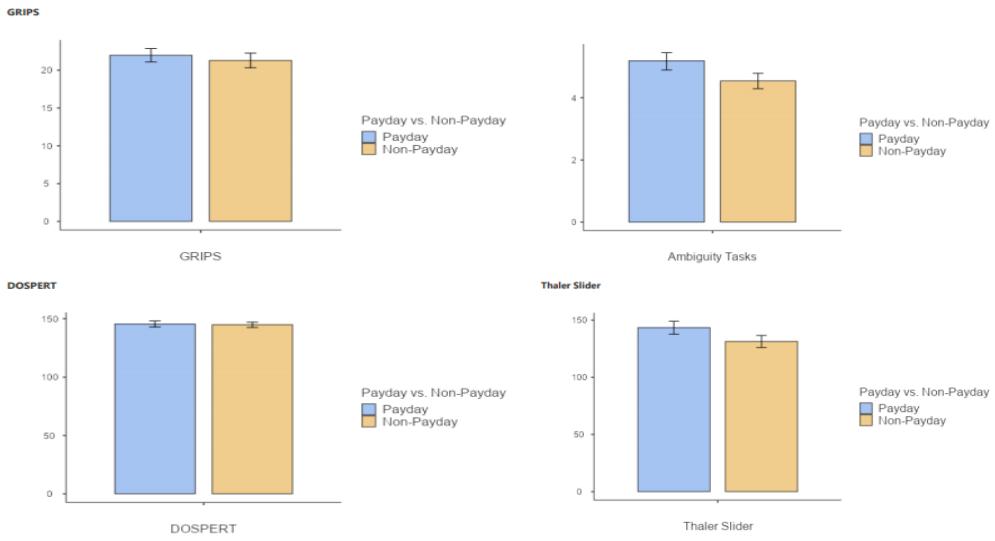

Figure 1—Faculty Bar Plot for Measures of Risk

Therefore, we also ran a Pearson correlation to look for overall connections among the selected measures. GRIPS and DOSPERT scores were found to be positively correlated, $r(94)= .329$, $p = .001$. Additionally, the DOSPERT was positively correlated with slider response, $r(94)= .215$, $p = .035$.

The researchers attempted to find also measures of covariation among selected variables to examine deeper possibilities for the lack of differences found in initial t-tests. However, running multiple tests of linear regression, holding factors like gender and salary as covariates, revealed no significant covariation in score organization for the measures of risk.

Students

Identical tests were conducted for the student sample. However, due consideration should be paid to the lopsided distribution between the payday group (N=37) and non-payday group (N=67). Tests for homogeneity of variance were run to ensure the sample was sufficiently normal and reliable enough to be used for t-test analysis. Table 3 below indicates that the student

sample, despite the observably unequal grouping for payday and non-payday groups, did not violate this assumption.

Homogeneity of Variances Test (Levene's)

	F	df	df2	p
GRIPS	7.67e-4	1	102	0.978
DOSPERT	1.48365	1	102	0.226
Ambiguity Aversion Task	2.20470	1	102	0.141
Slider Question	0.00907	1	102	0.924

Table 2—Levene's Test for Homogeneity of Variances (Student)

The payday group had an average GRIPS score *M*= 22.38 (*SD*= 7.12), average DOSPERT score *M*= 155.08 (*SD*= 17.94), average ambiguity aversion score *M*=5.97 (*SD*=1.19), and average slider score *M*=181.68 (*SD*= 75.83). The non-payday group had an average GRIPS score *M*=22.16 (*SD*=7.02), average DOSPERT score *M*=153.91 (*SD*=19.31), average ambiguity aversion score *M*=5.36 (*SD*=1.40), and average slider score *M*=175.04 (*SD*=80.87).

Table 4 shows the statistics for the independent samples t-test comparing all four measures. Interestingly, ambiguity aversion was significantly higher in the payday group than the non-payday group $t(103) = -2.26$, $p = .026$. The latter three measures showed no significant differences between tested groups. Tests for covariation revealed no significant relationships among hours worked, gender, or salary against the selected measures of risk.

Independent Samples T-Test

		Statistic	df	p	Mean difference	SE difference		Effect Size
GRIPS	Student's t	0.148	102	0.882	0.214	1.445	Cohen's d	0.0304
DOSPERT	Student's t	0.303	102	0.762	1.171	3.858	Cohen's d	0.0622
Ambiguity Aversion Task	Student's t	2.257	102	0.026	0.615	0.272	Cohen's d	0.4623
Slider Question	Student's t	0.409	102	0.683	6.631	16.207	Cohen's d	0.0838

Table 3—Student Payday vs. Non-Payday Between Subjects t-Test

A Pearson correlation test was run among the baseline measures in addition to the number of hours worked and individual salaries of student participants. The GRIPS was positively correlated with the DOSPERT, $r(102)= .318$, $p < .001$, and ambiguity aversion $r(102)= .183$, $p = .031$. Interestingly, there was found a positive correlation between slider response and the number of hours worked $r(102)= .204$, $p = .019$.

Figure 2 below illustrates the bar graph for the independent samples t-test.

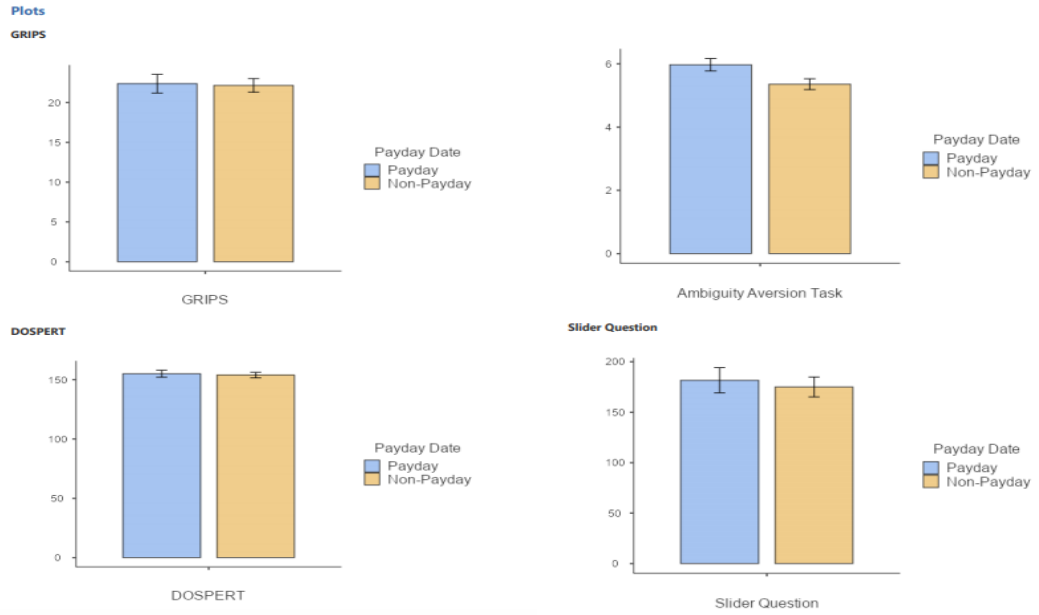

Figure 2—Bar Graph Distribution for Student Risk Differences (t-Tests)

Discussion

It was the researchers' goal to identify real, statistical differences in risk measures between payday and non-payday groups. The data above suggests that none of the initial hypotheses were confirmed, save for the exception of a difference found in student ambiguity aversion scores. There are likely several factors that played a role in the disorganization of the data.

First, the sample sizes collected for both the faculty and students were substantially smaller than expected. There was an expectation of receiving at least three hundred workable faculty responses to be evaluated, which would have helped increase the power of the overall analysis. Moreover, faculty differences in the ambiguity tasks and slider question were at least superficially close to a significant p-value. It would be interesting to determine how a larger sample might have pushed these measures nearer to significance.

Regardless, the significance found in the ambiguity aversion tasks is interesting in terms of the researchers' interest in identifying real differences in risk preferences. Certainly, splitting respondents into a payday and non-payday group created an observable disparity in group size. However, assumption tests revealed the means to be sufficiently distributed and varied, so it is more likely the case that the student sample was adequate the researchers' analytical purposes. Therefore, the significantly higher scores to ambiguity aversion in the payday group may be telling, but without significance alongside the other three measures of risk, it is difficult to tell if this substantially relates enough to risk taking on its own. Ambiguity aversion indicates sticking with knowns as a matter of comfortable selection process. This may be an issue of the individual personalities of respondents. But the positive correlation found between the GRIPS and ambiguity aversion tasks for the student data suggests that there is, at least, an insightful relationship between higher scores of self-reported risk preferences and a key behavioral measure suggesting greater tolerance for gamble selections where the proportions are not known, an added risk in itself during these kinds of situations. In the context of the researchers' study, the idea here is that trying new activities may be more attractive under a payday arrival environment, particularly since a behavior that is new or unknown likely requires a certain percentage of risk tolerance.

Finding no significant difference among the self-report risk preference scales suggest that aspects of one's risk personality may have remained stable across payday and non-payday conditions. This fact is compounded by the positive correlations found between the GRIPS and DOSPERT scores in the Pearson analysis both for faculty and student sampling. A finding like this falls in line with previous conceptions about personality remaining consistent over particular phases of the life course and not necessarily being fundamentally changed by microcostic events triggered in particular environments (Roberts et al., 2006). Further research should be conducted to more closely analyze the relationship between the two scales investigated by Zhang et al. (2018). It should be restated that the researchers' omitted two sections of the DOSPERT for sake of perceived relevancy, but it may have been the case that ethical and social preferences in terms of risk could have been affected by payday. In turn, this could have affected the found positive correlation.

Fundamentally, it may also be the case that the payday phenomenon did not exist for university faculty and college students as it did for other identified samples in earlier literature. Social security recipients were, of course, aged 62 and older in Evans and Moore (2011), and the data from Verhuel (1997) observed income assistance checks distributed to identified drug users. Perhaps more stable populations do not respond as drastically to the effects an income receipt might have on their risk-taking and decision making. From that, we may also conclude that faculty and university students might not have perceived their income receipts as significant windfall gains during this particular study. Findings from Olaffson (2018) might offer evidence for associations between income receipts and higher-than-average consumption behaviors, but our study was focused specifically on risk, reliant on assumptions held by the researchers that consumption and risk inclinations were connected. More research should also be performed on

tying stronger associations between consumption behaviors and risk, perhaps even focusing on hyper-specific behaviors that lend themselves towards more dangerous outcomes, like drunk driving or physical altercations, that may indicate a myopic view of behavioral consequences.

Perspectives on preceding scarcity before the reception of income receipts for selected samples may not have been severe enough. We must remember that scarcity is a dynamic experience, and there is counter evidence suggesting that those who experience a general state of tighter financial liquidity, as those before payday might undergo before the arrival of a potential windfall, do not always perform well in some situations. In one study, farmers before pre-harvest scored significantly lower on Stroop tasks and Raven matrices, both measuring executive control and fluid intelligence, respectively, than those farmers tested in post-harvest conditions when they had received necessary income receipts (Mani et al., 2013). It would have been interesting to find an association between participant intelligence and decision making in the aforementioned study. Unfortunately, education was not correlated with any of the variables, save for salary. This would have offered a potentially substantial counterpoint to the idea that more money creates a myopic view of the future and biases in present decision making.

It is important to identify payday as a micro-transactional phenomenon, at least with regards to our study; this view allows a better understanding of why there are short-term bursts in mortality after payday instead of before. Recall that mortality rates in tested samples are typically back to a steady decline just a few days after income receipts arrive (Evans & Moore, 2011). Future research should continue to examine long term financial constraints' effects on human behavior and decision making when considering these short-term phenomena.

References

Andersson, E., Lundborg, P., & Vikström, J. (2015). Income receipt and mortality - Evidence from Swedish public-sector employees. *Journal of Public Economics, 131,* 21-32. 10.1016/j.jpubeco.2015.08.006.

Ariely, D., & Wertenbroch, K. (2002). Procrastination, deadlines, and performance: Self-control by precommitment. *Psychological Science, 13*(3), 219–224. https://doi.org/10.1111/1467-9280.00441

Blais, A.-R., & Weber, E. U. (2006). A Domain-Specific Risk-Taking (DOSPERT) scale for adult populations. *Judgment and Decision Making, 1*(1), 33-47.

Eliaz, K., & Ortoleva, P. (2016). Multidimensional Ellsberg. *Management Science*, *62*(8), 2179–2197. https://doi-org.libezp.lib.lsu.edu/10.1287/mnsc.2015.2240

Ellsberg, D. (1961). Risk, ambiguity, and the savage axioms. *The Quarterly Journal of Economics, 75*(4), 643-669. Retrieved May 2, 2020, from www.jstor.org/stable/1884324

Epley, N., Mak, D., & Idson, L. C. (2006). Bonus of rebate? The impact of income framing on spending and saving. *Journal of Behavioral Decision Making*, *19*(3), 213–227. https://doi-org.libezp.lib.lsu.edu/10.1002/bdm.519

Evans, W. N., & Moore, T. J. (2011). The short-term mortality consequences of income receipt. *Journal of Public Economic, 95*(11-12) 1410-1424.

Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). "Time discounting and time preference: A critical review." *Journal of Economic Literature, 40*(2): 351-401.DOI: 10.1257/002205102320161311

Kling, S. M., Roe, L. S., Keller, K. L., & Rolls, B. J. (2016). Double trouble: Portion size

and energy density combine to increase preschool children's lunch intake. *Physiology & Behavior, 162*, 18–26. https://doi.org/10.1016/j.physbeh.2016.02.019

Lauriola, M., Levin, I. P., & Hart, S. S. (2007). Common and distinct factors in decision making under ambiguity and risk: A psychometric study of individual differences. *Organizational Behavior and Human Decision Processes, 104*(2), 130-149. doi: 10.1016/j.obhdp.2007.04.001

Levav, J., & Mcgraw, A. P. (2009). Emotional accounting: How feelings about money influence consumer choice. *Journal of Marketing Research, 46*(1), 66-80

Lipovetsky, N., Hod, H., Arie, R., Kishon, Y., Sclarovsky, S., & Green, M. (2004). Heavy meals as a trigger for a 1st event of the acute coronary syndrome: a case-crossover study. *Israeli Medical Association Journal, 6*(12), 728-731

Maner, J. K., & Gerend, M. A. (2007). Motivationally selective risk judgments: Do fear and curiosity boost the boons or the banes? *Organizational Behavior and Human Decision Processes, 103*(2), 256-267. doi: 10.1016/j.obhdp.2006.08.002

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science, 341*(6149), 976–980. https://doiorg.libezp.lib.lsu.edu/10.1126/science.1238041

Möller, J., Ahlbom, A., Hulting, J., Diderichsen, F., de Faire, U., de Faire, C., & Rueterwall, J. Hallqvist. (2001). Sexual activity as a trigger of myocardial infarction: a case-crossover analysis in the Stockholm Heart Epidemiology Programme (SHEEP). *Heart, 86*(4), 387-390

Mittleman, Murray A., Maclure, M., Tofler, G., Sherwood, J. B., Goldberg, R. J., &

Muller, James E. (1993). Triggering of acute myocardial infarction by heavy physical exertion—protection against triggering by regular exertion. *The New England Journal of Medicine, 329*(23), 1677-1683.

Olafsson, A., & Pagel, M. (2018). The liquid hand-to-mouth: Evidence from personal finance management software. *The Review of Financial Studies. 31*(11), 4398-446.

Pleskac, T. J. (2008). Decision making and learning while taking sequential risks. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 34*(1), 167-185. doi: 10.1037/0278-7393.34.1.167

Riddell, C., & Riddell, R. (2006). Welfare checks, drug consumption, and health: evidence from Vancouver injection drug users. *Journal of Human Resources 41*(1), 138–161.

Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin, 132*(1), 1–25. https://doi.org/10.1037/0033-2909.132.1.1

Rosa-Diaz, I.M. (2004). Price knowledge: effects of consumers' attitudes towards prices, demographics, and socio-cultural characteristics. *Journal of Product and Brand Management, 13*(6), 406-28.

Stephens, Melvin Jr. (2003). ""3rd of tha Month": Do social security recipients smooth consumption between checks? ." *American Economic Review, 93*(1): 406-422. doi: 10.1257/000282803321455386

Thaler, R. H. (1985). Mental accounting and consumer choice. *Marketing Science, 4*(3), 199-214.

Verhuel, G., Singer, S.M., & Christenson, J.M. (1997). Mortality and morbidity associated with the distribution of monthly welfare payments. *Academy of Emergency Medicine, 4*(2), 91–92.

Weber, B.J. & Tan, W.P. (2012). Ambiguity aversion in a delay analogue of the Ellsberg paradox. *Judgment Decision Making, 7*(4):383–389.

Weber, E. U., Blais, A., & Betz, N. E. (2002). A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviors. *Journal of Behavioral Decision Making, 15*(4), 263-290. doi: 10.1002/bdm.414

Zhang, D. C., Highhouse, S., & Nye, C. D. (2018). Development and validation of the general risk taking propensity scale (GRiPS). *Journal of Behavioral and Decision Making, 32*, 152– 167. https://doi.org/10.1002/bdm.2102

Appendix

Domain-Specific Risk-Taking (Adult) Scale – Risk Taking

For each of the following statements, please indicate the **likelihood** that you would engage in the described activity or behavior if you were to find yourself in that situation. Provide a rating from *Extremely Unlikely* to *Extremely Likely*, using the following scale:

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Somewhat Unlikely	Not Sure	Somewhat Likely	Moderately Likely	Extremely Likely

1. Admitting that your tastes are different from those of a friend. (S)
2. Going camping in the wilderness. (R)
3. Betting a day's income at the horse races. (F)
4. Investing 10% of your annual income in a moderate growth mutual fund. (F)
5. Drinking heavily at a social function. (H/S)
6. Taking some questionable deductions on your income tax return. (E)
7. Disagreeing with an authority figure on a major issue. (S)
8. Betting a day's income at a high-stake poker game. (F)
9. Having an affair with a married man/woman. (E)
10. Passing off somebody else's work as your own. (E)
11. Going down a ski run that is beyond your ability. (R)
12. Investing 5% of your annual income in a very speculative stock. (F)
13. Going whitewater rafting at high water in the spring. (R)
14. Betting a day's income on the outcome of a sporting event (F)
15. Engaging in unprotected sex. (H/S)
16. Revealing a friend's secret to someone else. (E)
17. Driving a car without wearing a seat belt. (H/S)
18. Investing 10% of your annual income in a new business venture. (F)
19. Taking a skydiving class. (R)
20. Riding a motorcycle without a helmet. (H/S)
21. Choosing a career that you truly enjoy over a more prestigious one. (S)
22. Speaking your mind about an unpopular issue in a meeting at work. (S)
23. Sunbathing without sunscreen. (H/S)
24. Bungee jumping off a tall bridge. (R)
25. Piloting a small plane. (R)
26. Walking home alone at night in an unsafe area of town. (H/S)
27. Moving to a city far away from your extended family. (S)
28. Starting a new career in your mid-thirties. (S)
29. Leaving your young children alone at home while running an errand. (E)
30. Not returning a wallet you found that contains $200. (E)

Note. E = Ethical, F = Financial, H/S = Health/Safety, R = Recreational, and S = Social.

Domain-Specific Risk-Taking (Adult) Scale – Risk Perceptions

People often see some risk in situations that contain uncertainty about what the outcome or consequences will be and for which there is the possibility of negative consequences. However, riskiness is a very personal and intuitive notion, and we are interested in **your gut level assessment of how risky** each situation or behavior is.

For each of the following statements, please indicate **how risky you perceive** each situation. Provide a rating from *Not at all Risky* to *Extremely Risky*, using the following scale:

General Risk Propensity Scale (GRiPS)

Zhang, D. C., Highhouse, S., & Nye, C. D. (2018). Development and validation of the general risk taking propensity scale (GRiPS). *Journal of Behavioral and Decision Making*. https://doi.org/10.1002/bdm.2102

	Item
1	Taking risks makes life more fun
2	My friends would say that I'm a risk taker
3	I enjoy taking risks in most aspects of my life
4	I would take a risk even if it meant I might get hurt
5	Taking risks is an important part of my life
6	I commonly make risky decisions
7	I am a believer of taking chances
8	I am attracted, rather than scared, by risk

1 Strongly disagree; 5 Strongly agree

Ambiguity Probability Tradeoff Task

The following brief survey deals with decisions to be made under conditions of uncertainty. Each item describes two containers called A and B. Each container in the pair has 20 balls, some of which are one color and some of which are another color. For one of the containers (e.g., A) you are told how many balls of each color there are (e.g., 15 Yellows and 5 Blues) and for the other container (e.g., B) you are not told how many of each color there are. Thus B in this case could contain any number of Yellow balls and Blue balls as long as they add up to 20. Different pairs of colors will be used on different trials.

Pretend that on each trial you will actually reach into one of these containers to draw out a ball. On some trials you will be told that you WIN if you pick a ball of a particular color and on some trials you will be told that you LOSE if you pick a ball of a particular color. Your task on each trial will then be to indicate which container you would draw a ball from, A or B. Please indicate your choice by selecting the letter A or B on each trial.

There are no right or wrong answers on this survey. We just want your personal preferences.

Item #1 You **Win** if you draw a Red ball. Which container would you draw from?

A	B
14 Red	? Red
6 Green	? Green
Total = 20	Total = 20

Item #2 You **Lose** if you draw a Pink ball. Which container would you draw from?

8 Pink	? Pink

12 Black Total = 20	A	? Black Total = 20

Item #3 You **Win** if you draw a Purple ball. Which container would you draw from?

? Purple ? Orange Total = 20	A	10 Purple 10 Orange Total = 20

Item #4 You **Win** if you draw a Pink ball. Which container would you draw from?

? Pink ? Black Total = 20	A	8 Pink 12 Black Total = 20

Item #5 You **Lose** if you draw a Green ball. Which container would you draw from?

6 Green 14 Yellow Total = 20	A	? Green ? Yellow Total = 20

Item #6 You **Lose** if you draw a White ball. Which container would you draw from?

12 White 8 Brown	A	? White ? Brown

Total = 20	Total = 20

Item #7 You **Win** if you draw a Green ball. Which container would you draw from?

? Green ? Yellow Total = 20	A	6 Green 14 Yellow Total = 20	B

Item #8 You **Lose** if you draw a Red ball. Which container would you draw from?

14 Red 6 Green Total = 20	A	? Red ? Green Total = 20	B

Item #9 You **Win** if you draw a White ball. Which container would you draw from?

? White ? Brown Total = 20	A	12 White 8 Brown Total = 20	B

Item #10 You **Lose** if you draw a Purple ball. Which container would you draw from?

10 Purple 10 Orange Total = 20	A	? Purple ? Orange Total = 20	B

Thaler Delay Discounting Slider Question

People think about tradeoffs differently when it comes to everyday financial interactions. For example, your friend might tell you about a pair of shoes that is being sold for $80 at a store near your house. It is only a 15 minute drive. However, you know there is another store 40 minutes away where the same pair of shoes only costs $60. Do you make the longer drive to get the cheaper pair? Or do you save driving time and buy the more expensive ones?

Sometimes, we also have to make decisions about getting something now or later. For instance, we can choose to receive $10 now or $15 in one week. In the next question below, we'd like to know how you think about a slightly different version of this same scenario.

Consider this scenario. You are given the option to accept $100 now or a larger amount in exactly one week. Using the slider, please indicate the minimum amount of money you would need to receive in order to wait one week.