AN EXAMINATION OF CONSUMER FINANCIAL DECISION MAKING

IN INTERPERSONAL CONTEXTS

by

Jenny Gin Olson

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Doctoral Committee:

        Assistant Professor Scott I. Rick, Chair
        Associate Professor Katherine A. Burson
        Associate Professor Robin S. Edelstein
        Assistant Professor Brent J. McFerran, Simon Fraser University
        Assistant Professor Leigh Plunkett Tost

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"The key is to keep company only with people who uplift you,

whose presence calls forth your best." –Epictetus, Stoic philosopher

One of my greatest undergraduate mentors (Linda Steiner) once told me that earning a Ph.D. requires three qualities: persistence, hard work, and dedication. Although there is great truth in this sentiment, there is one word missing—support. I would not be where I am today if it was not for the support of my mentors, family, and friends. I would now like to take this opportunity and extend sincere gratitude to those who have made this journey possible.

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ABSTRACT

The past five years have witnessed a surge of interdisciplinary research aimed at understanding and improving consumer financial decision making. Scholars in this area attempt to enhance consumer welfare by uncovering and altering situational and contextual factors that drive individuals to make financially suboptimal decisions. Naturally, most research in this nascent field has focused on how individuals approach financial decisions. However, financial decisions are often subject to social influence and are made within the context of existing relationships (e.g., between spouses). Moreover, the outcomes of such decisions can be important determinants of relationship satisfaction. Thus, my dissertation provides a more complete understanding of consumer financial decision making by examining how financial decisions influence the development of relationships (Essay 1) and how relationship dynamics influence financial decisions (Essay 2). I find that others' chronic spending habits shape the inferences we draw about them (e.g., their perceived general self-control), which ultimately influences initial romantic and physical attraction. I also find that couples make more optimal debt repayment decisions working together than individual couple members working on their own. Unlike stranger-pairs who lack information about each other's relative strengths and weaknesses, established couples benefit from placing greater weight on the preferences of the partner with greater financial expertise. Theoretical implications and future directions are discussed.

CHAPTER I

Introduction

The very first issue of the *Journal of Consumer Research* begins with an article entitled "Psychology and Consumer Economics" (Katona 1974). The author calls for greater integration between the two fields because consumers' spending and saving are directly impacted by various economic conditions (e.g., inflation, recession). The first issue also contains papers covering how marital roles influence money management (Ferber and Lee 1974), the consumption decision process (i.e., problem recognition, information search, and final decision; Davis and Rigaux 1974), and the effect of information disclosure on credit usage (Day and Brandt 1974). What these four articles have in common is an emphasis on consumers' financial decisions. Thus, researchers have been examining topics relevant to consumer financial decision making (CFDM) since the inception of one of our premier journals 40 years ago.

Yet, it has only been in recent years that CFDM has risen to the forefront. A special interdisciplinary issue of the *Journal of Marketing Research* in 2011 on consumer finance (the first special issue in several decades) stimulated additional research among marketing scholars. A central goal of CFDM is to enhance consumer welfare by uncovering and altering situational and contextual factors that drive individuals to make financially suboptimal decisions. Common characteristics of CFDM research include representative sampling methods (e.g., less reliance on undergraduate participants), incentive-compatible designs, and field studies/experiments. Since the 2011 special issue, numerous articles have been published in the consumer behavior and

marketing literatures. For example, recent work has focused on debt management and investment decisions (e.g., Besharat, Varki, and Craig 2015; Duclos 2015; Gal and McShane 2012; Hershfield and Roese 2015), consumer spending behavior (e.g., Bartels and Urminsky 2015; Rick, Pereira, and Burson 2014; Sharma and Alter 2012; Sussman and Alter 2012), and financial expertise (e.g., Fernandes, Lynch, and Netemeyer 2014; Hadar, Sood, and Fox 2013).

Most research in this nascent field has concentrated on how *individuals* approach financial decisions. However, many important financial decisions are subject to social influence and are made within the context of existing relationships (e.g., spouses deciding whether to pay off their car loan or make an extra mortgage payment; Gorlin and Dhar 2012; Simpson, Griskevicius, and Rothman 2012). For instance, a longitudinal study of newlyweds found that "the most frequent family financial officer…was the couple acting jointly" (Ferber and Lee 1974, 45). More recently, Pew Research (2008) estimates that 46% of couples jointly make large purchase decisions for the home. Therefore, focusing only on individual-level financial decision making paints an incomplete and unrealistic picture for many consumers.

The goal of my dissertation is to shed light on the intersection between social influence and the emerging area of CFDM. Specifically, I examine how financial decisions influence the development of romantic relationships (Essay 1) and how relationship dynamics influence financial decisions (Essay 2). I focus on romantic relationships because saving and spending decisions are more relevant to romantic relationships than to other types of interpersonal relationships. Friends, for example, do not merge finances. By contrast, romantic partners frequently merge their assets and debts, which have direct implications for economic and psychological well-being (Dew 2007, 2008, 2011). Moreover, an abundance of prior research identifies finances as a common source of friction within romantic relationships (e.g., Amato and

Rogers 1997; Dew, Britt, and Huston 2012; Papp, Cummings, and Goeke-Morey 2009; Rick, Small, and Finkel 2011). Given this prior research, beginning with a focus on romantic relationships (vs. other types of unions) is warranted. The next section provides a brief outline of the chapters that follow.

OVERVIEW OF CHAPTERS

A Penny Saved is a Partner Earned: The Romantic Appeal of Savers

My first essay investigates how an individual's saving and spending habits impact his or her attractiveness in the eyes of potential mates. Prior work suggests that people (men, in particular) are more likely to spend lavishly when desiring a romantic partner as a way to signal access to financial resources (Griskevicius et al. 2007; Sundie et al. 2011). However, it is unclear whether spending money actually helps to attract mates. One could argue that habitual spending may be viewed as wasteful and lead to disagreements that weaken the relationship (e.g., arguments over money are a strong predictor of divorce; Dew et al. 2012). Thus, contrary to the widespread intuition that spending enhances romantic appeal, I propose that "savers" are likely to be more desirable than "spenders" as prospective partners.

Unlike their more impulsive counterparts, savers are likely to benefit from perceptions of greater general self-control. Although some people enjoy saving and find it effortless, for others, saving requires actively suppressing the urge to spend. Individuals who possess self-control are likely to be desirable for a number of reasons: they are less likely to say hurtful things, cheat, and/or divert us from our own goals that require restraint (Tangney, Baumeister, and Boone

2004; Vohs, Finkenauer, and Baumeister 2011). Because savers are perceived as exercising self-control with their finances, they may also be assumed to exercise self-control in other domains (e.g., eating nutritious foods, exercising regularly; cf. de Ridder et al. 2012; Tangney et al. 2004).

My first experiment uses a mock dating game to examine whether savers are preferred to spenders as dating partners. Participants interacted with two prospective mates in a face-to-face context, with the goal of ultimately choosing one of the individuals for a potential date. As predicted, individuals preferred to date the person who described themselves as a saver rather than the person who described themselves as a spender. Subsequent experiments featured mock dating profiles where targets revealed their spending habits, a common practice on dating websites (e.g., eHarmony users indicate their level of frugality when creating profiles; Lieber 2010). Regardless of how spending habits were described (e.g., "I love saving money" or "I hate spending money"), I find a robust romantic preference for savers over spenders (as well as over "control" targets who do not describe their feelings toward money), among both men and women. Savers are viewed as possessing greater general self-control than spenders, and perceived self-control increases savers' romantic appeal. Potential alternative sources of savers' appeal (i.e., current and anticipated financial viability, reduced materialism) are also examined, but general self-control is found to be the dominant mechanism. In addition, savers are expected to take better care of themselves, and this expectation favorably biases perceptions of savers' physical attractiveness. However, savers do not benefit from an indiscriminate positive halo: they are also viewed as less exciting than spenders. Traits (e.g., boredom susceptibility; Zuckerman 1979, 1994) and states (e.g., boredom inductions) that increase the desire for stimulation decrease the preference for savers. Finally, I establish—in a face-to-face, incentive-compatible study—that people can accurately distinguish between savers and spenders simply by glancing at them. This

is an important demonstration because the inferential process I propose (i.e., that people draw inferences from a target's spending habits, which ultimately influences attraction) is only relevant outside of the lab if people can spontaneously distinguish between savers and spenders. I find this to be the case. Thus, my work elucidates how a fundamental consumption behavior (i.e., one's tendency to spend or save) is perceived and is influential in romantic relationship formation.

Managing Debt and Managing Each Other: The Interpersonal Dynamics of Shared Financial Decisions

My first essay focuses on the relational benefits of being a saver, but not everyone saves money judiciously. Oftentimes, poor money management decisions can land someone in serious debt. Recent work has begun investigating how individuals navigate debt repayment decisions (e.g., Amar et al. 2011; Besharat et al. 2015; Brown and Lahey 2014; Gal and McShane 2012; Hershfield and Roese 2015; Kettle et al. 2015; Navarro-Martinez et al. 2011; Stewart 2009), but when debt is *jointly* held, such decisions often invite input from all indebted parties.

When individuals are faced with multiple debts varying in amounts and interest rates, they tend to repay the smallest debt first rather than the debt with the highest interest rate (Amar et al. 2011), a costly tendency known as debt account aversion (DAA). Several psychological factors contribute to DAA, including the temptation of pursuing goals nearest completion and the pleasure of eliminating an obligation. However, whether DAA would persist in a joint decision making context is unclear. There are at least two reasons to expect that couples might be less susceptible to DAA: a greater likelihood of identifying the optimal repayment strategy through deliberation ("two heads are better than one"), and an ability to identify and empower the partner

with greater financial competence. Prior research on transactive memory within romantic relationships indicates that couples develop a shared system for information management such that each partner takes charge of only a portion of total information (e.g., Wegner, Erber, and Raymond 1991; Wegner, Giuliano, and Hertel 1985). These systems allow partners to effectively offload task responsibility to the partner with greater competence in a given domain.

My second essay, therefore, examines the influence of an interpersonal context on debt management decisions. I conducted a series of incentive-compatible experiments in which people were randomly assigned to complete a debt management game individually or in pairs. In the game (Amar et al. 2011), participants are initially saddled with six debts varying in size and interest rate. Critically, larger debts tend to have larger interest rates, meaning that participants must avoid closing small debts to perform well. The game lasts 25 "years" (rounds), and participants receive annual salaries they must use to repay one or more debts. I find that couple members working together are less susceptible to DAA than couple members working on their own. I then examined the performance of pairs of strangers to assess the viability of the transactive memory account. Strangers should benefit similarly from deliberation, but may be less likely to recognize and empower the partner with greater competence. Indeed, stranger-pairs performed significantly worse than individuals, suggesting that inferred financial competence plays a crucial role within couples. A final experiment examined the effectiveness of a brief "warm up" exercise designed to improve the ability of partners to infer one another's financial competence, and thus more effectively navigate subsequent debt repayment decisions.

CHAPTER II

A Penny Saved is a Partner Earned: The Romantic Appeal of Savers

What we consume conveys information about who we are (Belk 1988; Berger and Heath 2007). For example, prior research suggests that variety-seeking signals open-mindedness (Ratner and Kahn 2002), product size preferences signal status (Dubois, Rucker, and Galinsky 2012), and nonconformity signals competence (Bellezza, Gino, and Keinan 2014). In romantic contexts, men who are motivated to find a mate are especially likely to buy luxury goods to signal their wealth (Griskevicius et al. 2007). This tendency echoes recent advice from the *Wall Street Journal* to (essentially) "burn a big pile of money on the first date," as a signal of wealth (Oyer 2014). In fact, one prior experiment (Sundie et al. 2011, study 4) suggests that when women only have information about a single purchase, they tend to view men who recently purchased a luxury good (a new Porsche Boxster) as more attractive dating partners than men who recently purchased a more basic good (a new Honda Civic). Buying the Porsche may have increased men's dating desirability by signaling financial viability to women, though this was not measured directly.

Although an episode of lavish spending may be more effective than an episode of conservative spending at attracting potential mates in the short-term, in this paper we consider whether a chronically high propensity to spend money is generally more effective than a chronically high propensity to save money at attracting mates. In other words, are "spenders" initially more attractive than "savers" as potential romantic partners? We propose that

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individuals' general financial tendencies influence the inferences others draw about them, and thus their initial romantic appeal.

The terms "saver" and "spender" are commonly used in everyday conversation and in the academic literature. For example, in a macroeconomic model of fiscal policy, Mankiw (2000, 122) characterized "savers" as people who amass wealth that can stay within the family for generations, and "spenders" as people who "consume their entire after-tax labor income in every period." Along similar (though less extreme) lines, we propose a behavioral distinction between savers and spenders: savers have a low "marginal propensity to consume" (MPC) whereas spenders have a high MPC.[1] The MPC is a common measure in the economics literature that captures the proportion of an increase in income that is spent as opposed to saved. For example, Shefrin and Thaler (1988) measured MPC by asking participants to imagine that they recently received a bonus at work and to report how much extra they now planned to spend per month. Recent work indicates that people differ widely in their MPC (Jappelli and Pistaferri 2013), suggesting that responses to these types of questions provide a meaningful distinction among consumers. There may be many psychological motives behind having a low or high MPC (i.e., being a "saver" or a "spender"), and indeed ambiguity about the cause(s) of one's general tendency to save or spend is likely necessary to produce effects on romantic attraction, as we discuss shortly.

We focus on romantic appeal in particular, rather than more general appeal (e.g., as a friend), to build directly upon prior research that has examined the link between spending and romantic relationships (e.g., Griskevicius et al. 2007; Sundie et al. 2011). In addition, saving and spending habits are more relevant to romantic relationships than to other types of interpersonal

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[1] We refer to individuals as "savers" and "spenders" instead of low-spenders and high-spenders because "income must be spent or saved… what is not spent is, by definition, saved, and constitutes savings" (Webley 2014, 244).

relationships. Friends, for example, do not merge finances. By contrast, saving and spending habits are a common source of friction in romantic relationships (e.g., Amato and Rogers 1997).

Rick, Small, and Finkel (2011) addressed a related question, namely whether differences between typical and desired spending habits predict who marries whom. They found that tightwads (who typically spend less than they would ideally like to spend) tend to marry spendthrifts (who typically spend more than they would ideally like to spend), a rare instance in which opposites attract. However, this study did not focus on initial attraction: marriages represent only a small subset of romantic relationships (i.e., breaking up is more common than getting married). Moreover, this research did not address saving and spending per se. Tightwads and savers are not equivalent: tightwads would like to spend more and are frustrated with how little they spend (Rick, Cryder, and Loewenstein 2008; Rick et al. 2011), whereas savers are presumably not frustrated with their saving tendencies. Likewise, spendthrifts would like to spend less and are frustrated with how much they spend, whereas spenders may simply enjoy spending. The saver versus spender distinction is more likely to influence initial attraction than the tightwad versus spendthrift distinction, as the latter distinction requires a more difficult assessment (i.e., assessing both typical and desired spending habits).

Intuitively, one's typical spending habits might be expected to influence one's perceived attractiveness by signaling information about financial resources. Simply put, people who spend large amounts of money may be perceived as having large amounts of money to spend. However, spending need not be an "honest" signal of financial resources. Credit allows people to spend beyond their means, and observers may question whether big spenders are actually able to afford the items they buy. Moreover, savers are likely perceived as more capable of amassing wealth over the long run. Thus, while spending versus saving behavior may not provide an

unambiguous signal of one's financial resources, it seems likely that savers would, on average, be perceived as possessing greater financial resources than spenders.

Although there are likely instances in which savers are preferred because of their perceived financial resources (e.g., when people are feeling financially deprived and desperate for money), it is worth noting that perceived financial resources are typically not top-of-mind when people consider their ideal romantic partner (Fletcher et al. 1999, table 1). Indeed, we propose that savers are more likely to benefit from positive inferences about their character than from positive inferences about their savings account balance. In particular, savers may be perceived as possessing high self-control (typically defined as an ability to override and change one's natural responses to best serve one's long-term interests; Muraven and Baumeister 2000). Although some people may enjoy saving and find it effortless, for many people saving requires overriding a temptation to spend. Indeed, interventions that weaken self-control generally increase spending, suggesting that self-regulatory resources are required to deter spending (Vohs and Faber 2007). Given this, and the tendency for observers to make dispositional inferences based on others' behavior (e.g., Jones and Nisbett 1971), spending versus saving behavior is likely to be considered diagnostic of self-control in the financial domain.

Beyond the financial domain, savers may be viewed as possessing high *general* self-control, applicable across domains (e.g., eating, fitness, time management). Indeed, describing a potential mate as "wild," "impulsive," "detail-oriented," or "responsible" could convey information about his or her level of self-control in a variety of areas. While some researchers have conceptualized financial self-control as a distinct construct (e.g., Haws, Bearden, and Nenkov 2012; Tsukayama, Duckworth, and Kim 2012), other evidence suggests that measures of general self-control predict behavior well across a variety of domains (Baumeister 2000; de

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Ridder et al. 2012; Tangney, Baumeister, and Boone 2004). To the extent that people have the intuition that self-regulatory resources are not domain-specific, but rather apply across domains, routine saving behavior may be viewed as diagnostic of broad self-control.

To our knowledge, only one small-scale experiment (N = 40), by Righetti and Finkenauer (2011, experiment 1), has previously examined a similar question. The researchers manipulated whether participants read about a person (the "target") who recently went music shopping and ultimately did or did not buy several new CDs. Participants judged the target who bought several CDs as possessing less general self-control than the person who did not buy any CDs. However, in both conditions, the target first mentioned that "I definitely need to save some money for my further education which is really important for me!" Thus, the results may have been driven by the perception of an explicit self-control failure in the spending condition (the target wants to save, but ultimately spends). It is therefore unclear whether spending, per se, reduced perceived self-control, or whether it was spending while pursuing a savings goal. In the current research, we examine how spending and saving tendencies (revealed without directly implying self-control failures) influence perceptions of general self-control and ultimately attractiveness.

If savers are perceived as having greater general self-control than spenders, they may also be viewed as more attractive relationship partners than spenders. High self-control in a romantic partner may enhance relationship quality in a number of ways (e.g., by preventing partners from saying hurtful things or engaging in infidelity; Balliet, Li, and Joireman 2011; Pronk, Karremans, and Wigboldus 2011; Tangney et al. 2004; Vohs, Finkenauer, and Baumeister 2011). Self-control also predicts how likely relationship partners are to keep the promises they make to one another (e.g., to do the laundry or quit smoking; Peetz and Kammrath 2011). Indeed, high self-control seems likely to enhance the very attributes that are most valued in ideal romantic partners

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(e.g., accommodation, kindness, commitment, trustworthiness; Finkel and Campbell 2001; Fletcher et al. 1999). Additionally, from an interdependence theory perspective, savers may be viewed as most capable of helping potential mates achieve goals that require high self-control (Shea, Davisson, and Fitzsimons 2013).

Favorable self-control perceptions may even bias perceptions of *physical* attractiveness. If savers are presumably higher in general self-control, they may be expected to take better care of themselves as well (e.g., adhering to a balanced diet and exercising regularly; Tangney et al. 2004). Indeed, recent work suggests that people who are better able to save for the future are more likely to take steps toward improving their health when confronted with threatening health information (Gubler and Pierce 2014). To the extent that health and physical fitness increase physical attractiveness (Grammer et al. 2003), savers may also be expected to be more physically attractive. Thus, when physical attractiveness is at least somewhat ambiguous, observers may expect savers to be more physically attractive and view them through that biased lens (e.g., Srull and Wyer 1979). Formally, we hypothesize:

> **H1:** People will be perceived as more romantically (**H1A**) *and* physically (**H1B**) attractive when they are viewed as savers than when they are viewed as spenders.
>
> **H2:** The influence of spending habits on perceived romantic and physical attractiveness will be mediated by perceptions of general self-control (**H2A**). Perceptions of general self-control will be more influential than perceptions of financial viability (**H2B**).

We focus on the role of self-control inferred from financial decisions, but it is worth considering whether evidence of self-control in any consumption domain would lead to greater perceived attractiveness. Prior work suggests that restraint in the domain of food consumption

may be viewed as feminine (and undesirable) in certain circumstances (e.g., men who eat lightly while out on a date; Wansink 2006). We anticipate that saving, by contrast, will rarely have a negative gendered association (i.e., saving money is not considered inherently feminine) and will generally portray one's level of self-control in a positive light.

OVERVIEW OF THE PRESENT RESEARCH

We examine whether, why, and when savers are preferred to spenders in romantic contexts. Our first experiment featured a mock dating game in which participants were asked to choose between a saver confederate and a spender confederate for a hypothetical date. The purpose of this design was to establish whether individuals favor one tendency over the other when they are first introduced (face-to-face) to a prospective mate. Our subsequent experiments used online dating profiles with small modifications. Specifically, to test our hypotheses and control for confounding factors that may be correlated with saving versus spending habits, we had the *same* target describe themselves as a saver or a spender. (Describing your spending habits is common on popular dating websites such as eHarmony; Lieber 2010.) We anticipated that viewing online dating profiles would be a somewhat familiar context for many participants. For example, Pew Research reports that nearly 40% of American adults age 18 and older who are "single and looking" have tried online dating (Smith and Duggan 2013). This percentage is even higher when targeting younger age groups. When we surveyed 100 single adults between the ages of 18 and 35, a total of 65% reported having tried online dating.

We sought to determine whether evidence of saving behavior enhances one's romantic appeal relative to evidence of spending behavior, utilizing a number of different ways of

describing saving versus spending behavior (experiments 2A and 2B). Experiments 3A and 3B aimed to establish evidence for the underlying mechanism of self-control perceptions and test the viability of rival explanations (e.g., perceived financial resources). Experiment 4 examined whether savers are also perceived as more *physically* attractive than spenders (a bias driven by expectations of general self-control), and whether results could be attributed to a positive halo effect. We then examined factors that are likely to moderate the romantic appeal of savers. Potential mates high in general self-control likely possess a number of attractive attributes, but choosing such a mate may require sacrificing excitement. Consistent with this idea, experiments 5 and 6 investigated whether traits and states that reduce the tolerance for boredom reduce the preference for savers over spenders.

EXPERIMENT 1: ARE SAVERS PREFERRED TO SPENDERS AS DATING PARTNERS?

Our first experiment used a mock dating game to examine whether savers are preferred to spenders as dating partners. Participants interacted with two prospective mates in a face-to-face context, with the goal of ultimately choosing one of them for a date. Thus, experiment 1 provides an externally valid test of our key prediction that savers will be more desirable than spenders.

Participants and Procedure

Single, heterosexual students from a large Midwestern university (N = 73; M_{age} = 20; 56% female) participated in exchange for a small payment. Participants arrived to the lab in

same-sex groups of no more than five and were seated in a semi-circle. Two opposite-sex confederates ("contestants") were seated at the front of the room as part of our modified dating game. Participants were told that we were interested in understanding how individuals evaluate potential romantic partners given limited information. Each of the participants ("guests") received a question (pulled from an opaque container) that they publicly asked the two contestants (see appendix 1). The first four questions were presented in a randomized order, with the final question serving as our key manipulation: "When it comes to money, would you say you're more of a saver or more of a spender?" One of the contestants answered "more of a saver," while the other contestant answered "more of a spender" (note that the contestants' roles were counterbalanced across experimental sessions).

After the contestants answered the five questions, they left the room. Participants were then asked to indicate in an anonymous and confidential online survey, which contestant they would most like to go out on a date with if we had played the game for real (1-4 scale, where 1 = *strong preference for contestant 1*, 2 = *slight preference for contestant 1*, 3 = *slight preference for contestant 2*, and 4 = *strong preference for contestant 2*). We provided images of the two contestants along with their names to help participants remember their identities. The follow-up survey also included perceived personality ratings of each contestant (i.e., *approachable*, *genuine*, *honest*, *humorous*, *intelligent*, and *nice* where 0 = *not at all* and 6 = *very much*) to examine potential mediators of dating preferences. We assured students that their responses would be accessible only to the researchers, not the contestants.

Participants concluded the experiment by answering some demographic questions, including their own spending habits (i.e., a choice between *more of a saver* or *more of a spender*). Three participants were eliminated from analysis because they indicated that they

knew one or both of the contestants before arriving to the lab, resulting in a final sample of 70 students (M_{age} = 20; 56% female).

Results and Discussion

The key dependent variable was a 1-4 scale (reflecting a slight to strong preference for one contestant over the other), so we collapsed the scale to represent a choice between the saver and spender. Participants were significantly more likely to select the self-identified saver for a date compared to the self-identified spender (63% vs. 37%, $p < .05$ sign test). Additional analyses indicated that date preferences did not differ by gender ($\chi^2(1)$ =1.57, $p = .21$) or participant's own status as a saver versus spender ($\chi^2(1) < 1$). The two contestants were also viewed similarly in terms of inferred personality traits ($ps > .16$ for male confederates, $ps > .15$ for female confederates), suggesting that these qualities are not mediating dating preferences.

In sum, individuals preferred to date the saver instead of the spender in a face-to-face context. If date choice is a proxy for romantic attraction, then these results provide initial support for hypothesis 1A. Subsequent experiments provide additional tests of our hypotheses by using an online dating paradigm in which participants are exposed to either a saver or a spender.

EXPERIMENT 2A: DOES ONE'S MARGINAL PROPENSITY TO CONSUME INFLUENCE ONE'S ROMANTIC APPEAL?

Experiment 2A was designed to test our central hypothesis and validate the use of MPC as an indication of one's saving versus spending tendencies. Specifically, we examined whether

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people who reveal a low MPC (savers) are viewed as more romantically attractive than people who reveal a high MPC (spenders; hypothesis 1A). Participants viewed the online dating profile of a "target" who was given a standard measure of MPC (indicating how much s/he would spend vs. save from an unanticipated windfall; cf. Shefrin and Thaler 1988). This financial question is similar to those commonly asked by some dating websites (e.g., Match.com asks users "What would you do with an unexpected bonus?" when they create their profile). The target either revealed that s/he would spend a majority of the windfall or save a majority of the windfall.

Participants and Procedure

We recruited 100 adults aged 18-25 ($M_{age} = 23$; 34% female) via Amazon Mechanical Turk (MTurk), a crowdsourcing platform validated by Paolacci, Chandler, and Ipeirotis (2010). Participants completed the experiment in exchange for a small payment. In our experiments that utilized MTurk participants, we restricted the potential age range of participants because the "target" in our dating experiments was relatively young, as discussed below. We told participants that we were interested in examining perceptions of single individuals. Several single men and women were ostensibly interviewed, and participants were told that they would be shown a randomly selected interviewee (which we will refer to as the "target," though we did not use this label in the experiment). Participants were asked whether they were more attracted to men or women, and the target matched the sex they found most attractive (typically, the opposite sex). The next screen featured a color image of the target male ("Andrew") or female ("Andrea"), who was described as being in his or her 20s, single, and currently employed full-time (target images were pretested to be of average attractiveness among a separate group of individuals from the

study population; see appendix 2). The screen also displayed the target's response to "one randomly selected question," which served as our manipulation of MPC (i.e., "Imagine that you've won $1,000 in a raffle. How much of this money would you spend, and how much would you save?"). We manipulated the target's response, randomly assigning participants to either the Low MPC condition ("I think I'd spend about $250 pretty quickly and save the rest") or the High MPC condition ("I think I'd spend about $750 pretty quickly and save the rest").

After viewing the target's profile, participants were asked to consider the target as a potential romantic partner for themselves and indicate their agreement with four statements using 1-7 scales, where 1 = *strongly disagree* and 7 = *strongly agree*: "I would really like this person as a romantic partner," "I would be interested in going on a date with this person," "This person and I would probably have a real connection," and "This person and I would be very compatible as romantic partners" (adapted from Eastwick, Finkel, and Eagly 2011). We averaged responses to these four statements to form a romantic Attractiveness index ($\alpha = .95$).

Next, to ensure that participants viewed targets with a low MPC as savers and targets with a high MPC as spenders, we asked participants whether they viewed the target as more of a spender or a saver. Specifically, we asked, "In terms of money habits, how would you describe the person you read about?" Participants responded on a 1-7 scale, where 1 = *definitely a spender* and 7 = *definitely a saver*.

Finally, we collected demographic information including participants' relationship status (i.e., partnered or not) and individual income level. These two measures did not interact with the target's MPC to influence romantic attraction (ps $\geq .35$) nor influence key results in any of the

presented experiments.[2] We also asked participants to recall how much of the raffle winnings the target planned to spend (e.g., $750 of the $1,000). Six participants answered the attention check incorrectly and were eliminated from analyses (though in this and all subsequent experiments, the results do not change substantively if we include participants who answered the check incorrectly). Thus, the final sample consisted of 94 participants.

Results and Discussion

Consistent with hypothesis 1A, targets with a low MPC were rated as significantly more romantically attractive than targets with a high MPC ($M = 5.10$, $SD = 1.17$ vs. $M = 3.75$, $SD = 1.80$; $t(92) = 4.30$, $p < .001$, $d = .90$). Because the target in both conditions began by focusing on how much s/he would spend, we needed to verify that targets with a low MPC were still viewed as savers. Indeed, targets with a low MPC were viewed as savers to a significantly greater extent than were targets with a high MPC ($M = 5.57$, $SD = .86$ vs. $M = 2.13$, $SD = 1.10$; $t(92) = 16.81$, $p < .001$, $d = 3.51$). Note that the low MPC mean was significantly above the scale midpoint ($t(47) = 12.34$, $p < .001$) and the high MPC mean was significantly below ($t(47) = 11.77$, $p < .001$). This result gives us greater confidence in our conceptualization of savers versus spenders.

Overall, we find that being viewed as a saver is more likely to increase one's romantic appeal than being viewed as a spender. Experiment 2B explores this phenomenon further using different expressions of financial habits.

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[2] We conducted similar analyses featuring participants' own relationship status and income level in subsequent experiments. Because these variables did not have significant effects on our analyses of interest, we elected not to pursue them in the present paper. Our central focus is on perceptions of others, but future research might explore intrapersonal qualities of the perceiver (note that we do examine the effect of participants' own boredom susceptibility in experiment 6, but additional moderators warrant study).

EXPERIMENT 2B: DOES SAVING INCREASE ROMANTIC APPEAL OR DOES SPENDING DECREASE ROMANTIC APPEAL?

Experiment 2B extends experiment 2A in two ways. First, we include a control condition in which the target did not describe his or her spending habits, to assess whether saving enhances romantic appeal, whether spending decreases it, or whether both are true. Second, we explore a variety of different ways of characterizing one's saving versus spending habits (e.g., "I love saving money" vs. "I hate spending money"), which are likely more natural in everyday conversation than descriptions of how one would treat a windfall (as utilized in experiment 2A).

Participants and Procedure

We recruited 282 adults aged 18-30 ($M_{age} = 24$; 35% female) via MTurk. In this experiment, we presented all participants with an opposite-sex dating profile. Participants viewed the same basic profile as in experiment 2A, with the same target (Andrew or Andrea), but here the "randomly selected question" for the target was "How would you describe your feelings toward spending money?" We manipulated how the target answered this question, randomly assigning participants to one of nine conditions. In four Saving conditions, the target responded "I guess people would say I'm a big saver," "I love saving money," "I hate spending money," or "I have a hard time getting myself to spend money." In four Spending conditions, the target responded "I guess people would say I'm a big spender," "I love spending money," "I hate saving money," or "I have a hard time getting myself to save money." In a ninth (Control) condition, the target did not describe his or her spending habits, instead stating "I'm not sure how

I would describe my spending habits." Participants evaluated the target on the same four-item romantic Attractiveness index used in experiment 2A ($\alpha = .94$).

The experiment concluded with demographic questions and an attention check asking participants to recall the spending habits of the target. Eighteen participants (6% of the sample) answered the attention check incorrectly and were eliminated from analyses. Thus, the final sample consisted of 264 participants.

Results and Discussion

We began by examining the influence of spending habits on perceived attractiveness. An ANOVA revealed significant differences in attractiveness across the nine conditions ($F(8, 255) = 2.56$, $p = .01$, $\eta_p^2 = .07$; see figure 1). We then conducted a series of planned contrasts between each opposing pair of descriptions (e.g., "I love saving money" vs. "I love spending money"). Regardless of how spending habits were described, savers were generally viewed as more attractive than spenders. The one exception to this preference is the directional but nonsignificant difference between "I have a hard time getting myself to spend money" ($M = 3.99$, $SD = 1.68$) and "I have a hard time getting myself to save money" ($M = 3.79$, $SD = 1.50$; $t(255) < 1$). Presumably, "having a hard time" spending or saving may be too ambiguous a signal about one's typical spending habits; indeed, those descriptions may better reflect tightwad versus spendthrift tendencies (Rick et al. 2008) than pure saving versus spending tendencies. However, supporting hypothesis 1A, when the four saving conditions were averaged together and contrasted against the four spending conditions, we found that savers ($M = 4.29$, $SD = 1.64$) were viewed as significantly more attractive than spenders ($M = 3.48$, $SD = 1.54$; $t(255) = 3.95$, $p < .001$, $d =$

.51). Also, savers were generally more attractive than the Control target, and the Control target was generally more attractive than spenders (see figure 1), suggesting that saving increases attractiveness, whereas spending decreases attractiveness.

EXPERIMENT 3A: WHY ARE SAVERS VIEWED AS MORE ATTRACTIVE?

Experiment 3A examined the underlying process driving the romantic preference for savers. We hypothesize that savers are preferred because of their greater *perceived* self-regulatory resources (hypothesis 2A). Although some people may enjoy saving money and find it effortless, observers may assume that savers actively control impulses to spend, and thus are also capable of exerting self-control in other (non-financial) domains. This perception may increase the romantic appeal of savers. High self-control in a potential mate enhances relationship quality in a number of ways (e.g., by discouraging cheating and hurtful comments; Tangney et al. 2004), and to the extent that observers anticipate these benefits, they may desire savers on the basis of their perceived self-control.

Of course, alternative explanations are plausible. For example, to the extent that spenders are viewed as routinely buying material goods, they may be viewed as more materialistic and extrinsically motivated than savers, which may reduce their interpersonal appeal (Van Boven, Campbell, and Gilovich 2010). Although we anticipate that perceptions of materialism are less central to evaluations of romantic appeal than perceptions of self-control, we also examined the viability of the materialism account in experiment 3A.

Participants and Procedure

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Students from a large Midwestern university (N = 128; M_{age} = 20; 70% female) participated in exchange for a small payment. We initially asked participants whether they were more attracted to men or women. We then presented participants with a dating profile featuring a target matching participants' preferred sex. We manipulated whether the potential mate described themselves as a saver or a spender. In this and all subsequent experiments in which targets describe their spending habits, the target's response in the saving condition was "Hmm…I guess people would say I'm a big saver," and the target's response in the spending condition was "Hmm…I guess people would say I'm a big spender." Participants evaluated the target on the four-item romantic Attractiveness index used previously (α = .95).

To examine the potential mediating roles of perceived self-control and perceived materialism, we then administered two sets of questions in a counterbalanced order. In one set of questions, participants assessed the general self-control of the target by rating the likelihood that the target *is good at resisting temptation*, *is reliable*, *engages in healthy practices*, *eats healthy foods*, and *is able to work effectively toward long-term goals*. These five items are a subset of the full Self-Control scale developed by Tangney et al. (2004). Likelihood ratings were made on 1-7 scales (1 = *very unlikely* and 7 = *very likely*), and responses were averaged to form a General Self-Control index (α = .87). In the other set of questions, participants assessed the target's materialistic values by rating the likelihood that the target *admires people who own expensive homes, cars, and clothes*, *likes to own things that impress people*, *enjoys spending money on things that aren't practical*, *likes a lot of luxury in his/her life*, and *would be happier if s/he owned nicer things*. These five items are a subset of the full Material Values scale developed by Richins and Dawson (1992). Likelihood ratings were made on 1-7 scales (1 = *very unlikely* and 7 = *very likely*), and responses were averaged to form a Materialism index (α = .95).

The experiment concluded with basic demographic questions and an attention check asking participants to recall the spending habits of the target. Five participants who responded incorrectly were excluded, resulting in a final sample size of 123.

Results and Discussion

As before, savers were viewed as significantly more romantically attractive than spenders ($M = 3.93$, $SD = 1.48$ vs. $M = 2.73$, $SD = 1.24$; $t(121) = 4.88$, $p < .001$, $d = .89$).

We next ran two mediation models to separately assess the roles of General Self-Control and Materialism in driving the effect of spending habits on attractiveness (model 4, Hayes 2013). First, we examined the potential mediating role of General Self-Control. The target's spending habits were contrast coded (saver = +.5, spender = -.5). As noted above, savers were viewed as significantly more romantically attractive than spenders ($p < .001$). Savers ($M = 5.08$, $SD = .80$) were also perceived as possessing significantly greater General Self-Control than spenders ($M = 3.60$, $SD = 1.03$; B = 1.48, $t(121) = 8.87$, $p < .001$). When we regressed Attractiveness on both General Self-Control and the target's spending habits, we found a significant positive effect of General Self-Control (B = .55, $t(120) = 4.37$, $p < .001$), but the effect of the target's spending habits was reduced to nonsignificance (B = .39, $t(120) = 1.32$, $p = .19$). Further, the indirect effect of the target's spending habits on Attractiveness through General Self-Control was significant (B = .81; 95% CI: .43, 1.24), indicative of mediation and supporting hypothesis 2A.

Second, we examined the potential mediating role of Materialism. Savers ($M = 2.62$, $SD = .95$) were perceived as significantly lower in Materialism than spenders ($M = 5.77$, $SD = .80$; B = -3.15, $t(121) = 19.89$, $p < .001$). However, when we regressed Attractiveness on both

Materialism and the target's spending habits, the effect of Materialism was reduced to nonsignificance (B = .04, $t(120) < 1$), and the effect of the target's spending habits remained significant (B = 1.33, $t(120) = 2.60$, $p = .01$). The indirect effect of the target's spending habits on Attractiveness through Materialism was also not significant (B = -.13; 95% CI: -1.06, .81). Thus, while savers are naturally viewed as less materialistic than spenders, this difference in perceived materialism cannot explain why savers are viewed as more romantically attractive than spenders. Rather, the current results suggest that perceptions of general self-control drive the romantic preference for savers.

EXPERIMENT 3B: THE POTENTIAL ROLE OF FINANCIAL VIABILITY

Another potential alternative explanation for the greater appeal of savers is that savers are expected to possess greater financial resources. Although perceived financial resources are typically not top-of-mind when people consider their ideal romantic partner (Fletcher et al. 1999), experiment 3B assessed the potential mediating role of perceived financial resources, and examined whether it was a stronger mediator than perceptions of general self-control.

Participants and Procedure

We recruited 101 adults aged 18-30 ($M_{age} = 25$; 34% female) via MTurk. We initially asked participants whether they were more attracted to men or women. We then presented participants with a dating profile featuring a target matching participants' preferred sex. The

target described themselves as a saver or a spender. Participants then evaluated the target on the four-item romantic Attractiveness index used previously ($\alpha = .95$).

We then administered two sets of questions in a counterbalanced order. In one set of questions, participants were asked to consider the target's financial situation 10 years from now. We examined expected financial viability because many savers in their 20s may not yet have had a chance to accumulate large amounts of savings; financial differences between chronic savers and chronic spenders are more likely to reveal themselves over time. Specifically, participants assessed the target's expected financial status by rating the extent to which s/he would be *financially stable*, *financially secure*, *financially comfortable*, *financially well-off*, and *financially solid* in 10 years. Ratings were made on 1-7 scales (1 = *not at all* and 7 = *very much*) and responses were averaged to form an Anticipated Financial Viability index ($\alpha = .97$). The other set of questions was the same five-item General Self-Control index used in experiment 3A ($\alpha = .89$).

The experiment concluded with demographic questions and an attention check asking participants to recall the spending habits of the target. Four participants who responded incorrectly were excluded, resulting in a final sample size of 97.

Results

As in prior experiments, savers were viewed as significantly more romantically attractive than spenders ($M = 4.62$, $SD = 1.67$ vs. $M = 3.69$, $SD = 1.66$; $t(95) = 2.76$, $p < .01$, $d = .57$).

Because there is some conceptual overlap between our potential mediators (Anticipated Financial Viability and General Self-Control), we first conducted a confirmatory factor analysis to ensure that judgments of targets' Anticipated Financial Viability and General Self-Control

captured distinct, independent constructs. The analysis revealed substantially better fit for a two-factor model than for a one-factor model ($\Delta\chi^2 = 146.3$, $p < .001$). Thus, judgments of Anticipated Financial Viability and General Self-Control reflected distinct constructs.

We next ran two mediation models to assess whether Anticipated Financial Viability and General Self-Control would independently mediate the effect of spending habits on attractiveness (model 4, Hayes 2013). First, we examined the mediating role of Anticipated Financial Viability. Savers ($M = 5.91$, $SD = .90$) were perceived as having significantly greater Anticipated Financial Viability than spenders ($M = 3.66$, $SD = 1.53$; B = 2.24, $t(95) = 8.72$, $p < .001$). Once we controlled for the positive effect of Anticipated Financial Viability on attraction (B = .42, $t(94) = 3.30$, $p = .001$), the effect of spending habits on attraction was reduced to nonsignificance (B = -.02, $t(94) < 1$). Further, the indirect effect of spending habits on attraction through Anticipated Financial Viability was significant (B = .95; 95% CI: .36, 1.62), indicating mediation. Thus, Anticipated Financial Viability is desirable in and of itself, and when analyzed in isolation, can explain why savers are viewed as more attractive than spenders.

Second, we examined the mediating role of General Self-Control. Savers ($M = 5.54$, $SD = .83$) were perceived as having significantly greater General Self-Control than spenders ($M = 3.87$, $SD = 1.24$; B = 1.67, $t(95) = 7.76$, $p < .001$). Once we controlled for the positive effect of General Self-Control on attraction (B = .81, $t(94) = 5.80$, $p < .001$), the effect of spending habits on attraction was reduced to nonsignificance (B = -.42, $t(94) = 1.11$, $p = .27$). Further, the indirect effect of spending habits on attraction through General Self-Control was significant (B = 1.35; 95% CI: .86, 1.96), indicating mediation, as in experiment 3A.

Given that both Anticipated Financial Viability and General Self-Control independently mediated the effect of spending habits on attractiveness, we next examined whether one

construct was relatively more influential in driving the preference for savers over spenders. We specified a mediation model with Anticipated Financial Viability and General Self-Control operating in parallel (see figure 2). When both mediators were entered simultaneously, the effect of spending habits on attractiveness was nonsignificant (B = -.49, $t(93) = 1.20$, $p = .23$), and only General Self-Control continued to predict attractiveness (B = .76, $t(93) = 4.52$, $p < .001$). Anticipated Financial Viability no longer predicted attractiveness (B = .07, $t(95) < 1$), suggesting that General Self-Control was the primary factor driving the preference for savers (indirect effect: B = 1.27; 95% CI: .74, 1.94) and supporting hypothesis 2B.

The previous model specified Anticipated Financial Viability and General Self-Control as operating simultaneously. However, one could argue that serial mediation is possible if Anticipated Financial Viability is perceived as an outcome of General Self-Control. Presumably, having greater restraint today may be viewed as leading to future wealth, which is ultimately what is desirable in a mate. To address this possibility, we ran one more mediation model with General Self-Control predicting Anticipated Financial Viability, which then predicted romantic attraction (model 6, Hayes 2013). While General Self-Control is positively related to Anticipated Financial Viability (B = .67, $t(94) = 6.57$, $p < .001$), the results show that Anticipated Financial Viability does not predict attractiveness (B = .07, $t(93) < 1$). Thus, the overall serial mediation model was not significant (indirect effect: B = .07; 95% CI: -.27, .44). Instead, perceptions of General Self-Control continue to mediate the effect of spending habits on attraction (indirect effect: B = 1.42; 95% CI: .80, 2.14), above and beyond these alternative pathways.

Discussion

Experiment 3B suggests that saving signals both the likelihood of future financial resources and the possession of general self-control, and both contribute to the preference for savers over spenders. However, supporting hypothesis 2B, the possession of general self-control appears to be the primary reason why savers are preferred over spenders. While there are likely some situations in which savers are desired primarily because of their perceived financial resources (e.g., when people are feeling financially deprived), experiment 3B suggests that the primary underlying mechanism favoring savers over spenders is perceptions of self-control.

One possible limitation of experiment 3B is that self-control was measured in the present but financial viability was expected for the future. To address this concern, we conducted a follow-up experiment. The procedure was identical to experiment 3B, except we measured perceptions of *current*, rather than *future*, financial resources (i.e., the extent to which the target is currently *financially stable*, *financially secure*, *financially comfortable*, *financially well-off*, and *financially solid*; $\alpha = .95$). Ninety-six adults (age range: 18-30, $M_{age} = 23$; 44% female) recruited via MTurk participated. Both perceptions of general self-control and current financial viability independently mediated the influence of the target's spending habits on romantic attraction. However, when we specified a mediation model with current financial viability and general self-control operating in parallel, general self-control continued to predict romantic attraction (B = .65, $t(92) = 3.83$, $p < .001$), but current financial viability did not (B = .16, $t(92) = 1.12$, $p = .27$). In this model, the indirect effect of spending habits on romantic attraction by general self-control perceptions was significant (B = 1.21; 95% CI: .47, 2.02). Again, a serial mediation model where general self-control predicts current financial viability (which ultimately predicts romantic attraction) was not significant (indirect effect: B = .21; 95% CI: -.18, .64).

Taken together, these results suggest that perceived general self-control is a stronger mediator than either perceived current financial viability or perceived future financial viability.

EXPERIMENT 4: ARE SAVERS VIEWED AS MORE *PHYSICALLY* ATTRACTIVE?

A novel implication of our proposed underlying mechanism (perceptions of general self-control) is that savers should be viewed as more physically attractive than spenders. If savers are presumably higher in general self-control, they should be expected to take better care of themselves as well (e.g., adhering to a balanced diet and exercising regularly). To the extent that health and physical fitness increase physical attractiveness (Grammer et al. 2003), savers may also be expected to be more physically attractive. Thus, when physical attractiveness is at least somewhat ambiguous, observers may expect savers to be more physically attractive and view them through that biased lens. On average, then, people should be perceived as more physically attractive when they are viewed as savers versus spenders (hypothesis 1B).

An alternative explanation for such a pattern could be that savers benefit from a positive halo effect. In other words, savers might be perceived as not only more physically attractive than spenders, but as superior on a variety of other desirable dimensions (e.g., viewed as more fun, humorous, intelligent, etc.). Our prior results already suggest that savers are viewed as more romantically attractive, higher in general self-control, higher in perceived financial resources, and lower in materialism (a generally undesirable trait). However, one positive domain in which savers should not clearly excel is the extent to which they are perceived as exciting. By definition, self-control is a force that favors prudence over fun. Thus, if savers simply benefit from a far-reaching halo effect, they should be viewed as more physically attractive and more

exciting than spenders. However, if savers specifically benefit from heightened perceptions of self-control, they should be viewed as more physically attractive than spenders, but less exciting.

Participants and Procedure

We recruited 198 adults aged 18-25 (M_{age} = 22; 37% female) via MTurk. We initially asked participants whether they were more attracted to men or women. We then presented participants with a dating profile featuring a target matching participants' preferred sex. The target described themselves as a saver or a spender. As before, the dating profile included one of the two headshots from appendix 2. To measure perceptions of physical appeal, participants rated the extent to which they found the target *physically attractive*, *sexually appealing*, *good looking*, *sexy/hot*, and *gorgeous* on 1-7 scales, where 1 = *not at all* and 7 = *very much* (adapted from Eastwick et al. 2011). We averaged responses to these five items to form a Physical Attractiveness index (α = .97).

Note that, despite the presence of a headshot, there is still arguably some ambiguity about the target's physical attractiveness. For example, it is unclear whether this is a particularly complimentary or dated picture of the target; often, people use their most flattering photo in their dating profile, whether it accurately depicts current reality or not (Hancock and Toma 2009). Also, given that these are headshots, it is unclear what the target looks like from the neck down.

Next, we measured how exciting the target was perceived to be. We utilized a broad set of measures; specifically, participants indicated the extent to which they viewed the target as *adventurous*, *careful* (reverse-scored), *cautious* (reverse-scored), *confident*, *exciting*, *fun*, *outgoing*, *practical* (reverse-scored), *responsible* (reverse-scored), *risk-taking*, and *timid*

(reverse-scored) on 0-10 scales, where 0 = *doesn't describe at all* and 10 = *describes very well*.

Subsequent factor analysis of these items revealed two factors, with only five (*adventurous*,

confident, *exciting*, *fun*, and *outgoing*) loading solely on an Excitement factor. Thus, we averaged

these five items to form an Excitement index ($\alpha = .92$).

The experiment concluded with demographic questions and an attention check to ensure

that participants could accurately recall the target's spending habits. Seven participants who

responded incorrectly were excluded, resulting in a final sample size of 191.

Results and Discussion

Consistent with hypothesis 1B, savers were viewed as significantly more physically

attractive than spenders ($M = 4.95$, $SD = 1.32$ vs. $M = 4.42$, $SD = 1.65$; $t(189) = 2.46$, $p < .05$, $d =$

.36). Recall that actual evidence of physical attraction (i.e., the target's headshot) was held

constant across conditions, suggesting that the saver versus spender distinction biased

perceptions of physical appeal.

We next examined whether savers were perceived as less exciting than spenders

(presumably due to higher self-control) or whether savers were perceived as more exciting (due

to a positive halo effect). We found that savers were viewed as significantly less exciting than

spenders ($M = 5.55$, $SD = 1.78$ vs. $M = 6.68$, $SD = 1.72$; $t(189) = 4.46$, $p < .001$, $d = .65$). Given

that the attributes comprising the Excitement index (i.e., *adventurous*, *confident*, *exciting*, *fun*,

and *outgoing*) are generally viewed positively (in a separate pretest of 60 adults, each of these

five attributes was significantly more likely to be rated as desirable in a romantic partner than as

undesirable; ps $< .001$), this mean difference provides some evidence against a halo effect interpretation for the physical attraction finding.

To provide further support for the mediating role of general self-control perceptions (and to replicate the physical attraction finding), we conducted a follow-up experiment with 100 adults recruited via MTurk (age range: 18-25, $M_{age} = 22$; 30% female). Targets indicated that they were a saver or a spender as before, and participants rated the target's perceived physical attractiveness using the same five-item scale from experiment 4 ($\alpha = .93$). We then measured the target's perceived general self-control using six items (e.g., the extent to which they are expected to "plan tasks carefully," $\alpha = .88$). As in experiment 4, savers were viewed as significantly more physically attractive than spenders ($M = 4.71$, $SD = 1.63$ vs. $M = 4.00$, $SD = 1.49$; $t(98) = 2.27$, $p < .05$, $d = .46$). However, when we regressed physical attractiveness on general self-control and the target's spending habits, we found a positive effect of general self-control (B $= .66$, $t(97) = 4.27$, $p < .001$), but no effect of the target's spending habits (B $= -.38$, $t(97) < 1$). Further, the indirect effect of the target's spending habits on physical attractiveness through general self-control was significant (B $= 1.09$; 95% CI: .56, 1.72), indicative of mediation. Thus, this follow-up experiment suggests that perceptions of general self-control also underlie the effect of spending habits on perceived physical attractiveness.

We have thus far demonstrated a robust preference for savers over spenders, but it is worth considering boundary conditions. Mates high in general self-control likely possess a number of attractive attributes, but choosing such a mate may require sacrificing stimulation. Self-control is likely viewed as a force that normally favors prudence over fun, and this perceived excitement-deficit could prove costly. The extent to which people value an exciting romantic partner is likely to depend on situational circumstances (e.g., anticipated relationship

seriousness; Fletcher et al. 2004) and the extent to which individuals themselves are chronically (in)tolerant of boredom. In particular, the high levels of self-control inferred from saving behavior may reduce the relative appeal of savers when potential mates crave excitement. Formally, we hypothesize:

> **H3:** Factors that increase the need for stimulation or reduce the tolerance for boredom will reduce the romantic appeal of savers.

We next aim to collect converging evidence for hypothesis 3 by examining the moderating roles of anticipated relationship seriousness (experiment 5) and individuals' (chronic) boredom susceptibility (experiment 6).

EXPERIMENT 5: THE MODERATING ROLE OF RELATIONSHIP SERIOUSNESS

In experiment 5, we examined whether savers are more attractive than spenders across a variety of relationship contexts. In particular, we examined attractiveness in the context of a non-serious romantic fling, a somewhat serious dating relationship, and a serious enduring relationship. We anticipated that savers would be preferred to spenders across any type of serious relationship due to the desirable benefits of general self-control. However, the prospect of a romantic fling tends to heighten attention to both physical attractiveness and excitement (or "vitality"; Fletcher et al. 2004). Given that savers have a significant but modest advantage over spenders in terms of perceived physical attractiveness, but are perceived as much less exciting than spenders (experiment 4), we predicted that the romantic fling context would reduce the relative appeal of savers over spenders (hypothesis 3).

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Participants and Procedure

Two hundred adults (age range: 18-28, M_{age} = 22; 46% female) recruited via MTurk completed the experiment in exchange for a small payment. The experiment followed a 2 (Target's Spending Habits: Saver vs. Spender) × 3 (Relationship Seriousness: Non-Serious vs. Somewhat Serious vs. Serious) between-subjects design. We initially asked participants whether they were more attracted to men or women, and then presented them with a target matching their preferred sex. The target described themselves as a saver or a spender.

Participants considered the target for one of three types of relationships (descriptions were adapted from Buss and Schmitt 1993; Sundie et al. 2011) before evaluating the target on a 1-7 scale, where 1 = *not at all attractive* and 7 = *very attractive*. Participants randomly assigned to the Non-Serious condition were asked to "consider this person as someone you might have a 'romantic fling' with. That is, consider this person as someone you might have casual sex with, perhaps for one evening. How attractive would Andrew (Andrea) be as a romantic fling partner for you, yourself?" Participants in the Somewhat Serious condition were asked to "consider this person as someone you might date for a while. That is, consider this person as someone you might date for a few months and introduce to some of your friends. It is not at all clear whether this relationship will turn into something permanent. How attractive would Andrew (Andrea) be as a dating partner for you, yourself?" Lastly, participants in the Serious condition were asked to "consider this person as someone you might form a serious romantic relationship with. That is, consider this person as someone you might date for a few years, and possibly marry and have a family with. How attractive would Andrew (Andrea) be as a serious romantic partner for you, yourself?"

The experiment concluded with overall impressions of the target (i.e., five semantic differential items like *negative/positive* and *bad/good*, measured on 7-point scales; α = .97),[3] demographic questions, and an attention check requiring participants to recall the target's answer to the money question. Fourteen participants (7% of the sample) who responded incorrectly were excluded, resulting in a final sample size of 186.

Results and Discussion

The results of a 2 (Target's Spending Habits) × 3 (Relationship Seriousness) ANOVA revealed a significant interaction ($F(2, 180) = 4.12$, $p < .05$, $\eta_p^2 = .04$; see figure 3). Consistent with our reasoning, planned contrasts revealed that savers were viewed as significantly more attractive than spenders in the context of a serious relationship ($M = 5.09$, $SD = 1.79$ vs. $M = 3.68$, $SD = 1.81$; $t(180) = 3.56$, $p < .001$, $d = .79$). We also found that savers were viewed as significantly more attractive than spenders in the context of a somewhat serious relationship ($M = 4.93$, $SD = 1.51$ vs. $M = 3.68$, $SD = 1.59$; $t(180) = 2.88$, $p < .01$, $d = .82$). However, in the context of a non-serious relationship, savers and spenders did not significantly differ in their appeal ($M = 4.35$, $SD = 1.52$ vs. $M = 4.52$, $SD = 1.67$; $t(180) < 1$).

Although one could argue that participants do not give much consideration to non-serious romantic partners in general (hence the null effect for this relationship frame), inattentiveness cannot explain the lack of differentiation between savers and spenders in terms of attractiveness. Specifically, participants did differentiate between savers and spenders in their attitudinal evaluations. A 2 × 3 ANOVA revealed only a significant main effect of target's spending habits

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[3] One of the reasons we included global impressions in this experiment was because the dependent variable was a single attraction item, rather than the four-item romantic Attractiveness index used previously.

$(F(2, 180) = 44.68, p < .001, \eta_p^2 = .20)$. Holding relationship seriousness constant, overall impressions of savers were significantly more favorable than impressions of spenders ($M = 5.55$, $SD = 1.29$ vs. $M = 4.14$, $SD = 1.52$). Thus, participants were paying attention to the individual targets, giving us greater confidence that the saver versus spender distinction is driving the effect rather than disinterest in casual sexual relationships.

These results suggest that savers are broadly but not universally appealing. In relationships that are anticipated to be at least somewhat serious, savers were viewed as significantly more appealing than spenders. However, the prospect of a non-serious romantic fling eliminated the preference for savers over spenders, presumably because savers are viewed as much less exciting than spenders.

EXPERIMENT 6: THE MODERATING ROLE OF BOREDOM SUSCEPTIBILITY

In our final experiment, we examined whether observers' chronic boredom susceptibility moderates the influence of a target's spending habits on romantic attraction. Prior research suggests that individuals chronically differ in their susceptibility to boredom (Zuckerman 1979, 1994), which is characterized as "an aversion for repetitive experience of any kind, routine work, or dull and boring people" (Zuckerman 1979, 103). It is related to, but distinct from, other components of generalized sensation seeking (Zuckerman 1994), such as thrill and adventure seeking (involvement in physically risky activities like mountain climbing or sky diving), experience seeking (a desire to engage in novel, unconventional experiences like exploring unfamiliar cities), and disinhibition (interest in social drinking, sexual activities, and partying).

It is possible that constantly exerting self-control and avoiding temptation may lead to (or at least be expected to lead to) a boring, uneventful life. After all, savers are perceived as significantly less exciting than spenders (experiment 4). Therefore, we predicted that people who are chronically high in boredom susceptibility (and find boredom particularly aversive) would show less of a romantic preference for savers over spenders (hypothesis 3).

Participants and Procedure

We recruited 120 adults aged 18-30 (M_{age} = 25; 34% female) via MTurk. The experiment consisted of one between-subjects factor (Target's Spending Habits: Saver vs. Spender) and one measured factor (Chronic Boredom Susceptibility). Participants were randomly assigned to view the dating profile of an opposite-sex target who described themselves as either a saver or a spender. Participants evaluated the target on the four-item romantic Attractiveness index used previously (α = .95). Following about two minutes of unrelated tasks, participants completed a 10-item Boredom Susceptibility scale (BSS; Zuckerman 1979), which consists of dichotomous items assessing the extent to which individuals dislike repetitive experiences and dull people (e.g., respondents either endorse the statement "I have no patience with dull or boring persons" or the statement "I find something interesting in almost every person I talk with"; KR-20 coefficient for scales with dichotomous items: .62). This was the only individual difference scale administered in the experiment.

The experiment concluded with demographic questions and an attention check to ensure that participants could recall the spending habits of the target. Three participants who responded incorrectly were excluded, resulting in a final sample size of 117.

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Results and Discussion

We regressed Attractiveness ratings on spending habits (saver = +.5, spender = -.5), BSS scores, and a spending habits × BSS interaction term. Replicating previous experiments, there was a significant main effect of spending habits (B = 1.46, $t(113)$ = 5.05, p < .001, d = .88): savers (M = 4.72, SD = 1.67) were viewed as significantly more attractive than spenders (M = 3.29, SD = 1.58). BSS scores did not predict mate attractiveness (B = -.10, $t(113)$ = 1.43, p = .16). However, the main effect of the target's spending habits on attractiveness was qualified by a significant interaction between the target's spending habits and participants' BSS scores (B = -.45, $t(113)$ = 3.26, p < .01; see figure 4). To probe the interaction, we used a series of planned simple slopes tests. Following Aiken and West (1991), we examined the relationship between spending habits and attractiveness at two levels of BSS: low (one SD below the mean) and high (one SD above the mean). At low levels of BSS, there was a significant romantic preference for savers over spenders (B = 2.43, $t(113)$ = 5.95, p < .001). However, at high levels of BSS, there was no significant difference in the romantic appeal of savers and spenders (B = .53, $t(113)$ = 1.27, p = .21). Thus, consistent with hypothesis 3, the natural romantic preference for savers is attenuated among people who are especially susceptible to boredom.

Experiment 6 suggests that people who chronically have little tolerance for boredom do not show a preference for savers over spenders, presumably because a relationship with a saver is more likely to produce boredom. However, it is possible that an omitted variable (an unmeasured individual difference correlated with boredom susceptibility) is driving the decreased desire for savers. To obtain converging evidence, we conducted a follow-up experiment with 80 undergraduates (54% female). Participants were asked to imagine that it was Friday afternoon

and either "you're happy to be finishing up an incredibly boring week at work. In general, you like your job, but you found this week's tasks to be especially mundane, dull, and uninteresting" (Boredom condition) or "you're happy to be finishing up your work. In general, you like your job" (Control condition). Participants were then asked to imagine going on a blind date that evening, and to indicate whether they would like their blind date to be a spender or a saver (1-11 scale, where 1 = *a big spender*, 6 = *no preference*, and 11= *a big saver*). Because it was a blind date, we did not provide images of target individuals. Omitting pictures also addressed a possible concern with the stimulus images used in previous experiments (see appendix 2). Conceptually replicating experiment 6, Boredom participants expressed less of a preference for savers than did Control participants (*M* = 4.45, *SD* = 1.91 vs. *M* = 6.65, *SD* = 1.89; *t*(78) = 5.18, *p* < .001, *d* = 1.17). Thus, consistent with hypothesis 3, experiment 6 and the follow-up experiment suggest that boredom reduces the romantic appeal of savers.

Taken together, experiments 5 and 6 suggest that the most common preference in romantic contexts is for a safe and comfortable partner (favoring savers), but traits and states that reduce one's tolerance for boredom reduce the natural appeal of savers. Strikingly, though, neither of the contexts we examined revealed a significant preference for spenders over savers. Factors that reduce the tolerance for boredom may not lead people to devalue the other positive features of savers (e.g., greater perceived physical attractiveness). Thus, the romantic appeal of savers is diminished when people are less tolerant of boredom, but not completely eliminated.

GENERAL DISCUSSION

Consumer research has made great strides toward understanding how social motivations influence consumption behavior (e.g., Dunn, Aknin, and Norton 2008; Gorlin and Dhar 2012; Griskevicius et al. 2007; Mead et al. 2011; Simpson, Griskevicius, and Rothman 2012). However, far less is known about how consumption behavior influences the formation of social relationships. Some prior work suggests that a single episode of lavish spending by men may be more effective at attracting women than a single episode of conservative spending (Sundie et al. 2011, study 4). Yet, we find a robust preference for savers over spenders (i.e., individuals who have a relatively low MPC vs. high MPC, respectively) both in terms of romantic attraction and physical attraction (experiments 1, 2A, 2B, and 4). Perceptions of general self-control underlie the preference for savers over spenders, above and beyond inferences about materialism and financial viability (experiments 3A and 3B). High general self-control is not always a desirable attribute in a potential partner, however, and we find that dispositional and contextual factors that increase the desire for stimulation reduce the preference for savers (experiments 5 and 6).

In general, the robust preference for savers over spenders was not moderated by participants' gender. In most experiments (1, 3B, 4, 5, and 6), there was no significant interaction between participants' gender and the target's spending habits (ps > .10; see table 1). In the other experiments (2A, 2B, and 3A), there was a significant interaction ($p < .05$) between participants' gender and the target's spending habits, but the nature of this interaction differed across experiments. In experiment 2A, female participants were especially sensitive to the saver/spender distinction (showing an especially strong preference for savers). By contrast, in experiments 2B and 3A, male participants were especially sensitive to the saver/spender distinction (showing an especially strong preference for savers). Thus, taken together, there is no clear pattern of moderation by participant gender. Overall, savers are favorably perceived, regardless of gender.

Our work contributes to the broader literature on self-control. Prior research has suggested that self-control in the spending and saving domain is distinct from general self-control (e.g., Haws et al. 2012), but we find that self-control in the spending and saving domain is interpreted by observers as a signal of general self-control. Our results suggest that self-control is generally (though not universally) desirable in romantic partners, and in particular that self-control itself is more desirable than a monetary consequence of self-control (financial viability). We also find that perceptions of general self-control favorably bias perceptions of physical attractiveness.

It is worth considering whether and how our results can be reconciled with those of Sundie et al. (2011, study 4), who found that women viewed men who recently purchased a new Porsche Boxster as more attractive dating partners than men who recently purchased a new Honda Civic. Our perspective suggests that the car-buying target may have always been viewed as a spender. In both conditions, the recent purchase of a new car is the only information provided that could have been diagnostic of one's saving versus spending habits. However, the target may have been viewed as more financially viable when purchasing the relatively expensive Porsche than when purchasing the relatively inexpensive Honda. Thus, when viewed from this perspective, Sundie et al.'s study 4 finding is essentially that women found financially viable spenders to be more attractive dating partners than less financially viable spenders. This finding neither contradicts nor bolsters our perspective, which focuses on the differences between spenders and savers. It is also worth highlighting that while Sundie et al.'s study 4 design may appear similar to our experiment 2A design (where the target either planned to spend a large or small proportion of a windfall), note that available financial resources (i.e., the size of the windfall) was held constant in experiment 2A. By contrast, the target who purchased the Porsche in Sundie et al. was likely assumed to possess greater financial resources than the target who purchased the Honda.

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Limitations and Future Directions

      Our work examines the influence of spending habits on initial attraction, but future

research could examine whether spending habits predict actual relationship formation (e.g., by

examining whether savers are more coveted at speed dating events). If savers are more desirable,

they may be able to be more selective and thus secure more attractive partners. We used carefully

controlled experiments to ensure internal validity and establish causality, but correlational

evidence on relationship formation would also be valuable.

      We have proposed that participants draw inferences from a target' self-reported spending

habits which, in turn, influence attraction toward the target. Arguably, this inferential process is

only relevant outside the lab if people can spontaneously distinguish between savers and

spenders. To address this possibility, we examined the detectability of real-life savers versus

spenders in an incentive-compatible study in which participants evaluated themselves and then

one another, without communicating (see appendix 3). The results revealed a significant, positive

relationship between individuals' self-reported habits and observers' averaged ratings ($r(136) =$

$.32, p < .001$; cf. Vazire et al. 2008), suggesting a high degree of accuracy. As we graded

participants' guesses of each other, we asked them to list some cues they utilized when

evaluating others' financial habits. The most common responses to this open-ended question

included visible material goods (e.g., clothing, jewelry, hats), appearance (e.g., hairstyles, make-

up usage), and outward demeanor (e.g., posture, facial expressions). Although beyond the scope

of the current paper, future research might explore the process of inferring financial habits (e.g.,

compare the cues observers actually utilize when judging others' saving versus spending habits

and the cues observers *should* utilize when judging others; Brunswik 1956). Our theoretical

account suggests that attributes that signal high general self-control may also signal saving tendencies. For instance, when we presented a separate sample of 102 adults with Person A who "rarely exercises" and Person B who "exercises regularly," and asked them to guess which person is more likely to be a saver, 78% guessed Person B ($p < .001$, sign test). By contrast, attributes that suggest a lack of general self-control (e.g., obesity, tattoos) may signal chronic spending.

Future work could also examine whether one's own spending versus saving tendencies moderate the romantic appeal of savers (note that we did not find support for this possibility in experiment 1, but this could have been due to low variance in a forced choice question). To the extent that savers enjoy saving and spenders enjoy spending, one would expect the typical positive assortment pattern (i.e., savers seeking savers and spenders seeking spenders; Watson et al. 2004). Previous research on parallel self-control decisions (i.e., when a temptation is faced simultaneously by multiple people but each person makes an independent choice) supports this notion. Specifically, individuals express greater affiliation toward someone when they both indulge or abstain together versus situations where one person indulges and the other abstains (Lowe and Haws 2014). The implication is that two spenders may bond over partnering in crime (i.e., "let's splurge!"), whereas two savers may bond over moral support (i.e., "at least we won't feel guilty"). Of particular relevance to savers, recent work also indicates that individuals with high self-control actively position themselves around others who promote self-regulation (vanDellen et al. 2015). Although existing literature suggests that people may be drawn to others with similar financial habits, there is reason to believe that both savers and spenders prefer savers as romantic partners. Spenders, who personally find saving difficult, may be the most likely to view savers as possessing high self-control and hold them in especially high regard. The demographics of our samples provide additional evidence against positive assortment. In

experiment 1 and the detectability study, the population was essentially 50% savers and 50%

spenders. If people are attracted to similar others, we would not have observed a robust preference

for savers across experiments 1-6. Although our current data do not support an assortative mating

explanation, a more nuanced analysis of individuals' own financial habits would be insightful.

Given that money is a common source of conflict in romantic relationships, future work

should examine how partners' spending and saving tendencies contribute to relationship quality

(both in terms of happiness and financial outcomes). If savers actually have greater general self-

control than spenders, people are likely to be more financially secure and happier when their

partner is a saver (cf. Vohs et al. 2011). However, people who are in a romantic relationship with

a saver may relax in their own pursuit of financial goals, "outsourcing" financial discipline to

their more responsible partner (Fitzsimons and Finkel 2011). One must be cautious when

outsourcing goal achievement, as recent research suggests that overreliance on high self-control

partners has negative interpersonal consequences. Compared to those with relatively low self-

control, high self-control partners report being relied upon more, which predicts greater feelings

of fatigue and subsequent dissatisfaction (Koval et al. 2015, study 6). Assuming savers actually

possess high self-control, maintaining a relationship with a saver might require a certain degree of

self-sufficiency and extra vigilance of his or her needs as a way of ensuring continued happiness.

In addition to the inferences examined here, spending habits might convey information

about other important attributes, such as general intelligence or generosity, which are arguably

byproducts of one's level of general self-control (e.g., behaving generously might require

suppressing the urge to be selfish; cf. Skitka et al. 2002). Given the breadth of possible inferences,

there is reason to believe that spending habits could influence the formation of many types of

relationships beyond the romantic realm (e.g., friends and business partners; cf. Scott, Mende, and

Bolton 2013). As noted earlier, we focused on the role of spending and saving within the context of romantic relationships because prior research on spending and relationships had focused primarily on romantic contexts (e.g., Griskevicius et al. 2007; Sundie et al. 2011; Wang and Griskevicius 2014), and because spending and saving behavior is more likely to play a role in romantic relationships than in non-romantic relationships.

More broadly, our results may have implications for advertisers. Commercials often feature brand users who chronically spend (e.g., Acura RLX's widely panned "Luxury, Luxury" commercial) or who chronically save (e.g., ING's Orange Money commercials). Our results raise the possibility that commercials that feature spenders may literally "turn off" some consumers, whereas commercials that feature savers may produce unexpected (positive) feelings among viewers. Whether the attractiveness of featured brand users spills over to influence feelings toward the brand is an important open question for future research.

Conclusion

Saving conveys myriad financial benefits and behavioral researchers have accordingly devoted a great deal of effort to designing interventions that improve saving rates (e.g., Soman and Zhao 2011). Our work reveals that saving not only conveys financial benefits, but also interpersonal benefits—savers are viewed as possessing greater general self-control, which increases both their romantic and physical attractiveness. Of course, general self-control is not always desired in a prospective mate: dispositional and situational forces that increase the need for stimulation attenuate the relative preference for savers over spenders. Thus, savers may win in the mating market, but only when potential mates do not crave excitement.

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CHAPTER III

Managing Debt and Managing Each Other:

The Interpersonal Dynamics of Shared Financial Decisions

Although a completely debt-free life is not necessarily ideal (e.g., a mortgage with favorable terms can be a good investment) or practical (e.g., having to finance higher education through student loans), minimizing debt is an important goal for many consumers. Carrying debt comes with obvious financial costs: credit card debt, for example, is financed at an average annual percentage interest rate (APR) of 13% (Federal Reserve 2014). In addition to direct costs, credit card debt is associated with diminished psychological well-being (Brown, Taylor, and Price 2005) and diminished health (e.g., higher diastolic blood pressure; Sweet et al. 2013). A credit report filled with debt can also have a number of negative interpersonal consequences, such as a reduced ability to impress prospective employers (Rivlin 2013) or prospective mates (as illustrated by websites such as CreditScoreDating.com; Silver-Greenberg 2012). Within ongoing romantic relationships, debt is a common source of arguments and reduced relationship satisfaction (Dew 2007, 2008, 2011).

Given these significant implications, several recent studies have sought to understand how individuals make debt repayment decisions (e.g., Amar et al. 2011; Besharat, Varki, and Craig 2015; Brown and Lahey 2014; Gal and McShane 2012; Hershfield and Roese 2015; Kettle et al. 2015; Navarro-Martinez et al. 2011; Stewart 2009). Note that the focus of this work extends beyond earlier consumer decisions regarding credit acquisition and usage—rather than

investigate how consumers get into debt, this work focuses on how they get out of debt. As such, these papers have considered various contextual factors surrounding debt repayment, including topics ranging from minimum payment size and informational disclosure to motivational effects. However, many of life's largest debts are *jointly* held and, to some extent, jointly managed (e.g., mortgages, car loans). Couples are also more likely than individuals to hold multiple debts (Fay 2015). Thus, it is important to understand whether and why repayment biases observed at the individual-level generalize to the couple-level.

One costly bias previously identified at the individual-level is *debt account aversion* (DAA). Specifically, when indebted consumers must choose between paying off a small debt and chipping away at a larger debt with a larger interest rate, they tend to pay off the small debt (Amar et al. 2011). For example, imagine an individual who has an extra $2,000 at the end of the month. S/he is deciding whether to pay off a student loan (e.g., an account with a $2,000 balance and interest rate of 2.5%) or make an extra car payment (e.g., an account with a $20,000 balance and interest rate of 5%). Prior research on DAA suggests that this individual will choose to close out the (smaller in magnitude) student loan instead of reducing the (higher APR) car loan. A number of psychological factors appear to contribute to this tendency, including the temptation of pursuing goals nearest completion and the pleasure of eliminating an obligation. Often, getting out of debt completely is a complex task, so people might be inclined to break down the task into a series of smaller, more manageable steps (cf. Newell and Simon 1972). Previous work also indicates that motivation to achieve a goal increases as proximity to the goal increases (Kivetz, Urminsky, and Zheng 2006). Thus, indebted consumers who can only set aside a limited amount of money for debt repayment may be particularly tempted to allocate those dollars to the debt that is closest to the $0 goal, rather than a larger debt that cannot be paid off anytime soon.

Although DAA is financially suboptimal, there is some debate surrounding its potential benefits to consumers. Personal finance guru Dave Ramsey (2009) has most famously advocated the "debt snowball method" (focusing on closing small debts because they represent "quick wins" that help consumers "stay pumped enough to get out of debt completely"). Consistent with this "small wins" approach, individuals tend to complete an unpleasant, tedious task faster when its components are presented in order of ascending length (i.e., the subtasks are arranged from shortest to longest) rather than descending or equal length (Brown and Lahey 2014). Evidence from the field further supports the efficacy of the debt snowball method, at least for certain types of consumers. Gal and McShane (2012) examined nearly 6,000 consumers who had enrolled in a debt settlement program (due to difficulties they had paying off their debt). Enrollees made payments to a savings account devoted to debt repayment. The settlement company negotiated with creditors to reduce enrollees' balances, and used savings account payments to reduce debts. Remaining in the settlement program requires a sustained financial commitment from enrollees, and the key dependent measure was whether enrollees remained in the program over the course of the study. Gal and McShane (2012) found that the number of debts that were paid off completely was a better predictor of sticking with the program than total amount of debt repaid. For example, an enrollee was more likely to remain in the program if s/he saw two $1,000 debts paid off than if s/he saw a single $2,000 debt paid off. Of course, enrollees did not choose which debts to pay off, and thus it is unclear whether the same pattern would persist if enrollees were making the allocation decisions themselves. Prior work suggests that personally achieving subgoals (e.g., paying off a particular debt) might reduce the motivation to pursue an overarching goal (e.g., getting out of debt completely), particularly when the distance to that overarching goal is known with certainty (Amir and Ariely 2008). To the extent that one's total amount of debt is

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more or less known with certainty, this may be a situation in which achieving a subgoal promotes complacency.

Until now, prior research has only considered whether DAA exists and is beneficial for individual consumers. However, many debts are jointly held (e.g., shared credit cards, car loans, and mortgages), and in these cases, repayment decisions may invite input from all indebted parties. Interestingly, facing financial tasks together may be beneficial—a recent report from UBS Wealth Management Americas (2014) finds that couples are more confident and satisfied with their finances when they share responsibility. Neither men nor women prefer operating as the exclusive decision maker. Of course, these results are correlational and speak to psychological well-being rather than actual economic outcomes. And so the question remains: Do couples manage debt differently (for better or for worse) than individuals?

Unfortunately, there are reasons to be pessimistic about couples' ability to overcome DAA. The group dynamics literature indicates that groups tend to value conformity when faced with joint decisions, sometimes to the detriment of decision quality (Asch 1956; Janis 1972). Thus, partners may yield to each other's (potentially suboptimal) opinions in exchange for relational harmony. To encourage smooth interactions, couples may focus their discussion on attributes that are easier to understand (Hsee 1996) and attempt to reach agreement on how to manage those attributes. Because many people struggle to understand the accumulation of compound interest (e.g., McKenzie and Liersch 2011), couples may prefer discussing the number of debts instead of their respective interest rates. In addition, interpersonal deliberation among like-minded people can amplify existing preferences (Schkade, Sunstein, and Hastie 2007). Thus, if most people naturally prefer to focus on closing small debts (Amar et al. 2011), joint decision making may make this preference even more pronounced. The influence of a partner

can even manifest without verbal communication. Simply having another person present during a task can magnify dominant responses (i.e., social facilitation; Zajonc 1965), which, in our context, would be behavior consistent with DAA.

More recent research within consumer behavior echoes earlier work on group harmony. When married individuals differ in their level of general self-control, the spouse with lower self-control tends to exert greater influence on joint self-control decisions (Dzhogleva and Lamberton 2014). The authors propose that high self-control partners are more likely to set aside their individual preferences and accommodate to a low self-control partner, presumably in an effort to maintain interpersonal harmony. While these authors presented couples with a single hypothetical scenario about spending money (i.e., how much they were willing to charge on their credit card for a three-day vacation; study 2B), it is unclear what would happen if couples were presented with incentivized decisions. Rather than acquiesce to a less financially optimal partner, couples may be motivated to follow the lead of the more optimal partner. Thus, whether the accommodation process observed by Dzhogleva and Lamberton (2014) extends to couples making a series of incentivized financial decisions remains an open question.

Despite reasons for pessimism, there are arguably greater reasons for optimism surrounding couples' debt repayment decisions. The presence of another person means that preferred strategies must be explained and justified (Lerner and Tetlock 1999), and it might be difficult to justify paying off small debts on the grounds that it provides relief or happiness.[4] The

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[4] We explored whether individuals find it "fun" to pay off small debts in a pilot experiment. Specifically, we asked 186 adults (M_{age} = 35; 50% female) to imagine allocating a $100 tax rebate across two credit cards: 1) a Visa with a $1,000 balance and a 15% APR and 2) a MasterCard with a $100 balance and a 10% APR. We asked participants what they would actually do (actual intentions condition), what they rationally should do (financially optimal goal condition), or what they should do to maximize their happiness (hedonic goal condition). The key dependent variable was how much money they allocated to the low-balance, low APR account (MasterCard). We found that actual intentions (M = $48.87, SD = 47.71) were closer to hedonically driven intentions (M = $51.43, SD = 45.50; t(183) < 1) than financially driven intentions (M = $32.79, SD = 43.63; t(183) = 1.95, p = .05, d = .35). Thus, paying

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deliberation involved in justifying or questioning different repayment strategies might also increase the likelihood of understanding and implementing the financially optimal repayment strategy of focusing on high-interest debts (cf. Hastie 1986).

Working with others also boosts performance on tasks with easily "demonstrable" solutions (Hastie 1986). The debt management game we use in our experiments (to be described shortly) falls within this category because its design meets the following four conditions identified by Laughlin and Ellis (1986): (1) optimal decisions can be verified mathematically, (2) account sizes and interest rates provide enough information for optimal decisions to be made (i.e., no complex calculations are required, as basic logic is sufficient to recognize the optimal decision), (3) partners unable to reach optimal decisions on their own have enough information to accept a correct solution when proposed by their partner, and (4) the optimal partner has sufficient ability, time, and motivation to describe the optimal decision to the suboptimal partner. Thus, couples should perform better than individuals in the game because an optimal solution is present and can be readily communicated to partners.

Couples' financial decision making may also benefit from pre-existing knowledge of each other's strengths and weaknesses. If one partner has a comparative advantage in budgeting and investing (i.e., s/he is a relative "expert" in the financial domain), the couple will make more optimal decisions if they follow the lead of the financial expert rather than the non-expert. Interestingly, recent research indicates that couples tend to diverge in their financial expertise over time (Ward and Lynch 2015). As the financial expert in a relationship attends to, processes, and uses financial information over the years, the non-expert's financial literacy may actually stagnate or decline. This work is consistent with the notion of transactive memory within

off debt may be a fun experience—participants' actual and happiness-maximizing preferences both favored paying off the small debt, whereas rational preferences favored chipping away at the high-balance, high-APR debt.

relationships, whereby couples develop a shared system for information management such that each partner takes charge of only a portion of total information (Wegner 1986; Wegner, Erber, and Raymond 1991; Wegner, Giuliano, and Hertel 1985). These systems allow partners to effectively offload task responsibility to the partner with greater competence in a given domain. The presence of these systems within couples (vs. pairs of strangers, for example) should make it easier for them to discern who has greater financial expertise and allocate decision making responsibility accordingly. Thus, we predict that couples will be able to identify the partner with greater financial expertise and place greater weight on that partner's (presumably more optimal) debt repayment preferences.

EXPERIMENT 1: DO COUPLE MEMBERS MAKE MORE FINANCIALLY OPTIMAL DECISIONS TOGETHER OR APART?

To investigate couples' susceptibility to DAA, we randomly assigned members of romantic couples to complete a debt management game individually or as a couple. The key dependent variable was performance in an incentivized debt management game.

Participants and Procedure

We recruited 63 heterosexual couples through a paid subject pool. On average, couple members were 30 years old (age range 18-73) and reported being romantically involved with their current partner for about 6.5 years. We recruited couples who were at least cohabitating (i.e., living together, but not married) to ensure shared financial history. The vast majority of

couples met our inclusion criteria (60/63 were cohabitating, engaged, or married), but three

couples did report that they were dating and had never lived together. Our results do not

substantively change if we omit these three dating couples, so we elected to include them in our

sample. Each couple member completed the experiment in exchange for a $10 show-up fee plus

anything they earned during the experiment.

Overview of the debt management game. In the computerized game (Amar et al. 2011),

participants are initially saddled with six different debt accounts varying in size and interest rate

(see table 2). Critically, larger debts tend to have larger interest rates, meaning that participants

must stay focused on the larger debts to perform well. The game lasts 25 rounds corresponding

to 25 "years." Participants receive an annual (per-round) salary of $5,000 and three surprise

"bonuses" (i.e., $20,000 in Round 6, $15,000 in Round 12, and $40,000 in Round 19) that they

must use to repay one or more of the open debt accounts. Participants were told that they must

use the entire amount of cash available (i.e., their salary and bonuses) to pay down debt because

there were no saving or spending opportunities. Participants repay debts by typing in the amount

they want to allocate to each debt and then approving it. After participants approve their

decision, the program presents the updated balances (i.e., principal plus accrued interest) and a

graph displays the past and current standing of each debt account.

The goal of the game is to end the game with the lowest amount of debt possible. A

financially optimal player, who allocates all available resources to the open debt account with the

highest interest rate, will end the game with three open debt accounts totaling $29,428 (see figure

5). A debt account-averse player, who allocates all available resources toward the smallest open

debt account, will end the game with one open debt account totaling $47,861 (see figure 6).

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Couples had the opportunity to earn additional money, beyond the $10 show-up fee, based upon game performance. Specifically, each partner could earn $12 if their total debt was less than $30,000, $8 if their total debt was between $30,001 and $35,000, $4 if their total debt was between $35,001 and $40,000, and $0 if their total debt was greater than $40,000. These amounts were per individual couple member, so a couple playing the game together could earn up to $24 between the two of them.

After couples received instructions for the game and asked any questions, they were randomly assigned by session to complete the game individually (N = 21 couples) or together (N = 42 couples). Thus, the design resulted in 42 data points per condition. Participants in the Individual condition completed the game individually at private computer workstations. They were asked not to communicate with their partner or other participants during the experiment. Participants in the Couple condition completed the game with their romantic partner at one private computer workstation. They were encouraged to communicate with each other during the experiment, as they would be making decisions as a pair. Following the game, couple members in the Couple condition returned to individual workstations where everyone proceeded to answer questions about their experience individually.

Dependent variable measures. In an individual follow-up survey, couple members indicated the degree to which they found the debt management game *complex*, *difficult*, *easy* (reverse-scored), *enjoyable*, *entertaining*, *frustrating*, *fun*, and *interesting* on 0-10 scales, where 0 = *not at all* and 10 = *very much*. We included these measures to ensure that couples had similar experiences with the game itself, regardless of experimental condition. Subsequent factor analysis of these items revealed two factors. We averaged four items to form an Enjoyment index

(*enjoyable*, *entertaining*, *fun*, and *interesting*; α = .93) and the other four items to form a

Difficulty index (*complex*, *difficult*, *easy* (reverse-scored), and *frustrating*; α = .84).

To examine whether partners with a better understanding of consumer finance wielded

greater influence during the game, we measured participants' Financial Confidence (FC;

Fernandes, Lynch, and Netemeyer 2014)[5] at the end of the experiment. Each partner evaluated

how characteristic five statements were of themselves (e.g., "I know the right questions to ask

when making financial investment decisions" and "I have the skills required to make sound

financial investments"; α = .91) on a 1-5 scale, where 1 = *extremely uncharacteristic* and 5 =

extremely characteristic.

Naturally, FC (a subjective measure of knowledge) is significantly correlated with

objective measures of Financial Literacy (FL; $r \approx .30$; Fernandes et al. 2014). We chose to

measure FC as a proxy for expertise rather than FL for a few different reasons. First, measures of

objective knowledge are necessarily constrained by the questions being asked. Individuals

possess private information about their objective knowledge or skill that a scale may not

incorporate into its evaluation. Confidence, therefore, may be a more all-encompassing,

metacognitive indicator of actual financial acumen (cf. Hadar, Sood, and Fox 2013). Second, FC

is likely to be more observable within couples than raw literacy. Partners may view each other's

FC as a signal of actual financial competence (e.g., Anderson et al. 2012; Fiske et al. 2002; Price

and Stone 2004). Indeed, prior research has found that groups tend to follow the lead of their

most confident members, regardless of actual accuracy (Zarnoth and Sniezek 1997). This pattern

is particularly strong for intellective questions (e.g., math problems) versus judgmental questions

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[5] This measure goes by two different names in Fernandes et al. (2014): "Consumer Confidence Investing" and "Consumer Confidence in Financial Information Search." For simplicity, we refer to this measure as Financial Confidence.

(e.g., opinions, forecasts) because a correct solution is present in the former and can be readily communicated to partners (Laughlin 1980; Laughlin and Ellis 1986). The debt game is intellective in nature, thus we expect FC to be a strong predictor of social influence within couples. Third, beyond its signaling value, FC is likely to be strongly related to actual financial decision making competence. Research by Parker et al. (2012) has examined whether individuals' confidence is related to the outcomes of self-reported and actual financial decisions. Across four studies with a national sample, the authors found that even after controlling for actual knowledge, greater confidence predicts (self-reported) planning for retirement and successfully minimizing fees on a hypothetical investment task. Specific to our purposes, prior work has also found that FC and perceived FL are more strongly related to measures of debt management than objective FL (e.g., paying off credit card balances in full and how banks and other financial institutions would rate one's credit; Allgood and Walstad 2013; Fernandes et al. 2014). Thus, we believe that FC is a close, appropriate proxy for objective financial knowledge (though we return to the distinction between FC and FL in a follow-up survey).

After completing these post-game measures, couple members received payment (i.e., their show-up fee plus any earned incentive during the debt management game), were debriefed, and thanked for their time.

Results and Discussion

Couples concluded the game with significantly less debt than couple members working independently ($M = \$34,711$, $SD = \$5,554$ vs. $M = \$37,951$, $SD = \$6,146$; $t(82) = 2.54$, $p = .01$, d

= .56).[6] Couples were also significantly less likely than individual couple members to completely pay off the four smallest debts (Debts 1-4) by the end of the game (21% vs. 43%; χ^2 (1) = 4.42, p < .05). Staying focused on the two largest debts (Debts 5 and 6) is a sign of financial optimality (see figure 5); thus, these results indicate that couple members are *less* susceptible to DAA when working together. Note that any differences in game performance cannot be attributed to differences in overall task enjoyment or difficulty (ts(124) < 1). Couple members who worked together or independently evaluated their experiences similarly.

The multi-round nature of our data also allows us to examine how players' strategies change over time. Couple members working together might be expected to show some form of turn-taking (Corfman and Lehman 1987), whereby couples try out one partner's preferred strategy in one round, the other partner's preferred strategy in the next round, and so on. To the extent that partners prefer somewhat different strategies, a turn-taking strategy should produce greater variance in couples' strategies over time (relative to the variance in individuals' strategies over time). However, if couples follow the lead of the member with greater financial expertise (or at least greater confidence in his or her expertise), we would not expect couples to display greater variance in their strategies over time.

Examining how strategies change over time is somewhat complicated by the fact that the game itself changes over time. For example, a purely debt account-averse player would pay off small debts early and then start chipping away at larger, high-interest debts later (see figure 6). This is not because the purely debt account-averse player changed strategies, but rather because there were no more small debts to pay off. To address this limitation, we focused on payments

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[6] Note that individuals' performance here closely matched individuals' performance in prior, comparable conditions (e.g., individuals concluded the debt management game with $38,371 in total debt in the "No-Saving" condition of Amar et al.'s study 1).

toward the highest APR debt (Debt 6) across the first ten rounds. A financially optimal player would allocate all available cash to Debt 6 in the first ten rounds, and then use some of his or her available cash in Round 11 to pay off this debt. A purely debt account-averse player would not allocate any money to Debt 6 during the first ten rounds. Thus, behavior toward Debt 6 across the first ten rounds provides an opportunity to examine how strategies change over time, since the debt will be present for all players during those rounds, regardless of their strategy.

We examined how early repayments toward Debt 6 predicted the Round 10 repayment toward Debt 6. Specifically, for each condition, we computed nine correlations: the correlation between Round 1 repayments to Debt 6 and Round 10 repayments to Debt 6; the correlation between Round 2 repayments to Debt 6 and Round 10 repayments to Debt 6; and so on. Consistent with the notion that couples are following a leader, rather than taking turns, the variance among couples' correlations is significantly smaller than the variance among individuals' correlations (.01 vs. .06; $F(1, 16) = 7.10$, $p < .05$; see figure 7, panel A). Although there is clearly some exploration of different strategies in both conditions, couples appear to engage in less strategy-switching over time.

The role of financial confidence (FC) in debt game performance. The preceding round-by-round analysis is suggestive of a leadership role being taken by one member of the couple, but the relative stability of couples could conceivably be driven by other processes (e.g., compromising; cf. Gorlin and Dhar 2012). To gain more insight into couple members' relative influence in the debt management game, we turn to an analysis of the role of financial confidence. Mean FC scores did not differ by condition ($t(124) = 1.45$, $p = .15$).

To assess partners' relative influence in the game, we focused our analysis only on couples who completed the game together (N = 42). We took raw FC scores and designated the person with a higher FC score as the high expertise partner within the couple and the person with the lower FC score as the low expertise partner. In two separate regressions predicting final total debt, both the high expertise partner's FC score (B = -3,947, $t(40)$ = 4.31, $p < .001$) and the low expertise partner's FC score (B = -2,974, $t(40)$ = 3.73, $p = .001$) were significant, independent predictors of joint performance. However, if couples' decision making benefits from following the lead of the financial expert within the relationship, we should observe the relative expert having greater influence on repayment decisions than the non-expert. The results from a multiple regression were consistent with this reasoning. When we regressed final total debt on both partners' FC scores, we found a significant effect of the high expertise partner (B = -2,826, $t(39)$ = 2.37, $p < .05$), but the effect of the low expertise partner was reduced to nonsignificance (B = -1,436, $t(39)$ = 1.44, $p = .16$). Although the correlation between partners' FC scores is high, ($r(40)$ = .65, $p < .001$), multicollinearity is not cause for concern. The variance inflation factor (VIF; how much the variance of an estimated regression coefficient is "inflated" relative to a model where the predictor variables are uncorrelated) for this multiple regression is 1.74, and only values of 5-10 are problematic (cf. O'Brien 2007).

Next, we examined whether couples relied upon the high expertise partner early on in the game, or if his or her influence became evident only after several rounds. When we regressed total debt after five rounds on both partners' FC scores, we find a significant effect of the high expertise partner (B = -216.58, $t(39)$ = 3.33, $p < .01$), but not the low expertise partner (B = -38.65, $t(39) < 1$). Thus, the influence of the high expertise partner emerged early in the game, providing additional support for a "follow the leader" explanation.

Follow-up survey conducted 10 months later. Thus far, we have demonstrated that couples make more optimal decisions together than individual couple members do alone. Two people working together effectively rely on the preferences of the high expertise partner (Zarnoth and Sniezek 1997). Of course, reverse-causality is a concern because we measured subjective FC after the debt game. It is possible that the person who had greater influence on debt repayment decisions gained greater confidence as the game progressed. To alleviate this concern, we sent an online, follow-up survey to all 63 couples 10 months after they completed the debt game in the lab (time 1). Seventy individuals responded (35 couples, all of whom indicated they were still together in a relationship), yielding a response rate of 56% (time 2). Eleven of the 35 couples completed the debt management game individually at time 1, while the remaining 24 couples completed the game together as a pair. To ensure that the "participating" couples were comparable to the "nonparticipating" couples, we compared their pre-screening measures (taken before the lab session at time 1 to confirm eligibility). Although participating couples were more likely to be married than nonparticipating couples ($p < .05$), we did not find any differences between the groups in partners' ages ($ps \geq .68$), general relationship happiness ($ps \geq .12$), or relationship duration ($p = .72$).

The key dependent variable contained in the follow-up survey was FC scores ($\alpha = .92$). Across the 70 individuals, the correlation between FC at time 1 and time 2 was significant ($r(68) = .70$, $p < .001$; the correlation remained strong among the 48 target individuals who completed the game with their partner, $r(46) = .66$, $p < .001$). These correlations indicate that time 1 results were not just informed by the game experience, as confidence appears to be stable over time.

Among the 24 couples who completed the game together, we also examined whether FC scores at time 2 continued to predict game performance at time 1. We designated the person with

a higher FC score at time 2 as the high expertise partner and the person with the lower FC score at time 2 as the low expertise partner. In two separate regressions predicting final total debt at time 1, both partners' FC scores at time 2 were significant predictors of joint performance (high FC: B = -3,554, $t(22) = 3.00$, $p < .01$; low FC: B = -2,322, $t(22) = 2.22$, $p < .05$). When the partners' FC scores were entered simultaneously into a multiple regression, the high FC partner's confidence predicts final total debt (B = -2,883, $t(21) = 1.97$, $p = .06$) but the low FC partner's confidence does not (B = -954, $t(21) < 1$). The VIF factor in this model was within an acceptable range at 1.50. Thus, the high expertise partner's score at time 2 is still marginally predictive of the couple's performance at time 1.

In addition to measuring FC scores at time 2, we measured financial literacy (FL) and general self-control. First, to examine whether "objective" financial knowledge is a stronger predictor of debt game performance than "subjective" knowledge, we included a 13-item measure of FL after the FC measures (Fernandes et al. 2014). Each question (e.g., "Normally, which asset described below displays the highest fluctuations over time?") has one correct answer (e.g., stocks). We summed the number of items each individual answered correctly to form his or her total score.

Consistent with prior research (Fernandes et al. 2014), FL was significantly correlated with FC scores at both time 1 ($r(68) = .28$, $p < .05$) and time 2 ($r(68) = .25$, $p < .05$). These positive values represent a certain "degree of metacognitive competence" (Parker et al. 2012, 387). As our focus is on understanding couples' decision making, we next tested the relative influence of each partner's objective and subjective financial expertise in predicting debt repayment decisions. Specifically, we ran three regression models using time 2 measures of FC and FL to predict final total debt at time 1 (see table 3). These analyses were conducted among

the 24 couples who were originally assigned to the Couple condition at time 1. We designated the person with the higher FC score as the high subjective expertise partner within the couple and the person with the lower FC score as the low subjective expertise partner. Likewise, the person with the higher FL score served as the high objective expertise partner and the person with the lower FL score served as the low objective expertise partner. The results revealed that while the high FC partner drives joint decision making (model 1), FL measures do not predict the couples' performance (model 2). When we regressed final total debt on all four measures of expertise, we found a significant effect only for the high FC partner (B = -3569, $t(19) = 2.51$, $p < .05$; model 3). These results speak to the predictive power of subjective financial knowledge over and above objective financial knowledge (Parker et al. 2012).

Lastly, one could argue that resisting the urge to close small debt accounts requires a certain degree of restraint. One prior study found that married couples tend to accommodate the preferences of the low self-control (vs. high self-control) partner when faced with a hypothetical financial decision (Dzhogleva and Lamberton 2014; study 2B). Our results thus far are inconsistent with a self-control explanation because our couples are following the lead of the higher (vs. lower) expertise partner. In any case, we addressed this possibility with a final set of analyses among the 24 couples assigned to the Couple condition at time 1. Each individual completed the 13-item Brief Self-Control measure (Tangney, Baumeister, and Boone 2004), which contains statements like "I am good at resisting temptation" and "People would say that I have iron self-discipline." Participants rated how well each item described themselves along 1-7 scales where 1 = *not at all* and 7 = *very much* ($\alpha = .85$). Within each couple, one partner was designated as the high self-control partner and the other was designated as the low self-control partner. Whether the partners' scores were assessed as independent or simultaneous predictors of

couples' final total debt, general self-control measures were not significant predictors of performance (all ps $\geq$ .11). A final analysis tested whether a tendency toward DAA is related to general self-control. Among individuals who completed the game independently, general self-control did not predict debt game performance ($r(20) = -.07$, $p = .77$). Taken together, these results do not support a self-control explanation for couples' debt repayment decisions.

Summary of results. The results of experiment 1 indicate that couples make more optimal debt repayment decisions when working together versus alone. Couples benefitted from placing greater weight on the preferences of the partner with greater financial expertise. The follow-up survey provides evidence against reverse-causality and highlights the advantages of measuring FC (a measure of subjective knowledge) over FL (objective knowledge). Specifically, final total debt at time 1 could be predicted by measures of FC but not by measures of FL (both of which were measured at time 2).

EXPERIMENT 2: DO ALL PAIRS BENEFIT FROM DELIBERATION?

Experiment 1 speaks to the power of established couples making financial decisions jointly versus individually. Yet, two possible explanations for this pattern of results exist. First, couples might benefit from identifying and empowering the partner with higher financial expertise. Second, couples may simply benefit from deliberation, which would facilitate deeper thought and consideration of repayment strategies. Experiment 2 examines these competing explanations by presenting the debt management game to pairs of strangers. Like couples, stranger-pairs should benefit from talking through repayment decisions (i.e., greater

deliberation). Without track records or a history of experiences, however, stranger-pairs may find it difficult to determine who has greater financial expertise. Having minimal information about one another could result in the less knowledgeable partner having too much influence over joint decisions. We examined these possibilities in the following experiment.

Participants and Procedure

Eighty-seven members of a paid subject pool (age range: 18-23, $M_{age} = 20$; 64% female) were recruited to participate in the experiment. Each participant received a $5 show-up fee plus anything they earned during the experiment. Specially, they could each earn up to $7.50 based upon game performance: they received $7.50 if their total debt was less than $30,000, $5 if their total debt was between $30,001 and $35,000, $2.50 if their total debt was between $35,001 and $40,000, and $0 if their total debt was greater than $40,000. These amounts were per individual, so two people playing the game together could earn up to $15 between the two of them.

Many of the procedures were identical to those used in experiment 1. After participants received instructions for the game and asked any questions, they were randomly assigned by session to complete the game individually (N = 47) or with a partner (N = 40). Participants in the Individual condition completed the game individually at private computer workstations. They were asked not to communicate with others during the experiment. Participants in the Stranger-Pair condition completed the game with a partner at one person's computer workstation. They were encouraged to communicate with each other during the experiment, as they would be making decisions as a pair. Following the game, participants in the Stranger-Pair condition returned to individual workstations where everyone proceeded to answer a few questions

(independently) about their experience during the game and demographic questions. Participants completed the Enjoyment index ($\alpha = .87$) and Difficulty index ($\alpha = .73$) used in experiment 1, which were measured using shorter 1-7 scales, where 1 = *not at all* and 7 = *very much*. Participants also completed the five-item FC index ($\alpha = .87$) to examine each partner's relative influence in predicting final total debt. Participants in the Stranger-Pair condition confirmed that they were previously unacquainted with their partner (this was true for all of them). After completing these follow-up measures, individuals received payment (i.e., their show-up fee plus any earned incentive), were debriefed, and thanked for their time.

Results and Discussion

Stranger-pairs concluded the game with significantly more debt than individuals ($M = \$39,701$, $SD = \$4,415$ vs. $M = \$37,134$, $SD = \$4,792$; $t(65) = 2.05$, $p < .05$, $d = .56$). (Note that individuals in experiment 2 performed comparably to individual couple members in experiment 1; $t(87) < 1$). Among the 20 stranger-pairs, we did not observe a difference in performance between the 9 mixed-sex pairs and 11 same-sex pairs ($p = .84$). Stranger-pairs were also significantly more likely than individuals to pay off the four smallest debts (Debts 1-4) by the end of the game (70% vs. 32%; $\chi^2 (1) = 8.29$, $p < .01$). Like experiment 1, differences in game performance cannot be explained by differences in task enjoyment or difficulty ($ts(84) \leq 1.00$, $ps \geq .32$). Unlike experiment 1, however, these results are conceptually consistent with prior work suggesting that deliberation makes individual biases more pronounced (Schkade et al. 2007).

In experiment 1, we found relatively greater variability in individual couple members' repayment behavior than couples' repayment behavior. Couples benefit from transactive memory

systems (e.g., Wegner 1986), such that they are able to identify who has greater financial expertise within the partnership and allocate decision making responsibility accordingly. However, strangers working together may have difficulty in identifying who has relevant expertise, resulting in a high degree of variability across rounds. We examined variability using a similar approach to that used in experiment 1: correlating repayment to Debt 6 in Rounds 1-9 with repayment to this account in Round 10. Levene's test indicated an equal amount of variance between stranger-pairs and individuals (.08 vs. .04; $F(1, 16) = 1.34$, $p = .26$; see figure 7, panel B). Thus, there was an equal amount of variation in both conditions. If we compare these results to those obtained in experiment 1, we see that individuals in both experiments had similar levels of variability (.06 vs. .04; $F(1, 16) < 1$), but that strangers-pairs had significantly more variation in their strategy than established couples (.08 vs. .01; $F(1, 16) = 9.96$, $p < .01$).

The role of financial confidence (FC) in debt game performance. We next examined the predictive power of FC scores, which did not differ by condition ($t(84) = 1.47$, $p = .15$). Similar to experiment 1, we focused only on the stranger-pairs ($N = 20$) to test each partner's relative influence on joint performance. The person with the higher FC score was designated as the high expertise partner and the person with the lower FC score was designated as the low expertise partner. In two separate regressions predicting final total debt, both the high expertise partner's FC score (B = -4,253, $t(18) = 2.73$, $p = .01$) and the low expertise partner's FC score (B = -3,357, $t(18) = 2.89$, $p = .01$) are significant, independent predictors of joint performance. When these two variables are entered simultaneously into a multiple regression, however, one partner does not have greater predictive power over the other (low expertise: B = -2,236, $t(17) = 1.60$, $p = .13$; high expertise: B = -2,544, $t(17) = 1.39$, $p = .18$). The VIF factor in this model was within

an acceptable range at 1.51. Thus, it appears that the high and low expertise individuals exert equal influence, which ultimately resulted in suboptimal performance.

One could argue that the high/low FC dynamics we observed in experiment 2 are different from those observed in experiment 1 because of smaller FC differences between partners. Not only are younger consumers less experienced with financial matters, they have had less time to develop clearly differentiated financial roles (cf. Ward and Lynch 2015). Among established couples, the more confident partner might be highly confident during interactions, while the less confident partner might be highly timid. Such gaps may be nonexistent among younger stranger-pairs whose partners may be relatively comparable in skill. To address this possibility, we compared partners' FC scores between the two experiments. The results reveal that the average FC score of the high expertise partner was significantly higher in experiment 1 than experiment 2 ($M = 3.72$, $SD = .79$ vs. $M = 3.05$, $SD = .56$; $t(60) = 3.41$, $p = .001$, $d = .94$). Likewise, the average FC score of the low expertise partner was significantly higher in experiment 1 than experiment 2 ($M = 2.85$, $SD = .95$ vs. $M = 2.18$, $SD = .74$; $t(60) = 2.77$, $p < .01$, $d = .76$). However, the mean discrepancy between the two partners was identical in the two experiments ($M = .88$, $SD = .74$ vs. $M = .87$, $SD = .62$; $t(60) < 1$). Although the older, established couples are generally more confident than the younger stranger-pairs (i.e., there are different absolute levels of confidence between experiments), divergence between partners cannot explain the differential influence in decision making. One final piece of evidence against this explanation lies in the comparison between individuals in each experiment. The correlation between FC scores and final total debt among participants working independently was similar in magnitude ($r_{Exp1} = -.48$ vs. $r_{Exp2} = -.41$; $z < 1$), suggesting that FC is operating in the same way.

Summary of results. Overall, the results of experiment 2 suggest that established couples do not benefit from deliberation alone. In contrast to couples who make more optimal debt repayment decisions together than apart (experiment 1), stranger-pairs make less optimal decisions together than apart. In order to minimize final total debt, pairs should follow the lead of the high expertise individual. The results from experiment 2 indicate that stranger-pairs are unable to effectively allocate financial decision making responsibility. Both partners influence joint decisions, but neither exerts stronger influence over the other. One reason this may be the case is because unacquainted partners have insufficient knowledge of each other's financial expertise. If strangers are unable to identify who has a deeper understanding of consumer finance, then they are unlikely to rely on the relative expert. In the next experiment, we provide stranger-pairs an opportunity to learn about each other's financial acumen before completing the debt management game. We predicted that stranger-pairs who are more accurate in their inferences of relative expertise should make more optimal repayment decisions as a team.

Although we recruited stranger-pairs in experiments 2 and 3, the ultimate goal of our research is to aid couples' decision making. On average, couples follow the lead of the higher expertise partner (experiment 1), but surely some couple members are more informed about each other's FC than others. Some couples may truly avoid discussing financial matters before or even after marriage, perhaps in anticipation of disagreements. Thus, our next experiment examines whether a simple discussion surrounding personal finance can improve partners' ability to evaluate each other's FC and ultimately nudge partners toward more optimal decision making.

EXPERIMENT 3: LEARNING ABOUT EACH OTHER'S FINANCIAL EXPERTISE

The results from experiment 2 indicate that interpersonal deliberation alone does not predict optimal debt repayment behavior. Arguably, established couples perform better because they can identify and empower the partner with stronger financial knowledge. Stranger-pairs may not be able to discern each other's relative expertise because they have had little to no previous, relevant interaction (i.e., opportunities for financial discussions). In experiment 3, we examined whether an initial discussion about money can help strangers identify the partner with higher expertise, and ultimately influence decision making.

As our focus is on helping couples, note that this design is analogous to the church recommendation (or requirement in some faiths) to engage in a premarital discussion about money before marriage. For example, the Catholic Church identifies finances as a "must-have conversation" (United States Conference of Catholic Bishops 2015).

Participants and Procedure

A total of 100 undergraduates (age range: 18-26, $M_{age} = 20$; 49% female) at a large Midwestern university participated in the experiment in exchange for course credit. Upon arriving to the lab, participants were told that researchers were interested in trivia knowledge. The researchers had ostensibly created a pool of questions for an upcoming event and needed to test a few of them out on local students. Participants were told that they would complete three different sets of questions before moving on to the next task. No feedback on accuracy was provided during the experiment, but they could elect to see their scores at the end of the session.

Participants were randomly assigned to one of two trivia conditions. Those in the Financial Familiarity condition (N = 50) first completed five University of Michigan trivia

questions independently, followed by five financial literacy questions independently (adapted

from Fernandes et al. 2014; see appendix 4). They were then paired with an unacquainted

stranger nearby for a final set of five financial literacy questions. They were encouraged to

discuss the questions with their partner before they each answered the items on their separate

computers. Participants who were assigned to the Control condition (N = 50) initially completed

all ten financial literacy questions on their own. They were then paired with an unacquainted

stranger nearby for a final set of five University of Michigan questions. Note that everyone was

exposed to the same questions (i.e., everyone was "mentally stimulated" to the same extent and

in the same way) and that all stranger-pairs had the opportunity to interact before the game.

Everyone then moved on to the debt management game. After receiving instructions, they

were told that they would be completing the game with their original trivia partner, i.e., the

person with whom they completed the first task. They were encouraged to communicate with

their partner during the experiment because all decisions would be made as a pair. The game was

incentive-compatible such that each partner could earn a bonus depending upon their joint

performance. Specifically, they each received $10 if their total debt was less than $30,000, $7.50

if their total debt was between $30,001 and $35,000, $5 if their total debt was between $35,001

and $40,000, and $0 if their total debt was greater than $40,000.

Following the game, participants returned to individual workstations where everyone

proceeded to answer a few questions independently. Participants completed the FC scale used

previously ($\alpha = .90$). They then assessed their partner's financial confidence. Specifically, we

reworded each of the five FC scale items so they referred to one's partner. For example, the FC

item "I am confident in my ability to recognize a good financial investment" became "My

partner is confident in his or her ability to recognize a good financial investment." This measure

of partners' perceived financial confidence (pFC) had good internal consistency ($\alpha = .90$).

After completing these follow-up measures and confirming they did not previously know

their partners, individuals received payment (i.e., their earned incentive), were debriefed, and

thanked for their time.

Results and Discussion

We focused our analyses on two central questions. First, did the Financial Familiarity

intervention improve participants' ability to perceive their partner's financial confidence?

Second, did a better understanding of each other's financial confidence improve performance in

the debt management game?

Understanding each other's financial confidence (FC). We created an FC Inaccuracy

index to capture how inaccurate participants were in their perceptions of their partner's financial

confidence. Specifically, the FC Inaccuracy index took the following form:

| Partner 1's FC – Partner 2's pFC | + | Partner 2's FC – Partner 1's pFC |

In other words, we (1) took the absolute value of the discrepancy between one partner's FC score

and how the other perceived him/her and (2) summed the two discrepancy scores together.

As predicted, stranger-pairs in the Financial Familiarity condition had significantly lower

inaccuracy scores than those in the Control condition ($M = 1.38$, $SD = .58$ vs. $M = 1.85$, $SD =$

1.03; $t(48) = 1.99$, $p = .05$, $d = .58$). In other words, having the opportunity to discuss finances

before the debt management game reduced inaccuracy in perceptions of each other's FC.

Predicting debt game performance from FC inaccuracy. To examine the influence of FC inaccuracy on debt game performance, we regressed final total debt on the Inaccuracy index. The results revealed a significant relationship such that greater inaccuracy predicted greater debt (B = 2708, $t(48) = 3.48$, $p = .001$). Note that the strength of this relationship did not differ by trivia condition ($z = .62$, $p = .54$).

We next tested whether inaccurate inferences about partners' FC mediated the relationship between financial familiarity and debt game performance (model 4 in Hayes 2013; see figure 8). As noted earlier, there was a significant main effect of trivia condition on inaccuracy (financial familiarity = +.5, control = -.5; B = -.47, $t(48) = 1.99$, $p = .05$). Strangers who discussed finances instead of University of Michigan trivia were less inaccurate in their perceptions and, in turn, reduced inaccuracy was associated with lower final total debt (B = 2706, $t(47) = 3.30$, $p < .01$). Further, the indirect effect of trivia condition on final total debt was significant (B = -1277; 95% CI: -3012, -134), providing evidence of mediation. Note that this is an indirect-only mediation, as the trivia manipulation did not significantly affect debt game performance (path *c*: B = -1292, $t(48) < 1$). This null effect is not problematic for our theorizing, however, as having a direct effect between the independent variable and dependent variable is not a necessary requirement for establishing mediation (Zhao, Lynch, and Chen 2010). Our results indicate that the trivia manipulation operated by enhancing partners' ability to detect each other's FC, which then enhanced the optimality of debt repayment decisions.

A possible alternative account for the relationship between FC Inaccuracy and total debt is that pairs with greater FC Inaccuracy are generally less competent. That is, perhaps partners that are less capable of perceiving each other's FC are generally less capable across domains. To address this possibility, we examined the correlations between inaccuracy and mean FC in the

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pairs ($r(48) = -.34$, $p < .05$), the pairs' mean performance on the first set of financial literacy questions ($r(48) = -.07$, $p = .64$), and the pairs' mean performance on the second set of financial literacy questions ($r(48) = -.10$, $p = .50$). These results indicate that inaccuracy is significantly related to the pairs' average level of FC (i.e., weaker confidence is related to greater inaccuracy), but unrelated to objective financial knowledge. When we entered the four variables (i.e., FC inaccuracy, mean FC within the pair, the first set of financial literacy questions, and the second set of financial literacy questions) into a multiple regression predicting final total debt, FC inaccuracy is the only significant predictor of performance ($B = 2222$, $t(45) = 2.79$, $p < .01$).

Lastly, it is worth noting that FC Inaccuracy is likely not capturing blame. Surely, after pairs perform poorly, there is some blame attributed to oneself and some blame attributed to one's partner. Those attributions would themselves be interesting to examine in this context (cf. Anand and Stern 1985). However, given that partners were assessing their own and their partner's financial *confidence*, rather than raw financial *skills*, it is unlikely that inflated FC Inaccuracy scores are driven by partners blaming each other for poor performance.

Summary of results. Couples are often encouraged to discuss money before getting married. The Catholic Church, for example, requires engaged couples to engage in these discussions shortly before their wedding (in "Pre-Cana" classes). Experiment 3 suggests that these discussions may be quite beneficial. We demonstrated that jointly answering financial quiz questions can help partners understand each other's financial confidence, which in turn helps them jointly navigate financial decisions. In fact, partners' ability to identify each other's financial confidence was more predictive of their debt management game performance than their mean levels of financial confidence and financial literacy.

GENERAL DISCUSSION

The average indebted American household owes $15,609 in credit card debt, $32,956 in student loans, and $156,706 on their mortgage (Chen 2015). Relatedly, the typical credit card holder has an average of 3.7 cards (Federal Reserve Bank of Boston 2011), a number that is above and beyond other non-revolving debts like student loans and mortgages. Thus, many families are juggling multiple debt accounts with different balances and interest rates. Consumers are also subjected to conflicting advice on how best to manage those debts. While some financial authors like Dave Ramsey (2009) advocate paying off the smallest accounts in ascending order (i.e., the snowball method), others like Suze Orman (2015) suggest paying off the highest interest rate accounts in descending order (i.e., the mathematically optimal method). These challenges are compounded when debt is jointly held, as repayment decisions often invite input from all indebted parties. Our research challenges the generalizability of debt management research conducted among individuals by examining how pairs of individuals—ranging from established couples to strangers—navigate these decisions.

Consumer research conducted among dyads has gained recent attention in the marketing literature (Gorlin and Dhar 2012; Simpson, Griskevicius, and Rothman 2012), emphasizing the importance of other people in shaping one's decision making. One domain where interpersonal influence is particularly relevant is consumer financial decision making (Lynch 2011). Couples face a myriad of financial decisions ranging from choosing mortgages, building an investment portfolio, saving for children's education or retirement, and managing debt accounts. Although some earlier work has considered couples' decision making, this research generally focuses on product evaluation and choice rather than financial decisions per se (e.g., Corfman and Lehmann

1987; Davis, Hoch, and Ragsdale 1986; Ferber and Lee 1974; Filiatrault and Ritchie 1980; Su, Fern, and Ye 2003). In contrast, the present research examines debt management using performance-based incentives, linking actual decisions to real monetary outcomes and featuring a clear normative benchmark for decision making. Offering this type of incentive structure is a better approximation to reality, as financial decisions often have real financial consequences.

In a series of three experiments, we find that deliberation can help dyads, but only in the context of an existing relationship. Romantic couples make more financially optimal decisions when working together than when working independently (experiment 1). Couples are less susceptible to DAA than individual couple members, presumably because they allow the high expertise partner to guide joint decisions. This influence occurs early on in the debt management game, which results in a less variable repayment strategy. The results from a follow-up survey yielded similar insights: the relatively high expertise partner's influence continued to predict joint performance 10 months later. Importantly, a subjective measure of financial expertise (i.e., FC scores; Fernandes et al. 2014) was a significant predictor of game performance, while an objective measure of FL was not. Rather than partners' different levels of general self-control driving performance (Dzhogleva and Lamberton 2014), established couples' decision making is driven by the ability to identify and empower the partner with greater financial expertise.

Unlike established couples, strangers lack transactive memory systems (Ward and Lynch 2015; Wegner 1986; Wegner et al. 1991; Wegner et al. 1985). The results show that stranger-pairs perform significantly worse than individuals because they are unable to effectively divide responsibility between themselves (experiment 2). We find that stranger-pairs do not follow the preferences of one partner any more than the other partner, which creates variability in repayment strategy. Fortunately, stranger-pairs are not doomed to experience suboptimal

outcomes in every context. Allowing partners to discuss finances before introducing the debt repayment task enhanced their ability to identify each other's expertise. The results from a mediation analysis indicated that greater accuracy in knowledge inferences was what ultimately improved performance.

When researching heterosexual couples, one must consider the potential role of gender dynamics in shaping decision outcomes. Gender is particularly relevant for financial decisions as previous research has found that females, on average, are generally less financially confident and knowledgeable than males (e.g., Chen and Volpe 2002; Fernandes et al. 2014). The results from experiment 1 are consistent with this gender pattern such that male individuals reported higher mean FC scores than female individuals ($M = 3.46$, $SD = .92$ vs. $M = 2.92$, $SD = 1.04$, $t(124) = 3.09$, $p < .01$, $d = .55$). Males in the follow-up survey also had significantly higher FL scores than females ($M = 10.71$, $SD = 1.30$ vs. $M = 8.60$, $SD = 3.17$, $t(68) = 3.65$, $p = .001$, $d = .88$). Given these mean differences, it is possible that female partners simply default to their male counterparts during financial decision making. One implication of a gender explanation is that heterosexual couples should perform no better than opposite-sex stranger-pairs. We do not find this to be the case: couples in experiment 1 ended the game with significantly lower debt than opposite-sex pairs in experiment 2 ($M = \$34,711$, $SD = \$5,554$ vs. $M = \$39,466$, $SD = \$4,329$; $t(49) = 2.41$, $p < .05$, $d = .90$) and marginally lower debt than opposite-sex pairs in experiment 3 ($M = \$36,793$, $SD = \$5,326$; $t(79) = 1.72$, $p = .09$, $d = .39$). Thus, it seems unlikely that gender effects alone can explain our results.

Limitations and Future Directions

Several open questions pertaining to dyadic consumer financial decision making remain. For instance, we find that lower expertise couple members benefit from working with higher expertise couple members in the moment. We do not yet know whether the lower expertise individuals *learn* to behave more optimally as a function of the interaction. According to social learning theory (Bandura 1977), people learn through observing, imitating, and modeling others' behaviors. If a low expertise partner witnesses his or her high expertise partner making optimal decisions, then the former may successfully replicate this strategy in a subsequent task. Unfortunately, learning new information does not always translate to new behaviors, as one must be sufficiently motivated to imitate the behavior being modeled (Bandura 1977). There may be little incentive for a low expertise partner to learn wise financial management if the couple (by default) relies upon the high expertise partner. Rather than developing shared expertise in the same domain, the couple may non/consciously designate one partner as the financial expert (Ward and Lynch 2015) and outsource all relevant responsibilities. Understanding when and why couples prefer to outsource responsibility is a matter warranting further study.

Future research might also consider the external validity of our experimental paradigm. Are couples efficiently managing and allocating debt repayment responsibilities outside of the lab? In our experiments, we find that high expertise couple members take more control during the debt management game, which predicts more optimal behavior. We may observe different dynamics outside of the lab where financial decisions happen in a less structured environment. It is possible that high expertise partners excel in other areas (e.g., earning potential), resulting in the low expertise partner managing day-to-day bills. If so, our experiments would be overstating the extent to which couples get these sorts of decisions "right."

Another consideration is that there is some negative affect associated with debt that couple members help to minimize. Juggling multiple debt accounts with different sizes and interest rates may be experienced as stressful, so having a partner with whom to share the burden may prove helpful. Future research might examine whether similar dynamics would be observed among couples facing less negative financial decisions than debt repayment (e.g., choosing among exotic vacation destinations). Moreover, different types of debt may elicit different emotions among payees. Allocating money toward paying down a neutral car loan is likely to be different than paying down a hedonic debt like designer clothing financed through credit cards.

Qualities about the couples themselves could also shape their decision making. Factors like previous relationship experiences, household income, education, and credit card usage could all feasibly have an impact. Our sample was relatively homogenous in terms of demographic variables. For instance, 71% reported having a minimum of a four-year Bachelor's degree and another 16% reported being currently enrolled in higher education. They also reported being significantly above average in terms of current socioeconomic status (e.g., they generally agreed with statements like "I don't worry too much about paying my bills"; Griskevicius et al. 2010). We may observe different patterns of results among couples with limited means, where it may be perfectly "rational" to focus on feeding their family rather than minimizing debt. Recent research indicates that experiencing financial strain taxes cognitive resources, leaving the poor less able to cope with life's demands, often resulting in poor financial decision making (e.g., pawning items, taking out more loans; Mani et al. 2013). Thus, lower-income couples may find it difficult to avoid DAA and other suboptimal financial biases. Understanding the unique circumstances facing couples (and how they contribute to financial decision making) will be critical for advancing consumer welfare.

Deliberations over how to handle debt often extend beyond couples (e.g., businesses, Congress). Thus, future research might consider whether or not the results generalize to other types of social interaction (i.e., interactions where "majority rules" and alliances are possible; Moreland 2010). As an initial step in this direction, we added sessions to experiment 2 where 25 groups of three previously unacquainted individuals completed the debt management game (age range: 18-23, M_{age} = 20.1; 78% female). Planned contrasts revealed that performance among groups was virtually identical to that among stranger-pairs. Specifically, groups ended the game with significantly more debt than individuals (M = \$39,498, SD = \$5,191 vs. M = \$37,134, SD = \$4,792; $t(89)$ = 1.98, p = .05, d = .49), but a similar amount of debt to stranger-pairs (M = \$39,498, SD = \$5,191 vs. M = \$39,701, SD = \$4,415; $t(89) < 1$). Groups' suboptimal performance appears to be driven by a tendency to pay off the four smallest debt accounts. Groups were significantly more likely than individuals to pay off the very smallest accounts (64% vs. 32%; $\chi^2 (1)$ = 6.85, p = .009) but just as likely as stranger-pairs (64% vs. 70%; $\chi^2 (1) < 1$). In sum, comparable results among stranger-pairs and groups suggest that deliberation outside of preexisting relationships may intensify DAA. Future work might investigate whether non-romantic pairs or groups of people with previous knowledge of each other (e.g., platonic friends, family members) exhibit similar, suboptimal behavior.

Conclusion

Our results contribute to a growing body of literature exploring the interplay between interpersonal relationships and decision making processes (Joel, MacDonald, and Plaks 2013; Gorlin and Dhar 2012; Simpson et al. 2012). Building upon prior research in debt management

(Amar et al. 2011), we examined whether and why common biases observed among individuals generalize to romantic couples. We find that couple members working together are less susceptible to DAA than couple members working on their own. Conversely, stranger-pairs performed significantly worse than individuals, highlighting the crucial role of inferred financial competence. While couples are able to assess each other's relative expertise, stranger-pairs lack information about each other's strengths and weaknesses. Completing a simple "warm-up" exercise improved unacquainted partners' ability to infer one another's competence, which ultimately led to more optimal debt management decisions. In sum, we would agree with the wisdom from many churches (e.g., Ashton 2006; Burkett 2002; United States Conference of Catholic Bishops 2015)—couples would do well by discussing finances openly and making decisions together.

CHAPTER IV

Discussion

This dissertation examines the bidirectional relationship between social influence and financial decisions. Decisions regarding mortgages, investments, credit cards, and auto loans very frequently happen in concert with close others. In two essays, I have demonstrated that financial decisions influence the development of relationships (Essay 1) and relationship dynamics influence financial decisions (Essay 2). Thus, my dissertation provides a more complete understanding of consumer financial decision making by applying an interpersonal lens to fundamental, consequential consumption behavior.

The end of each essay contains a discussion of theoretical contributions and future directions. That being said, I would like to reiterate a few key findings and why they are important. First, my work represents (to the best of my knowledge) the first empirical investigation to explicitly focus on the appeal of saving and resource conservation in romantic relationships (Essay 1). Conventional wisdom and previous research from an evolutionary perspective would argue that spending money is a successful means of attracting mates (e.g., Griskevicius et al. 2007; Sundie et al. 2011). This literature proposes that outward displays of wealth serve as "honest" signals that one has abundant resources and, thus, spenders should be viewed as more desirable than savers. Spending money is easy to detect (i.e., the signal is clearly visible) and conveys information about future resource potential. Note that evolutionary hypotheses are gender-specific and revolve around males' financial resources and women's

reproductive capacity (e.g., Buss, 1989; Buss and Schmitt 1993; Li et al. 2002; Li and Kenrick 2006). Thus, evolutionary psychology would predict that females prefer a mate with resources, which could be a spender (evident via viable displays) or a saver (evident through a sizable bank account). In contrast to this reasoning, my central prediction is that *both* males and females prefer savers over spenders because of general self-control (above and beyond financial viability). Indeed, in a series of experiments, I find that people who chronically save are viewed as more attractive than people who chronically spend. Both males and females view savers as possessing greater general self-control than spenders, and perceived self-control increases savers' romantic and physical appeal. Additionally, I demonstrate that being a saver does have signaling value. Individuals are able to accurately detect others' general financial habits simply by glancing at their outward appearance. A final distinction between evolutionary psychology and my own work is the area of emphasis: while evolutionary psychology generally focuses on how reproductive motives influence consumption, I am interested in the inferences people draw from others' consumption.

The results from Essay 1 highlight that saving not only has direct financial benefits, but also relational benefits. Admittedly, not everyone is motivated or able to save money judiciously, and so many individuals experience significant debt (perhaps in an unsuccessful attempt to attract romantic partners). Recent work has investigated how individuals manage debt (e.g., Amar et al. 2011), but when debt is jointly held, repayment decisions often invite input from all indebted parties. Thus, my dissertation considers whether and why common decision making biases observed among individuals generalize to romantic couples (Essay 2). When individuals must choose between paying off a small debt and chipping away at a larger debt with a larger interest rate, they tend to pay off the small debt, a costly tendency known as debt account

aversion. I find that established couples are better off making repayment decisions together than on their own. Couples benefit not only from deliberation, but from placing greater weight on the preferences of the partner with greater financial expertise. Perceived competence does not enhance decision making among pairs of strangers who, presumably, lack the shared history necessary to draw accurate inferences about each other's capabilities.

Taken together, this research suggests a variety of future directions for research projects, some of which are already underway. Of primary interest is building a bridge between Essays 1 (relationship formation) and 2 (after existing couples are in the "red"). Chronic saving and spending habits not only influence initial attraction, but also relationship quality post-courtship, particularly if couple members' habits differ (Rick, Small, and Finkel 2011). How couples structure their financial accounts (e.g., purely joint or purely separate) may ameliorate or exacerbate the financial and psychological effects of differences in partners' natural spending habits. Despite its potential importance, the decision of whether or not to merge accounts is one that many couples struggle with, as conflicting views are rampant. Prior correlational work suggests that married couples who pool their money in joint accounts tend to be happier than couples who maintain separate accounts (Addo and Sassler 2010; Kenney 2006). Yet, it is unclear whether maintaining joint accounts actually improves marital quality or whether particularly happy couples are simply more likely to open joint accounts.

Different money management systems within relationships may have implications for certain types of "unethical" behavior. One area I am particularly interested in exploring is the notion of "financial infidelity," which exists when partners are not forthcoming about monetary decisions. Such behavior can manifest as concealing assets and debts; lying about how much money is earned, spent, saved, or borrowed; excessive gambling; and/or maintaining private

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bank accounts. Descriptively, there are numerous popular press articles, self-help books, and surveys establishing the existence of financial infidelity (e.g., Goudreau 2011; Elliott, Eccles, and Gournay 1996; Junare and Patel 2012; Marte 2015; Mecia 2015; Weil 2008). What the existing literature lacks is rigorous experimental work examining the motivations, mechanisms, and consequences. Related to money management systems, financial infidelity might be more likely with separate versus joint bank accounts where partners cannot monitor each other's spending as easily. Interestingly, the accountability that comes with joint bank accounts might actually encourage deceptive behavior (e.g., "I want my partner to think I'm being 'good,' so I'm going to hide this splurge"). Financial infidelity within romantic relationships could also lead to compensatory reactions as a way of regaining control. For example, imagine a scenario where a wife stumbles upon her husband's secretive spending. His depletion of their shared resources threatens her spending (not to mention other outcomes like trust and intimacy), which could lead to her spending more out of spite ("revenge spending"; cf. Brehm 1966). Relatedly, if a saver wife pushes her stringent financial goals on a spender husband, he may continue to overspend to assert his independence (cf. Chartrand, Dalton, and Fitzsimons 2007).

A final area of future research focuses on the development of saving and spending habits across the lifespan. Specifically, I began a project this past term assessing the relationships between parents' and adult children's spending habits, with an eye toward gaining insight into the transmission of financial values within families. I focus on young adults because they face the key developmental milestone of economic independence (Arnett 2000). The late teens and early twenties are a time when many individuals "leave the nest" and become self-sufficient. Understanding the financial habits of this segment is important, as young adults have a spending power of over $200 billion a year (Schawbel 2015). These individuals, however, do not enter the

marketplace as blank slates. Parents play a key role in the development of their children's monetary attitudes and outcomes (e.g., Clarke et al. 2005; Danes 1994; Gudmunson and Danes 2011). Despite some interest in understanding intrahousehold financial relationships, previous research has focused on adolescents (e.g., Furnham 1999), college students (e.g., Jorgensen and Savla 2010; Shim et al. 2010), or adults' memories of childhood (e.g. Cho et al. 2012; Furnham, von Stumm, and Milner 2014), rather than on parents' reports. Thus, one contribution of my work is surveying all three family members (i.e., the adult child, mother, and father) and the relationships among them. The results will contribute to the discussion surrounding financial socialization practices, which will help ensure that future generations make responsible and healthy economic decisions.

In sum, my dissertation represents practical, novel research in a substantive domain: CFDM. Using multiple methods and diverse samples, I investigate how chronic spending habits foster initial attraction (Essay 1) and how existing relationships influence debt repayment decisions (Essay 2). The findings are aimed at a broad, interdisciplinary audience, as interest in the interplay between money and relationships is stronger now than ever before. I hope and expect that my work will offer guidance to consumers as they navigate consequential financial and personal decisions.

TABLES

Table 1

Lack of consistent moderation by participant gender across experiments
(Chapter 2)

Experiment	Primary effect	Interaction with gender
1: Dating game	Saver vs. spender ($p < .05$)	$p = .572$
2A: MPC	Saver vs. spender ($p < .01$)	$p = .044$
2B: Nine different labels	Four saver vs. four spender conditions ($p < .01$)	$p = .014$
3A: Materialism	Saver vs. spender ($p < .01$)	$p = .031$
3B: Financial viability	Saver vs. spender ($p < .01$)	$p = .497$
4: Physical attraction	Saver vs. spender ($p < .05$)	$p = .131$
5: Relationship seriousness	Saver vs. spender ($p < .01$)	$p = .382$
6: Boredom susceptibility	Saver vs. spender ($p < .01$)	$p = .180$

Note: While females were more sensitive to the saver versus spender label in experiment 2A (i.e., they found the saver significantly more desirable than the spender), males were more sensitive to the label in experiments 2B and 3A.

Table 2

The interest rate and initial size of each account in the debt management game (Chapter 3)

Debt	Annual Interest Rate	Initial Size
Debt 1	2.50%	$3,000
Debt 2	2.00%	$8,000
Debt 3	3.50%	$11,000
Debt 4	3.25%	$13,000
Debt 5	3.75%	$52,000
Debt 6	4.00%	$60,000

Table 3

Summary of multiple regression analyses examining the influence of partners' financial confidence and financial literacy on debt game performance
(Experiment 1, Chapter 3)

Variable	Model 1			Model 2			Model 3		
	B	B SE	t	B	B SE	t	B	B SE	t
High FC partner (time 2)	-2883	1465	1.97†				-3569	1420	2.51*
Low FC partner (time 2)	-954	1204	.79				130	1266	.10
High FL partner (time 2)				-459	1066	.43	-375	954	.39
Low FL partner (time 2)				-737	583	1.26	-757	503	1.51

Note: FC stands for Financial Confidence and FL stands for Financial Literacy (Fernandes et al. 2014). All three models were conducted among 24 couples who completed the debt management game together at time 1. FC and FL measures were taken at time 2, 10 months later.
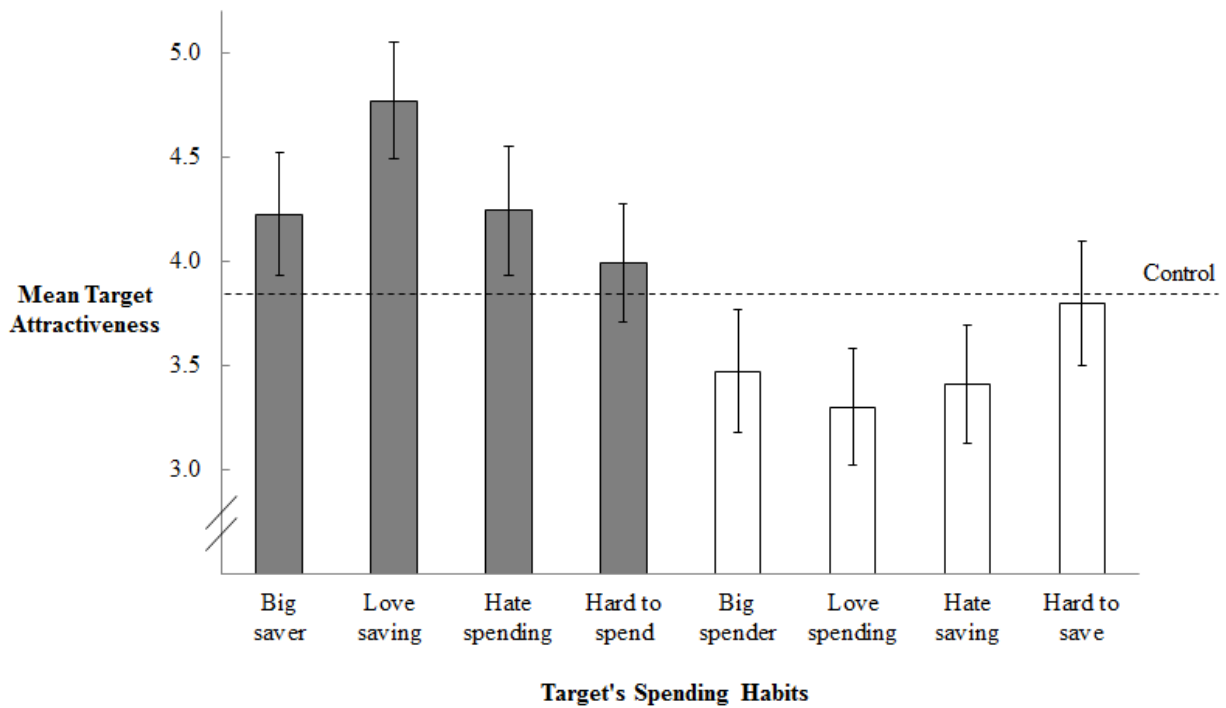
$^\dagger p \leq .10$
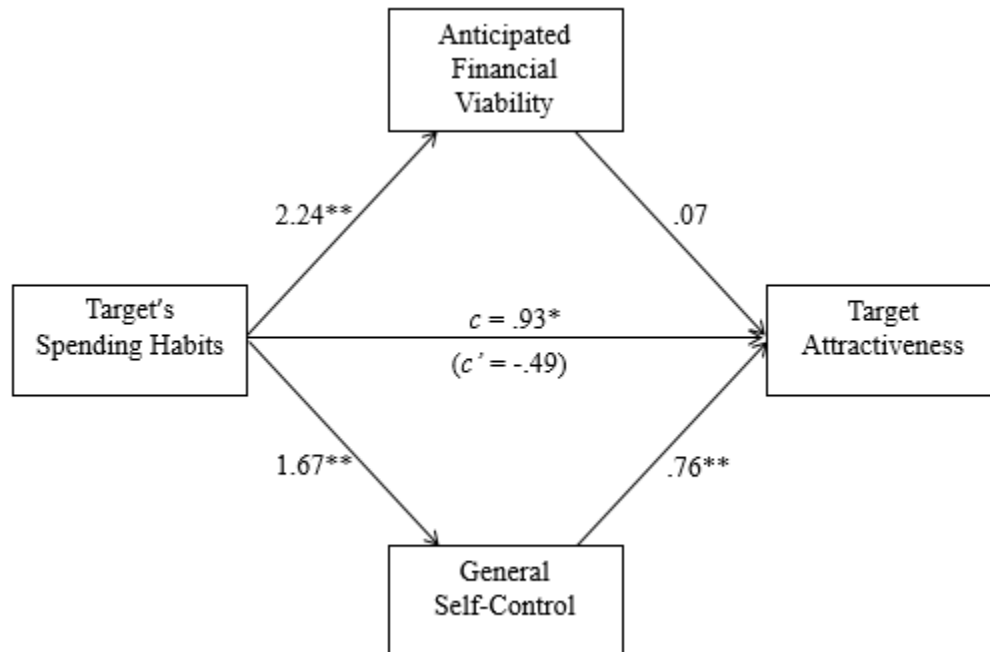$* p \leq .05$

Figure 1

Mean attractiveness rating of the target as a function of his or her spending habits (Experiment 2B, Chapter 2)

Note: The dashed line indicates the mean attractiveness rating in the Control condition. Error bars represent one standard error above and below the mean.

Figure 2

**The mediating role of anticipated financial viability and general self-control
in the effect of spending habits on romantic attractiveness
(Experiment 3B, Chapter 2)**

Note: Parallel mediation model featuring unstandardized coefficients. In the regressions, spending habits were contrast coded (saver = +.5, spender = −.5). The coefficient in parentheses (c') represents the direct effect of spending habits on attractiveness, controlling for indirect effects.

$*p \le .01$
$**p \le .001$

Figure 3

**Mean attractiveness rating of the target as a function of his or her spending habits
and relationship seriousness
(Experiment 5, Chapter 2)**
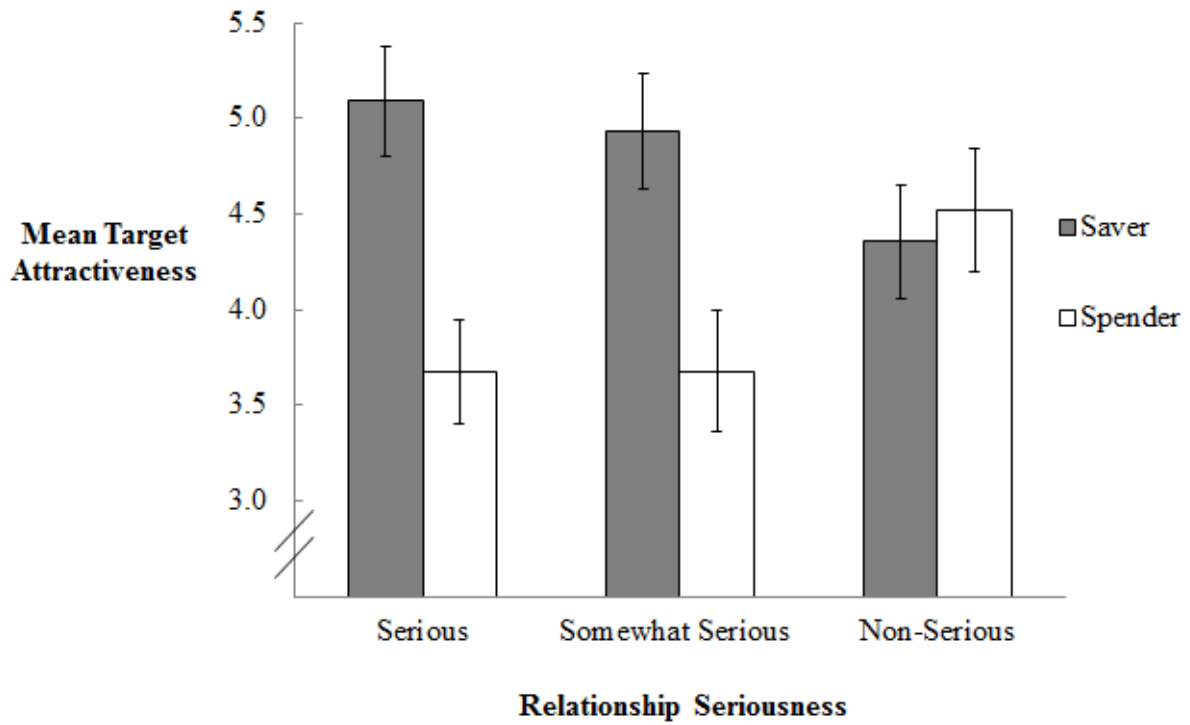
Note: Error bars represent one standard error above and below the mean.

Figure 4

**Mean attractiveness rating of the target as a function of his or her spending habits
and participants' chronic boredom susceptibility
(BSS Scores; Experiment 6, Chapter 2)**
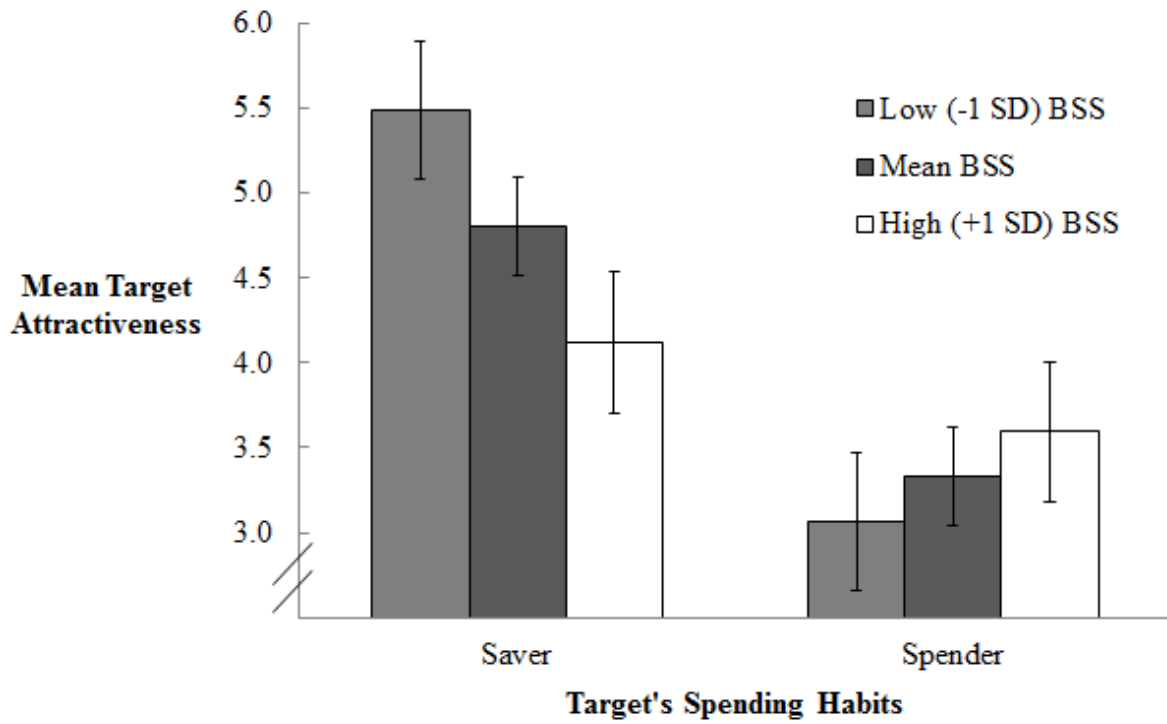
Note: Error bars represent one standard error above and below the mean.

Figure 5

Final screen of the debt management game for a financially optimal player
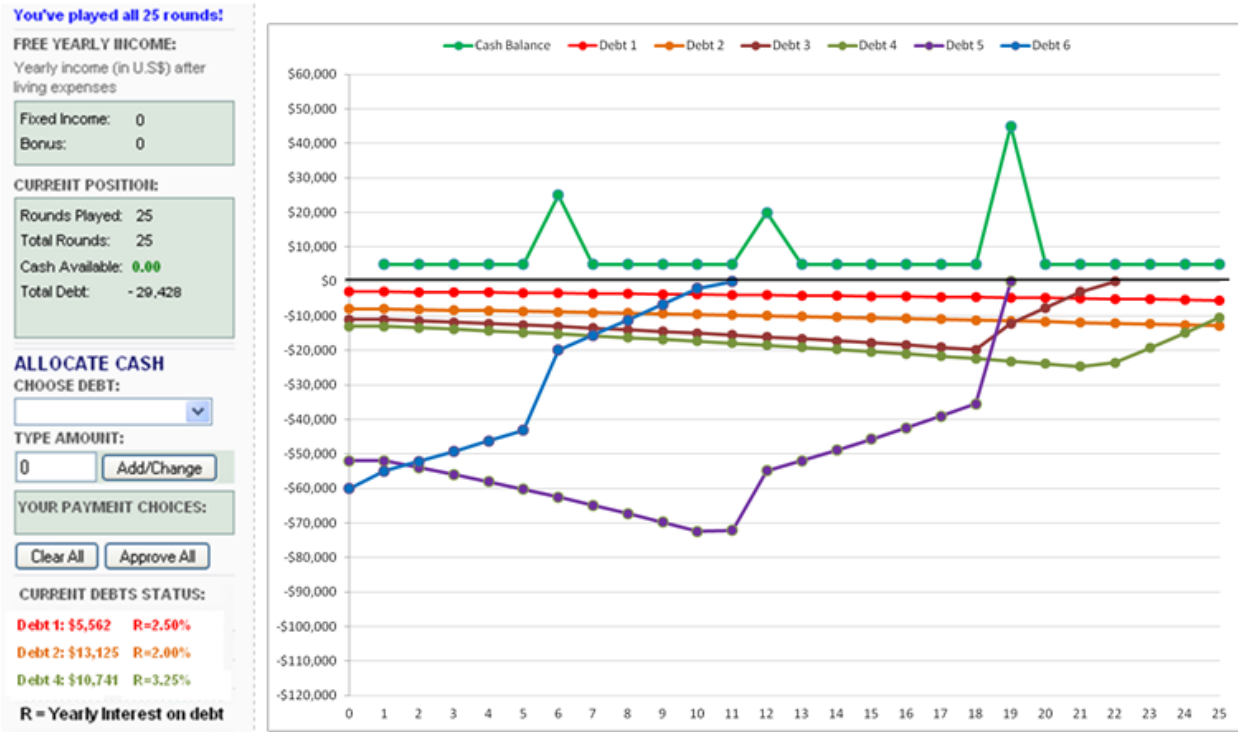**(Chapter 3)**

Figure 6

**Final screen of the debt management game for a debt-account-averse player
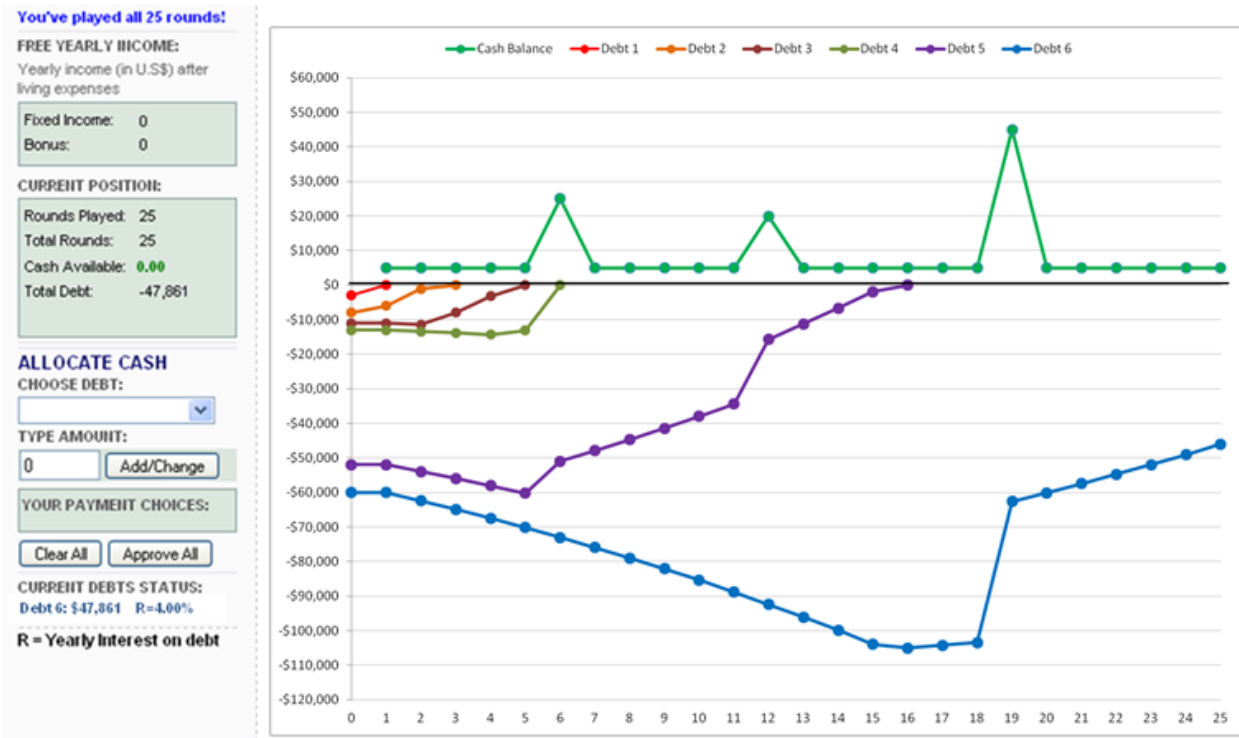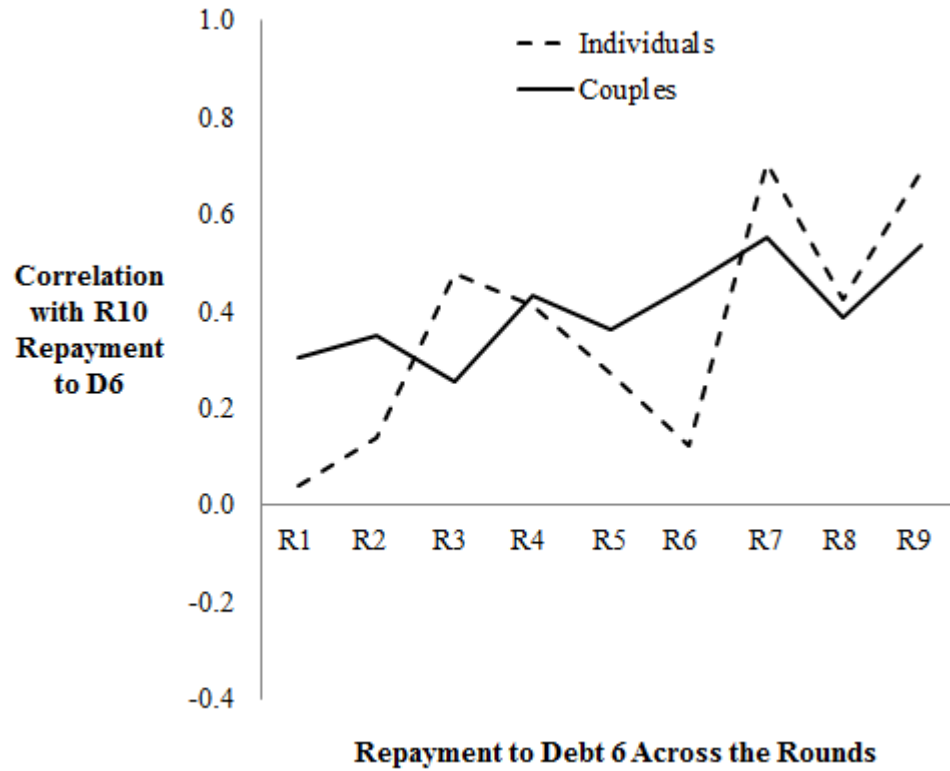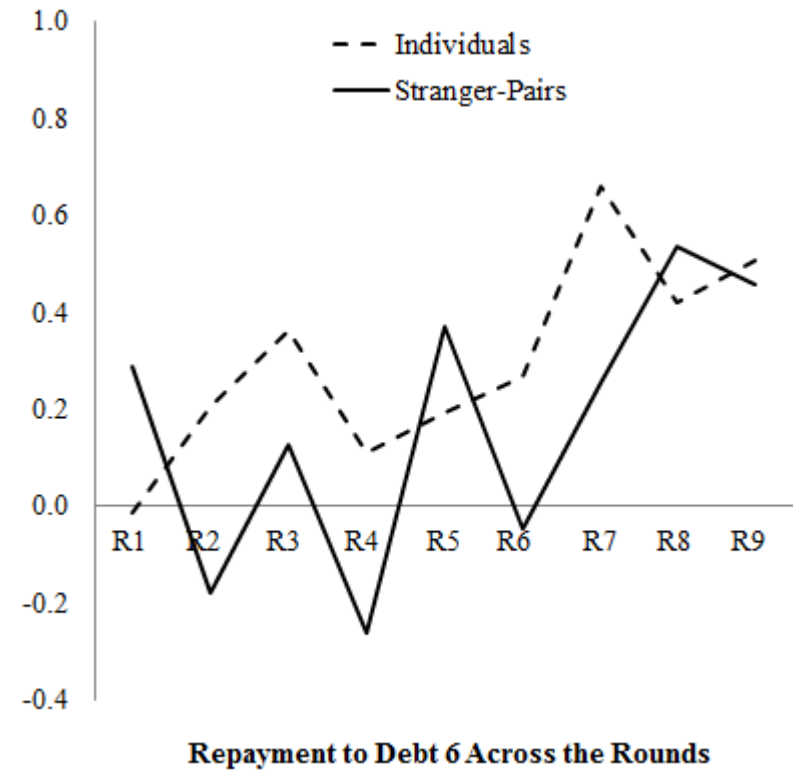(Chapter 3)**

Figure 7

Variability in debt repayment strategies across rounds 1-9
(Experiments 1 and 2, Chapter 3)

(A) Experiment 1 results

(B) Experiment 2 results

Repayment to Debt 6 Across the Rounds

Repayment to Debt 6 Across the Rounds

Note: Debt 6 (D6) is the highest APR account in the debt game. Financially optimal players will close D6 in Round 10 (R10).

Figure 8

The mediating role of inaccuracy perceptions in the effect of financial familiarity on debt game performance
(Experiment 3, Chapter 3)
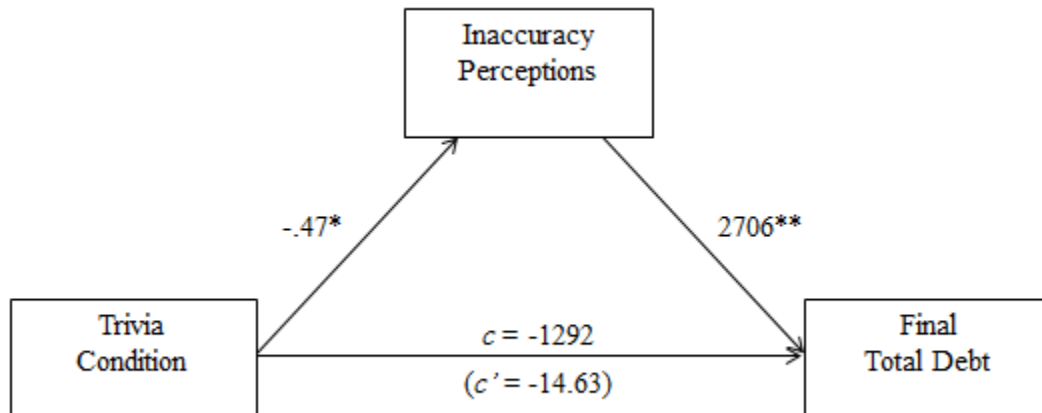
Note: Indirect-only mediation model featuring unstandardized coefficients. In the regressions, trivia condition was contrast coded (financial familiarity = +.5, control = −.5). The coefficient in parentheses (*c'*) represents the direct effect of trivia condition on final total debt, controlling for the indirect effect of inaccuracy perceptions.

*p ≤ .05
**p ≤ .01

APPENDICES

Appendix 1

Dating game simulation questions
(Experiment 1, Chapter 2)

Participant's question for contestants	Contestant 1's response	Contestant 2's response
What profession or job would you absolutely NOT like to be involved with?	Politics	Paparazzi
What is your favorite book from childhood?	*Goodnight Moon*	*The Cat in the Hat*
What sound or noise do you love?	Laughter	Rain
What is your favorite meal of the day?	There's nothing like a good lunch.	I actually love breakfast.
When it comes to money, would you say you're more of a saver or more of a spender?*	More of a spender.	More of a saver.

Note: The roles of Contestant 1 and Contestant 2 in the final spending habits question were counterbalanced across experimental sessions.

Appendix 2

Profile images of prospective mates
(Experiments 2A-6, Chapter 2)

Target Female (Andrea)

Target Male (Andrew)

A demonstration of the detectability of savers
(Chapter 2)

Experiments 2A-6 utilized an online dating paradigm where a target characterized him- or herself as a spender or a saver. However, when potential mates encounter one another in person, whether each person is a spender or a saver may not come up during casual conversation. Arguably, our experimental results are only relevant to these contexts if people can easily distinguish spenders from savers. Thus, we examined people's ability to identify spenders and savers in a face-to-face setting, based on appearance alone.

One's tendency to save or spend may physically manifest itself in a number of ways (e.g., through clothing choices and accessories). Prior work suggests that snap judgments (or "zero-acquaintance" judgments) of traits such as extraversion, conscientiousness, and intelligence are generally accurate (i.e., they correlate significantly with self-reported or measured values of the focal trait; Borkenau and Liebler 1993; Watson 1989). Here, we extend this line of work by examining the accuracy of snap judgments of saving and spending tendencies.

One hundred thirty-eight undergraduates (35% female) at a large Midwestern university participated in the study in exchange for course credit. Participants arrived at the lab in groups of 6-10, and were seated around a large table. A tent card, displaying the participant's laboratory ID number, was placed in front of each participant.

We initially measured participants' self-reported spending or saving tendencies. Specifically, we asked participants to privately complete a "Getting to Know You" questionnaire, which asked, "In terms of money habits, would you say you're generally more of a saver or a spender?" Participants could select either "I'm generally more of a saver" or "I'm

generally more of a spender." (Consistent with our conceptualization of the saver/spender distinction as capturing differences in MPC, a pretest of this item among 120 adults revealed that self-identified savers intended to save a larger proportion of a hypothetical windfall than self-identified spenders, $p = .001$. Self-identified savers also reported significantly greater savings and less credit card debt than self-identified spenders, ps $\leq .05$.) The questionnaire also included filler items to mask its purpose (e.g., "Name your five favorite movies"). Overall, 56% of participants indicated that they were a saver, and 44% indicated that they were a spender. These proportions did not differ significantly by gender (58% of males and 50% of females reported that they were a saver; $\chi^2(1) < 1$).

We collected participants' questionnaires, and then informed them that they would now be asked to guess every other participant's spending versus saving habits. Participants were given a form that listed the ID numbers of the other participants, and were asked to guess whether each participant was a saver or a spender. We also asked participants to indicate whether or not they knew each participant before coming to the lab. (Based on recent participation trends, we anticipated that the sessions would be predominantly male, and thus we chose not to add a question exploring how attractive participants found one another.) We told participants that they could not talk or attempt to communicate in any way during the task, and everyone complied with these instructions. We informed participants that their guesses would remain confidential and would not be revealed to other participants. To ensure engagement in the task, we told participants that we would pay them $1 for each correct guess (i.e., for each guess that matched the participant's self-reported spending or saving habits). After participants finished guessing everyone else's spending or saving habits and handed in their form, they were asked to reveal their own self-reported spending or saving habits one-by-one to the group. At the end of the

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study, we scored participants' guesses and then paid them based on their performance. Total earnings ranged from $1 to $8 (mean: $4.59).

To examine the accuracy of snap judgments ("observers" judging "targets"), we correlated observers' averaged ratings (each "saver" guess was coded as 1, each "spender" guess was coded as 0) of each target with the target's self-report ("saver" report was coded as 1, "spender" report was coded as 0), an approach consistent with prior research (e.g., Vazire et al. 2008). The results of this analysis revealed a significant, positive relationship ($r(136) = .32$, $p <$ .001). Only 92 judgments (out of 1,073 total) were made by observers who indicated that they knew the target (who also indicated that they knew the observer). Naturally, this correlation is higher if we focus only on those 92 judgments ($r(62) = .47$, $p < .001$). (Sometimes multiple observers knew the same target, and thus of these 92 judgments, only 64 targets were judged, which is why the *df* was 62 in this analysis.) If we exclude these 92 judgments, the overall correlation remains significant ($r(136) = .30$, $p < .001$).

We also specifically analyzed opposite-sex judgments (female observers judging male targets, and male observers judging female targets), which are particularly relevant to heterosexual romantic relationships. The correlation between observers' averaged ratings and each target's self-report remained significant when focusing specifically on opposite-sex judgments ($r(119) = .20$, $p = .027$). (The *df* was smaller in the opposite-sex analysis because two sessions were entirely male.) To put these correlations in perspective, prior work has demonstrated that snap judgments of extraversion (the most accurately judged of the Big 5 personality factors) based on silent video clips consistently falls in the .20-.30 range (Borkenau and Liebler 1993; Yeagley, Morling, and Nelson 2007). Thus, snap judgments of saving versus spending tendencies appear to display considerable accuracy.

Appendix 4

Trivia questions
(Experiment 3, Chapter 3)

Question set 1: University of Michigan trivia	Answer options
1. The University of Michigan was founded in Detroit in 1817. In what year did it move to Ann Arbor? Note that in the same year, Michigan gained statehood.	a. 1831, **b. 1837**, c. 1845, d. 1854
2. What residence hall was built on the site of the former Frieze building? It cost $170 million to build and features the latest technology.	**a. North Quad**, b. Fletcher Hall, c. South Quad, d. Henderson House
3. What is the seating capacity of Michigan Stadium?	a. 104,603, b. 105,121, c. 108,438, **d. 109,901**
4. Which alumnus, Class of 1934, was a member of the football team during two undefeated seasons and went on to become President of the United States?	a. Lyndon Johnson, b. Richard Nixon, **c. Gerald Ford**, d. Jimmy Carter
5. The Board of Regents governs the University. How many Regents are there?	**a. 8**, b. 7, c. 6, d. 5

Question set 2: Financial literacy trivia (part A)	Answer options
1. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy:	a. More than today with the money in this account, b. Exactly the same as today with the money in this account, **c. Less than today with the money in this account**, d. Don't know
2. Do you think that the following statement is true or false? "Bonds are normally riskier than stocks."	a. True, **b. False**, c. Don't know
3. Considering a long time period (for example, 10 or 20 years), which asset described below normally gives the highest return?	a. Savings account, **b. Stocks**, c. Bonds, d. Don't know
4. When an investor spreads his or her money among different assets, does the risk of losing a lot of money:	a. Increase, **b. Decrease**, c. Stay the same, d. Don't' know
5. Do you think that the following statement is true or false? "If you were to invest $1,000 in a stock mutual fund, it would be possible to have less than $1,000 when you withdraw your money."	**a. True**, b. False, c. Don't know

Question set 3: Financial literacy trivia (part B)	Answer options
1. Do you think that the following statement is true or false? "After age 70 1/2, you have to withdraw at least some money from your 401(k) plan or IRA."	**a. True**, b. False, c. It depends on the type of IRA and/or 401(k) plan, d. Don't know
2. Suppose you have $100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have in this account in total?	**a. More than $200**, b. Exactly $200, c. Less than $200, d. Don't know
3. Which of the following statements is correct?	a. Once one invests in a mutual fund, one cannot withdraw money in the first year, **b. Mutual funds can invest in several assets, for example invest in both stocks and bonds**, c. Mutual funds pay a guaranteed rate of return which depends on their past performance, d. None of the above, e. Don't know
4. Which of the following statements is correct? If somebody buys a bond of firm B:	a. S/he owns a part of firm B, **b. S/he has lent money to firm B**, c. S/he is liable for firm B's debts, d. None of the above, e. Don't know
5. Suppose you owe $3,000 on your credit card. You pay a minimum payment of $30 each month. At an annual percentage rate of 12% (or 1% per month), how many years would it take to eliminate your credit card debt if you made no additional new charges?	a. Less than 5 years, b. Between 5 and 10 years, c. Between 10 and 15 years, **d. Never**, e. Don't know

Note: The correct answers are in boldface. The financial literacy trivia are items adapted from Fernandes et al. (2014).

REFERENCES

Addo, Fenaba R. and Sharon Sassler (2010), "Financial Arrangements and Relationship Quality in Low-Income Couples," *Family Relations*, 59 (September), 408-23.

Aiken, Leona S. and Stephen G. West (1991), *Multiple Regression: Testing and Interpreting Interactions*, Thousand Oaks, CA: Sage.

Allgood, Sam and William Walstad (2013), "Financial Literacy and Credit Card Behaviors: A Cross-Sectional Analysis by Age," *Numeracy*, 6 (2), 1-26.

Amar, Moty, Dan Ariely, Shahar Ayal, Cynthia Cryder, and Scott Rick (2011), "Winning the Battle but Losing the War: The Psychology of Debt Management," *Journal of Marketing Research*, 48 (October), 38-50.

Amato, Paul R. and Stacy J. Rogers (1997), "A Longitudinal Study of Marital Problems and Subsequent Divorce," *Journal of Marriage and the Family*, 59 (August), 612-24.

Amir, On and Dan Ariely (2008), "Resting on Laurels: The Effects of Discrete Progress Markers as Subgoals on Task Performance and Preferences," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34 (September), 1158-171.

Anand, Punam and Louis W. Stern (1985), "A Sociopsychological Explanation for Why Marketing Channel Members Relinquish Control," *Journal of Marketing Research*, 22 (November), 365-76.

Anderson, Cameron, Sebastien Brion, Don A. Moore, and Jessica A. Kennedy (2012), "A Status-Enhancement Account of Overconfidence," *Journal of Personality and Social Psychology*, 103 (October), 718-35.

Arnett, Jeffrey Jensen (2000), "Emerging Adulthood: A Theory of Development From the Late Teens Through the Twenties," *American Psychologist*, 55 (May), 469-80.

Asch, Solomon E. (1956), "Studies of Independence and Conformity: I. A Minority of One Against a Unanimous Majority," *Psychological Monographs: General and Applied*, 70 (9), 1-70.

Ashton, Marvin J. (2006), "One for the Money: Guide to Family Finance," https://www.lds.org/bc/content/shared/content/english/pdf/welfare/33293_000_One_Money_English.pdf.

Balliet, Daniel, Norman P. Li, and Jeff Joireman (2011), "Relating Trait Self-Control and Forgiveness Within Prosocials and Proselfs: Compensatory Versus Synergistic Models," *Journal of Personality and Social Psychology*, 101 (November), 1090-105.

Bandura, Albert (1977), *Social Learning Theory*, Englewood Cliffs, NJ: Prentice-Hall.

Bartels, Daniel A. and Oleg Urminsky (2015), "To Know and to Care: How Awareness and Valuation of the Future Jointly Shape Consumer Spending," *Journal of Consumer Research*, 41 (April), 1469-85.

Baumeister, Roy F. (2000), "Yielding to Temptation: Self-Control Failure, Impulsive Purchasing, and Consumer Behavior," *Journal of Consumer Research*, 28 (4), 670-76.

Belk, Russell W. (1988), "Possessions and the Extended Self," *Journal of Consumer Research*, 15 (September), 139-68.

Bellezza, Silvia, Francesca Gino, and Anat Keinan (2014), "The Red Sneakers Effect: Inferring Status and Competence from Signals of Nonconformity," *Journal of Consumer Research*, 41 (June), 35-54.

Berger, Jonah and Chip Heath (2007), "Where Consumers Diverge from Others: Identity-Signaling and Product Domains," *Journal of Consumer Research*, 34 (August), 121-34.

Besharat, Ali, Sajeev Varki, and Adam W. Craig (2015), "Keeping Consumers in the Red: Hedonic Debt Prioritization Within Multiple Debt Accounts," *Journal of Consumer Psychology*, 25 (April), 311-16.

Borkenau, Peter and Anette Liebler (1993), "Convergence of Stranger Ratings of Personality and Intelligence with Self-Ratings, Partner Ratings, and Measured Intelligence," *Journal of Personality and Social Psychology*, 65 (September), 546-53.

Brehm, Jack W. (1966), *A Theory of Psychological Reactance*, New York: Academic Press.

Brown, Alexander L. and Joanna N. Lahey (2014), "Small Victories: Creating Intrinsic Motivation in Task Completion and Debt Repayment," working paper.

Brown, Sarah, Karl Taylor, and Stephen Wheatley Price (2005), "Debt and Distress: Evaluating the Psychological Cost of Credit*," Journal of Economic Psychology*, 26 (5), 642-63.

Brunswik, Egon (1956), *Perception and the Representative Design of Psychological Experiments*, Berkeley, CA: University of California Press.

Burkett, Larry (2002), *The Complete Financial Guide for Young Couples*, Colorado Springs, CO: David C. Cook.

Buss, David M. (1989), "Sex Differences in Human Mate Preferences: Evolutionary Hypotheses Tested in 37 Cultures," *Behavioral and Brain Sciences*, 12 (March), 1-49.

Buss, David M. and David P. Schmitt (1993), "Sexual Strategies Theory: An Evolutionary Perspective on Human Mating," *Psychological Review*, 100 (April), 204-32.

Chartrand, Tanya L., Amy N. Dalton, and Gavan J. Fitzsimons (2007), "Nonconscious Relationship Reactance: When Significant Others Prime Opposing Goals," *Journal of Experimental Social Psychology*, 43 (September), 719-26.

Chen, Haiyang and Ronald P. Volpe (2002), "Gender Differences in Personal Financial Literacy Among College Students," *Financial Services Review*, 11 (3), 289-307.

Chen, Tim (2015), "American Household Credit Card Debt Statistics: 2015," https://www.nerdwallet.com/blog/credit-card-data/average-credit-card-debt-household.

Cho, Soo Hyun, Michael Gutter, Jinhee Kim, and Teresa Maudlin (2012), "The Effect of Socialization and Information Source on Financial Management Behaviors Among Low- and Moderate-Income Adults," *Family and Consumer Sciences Research Journal*, 40 (June), 417-30.

Clarke, Maribeth C., Martie B. Heaton, Craig L. Israelsen, and Dennis L. Eggett (2005), "The Acquisition of Family Financial Roles and Responsibilities," *Family and Consumer Sciences Research Journal*, 33 (June), 321-40.

Corfman, Kim P. and Donald R. Lehmann (1987), "Models of Cooperative Group Decision Making and Relative Influence: An Experimental Investigation of Family Purchase Decisions," *Journal of Consumer Research*, 14 (June) 1-13.

Danes, Sharon M. (1994), "Parental Perceptions of Children's Financial Socialization," *Financial Counseling and Planning*, 5, 127-49.

Davis, Harry L., Stephen J. Hoch, and E. K. Easton Ragsdale (1986), "An Anchoring and Adjustment Model of Spousal Predictions," *Journal of Consumer Research*, 13 (June), 25-37.

Davis, Harry L. and Benny P. Rigaux (1974), "Perceptions of Marital Roles in Decision Processes," *Journal of Consumer Research*, 1 (June), 51-62.

Day, George S. and William K. Brandt (1974), "Consumer Research and the Evaluation of Information Disclosure Requirements: The Case of Truth in Lending," *Journal of Consumer Research*, 1 (June), 21-32.

de Ridder, Denise T. D., Gerty Lensvelt-Mulders, Catrin Finkenauer, F. Marijn Stok, and Roy F. Baumeister (2012), "Taking Stock of Self-Control: A Meta-Analysis of How Trait Self-Control Relates to a Wide Range of Behaviors," *Personality and Social Psychology*

Review, 16 (February), 76-99.

Dew, Jeffrey (2007), "Two Sides of the Same Coin? The Differing Roles of Assets and Consumer Debt in Marriage," *Journal of Family and Economic Issues*, 28 (1), 89-104.

——————— (2008), "Debt Change and Marital Satisfaction Change in Recently Married Couples," *Family Relations*, 57 (January), 60-71.

——————— (2011), "The Association Between Consumer Debt and the Likelihood of Divorce," *Journal of Family and Economic Issues*, 32 (December), 554-65.

Dew, Jeffrey, Sonya Britt, and Sandra Huston (2012), "Examining the Relationship Between Financial Issues and Divorce," *Family Relations*, 61 (October), 615-28.

Dubois, David, Derek D. Rucker, and Adam D. Galinsky (2012), "Super Size Me: Product Size as a Signal of Status," *Journal of Consumer Research*, 38 (April), 1047-62.

Duclos, Rod (2015), "The Psychology of Investment Behavior: (De)biasing Financial Decision-Making One Graph at a Time," *Journal of Consumer Psychology*, 25 (April), 317-25.

Dunn, Elizabeth W., Lara B. Aknin, and Michael I. Norton (2008), "Spending Money on Others Promotes Happiness," *Science*, 319 (March), 1687-8.

Dzhogleva, Hristina and Cait Poynor Lamberton (2014), "Should Birds of a Feather Flock Together? Understanding Self-Control Decisions in Dyads," *Journal of Consumer Research*, 41 (August), 361-80.

Eastwick, Paul W., Eli J. Finkel, and Alice H. Eagly (2011), "When and Why Do Ideal Partner Preferences Affect the Process of Initiating and Maintaining Romantic Relationships?" *Journal of Personality and Social Psychology*, 101 (November), 1012-32.

Elliott, Richard, Sue Eccles, and Kevin Gournay (1996), "Man Management? Women and the Use of Debt to Control Personal Relationships," *Journal of Marketing Management*, 12 (7), 657-69.

Fay, Bill (2015), "Demographics of Debt," https://www.debt.org/faqs/americans-in-%20debt/demographics.

Federal Reserve (2014), "Consumer Credit December 2013," http://www.federalreserve.gov/releases/g19/Current/g19.pdf.

Federal Reserve Bank of Boston (2011), "The 2009 Survey of Consumer Payment Choice," http://www.bostonfed.org/economic/ppdp/2011/ppdp1101.pdf.

Ferber, Robert and Lucy Chao Lee (1974), "Husband-Wife Influence in Family Purchasing Behavior," *Journal of Consumer Research*, 1 (June), 43-50.

Fernandes, Daniel, John G. Lynch, and Richard G. Netemeyer (2014), "Financial Literacy, Financial Education, and Downstream Financial Behaviors," *Management Science*, 60 (August), 1861-83.

Filiatrault, Pierre and Brent J. Ritchie (1980), "Joint Purchasing Decisions: A Comparison of Influence Structure in Family and Couple Decision-Making Units," *Journal of Consumer Research*, 7 (September), 131-40.

Finkel, Eli J. and W. Keith Campbell (2001), "Self-Control and Accommodation in Close Relationships: An Interdependence Analysis," *Journal of Personality and Social Psychology*, 81 (August), 263-77.

Fiske, Susan T., Amy J. C. Cuddy, Peter Glick, and Jun Xu (2002), "A Model of (Often Mixed) Stereotype Content: Competence and Warmth Respectively Follow From Perceived Status and Competition," *Journal of Personality and Social Psychology*, 82 (6), 878-902.

Fitzsimons, Gráinne M. and Eli J. Finkel (2011), "Outsourcing Self-Regulation," *Psychological Science*, 22 (March), 369-75.

Fletcher, Garth J. O., Jeffry A. Simpson, Geoff Thomas, and Louise Giles (1999), "Ideals in Intimate Relationships," *Journal of Personality and Social Psychology*, 76 (1), 72-89.

Fletcher, Garth J. O., Jacqueline M. Tither, Claire O'Loughlin, Myron Friesen, and Nickola Overall (2004), "Warm and Homely or Cold and Beautiful? Sex Differences in Trading Off Traits in Mate Selection," *Personality and Social Psychology Bulletin*, 30 (June), 659-72.

Furnham, Adrian (1999), "The Saving and Spending Habits of Young People," *Journal of Economic Psychology*, 20 (December), 677-97.

Furnham, Adrian, Sophie von Stumm, and Rebecca Milner (2014), "Moneygrams: Recalled Childhood Memories About Money and Adult Money Pathology," *Journal of Financial Therapy*, 5 (1), 40-54.

Gal, David and Blakeley B. McShane (2012), "Can Small Victories Help Win the War? Evidence from Consumer Debt Management," *Journal of Marketing Research*, 49 (August), 487-501.

Gorlin, Margarita and Ravi Dhar (2012), "Bridging the Gap Between Joint and Individual Decisions: Deconstructing Preferences in Relationships," *Journal of Consumer Psychology*, 22 (July), 320-23.

Goudreau, Jenna (2011), "Is Your Partner Cheating on You Financially? 31% Admit Money Deception," http://www.forbes.com/sites/jennagoudreau/2011/01/13/is-your-partner-cheating-on-you-financially-31-admit-money-deception-infidelity-red-flags-money-lies.

Grammer, Karl, Bernhard Fink, Anders P. Moller, and Randy Thornhill (2003), "Darwinian Aesthetics: Sexual Selection and the Biology of Beauty," *Biological Reviews*, 78 (August), 385-407.

Griskevicius, Vladas, Andrew W. Delton, Theresa E. Robertson, and Joshua M. Tybur (2010), "Environmental Contingency in Life History Strategies: The Influence of Mortality and Socioeconomic Status on Reproductive Timing," *Journal of Personality and Social Psychology,* 100 (February), 241-54.

Griskevicius, Vladas, Joshua M. Tybur, Jill M. Sundie, Robert B. Cialdini, Geoffrey F. Miller, and Douglas T. Kenrick (2007), "Blatant Benevolence and Conspicuous Consumption: When Romantic Motives Elicit Strategic Costly Signals," *Journal of Personality and Social Psychology,* 93 (July), 85-102.

Gubler, Timothy and Lamar Pierce (2014), "Healthy, Wealthy, and Wise: Retirement Planning Predicts Employee Health Improvements," *Psychological Science*, 25 (9), 1822-30.

Gudmunson, Clinton G. and Sharon M. Danes (2011), "Family Financial Socialization: Theory and Critical Review," *Journal of Family and Economic Issues*, 32 (4), 644-67.

Hadar, Liat, Sanjay Sood, and Craig R. Fox (2013), "Subjective Knowledge in Consumer Financial Decisions," *Journal of Marketing Research*, 50 (June), 303-16.

Hancock, Jeffrey T. and Catalina L. Toma (2009), "Putting Your Best Face Forward: The Accuracy of Online Dating Photographs," *Journal of Communication*, 59 (June), 367-86.

Hastie, Reid (1986), "Experimental Evidence on Group Accuracy," in *Decision Research*, Vol. 2, ed. Bernard Grofman and Guillermo Owen, Greenwich, CT: JAI Press, 129-57.

Haws, Kelly L., William O. Bearden, and Gergana Y. Nenkov (2012), "Consumer Spending Self-Control Effectiveness and Outcome Elaboration Prompts," *Journal of the Academy of Marketing Science*, 40 (September), 695-710.

Hayes, Andrew F. (2013), *An Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, New York: Guilford Press.

Hershfield, Hal E. and Neal J. Roese (2015), "Dual Payoff Scenario Warnings on Credit Card Statements Elicit Suboptimal Payoff Decisions," *Journal of Consumer Psychology*, 25 (January), 15-27.

Hsee, Christopher K. (1996), "The Evaluability Hypothesis: An Examination for Preference Reversals between Joint and Separate Evaluations of Alternatives," *Organizational Behavior and Human Decision Processes*, 67 (3), 247-57.

Janis, Irving (1972), *Victims of Groupthink: A Psychological Study of Foreign-Policy Decisions and Fiascoes*, Oxford, England: Houghton Mifflin.

Jappelli, Tullio and Luigi Pistaferri (2013), "Fiscal Policy and MPC Heterogeneity," CEPR Discussion Paper No. 9333.

Joel, Samantha, Geoff MacDonald, and Jason E. Plaks (2013), "Romantic Relationships Conceptualized as a Judgment and Decision-Making Domain," *Current Directions in Psychological Science*, 22 (6), 461-65.

Jones, Edward E. and Richard E. Nisbett (1971), "The Actor and the Observer: Divergent Perceptions of the Causes of Behavior," in *Attribution: Perceiving the Causes of Behavior*, ed. Edward E. Jones et al., Morristown, NJ: General Learning Press, 79-94.

Jorgensen, Bryce L. and Jyoti Savla (2010), "Financial Literacy of Young Adults: The Importance of Parental Socialization," *Family Relations*, 59 (October), 465-78.

Junare, S. O. and Frena M. Patel (2012), "Financial Infidelity: Secret Saving Behavior of the Individual," *Journal of Business Management and Social Sciences Research*, 1 (2), 40-4.

Katona, George (1974), "Psychology and Consumer Economics," *Journal of Consumer Research*, 1 (June), 1-8.

Kenney, Catherine T. (2006), "The Power of the Purse: Allocative Systems and Inequality in Couple Households," *Gender & Society*, 20 (June), 354-81.

Kettle, Keri L., Remi Trudel, Simon Blanchard, and Gerald Häubl (2015), "Helping Consumers Get out of Debt Faster: How Debt Repayment Strategies Affect Motivation to Repay Debt," working paper.

Kivetz, Ran, Oleg Urminsky, and Yuhuang Zheng (2006), "The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention," *Journal of Marketing Research*, 43 (February), 39-58.

Koval, Christy Zhou, Michelle R. vanDellen, Gráinne M. Fitzsimons, and Krista W. Ranby (2015), "The Burden of Responsibility: Interpersonal Costs of High Self-Control," *Journal of Personality and Social Psychology*, 108 (May), 750-66.

Laughlin, Patrick R. (1980), "Social Combination Processes of Cooperative Problem-Solving Groups on Verbal Intellective Tasks," in *Progress in Social Psychology*, ed. Martin Fishbein, Hillsdale, NJ: Earlbaum, 127-55.

Laughlin, Patrick R. and Alan L. Ellis (1986), "Demonstrability and Social Combination Processes on Mathematical Intellective Tasks," *Journal of Experimental Social Psychology*, 22 (May), 177-89.

Lerner, Jennifer S. and Philip E. Tetlock (1999), "Accounting for the Effects of Accountability," *Psychological Bulletin*, 125 (March), 255-75.

Li, Norman P., Michael J. Bailey, Douglas T. Kenrick, and Joan A. W. Linsenmeier (2002), "The Necessities and Luxuries of Mate Preferences: Testing the Tradeoffs," *Journal of Personality and Social Psychology*, 82 (June), 947-55.

Li, Norman P. and Douglas T. Kenrick (2006), "Sex Similarities and Differences in Preferences for Short-Term Mates: What, Whether, and Why," *Journal of Personality and Social Psychology*, 90 (March), 468-89.

Lieber, Ron (2010), "How to be Frugal and Still Be Asked on Dates," http://www.nytimes.com/2010/08/21/your-money/21money.html.

Lowe, Michael L. and Kelly L. Haws (2014), "(Im)moral Support: The Social Outcomes of Parallel Self-Control Decisions," *Journal of Consumer Research*, 41 (August), 489-505.

Lynch, John G. (2011), "Introduction to the *Journal of Marketing Research* Special Interdisciplinary Issue on Consumer Financial Decision Making," *Journal of Marketing Research*, 48 (October), Siv-Sviii.

Mani, Anandi, Sendhil Mullainathan, Eldar Shafir, and Jiaying Zhao (2013), "Poverty Impedes Cognitive Function," *Science*, 341 (August), 976-80.

Mankiw, N. Gregory (2000), "The Savers-Spenders Theory of Fiscal Policy," *American Economic Review*, 90 (May), 120-5.

Marte, Jonnelle (2015), "The Extramarital Bank Account: Tales of Financial Infidelity," http://www.washingtonpost.com/news/get-there/wp/2015/02/13/the-extramarital-bank-account-tales-of-financial-infidelity.

McKenzie, Craig R. M. and Michael J. Liersch (2011), "Misunderstanding Savings Growth: Implications for Retirement Savings Behavior," *Journal of Marketing Research*, 48 (October), 1-13.

Mead, Nicole L., Roy F. Baumeister, Tyler F. Stillman, Catherine D. Rawn, and Kathleen D. Vohs (2011), "Social Exclusion Causes People to Spend and Consume Strategically in the Service of Affiliation," *Journal of Consumer Research*, 37 (February), 902-19.

Mecia, Tony (2015), "Financial Infidelity Poll: 6% Hid Bank Account from Spouse or Partner," http://www.creditcards.com/credit-card-news/financial-infidelity-poll.php.

Moreland, Richard L. (2010), "Are Dyads Really Groups?" *Small Group Research*, 41 (April), 251-67.

Muraven, Mark and Roy F. Baumeister (2000), "Self-Regulation and Depletion of Limited Resources: Does Self-Control Resemble a Muscle?" *Psychological Bulletin*, 126 (March), 247-59.

Navarro-Martinez, Daniel, Linda Court Salisbury, Kathleen N. Lemon, Neil Stewart, William J. Matthews, and Adam J. L. Harris (2011), "Minimum Required Payment and Supplemental Information Disclosure Effects on Consumer Debt Repayment Decisions," *Journal of Marketing Research*, 48 (October), 60-77.

Newell, Allen and Herbert A. Simon (1972), *Human Problem Solving*, Englewood Cliffs, NJ: Prentice Hall.

O'Brien, Robert M. (2007), "A Caution Regarding Rules of Thumb for Variance Inflation Factors," *Quality & Quantity*, 41 (October), 673-90.

Orman, Suze, "Managing Debt," http://www.suzeorman.com/resource-center/managing-debt.

Oyer, Paul (2014), "How Nobel-Winning Economic Theories Can Help Your Online Dating," http://blogs.wsj.com/speakeasy/2014/01/06/how-nobel-winning-economic-theories-can-help-your-online-dating.

Paolacci, Gabriele, Jesse Chandler, and Panagiotis G. Ipeirotis (2010), "Running Experiments on Amazon Mechanical Turk," *Judgment and Decision Making*, 5 (August), 411-19.

Papp, Lauren M., E. Mark Cummings, and Marcie C. Goeke-Morey (2009), "For Richer, For Poorer: Money as a Topic of Marital Conflict in the Home," *Family Relations*, 58 (February), 91-103.

Parker, Andrew M., Wändi Bruine de Bruin, Joanne Yoong, and Robert Willis (2012), "Inappropriate Confidence and Retirement Planning: Four Studies with a National Sample," *Journal of Behavioral Decision Making*, 25 (October), 382-89.

Peetz, Johanna and Lara Kammrath (2011), "Only Because I Love You: Why People Make and Why They Break Promises in Romantic Relationships," *Journal of Personality and Social Psychology*, 100 (May), 887-904.

Pew Research (2008), "Women Call the Shots at Home; Public Mixed on Gender Roles in Jobs," http://www.pewsocialtrends.org/2008/09/25/women-call-the-shots-at-home-public-mixed-on-gender-roles-in-jobs.

Price, Paul C. and Eric R. Stone (2004), "Intuitive Evaluation of Likelihood Judgment Producers: Evidence for a Confidence Heuristic," *Journal of Behavioral Decision Making*, 17 (January), 39-57.

Pronk, Tila M., Johan C. Karremans, and Daniël H. J. Wigboldus (2011), "How Can You Resist? Executive Control Helps Romantically Involved Individuals to Stay Faithful," *Journal of Personality and Social Psychology*, 100 (May), 827-37.

Ramsey, Dave (2009), "Get Out of Debt with the Debt Snowball Plan," http://www.daveramsey.com/article/get-out-of-debt-with-the-debt-snowball-plan.

Ratner, Rebecca K. and Barbara E. Kahn (2002), "The Impact of Private versus Public Consumption on Variety-Seeking Behavior," *Journal of Consumer Research*, 29 (September), 246-57.

Richins, Marsha L. and Scott Dawson (1992), "A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation," *Journal of Consumer Research,* 19 (December), 303-16.

Rick, Scott I., Cynthia E. Cryder, and George Loewenstein (2008), "Tightwads and Spendthrifts," *Journal of Consumer Research*, 34 (April), 767-82.

Rick, Scott I., Beatriz Pereira, and Katherine A. Burson (2014), "The Benefits of Retail Therapy: Making Purchase Decisions Reduces Residual Sadness," *Journal of Consumer Psychology*, 24 (July), 373-80.

Rick, Scott I., Deborah A. Small, and Eli J. Finkel (2011), "Fatal (Fiscal) Attraction: Spendthrifts and Tightwads in Marriage," *Journal of Marketing Research*, 48 (April), 228-37.

Righetti, Francesca and Catrin Finkenauer (2011), "If You Are Able to Control Yourself, I Will Trust You: The Role of Perceived Self-Control in Interpersonal Trust," *Journal of Personality and Social Psychology*, 100 (May), 874-86.

Rivlin, Gary (2013), "The Long Shadow of Bad Credit in a Job Search," http://www.nytimes.com/2013/05/12/business/employers-pull-applicants-credit-reports.html.

Schawbel, Dan (2015), "10 New Findings About the Millenial Consumer," http://www.forbes.com/sites/danschawbel/2015/01/20/10-new-findings-about-the-millennial-consumer.

Schkade, David, Cass R. Sunstein, and Reid Hastie (2007), "What Happened on Deliberation Day?" *California Law Review*, 95 (3), 915-40.

Scott, Maura L., Martin Mende, and Lisa E. Bolton (2013), "Judging the Book by Its Cover? How Consumers Decode Conspicuous Consumption Cues in Buyer-Seller Relationships," *Journal of Marketing Research*, 50 (June) 334-47.

Sharma, Eesha and Adam L. Alter (2012), "Financial Deprivation Prompts Consumers to Seek Scarce Goods," *Journal of Consumer Research*, 39 (October), 545-60.

Shea, Catherine T., Erin K. Davisson, and Gráinne M. Fitzsimons (2013), "Riding Other People's Coattails: Individuals with Low Self-Control Value Self-Control in Other People," *Psychological Science*, 24 (June), 1031-36.

Shefrin, Hersh M. and Richard H. Thaler (1988), "The Behavioral Life-Cycle Hypothesis," *Economic Inquiry*, 26 (October), 609-43.

Shim, Soyeon, Bonnie L. Barber, Noel A. Card, Jing Jian Xiao, and Joyce Serido (2010), "Financial Socialization of First-Year College Students: The Roles of Parents, Work, and Education," *Journal of Youth and Adolescence*, 39 (December), 1457-70.

Silver-Greenberg, Jessica (2012), "Perfect 10? Never Mind That. Ask Her for Her Credit Score," http://www.nytimes.com/2012/12/26/business/even-cupid-wants-to-know-your-credit-score.html?_r=0.

Simpson, Jeffry A., Vladas Griskevicius, and Alexander J. Rothman (2012), "Consumer Decisions in Relationships," *Journal of Consumer Psychology*, 22 (July), 304-14.

Skitka, Linda J., Elizabeth Mullen, Thomas Griffin, Susan Hutchinson, and Brian Chamberlin (2002), "Dispositions, Scripts, or Motivated Correction? Understanding Ideological Differences in Explanations for Social Problems," *Journal of Personality and Social Psychology*, 83 (August), 470-87.

Smith, Aaron and Maeve Duggan (2013), "Online Dating and Relationships," http://www.pewinternet.org/2013/10/21/online-dating-relationships/.

Soman, Dilip and Min Zhao (2011), "The Fewer the Better: Number of Goals and Savings Behavior," *Journal of Marketing Research*, 48 (December), 944-57.

Srull, Thomas K. and Robert S. Wyer (1979), "The Role of Category Accessibility in the Interpretation of Information about Persons: Some Determinants and Implications," *Journal of Personality and Social Psychology*, 37 (October), 1660-72.

Stewart, Neil (2009), "The Cost of Anchoring on Credit-Card Minimum Repayments," *Psychological Science*, 20 (January), 39-41.

Su, Chenting, Edward F. Fern, and Keying Ye (2003), "A Temporal Dynamic Model of Spousal Family Purchase-Decision Behavior," *Journal of Marketing Research*, 40 (3), 268-81.

Sundie, Jill M., Douglas T. Kenrick, Vladas Griskevicius, Joshua M. Tybur, Kathleen D. Vohs, and Daniel J. Beal (2011), "Peacocks, Porsches, and Thorstein Veblen: Conspicuous Consumption as a Sexual Signaling System," *Journal of Personality and Social Psychology*, 100 (April), 664-80.

Sussman, Abigail B. and Adam L. Alter (2012), "The Exception is the Rule: Underestimating and Overspending on Exceptional Expenses," *Journal of Consumer Research*, 39 (December), 800-14.

Sweet, Elizabeth, Arijit Nandi, Emma K. Adam, and Thomas W. McDade (2013), "The High Price of Debt: Household Financial Debt and Its Impact on Mental and Physical Health," *Social Science & Medicine*, 91 (August), 94-100.

Tangney, June P., Roy F. Baumeister, and Angie Luzio Boone (2004), "High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success," *Journal of Personality*, 72 (April), 271-324.

Tsukayama, Eli, Angela Lee Duckworth, and Betty Kim (2012), "Resisting Everything Except Temptation: Evidence and Explanation for Domain-Specific Impulsivity," *European Journal of Personality*, 26 (May/June), 318-34.

UBS Wealth Management Americas (2014), "Couples and Money: Who Decides?" *UBS Investor Watch*, 2Q, 1-16.

United States Conference of Catholic Bishops (2015), "Dating and Engaged: Must-Have Conversations," http://www.foryourmarriage.org/dating-engaged/must-have-conversations.

Van Boven, Leaf, Margaret C. Campbell, and Thomas Gilovich (2010), "Stigmatizing Materialism: On Stereotypes and Impressions of Materialistic and Experiential Pursuits," *Personality and Social Psychology Bulletin*, 36 (April), 551-63.

vanDellen, Michelle R., James Y. Shah, N. Pontus Leander, Julie E. Delose, and Jerica X. Bornstein (2015), "In Good Company: Managing Interpersonal Resources that Support Self-Regulation," *Personality and Social Psychology Bulletin*, forthcoming.

Vazire, Simine, Laura P. Naumann, Peter J. Rentfrow, and Samuel D. Gosling (2008), "Portrait of a Narcissist: Manifestations of Narcissism in Physical Appearance," *Journal of Research in Personality*, 42 (December), 1439-47.

Vohs, Kathleen D. and Ronald J. Faber (2007), "Spent Resources: Self-Regulatory Availability Affects Impulse Buying," *Journal of Consumer Research*, 33 (March), 537-47.

Vohs, Kathleen D., Catrin Finkenauer, and Roy F. Baumeister (2011), "The Sum of Friends' and Lovers' Self-Control Scores Predicts Relationship Quality," *Social Psychological and Personality Science*, 2 (March), 138-45.

Wang, Yajin and Vladas Griskevicius (2014), "Conspicuous Consumption, Relationships, and Rivals: Women's Luxury Products as Signals to Other Women," *Journal of Consumer Research*, 40 (February), 834-54.

Wansink, Brian (2006), *Mindless Eating: Why We Eat More Than We Think*, New York: Bantam Books.

Ward, Adrian F. and John G. Lynch (2015), "On a Need-to-Know Basis: Circumstantial Responsibility, Financial Literacy, and Financial Outcomes," working paper.

Watson, David (1989), "Strangers' Ratings of the Five Robust Personality Factors: Evidence of a Surprising Convergence with Self-Report," *Journal of Personality and Social Psychology*, 57 (July), 120-28.

Watson, David, Eva C. Klohnen, Alex Casillas, Ericka N. Simms, Jeffrey Haig, and Diane S. Berry (2004), "Match Makers and Deal Breakers: Analyses of Assortative Mating in Newlywed Couples," *Journal of Personality*, 72 (October), 1029-68.

Webley, Paul (2014), "The Development of Saving," in *The Interdisciplinary Science of Consumption*, ed. Stephanie D. Preston, Morten L. Kringelbach, and Brian Knutson, Cambridge, MA: MIT Press, 243-62.

Wegner, Daniel M. (1986), "Transactive Memory: A Contemporary Analysis of the Group Mind," in *Theories of Group Behavior*, ed. Brian Mullen and George E. Goethals, New York: Springer-Verlag, 185-208.

Wegner, Daniel M., Ralph Erber, and Paula Raymond (1991), "Transactive Memory in Close Relationships," *Journal of Personality and Social Psychology*, 61 (December), 923-29.

Wegner, Daniel M., Toni Giuliano, and Paula T. Hertel (1985), "Cognitive Interdependence in Close Relationships," in *Compatible and Incompatible Relationships*, ed. William J. Ickes, New York: Springer-Verlag, 253-76.

Weil, Bonnie Eaker (2008), *Financial Infidelity: Seven Steps to Conquering the #1 Relationship Wrecker*, New York: Plume.

Yeagley, Erin, Beth Morling, and Maria Nelson (2007), "Nonverbal Zero-Acquaintance Accuracy of Self-Esteem, Social Dominance Orientation, and Satisfaction with Life," *Journal of Research in Personality*, 41 (October), 1099-106.

Zajonc, Robert B. (1965), "Social Facilitation," *Science*, 149 (July), 269-74.

Zarnoth, Paul and Janet A. Sniezek (1997), "The Social Influence of Confidence in Group Decision Making," *Journal of Experimental Social Psychology*, 33 (July), 345-66.

Zhao, Xinshu, John G. Lynch, and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," *Journal of Consumer Research*, 37 (2), 197-206.

Zuckerman, Marvin (1979), *Sensation Seeking: Beyond the Optimal Level of Arousal*, Hillsdale, NJ: Erlbaum.

——————— (1994), *Behavioral Expressions and Biosocial Bases of Sensation Seeking*, New York: Cambridge University Press.