Consumer Behavior in “Equilibrium”: How Experiencing Physical Balance Increases Compromise Choice

JEFFREY S. LARSON

DARRON M. BILLETER

Jeffrey S. Larson is an Assistant Professor at the Marriott School of Management, Brigham Young University, 672 TNRB, Provo, UT 84602, jeff_larson@byu.edu, Phone: (801) 422-2266; Darron M. Billeter is an Assistant Professor of Marketing at the Marriott School of Management, Brigham Young University, 688 TNRB Provo, UT 84602, darron@byu.edu, Phone: (801) 422-4810. The authors wish to thank Lawrence Williams, Bill Ross, and Eric DeRosia for helpful comments and the review team for their constructive reviews.
Consumer Behavior in “Equilibrium”: How Experiencing Physical Balance Increases Compromise Choice

The authors propose that the physical sensation of balance can affect consumer judgments and decisions. A series of six experiments demonstrates that certain consumer behaviors, such as leaning back in a chair while shopping online, can activate the concept of balance and thereby affect the consumer decision-making process. Specifically, consumers experiencing a heightened sense of balance are more likely to choose compromise options. The authors propose and show evidence for the mechanism underlying these effects—that the concept of balance is metaphorically linked in the mind to the concept of parity and that activating balance increases the accessibility of the parity concept. The increased accessibility of parity changes consumer perceptions of the product offerings in a choice set, increasing the selection of compromise options because they provide parity on the described product attributes.

*Keywords:* balance, compromise choice, conceptual metaphor, embodied cognition
Consider an Internet shopper browsing an online store. Just before the shopper makes her final selection, she leans back in her chair so that she is balancing on the chair’s two back legs. She then chooses the product she wants from the website and completes the online transaction. Was the product she selected influenced in any way by her prior action of leaning back in the chair? Most observers would hypothesize that this simple action does not produce a systematic effect on choice behavior. After all, research on online shopping decisions has typically focused only on the influence of stimuli on the computer screen. We propose that the shopper’s pattern of thought was likely altered by the simple act of leaning back in the chair, which could lead to a systematic change in product choice. When the shopper pushed the chair’s two front legs off the ground, she needed to increase her focus on maintaining physical balance. The resultant activation of the concept of balance also activated another concept associated with balance—the concept of parity. In this article, we propose that the concept of balance is closely linked to the concept of parity and that, as a result of this link, activating physical balance also increases accessibility of the concept of parity, which can alter consumers’ perceptions of the equality offered by options in a choice set and thereby systematically change their behavior. Specifically, we suggest that our online shopper was more likely to choose a compromise option after leaning back because she was more likely to view the compromise option as a product providing parity in the attributes.

Because shopping occurs in a physical environment, balance can be activated in various ways in the marketplace and, by increasing accessibility of the parity concept, can affect choice behavior. For example, a woman shopping in high heels is likely to experience elevated levels of balance activation, as is someone shopping after a yoga class or after stepping off an escalator. The physical experience of balance in the marketplace makes parity more accessible to
consumers, which alters their perceptions of the parity offered in the choice set. Because of this association between balance and parity, consumers who focus on maintaining their physical balance are more likely to perceive equality, when present, in product options. Compromise options are attractive precisely because they provide equality (Chernev 2005). Thus, increasing the likelihood of perceiving parity in compromise options increases the selection of the compromise option.

The six experiments we present not only demonstrate how the experience of physical balance affects consumer behavior but also provide insight into the activation of metaphor-based cognitive links between concepts. In addition to activating balance through physical means, we provide evidence that its activation (and subsequent effect on choice) can also occur through semantic metaphor and priming. In the next section, we provide the theoretical foundation for this work. We follow this with a description of six experiments that test our central hypothesis and provide insight into the mechanism underlying it. Finally, we conclude with a discussion and suggestions for further research.

**CONCEPTUAL BACKGROUND**

Since Lakoff and Johnson (1980) proposed that metaphors reflect deep-seated associations within people’s cognitive structures, research from several domains has provided evidence in favor of this hypothesis. This conceptual metaphor paradigm posits that many abstract concepts are structured in the mind through metaphoric association with more concrete concepts, often physical. For example, the abstract concept of power is understood through a metaphorical linkage with the concept of verticality, such that more powerful people are
typically perceived as being in a physically higher position (Giessner and Schubert 2007). Metaphors provide a means to understand elusive target concepts, such as social power, morality, and emotional attachment, through more easily understood physical source concepts, such as verticality, physical cleanliness, and spatial distance, respectively (Schubert 2005; Williams and Bargh 2008; Zhong and Liljenquist 2006).

Several studies provide evidence for the effect of conceptual metaphors on judgment and decision making. For example, the abstract concept of morality is understood through metaphorical association with physical cleanliness. Thus, being exposed to clean scents encourages moral behavior (Liljenquist, Zhong, and Galinsky 2010), and recalling immoral behavior increases the desire for products that can physically cleanse (Zhong and Liljenquist 2006). Similarly, because physical direction (up/down) is the source concept for cardinal direction (north/south), northbound travel is judged to be more difficult (Nelson and Simmons 2009).

Although these effects are distinct from one another, they all occur because of metaphorical connections between the physical and the abstract. Because of these connections, when knowledge about a physical concept becomes active (e.g., physical cleanliness), the target concept associated with that physical concept (i.e., morality) also becomes accessible, inducing a change in behavior or judgment (increase in charitable giving). In addition, the associations are often bidirectional. Increasing the accessibility of an abstract concept (e.g., immorality) also increases the accessibility of the foundational physical concept (i.e., cleanliness), inducing a change in behaviors or judgments related to the latter concept (an increase in the desire to be physically clean).
In this article, we investigate the effect of physical balance on consumer judgment and choice. We hypothesize that balance affects the consumer choice process by increasing the accessibility of the abstract concept of parity, which is the target concept associated with the source concept of balance.

**Balance and Parity**

Physical balance is a gross motor skill typically learned early in life. As with any motor skill, the amount of mental effort required to manage one’s balance decreases with greater expertise. Although physical balance skills are always required when standing or walking, the concept of balance remains at low levels of mental activation under normal circumstances. However, a variety of physical experiences can activate balance. As we mentioned previously, several such experiences can occur in consumer settings—walking in high heels, stepping off an escalator, leaning back in a chair while Internet shopping, or doing yoga before a shopping trip. It is during these types of experiences, in which the concept of balance is activated, that we expect balance to affect choice.

Physical balance, as with many other physical experiences, affects choice by increasing the accessibility of other, closely associated concepts. Lakoff and Johnson (1999) discuss several nonphysical, higher-order concepts that are associated with physical concepts and experiences (e.g., importance with physical size; “She had a big idea”). They use linguistic expressions as evidence for particular associations between the physical and the abstract.

Similarly, we find several linguistic expressions that demonstrate a close relationship between the physical concept of balance and the abstract concept of equality. “Balancing an equation” and “balancing a checkbook” both express actions that equalize quantities. A fair-minded person is likely to “consider both sides of the story” to “balance the conflicting
Several cultural and religious philosophies provide further evidence that balance is related to the abstract concept of parity. For centuries, the dominant paradigm in medicine attributed poor health to a lack of balance (or parity) in the four humors (Sudhoff 1926). In law, the abstract concept justice is symbolized by a twin-pan balance, which equalizes crime with a requisite punishment.

As a result of the conceptual associations between physical balance and parity, any activity that activates the concept of physical balance should also increase the accessibility of the concept of parity. Increased accessibility of the concept of parity has the potential to alter consumer perceptions of the parity offered in a choice set, which could affect several consumer behaviors. For example, the increased accessibility of parity through the activation of physical balance could affect choices in settings in which the individual attributes of a product have equivalent values (Chernev 2004, 2005). Perceptions of brand parity (Muncy 1996) could also be influenced by physical balance. In the current research, we examine the effect of physical balance on compromise choice.

**Compromise Choice**

We expect that the link between balance and parity manifests in an increased proclivity to select compromise choice options. Although our predictions center on compromise choice, and not the compromise effect, it is useful to review the compromise effect and its drivers. The compromise effect, first demonstrated by Simonson (1989), is the increase in choice share a product attains when it becomes the compromise option. A demonstration of the compromise effect requires between-subjects choices from at least two choice sets, one with two options and one with three options. For example, consider the second panel of Figure 1, which displays a choice set with three printers. Printer 1 has superior printing speed; Printer 3 has superior ease of
installation; Printer 2 is the compromise option: It provides superiority on neither attribute but instead provides equal value on both attributes. The compromise effect requires presenting a choice set comprising only two of these printers—for example, Printer 1 and Printer 2. The compromise effect attains when consumers choosing from the three-printer choice set choose Printer 2 in higher proportion than consumers choosing from the two-printer choice set. One of the reasons the compromise effect occurs is that the three-option choice set changes the way consumers characterize the choice. In the two-option choice set, the two printers represent a simple trade-off between two attributes. In the three-option choice set, the trade-offs are still there, but in addition, Printer 2 represents more than a point on the attribute trade-off frontier—it represents the option providing “equal” value on the attributes. It is this added perception that the option provides equal value on the attributes that can produce the compromise effect (Chernev 2005). The compromise effect occurs because some consumers spontaneously perceive the compromise option to have equal value on the available attributes¹.

It is important to note that the compromise effect does not require that the compromise choice attributes be strictly equal or that the attribute values of the compromise choice option be equidistant from the endpoints of the scale given in the choice set. In practice, many demonstrations of the compromise effect use equidistant attribute values (including Simonson 1989), but attribute equality is not a necessary condition for the compromise effect. The compromise choices we examine are a subset of all possible compromise choices, because our effect requires attribute equality.

¹In most compromise choice situations, the equality provided by the compromise option is highly context-dependent. In the printer example just mentioned, “16” is equal to “okay” only because both attribute values are equidistant from the endpoints of the attribute scales in this particular choice set. Chernev (2005) examines attribute equality of a different character. In his article, attribute equality is expressed with equal ratings scale values, i.e. both attributes receiving a ‘50’ on a 100-point scale. While these options are consistent with the theory underlying our hypothesis, none of the compromise choice options in our studies use rating scales like those in Chernev’s article. We cite Chernev (2005) because the article argues that his finding of increased choice of products with equally-rated attributes demonstrates that the compromise effect is driven by a desire for products with equalized attributes.
Because physical balance activates related thoughts on parity, consumers experiencing physical balance sensations should be more likely to characterize a compromise option as an “equalized” choice option. That is, consumers whose actions have made the parity concept more accessible are more likely to perceive parity in the choice set. Perceiving the choice set this way will make them more likely to choose the compromise option (Chernev 2005). Thus, activation of physical balance will increase choice of the compromise option. Because we aim to demonstrate increased choice of the compromise option, and not the compromise effect, we do not employ the two-option choice set. Instead, our participants view only three-option choice sets, consistent with recent research on compromise choice (e.g., Novemsky et al. 2007, Study 4).

**Embodied Simulation**

Researchers in psychology (Landau, Meier, and Keefer 2010) have termed the theory we present to explain our hypothesized effect as “conceptual metaphor.” It explains how physical experience can affect judgments and decisions in seemingly unrelated abstract domains through metaphorical associations. However, the conceptual metaphor account is not the only potential explanation for the relationship between physical experience and decisions in abstract domains. The embodied simulation paradigm, as with the conceptual metaphor paradigm, provides reasoning for how physical experiences can affect nonphysical behavior or judgments. The dominant theory of the embodied simulation paradigm is Barsalou’s (1999, 2008) perceptual symbols systems model. The model posits that concepts, including attitudinal, social, emotional, and others, “contain modality-specific representations of sensations, motor activity, and other
bodily states that occur during interactions with stimuli corresponding to those concepts” (Landau, Meier, and Keefer 2010, p. 1053). As a result, thinking about a concept increases the accessibility of the physical sensations and the bodily states the concept contains. The reverse is also true; engaging in physical actions increases the accessibility of any concept that contains those actions in its makeup.

The embodied simulation paradigm explains several experimental effects that show either physical effects of concept activation or concept activation from physical activity. For example, because the concept of elderly includes motoric representations of slow, labored movements, activating the elderly concept causes participants to walk more slowly down a hallway (Bargh, Chen, and Burrows 1996). Similarly, holding a pencil in one’s mouth to surreptitiously induce a smile increases the accessibility of the concept of humor, thus leading participants to judge comics to be funnier (Strack, Martin, and Stepper 1988).

Because of the similarities between the effects produced by conceptual metaphor and embodied simulation, we design experiments to determine whether embodied simulation or conceptual metaphor provides a stronger theoretical explanation for our effects. We hypothesize that conceptual metaphor, not embodied simulation, provides a stronger explanation for the relationship between physical balance and increased compromise choice.

The key operational implication of the theoretical distinction between conceptual metaphor and embodied simulation is that conceptual metaphor allows for activation of the source concept by nonphysical means (Landau, Meier, and Keefer 2010). That is, the concept of balance can also be activated by means other than physical activity. Embodied simulation, on the other hand, requires the activation of specific bodily states or physical sensations, not the general activation of a related concept. Thus, any effects induced through nonphysical activation of the
balance concept would be consistent with a conceptual metaphor account and not an embodied simulation account. Thus, embodied simulation can only account for effects caused by a narrow set of physical activities. Conversely, conceptual metaphor effects can be induced by a wider variety of stimuli. Because conceptual metaphor does not require the activation of specific bodily states, it can be induced through physical and semantic (metaphoric) stimuli, as well as through concept priming. In this article, we test whether physical stimuli, semantic stimuli, and priming can produce increased compromise choice and find that a conceptual metaphor account is more consistent with our findings.

**Balance Activation Versus Experiencing Imbalance**

Our hypothesized effect depends on the activation of balance above baseline levels. Activation of balance most often occurs with an imbalance experience as the body’s proprioceptive system alerts the person to the threat of falling (Blakley and Siegel 1995). When someone stumbles or feels unstable, balance becomes activated as the person attempts to restore physical equilibrium. Still, activation of balance can also occur without the experience of imbalance. For example, standing near a ledge or observing someone stumble can activate the concept of balance without an accompanying physical imbalance. Because balance activation is often (but not always) confounded with experienced imbalance, it is necessary to distinguish these two phenomena conceptually and, to the extent possible, experimentally. We propose that the physical *experience* of balance/imbalance is distinct from mental *activation* of balance. Conceptually, the physical experience of balance lies on a continuum from balanced (stable, in perfect physical equilibrium) to unbalanced (unstable, falling down). The mental activation of balance is a separate continuum, which extends from baseline activation on one end (System 1, or nonconscious processing of balance) to full activation on the other end (System 2, or full
conscious effort expended in maintaining or restoring physical equilibrium; Kahneman and Frederick 2002). We hypothesize that our proposed balance effects are caused when mental activation of balance is high, independent of whether a person is experiencing balance or imbalance. To reiterate, someone who stumbles would experience an imbalance, which would lead to activation of balance above baseline levels, and thus this person would be hypothesized to be more likely to choose compromise options. Meanwhile, someone who observes that person stumble would experience balance, not imbalance, but the observation of the other person’s stumble would still activate the concept of balance. As a result of the activation of the concept of balance, both would be more likely to choose compromise options, despite one experiencing balance and the other experiencing imbalance. This is what is meant by activating the general concept of balance. We propose that what drives our effect is balance activation, regardless of where the balance experience falls on the continuum from perfectly balanced (observing someone stumble) to extreme imbalance (stumbling).

In a series of six experiments, we demonstrate that the mental activation of balance can increase compromise choice. In Experiment 1, participants who lean back on two legs of their chair choose compromise options at higher proportions than participants who sit in a chair with all four chair legs on the ground. In Experiment 2, we use a common, commercially available video game to physically induce balance activation, again leading to increased compromise choice. A physical induction of balance also occurs in Experiment 3, in which participants make a choice while either standing on one foot (for balance activation) or both feet (control). We find that the accessibility of parity mediates the relationship between the activation of physical balance and compromise choice. We also show in Experiment 3 that the result is not an order

---

1 To reiterate, we use the phrase “balance activation” to refer to the concept of balance being made accessible in the participant’s mind. It does not imply that the participant is feeling physically balanced or imbalanced.
effect that only occurs when the compromise choice is the middle option. In Experiment 4, we induce balance activation through mental simulation of physical activity to demonstrate that general balance activation, not the experience of imbalance, causes increased compromise choice. Experiment 5 employs priming techniques to provide additional evidence in favor of concept accessibility and to investigate whether goal activation is a plausible alternative explanation for our results. Finally, Experiment 6 activates balance through semantic metaphors. These final two experiments demonstrate that conceptual metaphor provides a stronger theoretical framework for our findings than embodied simulation.

EXPERIMENT 1

According to our hypothesis, any activity that activates balance should make the concept of parity more accessible, which in turn will influence choice behavior. We first test this proposition by measuring choice behavior while participants make choices from a series of three-option choice sets while either leaning back on two legs of their chair or sitting flat. We expect that participants making choices while leaning back will exhibit a greater propensity to choose compromise options.

Method

We conducted experimental sessions of between one and three participants in a small conference room around a large center table. Barriers were placed on the table such that participants were not visible to one another. Participants were randomly assigned to one of two conditions (leaning back in the chair with only two chair legs on the ground or having all four chair legs resting on the ground) in a single-factor between-subjects design. In the leaning chair
condition, participants were instructed to lean their chair back so that the front two legs came off the floor. They were further instructed to “lean back as far as you can without risking a fall backwards.” In the stable chair condition, participants were instructed to “sit back” in their chair, rather than lean. The study proctor was present during all sessions to ensure that participants followed the instructions. Of the 104 participants, only 1 participant failed to follow directions. We eliminated data from this participant, which left complete data from 103 participants, 54 of whom were randomly assigned to the leaning chair condition.

After these instructions, participants made three product choices from three-option choice sets. The responses to these choices formed our dependent measure. Participants first selected a computer, followed by a printer and a car. The screen advanced between each choice so that only one choice set was visible at a time. The computers varied on speed and graphics capabilities, the printers varied on printing speed and ease of installation, and the cars varied on acceleration and top speed. Figure 1 presents the three choice stimuli.

Results and Discussion

We hypothesized that leaning back in the chair would activate physical balance in participants, which in turn would make the parity concept more accessible and subsequently increase the choice of the compromise option. Consistent with our hypothesis, choice of the compromise option was consistently higher across the three choices for participants in the leaning chair condition (58.0%) than those in the stable chair condition (46.9%). Table 1 shows the percentage compromise choice of each condition across the three choices. To ascertain whether compromise choice was significantly affected by condition, we ran a logistic regression model in SAS using the nlmixed procedure. We included subject-level intercepts to account for nonindependence among within-subject choice. The model indicated that activating balance by
leaning back in a chair significantly increased participants’ choice of the compromise option 
(t(102) = 1.97, p < .05).

According to our theory, the instability induced by leaning back on two legs of a chair should activate the concept of balance. Because of the metaphorical connections between the concepts of balance and parity, activating balance should also make the concept of parity accessible. This is likely to change consumer perceptions of the product offerings, increasing the perceptions of parity offered by compromise choices in the choice set. In turn, the heightened perception of parity should increase the desirability of the compromise choice options because they provide equality in the attributes. The results of Experiment 1 are consistent with our proposed theory, as we observed an increase in compromise choice from participants who were leaning back in their chairs. We conducted this study in an online survey, a context that mirrors the choice context that many consumers experience when purchasing online.

Leaning back in a chair is only one way to physically activate the balance concept. Thus, in Experiment 2, we activate balance with two physical activities induced while playing a widely available video game system. We replicate the results of Experiment 1, showing an increase in compromise choice for participants engaging in physical activity that activates the balance concept.

EXPERIMENT 2
The Wii video game system is controlled with physical movement rather than button presses. In particular, the Wii Fit game for this system uses a weight-sensitive board on which participants stand and control the game through weight shifts. Several of these games activate the balance concept, while others do not, making it ideal to test our hypothesis.

*Method*

Eighty-one undergraduate students received extra credit for participation in a study on distraction. Experiment 2 employed a single-factor design with three conditions—two balance conditions and one control. In all three conditions, participants played a video game on the Wii Fit while simultaneously responding verbally to questions administered by a research assistant who was blind to the hypothesis of the experiment. Participants stood in front of two monitors of the same size, one positioned on a shelf and one positioned below the shelf (see Figure 2). The bottom monitor displayed the video game, and the top monitor displayed the online questionnaire. The research assistant brought each participant into the room one at a time and explained the video game task. Participants completed the task individually, with only the participant and experimenter in the room. Participants were given one minute to practice the video game, after which the research assistant began verbally reading the questions to the participants, which were concurrently displayed on the screen. Participants were instructed that if they had difficulty attending to both the questionnaire and the video game, their first priority should be to the questionnaire.

---------------------------------------------------

Insert Figure 2 about here
---------------------------------------------------

Participants assigned to each condition played a different game—Penguin Slide, Yoga (Tree Pose), or Jogging. Both the Penguin Slide and Yoga games activate physical balance. In
both games, participants stand on a board that monitors weight shifts. During the yoga exercise, participants receive real-time feedback on the stability of their balance as they perform a one-footed pose (pictured in Figure 2). In Penguin Slide, participants shift their weight from side to side to control the angle of an iceberg to help a penguin on top of the iceberg gather fish. In Jogging, participants move a hand controller up and down repeatedly to move a jogger along a path.

While participants were performing the task, the experimenter verbally asked them to make product choices. The product choices were displayed on the screen so that participants could read the questions as the experimenter read them aloud. Participants made two choices, the printer choice and the car choice from Experiment 1.

Note that though the Yoga and Penguin Slide tasks require concentration to maintain physical balance, the research assistant never used the word “balance” while giving instructions to the participants. In the video games themselves, the use of the word “balance” is limited or nonexistent. On the Penguin Slide task, balance is never mentioned; in the Yoga task, the word “balance” appears on the screen one time during the two minutes of automated instructions.

Results and Discussion

As we hypothesized, participants performing Yoga and Penguin Slide chose the compromise printer more than the Jogging participants (40% vs. 23%). They were also more likely to choose the compromise car (55% vs. 38%). Of the 110 choices made by the 55 participants in a balanced condition, 52 of those choices, or 47%, were for the compromise option. Of the 52 choices made by the 26 participants in the control condition, only 16 of the choices, or 31%, were for the compromise option (see Figure 3). As in Experiment 1, we ran a logistic regression model using the nlmixed procedure in SAS with subject-level intercepts. The
model shows that participating in a physical activity that activated balance led to significantly more compromise choice ($t(80) = 1.99, p < .05$).

An alternative explanation that we also investigated was the amount of distraction participants experienced in each condition. It could be argued that Penguin Slide and Yoga were more distracting than the Jogging task, and it was this difference in participant distractedness that caused a change in mental processing and an increased choice of the compromise option. To address this, we asked each participant, at the end of the experiment, “How difficult was it for you to answer the questions while performing the distraction task?” No differences in task difficulty were observed. Participants found it equally easy to respond to the questionnaire while performing the Jogging ($M = 1.7, SD = .5$), Yoga ($M = 1.8, SD = .4$), and Penguin Slide ($M = 1.7, SD = .5$) tasks (Jogging vs. Yoga: $t(78) = -.38, p = .71$; Jogging vs. Penguin Slide: $t(78) = .42, p = .67$; Yoga vs. Penguin Slide: $t(78) = .81, p = .42$).

Another alternative explanation (suggested by a reviewer) is that the manipulations meant to induce balance activation also induce greater physical discomfort, and that this discomfort causes participants to take shortcuts in their decisions, such as choosing compromise options. To test this alternative, we repeated Experiment 2 on a new sample of 79 undergraduate students. At the end of the study, we measured participants’ physical discomfort with the following statements: “I felt physical discomfort performing the video game task,” “Doing the task made me physically uncomfortable,” and “Doing the task made me feel physically at ease” (Cronbach’s Alpha = .89). Reported discomfort was significantly higher for Yoga ($M = 2.7$) than Jogging ($M = 1.6$), $t(76) = 4.8, p < .01$, but discomfort from Penguin Slide ($M = 1.7$) was not
different from Jogging, \( t(76) = -0.54, p = 0.59 \). The general pattern of felt discomfort does not appear to align with the pattern of compromise choice. To confirm that felt discomfort had no effect on choice, we modeled compromise choice by balance condition with and without felt discomfort as a covariate. Without the discomfort covariate, we find that balance condition significantly influences compromise choice \( (t(76) = 1.89, p = 0.03, \text{one-tailed}) \). With the discomfort covariate, the coefficient on balance condition decreases only slightly, indicating that felt discomfort does not mediate compromise choice \( (t(76) = 1.61, p = 0.06, \text{one-tailed}) \). (The Sobel test for mediation was not significant, \( t(76) = -0.57, p = 0.57 \).)

We hypothesize that engaging in physical tasks that activate balance changes the way consumers perceive a choice option that offers parity, increasing their likelihood of choosing it. Experiment 2 provides additional validation for this hypothesis. Two activities that activated balance (a common exercise routine and a video game) both led to an increase in compromise choice.

**EXPERIMENT 3**

Experiment 3 activates balance in yet another physical manner while also providing additional evidence in favor of our proposed mechanism. The first objective of Experiment 3 is to show evidence that physical balance increases compromise choice by increasing the likelihood that participants interpret the compromise option as providing “equal” value on the attributes. Second, we investigate whether the accessibility of the parity concept mediates the relationship between physical balance activation and compromise choice. Third, we include a debias condition, showing that making participants aware of the undue influence of physical balance
erases its effect. Fourth, we investigate whether the effect is driven by equality in the attribute values (as we propose) or an increased desire for the middle option (Mochon and Frederick 2010).

Method

Participants in Experiment 3 were assigned to one of three conditions: balance, control, or debias. The study was conducted by a research assistant, who brought participants into a room one at a time. The research assistant instructed participants to stand in front of a large computer screen situated at eye level. The first screen instructed participants that the study was voice activated—they would make their choices verbally, and the screen would advance when it “heard” their verbal response. After the participants had thoroughly read this screen, the research assistant advanced past this first screen, after which the study continued without further input from the research assistant. (The study was conducted and data were recorded with directRT software, which can be programmed to advance through verbal signals.)

Participants assigned to the balance condition were instructed to stand on one foot as they performed the study. Participants in the control condition were not given this instruction. Those assigned to the debias condition were instructed to stand on one foot and were also told that prior research had shown that exerting effort to maintain physical balance causes people to choose products that provide equal value on its attributes.

After receiving this instruction, participants selected one of three printers they preferred by stating “1,” “2,” or “3.” They were then asked to state the reasons they chose that printer. In total, Experiment 3 collected data from 82 participants—29 in the balance condition, 27 in the control condition, and 29 in the debias condition.

Results and Discussion
Table 2 shows the percentage of participants who chose the compromise printer in each condition. Of the 29 participants in the balance condition, 22, or 76%, chose the compromise printer. In contrast, only 14 of 27 participants (52%) in the control condition and 11 of 29 participants (38%) in the debias condition chose the compromise printer. The difference between the balance and control condition was significant ($\chi^2(1) = 3.51, p = .03$, one-tailed), showing that the activation of physical balance again increased compromise choice propensity. The difference between the control and debias condition was not significant ($\chi^2(1) = 1.09, p = .30$), indicating that consumers who were aware of the effect of balance on their choice no longer heeded its influence.

We propose that physical balance increases choice of the compromise option by increasing the likelihood that consumers perceive the compromise option as providing parity in the attributes. As participants experience physical balance, terms such as “even,” “equal,” and “same” should be more accessible, and participants should be more likely to interpret the choice options as those that provide “even,” “equal,” or “same” attributes. To test this, we asked a research assistant, who was blind to the hypothesis of the study, to code the participants’ responses as to why they chose their preferred printer. To measure the accessibility of the parity concept, responses that contained the word “equal,” “middle,” “balance,” “moderate,” or “medium” were coded as 1. Responses without any of these key words were coded as 0. (No other terms related to the concept of equality were used by participants. In addition, the general pattern of the results of our mediation test is the same regardless of the inclusion/exclusion of any particular term, thus attesting to the robustness of the results.) We predicted that participants
in the balance condition would be more likely to interpret the compromise printer as the one that provided parity in the attributes. We used the aforementioned terms as indicators that participants were indeed interpreting the compromise printer this way.

Of the 29 participants in the balance condition, 17 justified their printer choice using one of the key indicator words. Only 9 of 27 participants in the control condition used these same key words. This difference was significant ($\chi^2(1) = 3.59, p = .03$, one-tailed).

To test for mediation, we followed the pattern Baron and Kenny (1986) outline and investigated whether the parity terms mediated the relationship between the balance condition and compromise choice. As we previously mentioned, the relationship between the independent variable (condition) and the dependent variable (compromise choice) was significant. In addition, the relationship between the independent variable (condition) and the proposed mediator (parity word use) was significant. We also conducted a logistic regression on compromise choice, including both condition and the coded variable as independent variables. The coded variable significantly predicted compromise choice ($t(53) = -4.36, p < .01$), while condition no longer significantly predicted compromise choice ($t(53) = 1.02, p = .31$). Finally, we constructed a structural equations model in MPlus, which accounts for the binary nature of the mediator and dependent variable. The Sobel test was significant ($z = -1.82, p = .03$, one-tailed).

Experiment 3 also removed a confound that was present in Experiments 1 and 2. Prior research has proposed that one driver of the compromise effect is the compromise choice’s physical location as the middle option (Mochon and Frederick 2010). Experiments 1 and 2 displayed the choice options in the logical order, which locates compromise choice in the middle. It could be argued that physical balance merely accentuates a consumer’s desire to choose the
middle option. In Experiment 3, the compromise printer appeared last, displayed on the right-hand side of the screen. Thus, the increase in compromise choice caused by physical balance is likely not driven by an increased desire for the middle option but rather for the option that gives equal value on the described attributes.

**EXPERIMENT 4**

In Experiment 4, we attempt to distinguish between the physical experience of balance and the mental activation of the balance concept. We hope to demonstrate that general balance activation causes increased compromise choice, as opposed to the alternative hypothesis that increased compromise choice is only caused by an experienced imbalance.

To distinguish these alternatives, we needed to create a condition in which the balance concept was activated without any accompanying sensation of imbalance and compare it with another condition that induced a sensation of imbalance. Because it is difficult in a field setting to ensure that a physical task that activates physical balance does not also induce any sensation of imbalance, Experiment 4 induced balance and imbalance through mental simulation, which enabled us to control the sensations being simulated.

**Method**

We administered Experiment 4 to 126 undergraduate students recruited for a study on mental simulation. Participants received extra course credit for completion of the experiment. As in Experiment 2, this experiment used a single-factor design with three between-subjects conditions: balance, imbalance, and control. Participants were given the cover story that the researchers were “interested in knowing what types of physical experiences are easy to simulate
and which are more difficult.” In keeping with the cover story, each participant performed three
different mental simulations for 15 seconds each. The second and third simulations were
unrelated to the current experiment and did not involve any type of balance induction.
Participants were instructed that they would be asked to respond to questions between each
simulation to help them clear their minds of the previous simulation. After each simulation,
participants completed the Ease of Imagery Invoked scale (Bone and Ellen 1992), again in
keeping with the cover story that the experiment was about mental simulation.

For the first simulation they performed, participants were randomly assigned to one of
three conditions. In all three conditions, participants simulated actions involving a gymnastic
apparatus. In the two conditions that activated balance, participants simulated walking across a
balance beam. The 38 participants in the balance condition simulated doing so with perfect
balance and the 46 participants in the imbalance condition simulated walking across the beam
and almost falling off. The 42 participants in the control condition simulated swinging around
the high bar.

After answering questions about the simulation, participants made one product choice,
the computer choice from Experiment 1. We hypothesized that both balance conditions, whether
inducing the sensation of imbalance or not, would lead to an increased choice of the compromise
option. Such a result would be consistent with a conceptual metaphor explanation of parity
activation. Our proposal is that the balance concept itself, whether activated by balance or
imbalance, activates the target concept of parity. In contrast, an alternative hypothesis would be
that only the experience of imbalance drives activation of the parity concept.

Results and Discussion
Choice of the compromise option was statistically equivalent in the balanced (M = 66%) and unbalanced (M = 63%) simulations ($\chi^2(1) = .07, p = .79$), but these were statistically higher than in the control condition (M = 45%; $\chi^2(1) = 4.17, p = .04$). The two simulations involving a balance activity, whether that activity resulted in imbalance or not, increased the accessibility of the parity concept, which led to greater choice of the compromise option. Figure 4 shows this result.

---

Insert Figure 4 about here
---

To provide additional evidence that this result was due to the activation of the balance concept and not the ease of imagery of the experience, we asked participants to respond to the Ease of Imagery Invoked scale. We found no differences in the ease of imagery scores between the balance and the control conditions ($t(122) = .28, p = .78$). This is consistent with our account that the difference in compromise choice was driven by balance activation and not by the ease of imagining the three situations.

In Experiment 4, we wanted to determine whether it was the experience of imbalance or the general activation of balance that was driving our results. In this experiment, we show that activating balance, independent of the experience of balance or imbalance, produces the hypothesized result. The results suggest that the accessibility of parity occurs through any activation of the balance concept, regardless of whether that physical activity also induces a sensation of imbalance, consistent with our proposed theoretical account.

Although the results of Experiment 4 are consistent with our proposed mechanism, they cannot definitively demonstrate that the effect attains without a sensation of imbalance. Participants in the balance condition were instructed to simulate perfect balance, but perhaps a
mere mention of the balance beam induced a sensation or thoughts of imbalance. In Experiment 5, we activate balance in a way that more definitively excludes an accompanying experience of imbalance.

**EXPERIMENT 5**

Experiment 5 also investigates whether activating balance or imbalance leads to an increase in compromise choice. In addition to activating balance and imbalance, we activate the concept of parity to examine whether it also increases compromise choice. To activate these three concepts, we employ a traditional priming procedure. Although the central contribution of this article is to show that physical manipulations that activate balance can affect decision making, the use of more established priming procedures enables us to show additional evidence for our conceptual model and the proposed mechanism underlying the physical effect. We propose that physical balance affects decision making through increased accessibility of the parity concept. According to this explanation, priming balance, imbalance, or parity should all increase accessibility of the parity concept, thus leading to the same effect—an increase in compromise choice.

The priming methods used in Experiment 5 also enable us to investigate an alternative mechanism. We attempt to determine whether a goals-based explanation provides a valid explanation for the effect. A goals-based explanation suggests that activating imbalance activates a goal to restore balance, which leads to the choice of “balanced” products (compromise options), satisfying consumers’ need for greater balance. Although this explanation would not indicate why participants in the balance condition (experiencing balance) have an activated goal
to restore balance, we still examine this possibility by introducing a delay between priming and product choice. Goals become stronger over time when they are not sated (Bargh et al. 2001), so this delay should increase compromise choice if the effect is generated by goal activation.

*Method*

Experiment 5 used a 4 (priming condition: balance, imbalance, parity, or control) × 2 (temporal delay: long or short) full factorial design. The 118 participants were assigned to one of four priming conditions administered through a scrambled sentence task. We selected a priming task because it activates balance in a nonphysical way, which helps determine whether embodied simulation is responsible for the effect (embodied simulation cannot explain an effect caused by supraliminal priming). In addition, a priming task is a clear way to test whether activating imbalance, balance, and parity leads to a differential effect on compromise choice. In each condition, participants were required to create four-word sentences from a list of five words. In the balance condition, words such as “stable,” “balanced,” and “sure-footed” were included among the 15 sentences. The imbalance condition included words such as “wobbly,” “unbalanced,” and “clumsy.” Words such as “equally,” “symmetric,” and “same” appeared in the parity condition. The control condition included no such systematic themes (“green,” “fulfilled,” and “tall” replaced “stable,” “balanced,” and “sure-footed”). According to our theory, activating balance, imbalance, or parity should lead to an increase in compromise choice. An alternative theory based on a need to restore balance would predict increased compromise choice only for the imbalance condition.

After completing the scrambled sentence task, participants completed a filler task to induce either a long or short delay before they made their product choice. In both conditions, participants were asked to engage in a deep breathing exercise until the screen automatically
advanced. In the short delay condition, the screen advanced after 60 seconds. In the long delay condition, the screen advanced after four minutes. If balance increases compromise choice through activation of a goal, we should observe temporal escalation or higher compromise choice in the condition with the longer delay.

At the conclusion of the study, we included a funnel debrief to ascertain whether participants noticed a theme in the priming sentences. Two participants (one from the balance condition and one from the imbalance condition) correctly identified the theme of the sentences, but neither saw any connections between this theme and the choices they made afterward. The results do not change substantively with their data removed.

**Results and Discussion**

Table 3 shows the percentage of participants who chose the compromise option in each of the eight conditions. Consistent with our theory, priming imbalance, balance, and equality increased the proportion of compromise choice. Focusing only on the priming factor (e.g. pooling across the temporal delay factor), a planned contrast between the three primed conditions and the control condition confirmed the significance of this increase ($t(113) = 2.72, p < .01$).

Each of the three primed conditions also differed from the control (balance condition: $t(113) = 2.48, p < .05$; imbalance condition: $t(113) = 2.27, p < .05$; parity condition: $t(113) = 1.90, p = .06$). The balance, imbalance, and parity primes all increased choice of the compromise option, because all three conditions activated (directly or indirectly) the parity concept.

Returning to the temporal delay factor, we observe that in all three priming conditions, compromise choice was lower in the long delay condition than the short delay condition. This is contrary to a goals-based explanation of the effect. The decrease in compromise choice was not significant ($t(113) = .51, p = .61$), which provides only null evidence to counter an explanation.
based on goals. Nevertheless, the increase in compromise choice predicted by a goals-based explanation did not occur, giving evidence in favor of our theory that the accessibility of the parity concept is responsible for the increase in compromise choice.

Activating balance and parity through supraliminal priming is consistent with our proposed conceptual metaphor account, but not with an embodied simulation account, which requires a direct activation of the physical sensations of balance. Experiment 6 provides further evidence for the conceptual metaphor explanation of the effect by again manipulating balance in a manner that is not consistent with an embodied simulation account. In Experiment 6, we use purely semantic representations of the balance concept and find, as in the previous experiments, an increase in compromise choice.

**EXPERIMENT 6**

From the theory of conceptual metaphor, we know that abstract concepts are linked with physical concepts through metaphorical associations. One level of evidence for these associations comes from the many physical metaphors used in language to describe abstract concepts. Previous research has shown that the use of metaphors in language activates metaphor-based thoughts that enable mental processing of metaphor-consistent language (Allbritton, McKoon, and Gerrig 1995). The metaphoric use of the balance concept in language should activate both the physical basis of the metaphor and the abstract concept associated with it. The increased accessibility of these balance-related concepts should replicate the results found in the previous experiments.

*Method*
The 67 participants in Experiment 6 received extra course credit for their participation. They began the experiment with a writing task and were randomly assigned to one of two conditions (balance metaphor or control condition). The 29 participants assigned to the balance metaphor condition were asked to write for three minutes about a time when their life felt “out of balance.” The 38 participants assigned to the control condition wrote for three minutes about their typical day. After completing the writing task, participants moved on to an “unrelated experiment,” in which they chose from a set of three computers (the same computers used in Experiments 1 and 4). We hypothesized that being exposed to the metaphoric use of balance would lead to an increase in choice of the compromise computer.

Results and Discussion

Participants in the balance metaphor condition generally wrote about times when they were focused on one aspect of life at the expense of all others (e.g., work at the cost of social interaction; completing homework instead of doing physical exercise). Participants in the control condition generally wrote about waking up, brushing their teeth, going to class, and so forth. We hired a research assistant, who was blind to the hypothesis, to code the open-ended responses for the extent to which participants wrote about balance. Participants who wrote about their life being “out of balance” wrote more extensively about balance than those in the control condition ($t(65) = 4.82, p < .0001$). Of the 29 participants who wrote about their life being “out of balance,” 24, or 83%, chose the compromise computer. Of the 38 participants who wrote about their typical day, 19, or 50%, chose the compromise computer. This difference was significant ($\chi^2(1) = 7.68, p < .01$). The data show that exposure to the balance metaphor significantly increased choice of the compromise option.
According to the theory of conceptual metaphor, abstract concepts become linked through metaphoric association with physical concepts. Previous work has shown that using metaphoric language enables processing of metaphor-consistent statements (Allbritton, McKoon, and Gerrig 1995). Experiment 6 extends those results to show that metaphoric language activates the associations underlying the metaphor. Because both concepts are made more accessible, they can affect choice behavior. In Experiment 6, the increased accessibility of parity from exposure to the metaphoric use of balance led to increased choice of the compromise option.

**GENERAL DISCUSSION**

Physical sensations can affect a person’s cognitions about nonphysical concepts (Ackerman, Nocera, and Bargh 2010). Consumer decisions, which typically require cognitions about abstract information, can be altered by the physical environment in which they occur. Research in psychology has demonstrated several nonphysical cognitions that have been influenced by physical stimuli (Landau, Meier, and Keefer 2010). We demonstrate the influence of the ubiquitous physical phenomenon of balance on abstract cognition. We show that activation of balance through both physical and nonphysical means increases choice of compromise options.

The mental and bodily systems controlling physical balance can be activated in many ways in consumer settings. Although online shopping does not occur in a physical store, physical experience can nonetheless affect the decisions made. We showed that leaning back in a chair affected consumption decisions that occurred in that state (Experiment 1). Any shopping that occurs soon after a yoga class (or any other balance-activating activity) is also likely to be
affected by that physical activity (Experiment 2). Other examples abound. Shopping that occurs after riding on an escalator is likely to be affected by the balance activation that occurred on stepping off the moving stairs. Women who shop while wearing high heels feel less stable than women wearing flat shoes and are likely to make different purchase decisions as a result. Purchase decisions on a cruise ship are likely to be affected by the ship’s movements. Walking on icy sidewalks during winter shopping trips might also alter decisions.

We propose that balance affects these consumer cognitions and behaviors through accessibility of the related concept of parity. Specifically, actions that activate balance increase the accessibility of parity-related thoughts. As a result, consumers are more likely to interpret compromise options in terms of their equalized attributes, leading them to choose the compromise option.

In demonstrating these effects, we are able to rule out several alternative explanations for the results. Experiments 1 and 3 produced significant effects without any mention of the word “balance,” thus ruling out the alternative that the effects are nonphysical. We also attempted to show that the results are not caused by task difficulty or cognitive load. Participants in Experiment 2 reported no more difficulty with the balance-activating task than with the activity that did not activate balance. Experiment 5 activated balance, imbalance, and parity through supraliminal priming, which should not have created any higher cognitive load than the control condition. The various manipulations also rule out the alternative explanation that the effect is caused by enhanced relaxation, because the effect occurs in Experiment 3 even though participants in the balance condition were likely less relaxed.

In Experiments 4 and 5, we provide evidence against the alternative that the results are caused only by a felt imbalance rather than a general activation of the balance concept.
Relatedly, we rule out a goals-based explanation for the effect. A goals-based explanation suggests that activating imbalance activates a goal to restore balance, which leads to choice of “balanced” products (compromise options), which satisfy consumers’ need for greater balance. Goals become stronger the longer they are not satisfied. We test whether this also occurs with our effect as we increase the time between experiencing physical balance and consumers’ selection of a product. We find that the percentage of consumers choosing the compromise option does not increase with a time delay, which is inconsistent with a goals-based explanation for the effect.

We also attempted to demonstrate evidence for our proposed mechanism, which relied on a conceptual metaphor account of the connection between balance and parity rather than an embodied simulation account. First, the sheer variety of ways we can activate balance is not consistent with the current theory of embodied simulation. Second, embodied simulation can account only for physical effects, not those produced through supraliminal priming (Experiment 5) or through exposure to semantic metaphor (Experiment 6). Instead, a conceptual metaphor account easily explains all the effects produced in all six experiments.

Although we demonstrate that balance affects choice of compromise options, other behaviors and cognitions, both within and outside the consumer context, are also likely to be affected by balance activation. Activation of physical balance in a shopping context is likely to increase a consumer’s perception of brand parity (Muncy 1996), which is likely to alter consumption patterns. Balance activation could also affect food choices because more “balanced” meals, with greater parity of representation among the food groups, would become more attractive under such activation. Balance could also have a substantial impact in the context of negotiations, such as divorce proceedings, in which people with a heightened desire for parity...
(from a physical balance experience or some other influence) are more inclined to find an equitable distribution of joint resources. Similarly, experiencing physical balance may influence how a manager decides to divide workload across employees.

An additional domain that should be investigated is whether individual differences in the accessibility of physical balance can influence the impact of physical balance on compromise choice. One individual difference measure worthy of investigation is the impact of the frequency with which people experience balance. In our experiments, we investigate the impact of a temporary activation of balance on compromise choice in a healthy student population. For many people, balance is chronically activated. For example, 8 million people in the United States report chronic problems with balance, and an additional 2.4 million people report chronic problems with dizziness (National Institute on Deafness and Other Communication Disorders 1989). Frequently encountered concepts can become chronically accessible, and effects can occur independent of factors that might temporarily activate them (Bargh et al. 1986). Because of the chronic accessibility of balance, the estimated 10.4 million people experiencing chronic balance and dizziness problems may exhibit a greater proclivity to choose compromise choice options even when no external stimulus is activating balance.

CONCLUSION

Adding to a burgeoning literature that links abstract judgments and decisions to physical experiences, we demonstrate that experiencing physical balance influences consumer choice behavior. Our findings add to the literature on compromise choice by identifying and demonstrating an important moderator of the desire for compromise choice options. The results
demonstrate that influential cognitive processes are at play as people stumble through life, regardless of whether those stumblings are literal or metaphorical.
REFERENCES


### Table 1

EXPERIMENT 1: PERCENTAGE COMPROMISE CHOICE BY CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Computer</th>
<th>Printer</th>
<th>Car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaning chair</td>
<td>66.7%</td>
<td>57.4%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Stable chair</td>
<td>61.2%</td>
<td>40.8%</td>
<td>38.8%</td>
</tr>
</tbody>
</table>
Table 2
EXPERIMENT 3: PERCENTAGE COMPROMISE CHOICE BY CONDITION

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance</td>
<td>75.9%</td>
</tr>
<tr>
<td>Control</td>
<td>51.9%</td>
</tr>
<tr>
<td>Debias</td>
<td>37.9%</td>
</tr>
</tbody>
</table>
Table 3

EXPERIMENT 5: PERCENTAGE COMPROMISE CHOICE BY CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Short Delay</th>
<th>Long Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance</td>
<td>83.3%</td>
<td>76.5%</td>
</tr>
<tr>
<td>Imbalance</td>
<td>78.6%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Parity</td>
<td>75.0%</td>
<td>71.4%</td>
</tr>
<tr>
<td>Control</td>
<td>46.7%</td>
<td>53.3%</td>
</tr>
</tbody>
</table>
Figure 1

EXAMPLES OF CHOICE STIMULI USED IN EXPERIMENTS

You want to buy a new computer. You have narrowed the list of computers down to these three. Everything else about them is similar. Please indicate which computer you would prefer.

<table>
<thead>
<tr>
<th>Speed in GHz</th>
<th>Computer 1</th>
<th>Computer 2</th>
<th>Computer 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphics Card</td>
<td>1.9</td>
<td>1.75</td>
<td>1.6</td>
</tr>
<tr>
<td>Okay</td>
<td>Good</td>
<td>Excellent</td>
<td></td>
</tr>
</tbody>
</table>

- Computer 1
- Computer 2
- Computer 3

Suppose you are buying a printer. You have narrowed the choice down to three printers that are similar on all attributes except the two below. Please select the printer you would prefer.

| Printer 1 | 20 | Poor |
| Printer 2 | 16 | Okay |
| Printer 3 | 12 | Good |

- Printer 1
- Printer 2
- Printer 3

Now, suppose you are buying a new car. You have narrowed it down to these three cars, which are similar on every other dimension but the following. Choose the car you would prefer.

<table>
<thead>
<tr>
<th>Acceleration (0 to 60 in)</th>
<th>Car 1</th>
<th>Car 2</th>
<th>Car 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Speed</td>
<td>95 mph</td>
<td>105 mph</td>
<td>115 mph</td>
</tr>
<tr>
<td>7.8 sec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.4 sec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.0 sec</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Car 1
- Car 2
- Car 3
Figure 2

YOGA TASK SETUP IN EXPERIMENT 2
Figure 3

PERCENTAGE CHOICE OF THE COMPROMISE OPTION AS A FUNCTION OF VIDEO GAME ACTIVITY PERFORMED

**Printer Choice**

- Yoga: 37%
- Penguin: 43%
- Running: 23%

**Car Choice**

- Yoga: 56%
- Penguin: 54%
- Running: 38%
Figure 4

PERCENTAGE CHOICE OF THE COMPROMISE OPTION AS A FUNCTION OF MENTAL SIMULATION PERFORMED

Computer Choice

<table>
<thead>
<tr>
<th></th>
<th>Balance</th>
<th>Unbalanced</th>
<th>High bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Compromise Choice</td>
<td>66%</td>
<td>63%</td>
<td>45%</td>
</tr>
</tbody>
</table>

- **Balance**
- **Control**