Affect as a Decision-Making System of the Present

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A variety of empirical findings reviewed in this research support the general thesis that the affective system of judgment and decision making is inherently anchored in the present. Building on this thesis, this research advances the specific hypothesis that affective feelings are relied on more (weighted more heavily) in judgments whose outcomes and targets are closer to the present than in those whose outcomes and targets are temporally more distant. Results from five experiments show that temporal proximity (*a*) amplifies the relative preference for options that are affectively superior and (*b*) increases the effects of incidental affect on evaluations. These effects are observed when compared to a more distant future as well as to a more distant past, and (*c*) they appear to be linked to a greater perceived information value of affective feelings in judgments whose outcomes and targets are closer to the present. Theoretical implications are discussed.

Consumer judgments and decisions can be made either in a largely cognitive, reason-based manner—by assessing, weighing, and combining attribute information into an overall evaluative judgment—or in a largely affective, feeling-based manner, by inspecting one's momentary feelings toward the options (Pham 1998; Schwarz and Clore 2007). An emerging body of evidence suggests that the two modes of judgment and decision making may tap into separate systems: (*a*) a reason-based, analytical system and (*b*) a feeling-based, affective system (Epstein and Pacini 1999; Strack and Deutsch 2004). Whereas the judgment characteristics of the reason-based system are rather well established (Bettman, Luce, and Payne 1998), those of the affective system have more recently begun to emerge (see Pham [2007] for a review). For example, compared to judgments based on the reason-based system, judgments based on the affective system tend to be (*a*) rendered faster (Pham et al. 2001; Verplanken, Hofstee, and Janssen 1998; Zajonc 1980), (*b*) more polarized (Ratner and Herbst 2005; Sinaceur, Heath, and Cole 2005), (*c*) more holistic (Epstein 1990; Finucane et al. 2000), (*d*) more context dependent (Hsee et al. 2003; Mellers et al. 1997), (*e*) more consistent both within and across individuals (Lee, Amir, and Ariely 2009; Pham et al. 2001), and (*f*) less sensitive to numerical quantities (Hsee and Rottenstreich 2004).

The purpose of this research is to highlight and substantiate an important characteristic of the affective system of judgment and decision making. We argue that the affective system is inherently anchored in the present. In this article, we first review a variety of empirical findings that are consistent with this general thesis. We then offer a novel proposition that derives from the general thesis that affect is a decision system of the present. Specifically, we propose that affective feelings are relied on more (weighted more heavily) in decisions whose outcomes are closer to the present than in decisions whose outcomes are more distant in time, whether future or past. Consistent with this proposition, re-

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sults from five experiments involving a variety of decision domains and tasks show that outcome proximity to the present (*a*) amplifies the relative preference for options that are affectively superior and (*b*) increases the effects of incidental affect on evaluations. These effects are observed when compared to both a more distant future and a more distant past. Additional results suggest that (*c*) these effects are linked to a greater perceived information value of affective feelings in decisions whose outcomes are closer to the present. Taken together with previous empirical findings (reviewed in the next section), our results point to a specific orientation of the affective system toward the present.

PRIOR FINDINGS CONSISTENT WITH A PRESENT ORIENTATION OF THE AFFECTIVE SYSTEM

To the best of our knowledge, the idea that affect is a decision system inherently anchored in the present has not been explicitly formulated as such. However, a variety of findings from different streams of literature seem to be consistent with this general thesis. These include findings indicating that (*a*) affect is experienced more intensely in relation to outcomes that are close to the present, (*b*) certain emotional areas of the brain are engaged only in decisions involving immediate outcomes, and (*c*) affect tends to promote impatience. These previous findings are briefly reviewed below (see appendix table A1).

Proximity to the Present Intensifies Affective Experiences

A number of studies have shown that affect tends to be experienced most intensely when outcomes are closer to the present. In an early demonstration of this phenomenon, participants were asked to rate the intensity of their emotional reactions to various events, should these events occur at different points in time both in the future and in the past (Ekman and Lundberg 1971). Using parametric scaling methods, the authors found that self-reported emotional intensity peaked when the event was set close to the present and decreased at a quasi-exponential rate when the event was set further away, either in the future or in the past. Whereas the time horizons examined in Ekman and Lundberg's (1971) studies spanned decades and even centuries, similar results have been obtained recently by Van Boven, White, and Huber (2009) with much shorter time horizons involving several minutes or even seconds. Other findings show that because emotional reactions intensify with the temporal proximity of the event, their effects on judgments and behaviors are stronger when the event is nearer in time (Huber et al. 2011; Van Boven et al. 2012). For example, Van Boven and colleagues (2012) found that many participants who had agreed to tell a joke in public several days earlier subsequently "chickened out" just minutes before the actual performance. This is presumably because participants tended to underestimate their anxiety related to performing in public when they made their original commitment and the performance was still a distant event. When the actual performance drew near, participants' anxiety increased substantially. It has also been observed that because the emotional experience of events that are closer in time is generally more intense, people correspondingly tend to perceive events that are experienced more intensely as more proximate in time (Van Boven et al. 2010).

Emotional Areas of the Brain Are Only Activated by Immediate Outcomes

Recent neuroscience studies point to a possible biological link between emotional experiences and the present. Using fMRI, McClure et al. (2004) found that in intertemporal choice tasks, areas of the brain that are closely associated with emotions, such as the limbic area and the medial prefrontal cortex, become activated only in choices that involve immediate monetary outcomes (see also Hariri et al. 2006). Similar results have been observed with nonmonetary rewards (McClure et al. 2007). Thus, not only are emotions experienced more intensely when outcomes are closer to the present, but the emotional neural system may respond distinctively to decisions situated in the present.

Stimulus Affect Promotes Impatience

A large number of studies from various literatures have shown that the experience of affect toward a stimulus promotes myopic behavior toward this stimulus. For example, studies based on the delay-of-gratification paradigm have shown that affect-rich access to the sensory properties of rewarding objects (e.g., the physical presence of an appetizing marshmallow) tends to promote impatience to obtain these objects for immediate gratification, and this at the cost of receiving even more rewarding objects at a later point in time (e.g., two marshmallows; see Mischel and Ebbesen 1970; Mischel, Ebbesen, and Zeiss 1972). In contrast, affect-poor representations of the same objects (e.g., thinking of the marshmallow as a cloud) tend to promote greater patience and ability to delay gratification (Mischel and Baker 1975; see also Read and van Leeuwen [1998] and Shiv and Fedorikhin [1999] for related results). More recent studies show that the impatient tendencies triggered by affect-rich stimuli can even carry over to subsequent unrelated tasks. For example, exposure to affect-rich pictures of attractive women in bikinis (for heterosexual men) or of appetizing desserts has been found to promote impatience in subsequent choices between smaller immediate monetary rewards and larger delayed monetary rewards (Li 2008; Van den Bergh, Dewitte, and Warlop 2008).

The common explanation for people's myopic tendencies with respect to affect-rich objects is based on the differential accessibility of current versus delayed affective reactions (reviewed earlier). Because the immediate feelings that one experiences in relation to a present stimulus are typically more accessible and intense than those that one can only imagine in relation to a future outcome, affect-rich situations

tend to steer preferences toward myopic options that are immediately rewarding compared to farsighted options that are superior in the long run (Loewenstein 1996; Metcalfe and Mischel 1999).

Recap: A Consistent Pattern of Orientation toward the Present

In summary, a variety of diverse research findings seem to indicate a distinct connection between the affective system and an orientation toward the present. First, affective responses tend to intensify as outcomes draw closer. Second, certain emotional neural structures seem to be uniquely activated by outcomes that are immediate. Finally, affective responses tend to trigger impatience in intertemporal choice, favoring short-term options over long-term options that are objectively superior.

We believe that these various empirical regularities reflect a more fundamental underlying property of the affective system: an inherent anchoring of this system in the present. We speculate that this fundamental property of the affective system originates in its older evolutionary roots. It is generally believed that the affective system is an ancient system (e.g., Epstein 1994; Plutchik 1980) that "has been sculpted by the hammer and chisel of adaptation and natural selection to differentiate hostile from hospitable stimuli and to respond accordingly" (Cacioppo, Gardner, and Berntson 1999, 839). Presumably, throughout our evolutionary history, this system has guided our ancestors through choices that they faced in their immediate, present environment (Cosmides and Tooby 2000; Pham 2007). One would therefore expect that it has retained a specific orientation toward the present (Pham 2004, 2007). If the affective system is indeed a decision system of the present, it should exhibit additional characteristics beyond the ones already identified by previous literature (and summarized earlier). Here, we propose that the affective system promotes a greater reliance on affective feelings in decisions whose outcomes are closer to the present.

DIFFERENTIAL RELIANCE ON AFFECT WHEN OUTCOMES ARE CLOSE TO VERSUS DISTANT FROM THE PRESENT

Our Specific Hypothesis

In previous findings, the link between affect and the present was established primarily by the differential accessibility and intensity of affective responses across time. We propose that, in addition to a differential accessibility of affective responses in decisions whose outcomes are close versus distant, the affective system triggers a differential reliance on these responses. That is, even if the accessibility and intensity of the feelings (i.e., their subjective "scale value") were to be held constant, these feelings would still carry a greater weight on judgments and decisions whose outcomes are proximate than on judgments and decisions whose outcomes are temporally more distant. For example, we would predict that a person's incidental mood state (i.e., a given affective response with a specific scale value) would tend to exert a stronger influence on this person's judgments if the outcome is proximate than if the outcome is more distant. Therefore, we propose that, when outcomes are closer to the present, not only do people usually experience affective feelings more intensely (as amply demonstrated by previous research reviewed earlier), they actually rely more on these feelings (as shall be demonstrated in our studies). We believe that the differential reliance on affective feelings as a function of temporal proximity is similar to the differential reliance on feelings as a function of their perceived information value (Pham 1998, 2004; Schwarz and Clore 2007). Specifically, when outcomes are proximate, people tend to rely on their feelings as if these feelings were more informative; when outcomes are more distant, people tend to ignore their feelings and may even discount them.

Preliminary support for this hypothesis comes from recent findings indicating that a given affective experience may indeed exert stronger influence on decisions involving immediate outcomes than on decisions involving temporally more distant outcomes. For example, Pronin, Olivola, and Kennedy (2008) found that participants who expected to have to drink a disgusting beverage—an emotionally unpleasant thought—were willing to drink less if the consumption was to occur immediately than if it was to occur in a few months. According to the authors, this is because participants paid more attention to their internal subjective experiences when making decisions involving an immediate consumption than when making decisions involving a more distant consumption—an interpretation that is generally consistent with our notion of a greater reliance on affective feelings when outcomes are proximate. In another study, Peters and colleagues (2012) asked participants how much they would be willing to pay to protect their personal possessions in a rented apartment. If the possessions were described in an affect-poor manner, participants were understandably more willing to protect them under a 2-year apartment lease than under a 1-year lease. However, if the possessions were described in an affect-rich manner, participants were paradoxically more willing to protect them under a 1-year lease than under a 2-year lease. Thus, participants seemed to pay more attention to their affective reactions when the relevant time horizon was shorter, which is also broadly consistent with the notion of a greater weighting of affective feelings when outcomes are proximate.

In sum, we propose that over and above the tendency of the affective system to react more strongly to outcomes that are close to the present, there is a further tendency of this system to attach greater weight to affective inputs when outcomes are close to the present. It is interesting to relate this proposition with those of construal level theory (CLT; Trope and Liberman 2003; Trope, Liberman, and Wakslak 2007), which has recently received a considerable amount of attention in consumer research. According to CLT, the temporal proximity or distance of an event fundamentally

changes how this event is represented in people's minds. Events that are temporally distant tend to be mentally represented in a more abstract and decontextualized fashion, with a focus on the essential characteristics of the events—a notion referred to as "higher-level construal." In contrast, events that are temporally close tend to be represented in a more concrete and contextualized fashion that includes incidental characteristics of the events—a notion referred to as "lower-level construal." With respect to judgments and decisions, a central proposition of CLT is that temporal distance increases the relative weight attached to abstract and essential ("high-level") features of the options compared to their concrete and nonessential ("low-level") features. Temporal proximity is posited to have the opposite effect, increasing the relative weight attached to lower-level features. To the extent that affect is generally considered to be more concrete, visceral, and context specific (Epstein and Pacini 1999; Metcalfe and Mischel 1999)—that is, in CLT terms, "lower level"—one would predict from CLT that temporal proximity would generally increase the weight attached to affective feelings in judgments and decisions, a prediction that is consistent with our general thesis. However, under certain conditions, CLT's predictions may depart from ours, as shall be discussed later in this article.

Overview of the Studies

Our main hypothesis—that affective feelings are relied on more (weighted more heavily) in decisions whose outcomes are closer to the present than in similar decisions whose outcomes are temporally more distant—was tested in five lab experiments involving more than 630 student participants. A variety of evaluative tasks and decision domains were examined across studies. In each study, we manipulated both (*a*) participants' feelings toward the options at the time of making the decision and (*b*) the temporal proximity of the outcome associated with the decision. Our procedure was designed to vary the temporal proximity of the outcome without substantially changing the intensity of the feelings associated with the options.

Experiment 1 shows that in a choice between an affectively superior option and a cognitively superior option, preference for the affectively superior option is greater when the outcome is to occur in a near future than when it is to occur in a more distant future. Consistent with the idea that it is indeed the reliance on affective feelings that increases with temporal proximity of the outcome, experiment 2 shows that incidental mood states have stronger mood-congruent influence on behavioral intentions toward the target when the outcome is to be realized in a near future than when it is to be realized in a more distant future.

Whereas the first two experiments test the main hypothesis prospectively, by comparing the effects of affect under near- versus distant-future outcomes, the next two experiments test this hypothesis retrospectively, by comparing the effects of affect on options related to a recent versus distant past. Experiments 3 and 4 both show that incidental mood states have a stronger mood-congruent effect on target evaluations when the target is associated with a recent past than when it is associated with a more distant past. A final experiment indicates that the tendency to rely more on one's momentary feelings when outcomes are proximate (as opposed to more distant) is contingent on the perceived information value of the feelings. This tendency is greater when feelings are relevant for the decision at hand than when feelings are less relevant. This contingency is consistent with the idea that the basic phenomenon may be linked to the perceived informativeness of feelings when outcomes are proximate versus temporally distant.

EXPERIMENT 1: EFFECT OF AFFECTIVE SUPERIORITY FOR NEAR- VERSUS DISTANT-FUTURE OUTCOMES

This first experiment tests the basic prediction that in making a decision consumers are more likely to rely on their integral feelings toward the options when the outcome is closer to the present than when it is temporally more distant. The prediction was tested in the context of a choice between two apartments: one that was affectively superior and one that was functionally superior. Although all participants were asked to make their choice immediately, in one condition the apartment was chosen for the near future, whereas in the other condition it was chosen for a more distant future. It was predicted that participants choosing between the two apartments for the near future would exhibit a greater relative preference for the affectively superior apartment than would participants choosing for a more distant future.

Method

Design. Participants in this study (and experiments 2–4) were students at Columbia University, New York City, who volunteered in exchange for monetary compensation. They were asked to choose between two apartments to rent after graduation: one that was designed to be affectively superior and one that was designed to be functionally superior. The main manipulation was the temporal proximity of the graduation and hence the apartment's rental period. In one condition, the graduation was to occur in a few weeks; in the other condition, the graduation was to occur the following year. Two replications of this basic design were conducted. In one replication ($N = 61$; 51% women, average age $= 25.3$), the timing of the assumed graduation (and hence the initiation of the rental period) was manipulated experimentally via instructions. In the other replication ($N = 47$; 62% women, average age $= 24.4$), it was based on the students' actual graduation.

Procedure. All participants were asked to imagine that they were about to graduate, had found a well-paying job, and were looking for a one-bedroom apartment to rent after graduation. In replication 1, graduation was said to take place either the next month (near-future condition) or in a year and 1 month (distant-future condition), which was consistent with the university calendar. In replication 2, partic-

TABLE 1

EFFECT OF TEMPORAL PROXIMITY OF GRADUATION ON PREFERENCE BETWEEN AFFECTIVELY AND FUNCTIONALLY SUPERIOR OPTIONS (EXPERIMENT 1)

	Replication 1		Replication 2	
	Near future (n = 29)	Distant future (n = 28)	Near future (n = 20)	Distant future (n = 27)
Relative preference for affectively superior apartment	3.45	2.25	3.20	1.81
Choice of affectively superior apartment (%)	31.01	10.71	30.00	7.40
Relative reliance on feelings versus logical assessments	. . .	. . .	3.20	1.63

ipants were asked to consider the same scenario in the context of their own graduation, with half of them expecting to graduate the following month (near-future condition) and the other half expecting to graduate in a year and 1 month (distant-future condition). Note that all participants were asked to assume the same economic reality: searching for an apartment after landing a well-paying job just out of college. However, for some participants, this economic reality was to occur in a near future, whereas for other participants, this reality was to occur in a more distant future.

All participants then reviewed the description of two one-bedroom apartments, each portrayed by five attributes and a picture of the apartment's interior (see app. B). In addition to the picture, which conveyed the apartment's attractiveness and look, two of the five attributes were expected to vary the feelings associated with the apartment: the amount of natural light and the views from the apartment. The remaining three attributes were expected to manipulate the functional desirability of the apartment: the monthly rent, access to public transportation, and size (square footage and storage space). Apartment A was designed to be superior on the functional dimensions, whereas apartment B was designed to be superior on the affective dimensions.

The first dependent measure was participants' relative preference for the two apartments, which was assessed on a 1 (strongly prefer apartment A) to 7 (strongly prefer apartment B) scale, with higher scores indicating a relative preference for the affectively superior option. The second dependent measure was participants' choice between the two apartments. It was predicted that relative preference for and choice of the affectively superior apartment would be greater in the near-future condition than in the distant-future condition.

In replication 1, as a check of the manipulation of temporal proximity of the outcome, participants were asked to rate the time period that they focused on, using two 9-point items anchored at "next month/one year from now" and "the very near/very distant future" ($\alpha = .82$). To assess potential confounds, participants were asked to rate their task involvement on three 9-point agree-disagree items (e.g., "I went through the choices as if I was really choosing an apartment rental"; $\alpha = .87$) and to rate their mood on five 9-point items (e.g., "good/bad," "unpleasant/pleasant"; $\alpha = .95$).

To gain some insight about the process underlying the expected findings, in replication 2 participants were asked to indicate how they made their decisions on two 7-point agree-disagree items: (*a*) "I made my decision of which apartment to rent based on *how I would feel* toward living in the apartments" and (*b*) "I made my decision of which apartment to rent based on the *logical balance of pros and cons* of living in the apartments." Responses to these two items were combined into a composite scale in which higher scores indicated greater reliance on feelings and lower scores indicated greater reliance on logical assessments.

Pilot Test of the Task Stimuli. To verify that the stimuli manipulated the affective and functional superiority of the apartments as intended, an independent group of 42 participants from the same population was asked to evaluate the two apartments either (*a*) on the basis of reasons and logical assessments or (*b*) on the basis of feelings (Pham et al. 2001). As expected, compared to participants who were instructed to rely on reasons, participants who were instructed to rely on their feelings had higher relative preferences for the affectively superior apartment (4.70 vs. 3.04; $F(1, 40) = 6.55$, $p < .02$) and were more likely to choose this apartment over the functionally superior apartment (55.0% vs. 13.6%; $Z = 3.11$, $p < .01$). Thus, the relative preferences between the two apartments can be seen as indicative of a differential reliance on feelings versus reasons.

Results

Preliminary Analyses. None of the participants in replication 1 guessed the hypothesis of the study correctly. (No demand check was included in replication 2 because there was no explicit manipulation.) As expected, participants in replication 1 reported a greater focus on the future in the distant-future condition ($M = 5.30$) than in the near-future condition ($M = 3.50$; $F(1, 55) = 7.92$, $p < .01$). The outcome proximity manipulation did not influence participants' level of involvement and mood ($F < 1$).

Relative Preference and Choice. As predicted and summarized in table 1, in both replications participants exhibited a stronger relative preference for the affectively superior apartment in the near-future condition than in the distant-future condition (replication 1: $F(1, 55) = 5.85$, $p < .02$; replication 2: $F(1, 45) = 8.92$, $p < .01$). Participants were also more likely to choose the affectively superior apartment in the near-future condition than in the distant-future condition (replication 1: $Z = 1.96$, $p = .05$; replication 2: Z

$= 1.98, p < .05$). These results are consistent with the notion that even when the target information is held constant (all participants received the same apartment information), people are more likely to rely on affective inputs when the outcome is proximate than when it is temporally more distant. Consistent with this interpretation, the process measure included in replication 2 indicates that participants who expected to graduate in 1 month reported a marginally greater reliance on feelings (as opposed to logical assessments) compared to participants who expected to graduate the following year ($F(1, 45) = 3.71, p = .06$).

Discussion

Across two replications of the study, using different operationalizations of outcome proximity, we found that participants given a choice between an affectively superior option and a functionally superior option exhibited a stronger relative preference for the affectively superior option when the outcome was framed in a near future than when it was framed in a more distant future. In addition, participants reported a stronger reliance on feelings when the outcome was proximate than when it was more distant. These findings provide preliminary support for the proposition that even if the stimulus information is held constant, people are more influenced by the affective value of the options when the decision outcome is close to the present than when it is further away in the future.

Note that while these findings may be reminiscent of previous findings on affect-triggered myopia and on variations in affect intensity over time, they differ from previous findings in important respects. First, in this study the effects did not involve any intertemporal trade-offs (e.g., choosing between a smaller reward now vs. a greater reward later). Second, in this study it is not the timing of the judgment that varied across conditions (e.g., making a decision to speak in public either immediately before the event or a week before the event), it is the timing of the outcome associated with the judgment or decision (choosing today an apartment to be rented in a month or to be rented in a year).

One limitation of this study relates to the fact that affect was manipulated somewhat indirectly by varying the information provided across targets. It is possible that observed variations in preferences across conditions were driven not by a differential reliance on affect but by some other unobserved aspect(s) of the information provided across options. To address this issue, in the subsequent experiments we employ a more direct manipulation of affect, one that allows us to hold the information about the target constant.

EXPERIMENT 2: INFLUENCE OF INCIDENTAL FEELINGS FOR NEAR- VERSUS DISTANT-FUTURE OUTCOMES

The purpose of this second study was to extend experiment 1's findings and provide more direct evidence that temporal proximity of the outcome increases the reliance on affect in judgments and decisions. Unlike in the first experiment, in this second experiment all the information about the target was held constant, and affect was manipulated by varying participants' mood. Given that incidental feelings from preexisting mood states are often misattributed to the target object (Gorn, Goldberg, and Basu 1993; Schwarz and Clore 2007), varying participants' incidental moods allows us to manipulate how they feel toward the target while holding the target information constant (Pham 1998).

In this study, participants whose mood states were manipulated through a supposedly unrelated task were asked to evaluate whether they would rent a given apartment after graduating. As in experiment 1, for half of the participants the graduation was set to take place in the near future, and for the other half it was set to take place in a more distant future. It was predicted that participants' incidental moods would exert a stronger mood-congruent influence in the near-future condition than in the distant-future condition.

Method

Design. A total of 104 participants (56% women, average age = 23.3) were randomly assigned to one of four conditions of a 2 (positive mood vs. negative mood) × 2 (near- vs. distant-future outcome) between-subjects design.

Procedure. The experiment was administered as two supposedly unrelated studies. In the "first" study, participants' mood states were manipulated as in Avnet, Pham, and Stephen (2012, study 6). Under the pretense of studying people's ability to comprehend the gist of short video clips, participants were asked to watch and rate two movie clips. The first was neutral and common across conditions. The second was either an excerpt from a stand-up comedy performance (positive-mood condition) or edited scenes from a sad movie (negative-mood condition). After viewing each clip, participants answered a series of comprehension questions designed to reinforce the cover story.

Although this manipulation had already been tested by Avnet and colleagues (2012), we further tested it in another pretest among 50 participants. After viewing either set of clips, pretest participants rated their moods on six 7-point items (e.g., "unhappy/happy," "bad/good," "unpleasant/pleasant"; $\alpha = .98$). As expected, participants who had watched the sad movie clip reported feeling less pleasant ($M = 2.70$) than participants who had watched the comedy clip ($M = 4.89$; $F(1, 48) = 33.67, p < .0001$).

In the supposedly unrelated "second" study, participants were given a similar decision task as in experiment 1. They were asked to imagine that they were about to graduate and had been looking for an apartment after landing a well-paying job. For half of the participants, the graduation was set to take place "next month"; for the other half it was set to take place "next year." Unlike in experiment 1, all participants were shown a single apartment, which was the affectively superior apartment in experiment 1. (The rationale for this methodological choice is explained in the discussion of this experiment.) As the main dependent mea-

sures, participants rated their intention to rent this apartment after graduation on a scale of 1 (definitely not rent) to 9 (definitely rent) and indicated how much they would be willing to pay for monthly rent. Participants then completed similar checks as in replication 1 of experiment 1 and provided some background information.

Results

Preliminary Checks. None of the participants correctly guessed the hypothesis of the study. As expected, participants reported a greater focus on the future in the distant-future condition ($M = 6.36$) than in the near-future condition ($M = 4.17$; $F(1, 103) = 20.86$, $p < .0001$); no other effects were significant ($F < 1$). As in experiment 1, participants' self-reported involvement did not differ across conditions (all $F < 1$).

Behavioral Intention and Willingness to Pay. If proximity to the present encourages a greater reliance on feelings in judgments and decisions, evaluations of the target apartment should be more influenced by participants' mood states in the near-future condition than in the distant-future condition. Consistent with this prediction, intentions to rent the apartment exhibited a significant mood × outcome proximity interaction ($F(1, 103) = 5.93$, $p < .02$). As illustrated in figure 1, participants' mood states exerted a stronger mood-congruent influence on intentions in the near-future condition ($M_{pos} = 5.28$ vs. $M_{neg} = 3.72$; $F(1, 103) = 7.14$, $p < .01$) than in the distant-future condition ($M_{pos} = 3.68$ vs. $M_{neg} = 4.12$; $F < 1$). Neither of the main effects was significant (both $p > .14$).

A similar interaction ($F(1, 103) = 4.94$, $p < .03$) emerged with participants' willingness to pay: participants' moods had a stronger mood-congruent influence on their willingness to pay for rent in the near-future condition ($M_{pos} =$ \$1,916 vs. $M_{neg} =$ \$1,589; $F(1, 103) = 5.35$, $p < .03$) than in the distant-future condition ($M_{pos} =$ \$1,721 vs. $M_{neg} =$ \$1,840; $F < 1$). Main effects of mood and outcome proximity were again nonsignificant (both $p > .30$).

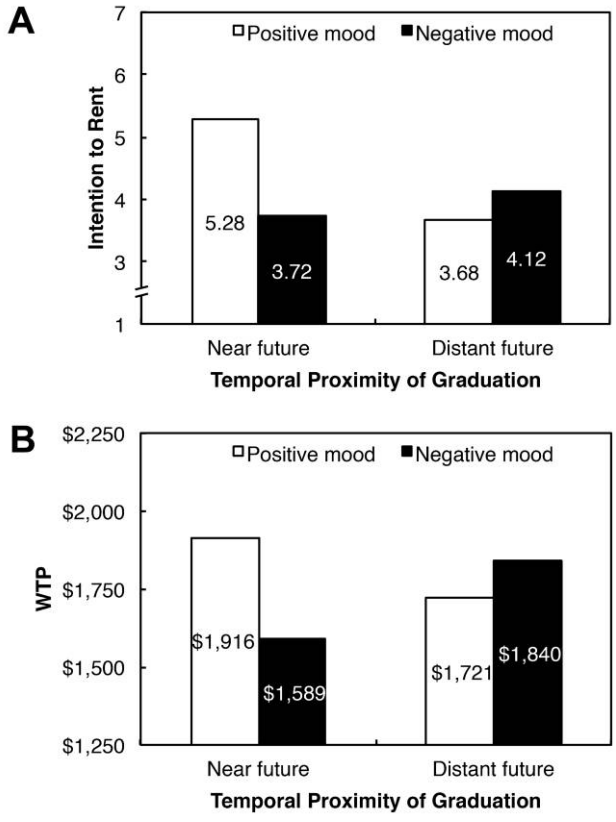
Discussion

In this study, incidental mood states while evaluating a target were found to exert a stronger influence on evaluations of this target when the outcome of the decision was set in the near future than when it was set in a more distant future. This effect was found even though, unlike in experiment 1, the target information was held constant across conditions, supporting the interpretation that it is the influence of affect itself that increases with the temporal proximity of the outcome. These findings are consistent with the notion that feelings that are (here, mistakenly) attributed to the target are more likely to be relied on in decisions whose outcomes are closer to the present than in comparable decisions whose outcomes are more distant.

One may wonder whether the same effects would hold if instead of using experiment 1's affectively superior option as the target, we had alternately used the functionally superior option. We believe that they would hold. However, this would need to be tested. It could be that the functionally superior but affectively inferior (drab-looking) apartment is seen as a plausible explanation for negative feelings but not for positive feelings. In this case, the simple effects may be driven more by the negative-mood condition than by the positive-mood condition. Alternatively, it is possible that evaluation of a functionally superior but affectively unattractive option prompts individuals to adopt a more utilitarian mind-set, in which case feelings may not be used as information at all, even in the near-future condition (Pham 1998). Related issues are investigated in experiment 5.

FIGURE 1

EFFECT OF TEMPORAL PROXIMITY OF GRADUATION AND MOOD ON INTENTION TO RENT (*A*) AND WILLINGNESS TO PAY (*B*) (EXPERIMENT 2)



EXPERIMENT 3: INFLUENCE OF INCIDENTAL FEELINGS ON EVALUATIONS OF RECENT- VERSUS DISTANT-PAST PRODUCTS

In the first two experiments, the differential reliance on feelings in decisions as a function of temporal proximity

was examined by comparing decisions whose outcomes were in a near future with decisions whose outcomes were in a more distant future. If affect is inherently a decision system of the present, then symmetric effects should be observed when comparing targets associated with a recent past to targets associated with a more distant past.

Participants whose mood states were manipulated were asked to evaluate a set of video games that were associated either with a recent past or with a more distant past. If proximity to the present promotes a greater reliance on feelings as inputs to judgments and decisions, participants' mood states should exert a stronger mood-congruent influence on their evaluations if the video games are associated with a recent past than if they are associated with a more distant past.

Method

Design. A total of 103 university students (51% women, average age = 22.9) were randomly assigned to one of four conditions of a 2 (positive vs. negative mood) × 2 (recent past vs. distant past) between-subjects design.

Procedure. The experiment was administered as two supposedly unrelated studies, with the "first" study manipulating participants' moods as in experiment 2. The "second" study was allegedly about consumers' evaluations of various media. Participants were asked to judge a team of video game designers on the basis of a selection of games that the team had allegedly developed. As shown in appendix C, the games were common across conditions—Pong, Combat, and Duck Hunt—with each game illustrated by a screenshot and a brief description. In the recent-past condition, the three games were described as having been created "recently . . . since 2007" (whereas the study was conducted at the beginning of 2008), and each game's screenshot involved sharp, contemporary-looking graphics. In the distant-past condition, the three games were described as having been created "in the early 1980s," and the screenshots involved more basic, antiquated-looking graphics. The rest of the information was identical across conditions.

As the main dependent measure, participants evaluated the set of games on five 7-point scales (e.g., "These games are good/not good"; "I like/do not like the games they developed"; reverse-coded; $\alpha = .92$). Additional questions assessed participants' (*a*) levels of involvement (four 7-point agree-disagree items such as "I found the task of evaluating these games very interesting"; $\alpha = .79$), (*b*) moods (five 7-point items such as "bad/good"; $\alpha = .94$), (*c*) guesses of the purpose of the study, and (*d*) background information (e.g., age and gender).

Pilot Test of Product Stimuli. A pretest ($N = 50$) was conducted to verify that the two versions of the video games were associated with different temporal proximities. After participants had evaluated the games, the temporal proximity of these games was assessed with two measures. In the first measure, participants were asked to rate how long ago they thought the games had been released in the market using three 7-point items (e.g., "a long time ago/not that long ago"; $\alpha = .74$). In the second measure, participants were asked to report the time period that they focused on when evaluating the games using another three 7-point items (e.g., "the very distant past/the very recent past"; $\alpha = .89$). Compared to participants in the distant-past condition, participants in the recent-past condition perceived the games to have been released more recently (3.43 vs. 2.60; $F(1, 48) = 5.62$, $p < .03$), and they reported focusing on a more recent period when evaluating the games (4.54 vs. 2.84; $F(1, 48) = 21.61$, $p < .0001$).

Results

Preliminary Checks. Data from three participants who did not watch the mood-inducing videos and two participants who suspected a relationship between the two ostensibly unrelated studies were removed, leaving 98 observations. As expected, the remaining participants reported feeling more pleasant in the positive-mood condition ($M = 5.05$) than in the negative-mood condition ($M = 3.52$; $F(1, 94) = 32.83$, $p < .0001$). There were no other effects of the manipulations on self-reported mood ($p > .22$). In addition, participants' self-reported involvement did not differ across conditions (all $p > .16$).

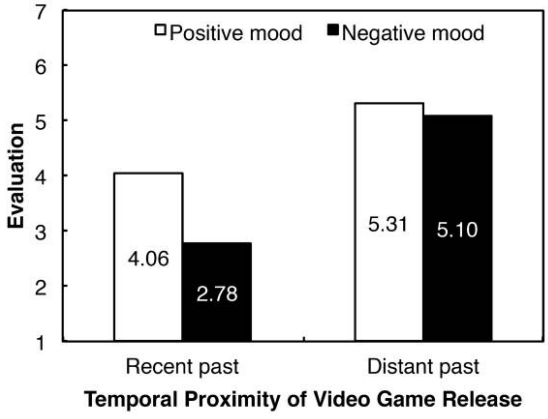
Evaluation. Consistent with previous findings on mood-congruent evaluation (e.g., Isen et al. 1978; Schwarz and Clore 1983), participants evaluated the games more favorably in the positive-mood condition ($M = 4.70$) than in the negative-mood condition ($M = 3.97$; $F(1, 94) = 7.93$, $p < .01$). In addition, participants evaluated the games more favorably when led to believe that the games were created in the early 1980s ($M = 5.21$) than when led to believe that the games were created more recently ($M = 3.42$; $F(1, 94) = 46.08$, $p < .0001$). Participants may have been more lenient toward games portrayed as created a long time ago than toward games portrayed as more recent. More central to this research, there was again an interaction between mood and temporal proximity ($F(1, 94) = 4.11$, $p < .05$). As illustrated in figure 2, when the games were associated with a more recent past, participants evaluated them more favorably if they were in a positive mood ($M = 4.06$) than if they were in a negative mood ($M = 2.78$; $F(1, 94) = 11.49$, $p < .001$). However, when the games were associated with a more distant past, participants gave comparable evaluations regardless of their moods ($M_{pos} = 5.31$ vs. $M_{neg} = 5.10$; $F < 1$). This interaction suggests that participants relied more on their momentary feelings in their evaluations when the target was related to a more recent past than when it was related to a more distant past.

Discussion

This experiment extends the previous experiments' findings by showing that the greater reliance on affect when outcomes are temporally proximate operates not only pro-

FIGURE 2

EFFECT OF TEMPORAL PROXIMITY OF VIDEO GAME RELEASE AND MOOD ON VIDEO GAME EVALUATION (EXPERIMENT 3)



spectively (when comparing a near vs. distant future) but also retrospectively (when comparing a recent vs. distant past). Specifically, it was found that participants' moods had a stronger mood-congruent influence on their evaluations if the target was associated with a more recent past than if it was associated with a more distant past. This finding cannot be explained by a ceiling effect in the distant-past condition because nearly identical results were obtained when the data were reanalyzed using the method of successive intervals, which is largely insensitive to ceiling effects (Edwards and Thurstone 1952). This suggests that holding the intensity of the feelings constant, participants were still more likely to rely on their feelings when the target was perceived as more recent than when it was perceived as less recent. In other words, the same momentary feelings seem to be seen as more informative when evaluating targets associated with a recent past than when evaluating targets associated with a more distant past. As elaborated in the general discussion, this finding has important theoretical implications, clearly showing that the affective system is not merely an impatient system (that favors the present over the future), it is a system inherently anchored in the present (that also favors the recent past over the more distant past).

EXPERIMENT 4: INFLUENCE OF INCIDENTAL FEELINGS ON EVALUATIONS OF RECENT- VERSUS DISTANT-PAST EXPERIENCES

The purpose of this experiment was to replicate the findings of experiment 3 conceptually and to extend them to situations in which people evaluate their own personal experiences as opposed to external products. Student participants were first asked to describe a spring break vacation from either a recent past or a distant past. Their incidental feelings were next manipulated through an ostensibly unrelated task. Participants were then asked to evaluate the spring break vacation they had just described. If a more recent past increases the reliance on feelings compared to a more distant past, then participants' incidental moods should have stronger influence on their evaluation of a recent spring break than on their evaluation of a more distant past spring break.

Method

Design. Eighty-two university students (51% women, average age = 24.3) were randomly assigned to one of four conditions of a 2 (positive vs. negative mood) × 2 (recent past vs. distant past spring break) between-subjects design.

Procedure. Under the guise of a study on how well people can remember significant personal events, all participants were asked to recall and describe a past spring break vacation. In the recent-past condition, participants were asked to describe what they did on their most recent spring break. In the distant-past condition, participants were asked to describe what they did on their spring break 2 years earlier. To standardize the level of detail of the memories that participants described across conditions, all participants had to provide a description between 130 and 180 words, which a pretest had shown to be a sensible length for such descriptions. Next, as a purported "distractor task," participants were administered the same mood manipulation as used in experiments 2 and 3. The rationale for carrying out this mood manipulation after participants had described their spring break involved reducing the possibility that any effect of mood on evaluations could be due to mood-congruent recall (Isen et al. 1978).

After their moods had been manipulated, participants were then presented with their own spring break descriptions. They were asked to review their descriptions and evaluate their spring break on seven 7-point items (e.g., "I did not have/I had a good time," "It was disappointing/gratifying"; $\alpha = .97$), which formed the main dependent measure. As manipulation checks, participants (*a*) rated their perception of the spring break as something that happened recently or a long time ago on three 7-point items (e.g., "just happened/long time ago"; $\alpha = .93$) and (*b*) rated their mood after watching the video clips on five 7-point items (e.g., "bad/good"; $\alpha = .97$). As confounding checks, participants were asked to (*a*) rate their level of involvement on two 7-point agree-disagree items (e.g., "I thought about my past spring vacation very carefully"; $\alpha = .77$) and (*b*) guess the purpose of the study. Participants also provided some background information.

Results

Preliminary Checks. When asked, none of the participants correctly guessed the hypothesis of the study. As ex-

pected, participants rated their spring break as having occurred longer ago in the distant-past condition ($M = 4.36$) than in the recent-past condition ($M = 3.31$; $F(1, 78) = 6.18$, $p < .02$). Interestingly, a main effect of mood indicated that the spring break seemed more recent in the positive-mood condition ($M = 3.34$) than in the negative-mood condition ($M = 4.33$; $F(1, 78) = 5.40$, $p < .05$). The interaction between mood and spring break proximity was not significant ($F < 1$). As expected, participants reported feeling more pleasant in the positive-mood condition ($M = 5.38$) than in the negative-mood condition ($M = 2.57$; $F(1, 78) = 90.27$, $p < .0001$); other effects were not significant ($p > .11$). Finally, there was no significant effect on self-reported involvement (all $p > .14$).

A preliminary review of participants' description of their spring break revealed substantial variation in how their time was spent. To account for this heterogeneity in experiences, two independent judges coded participants' descriptions into one of three categories: (*a*) "went somewhere for spring break" (59.03%), (*b*) "stayed at home for spring break" (26.51%), and (*c*) "worked during spring break" (14.46%; $\kappa = 0.87$, disagreement resolved by a third judge). Because this categorical measure was understandably correlated with participants' evaluations of their spring breaks ($F(2, 80) = 14.40$, $p < .0001$), it was controlled for as a covariate in the main analyses.

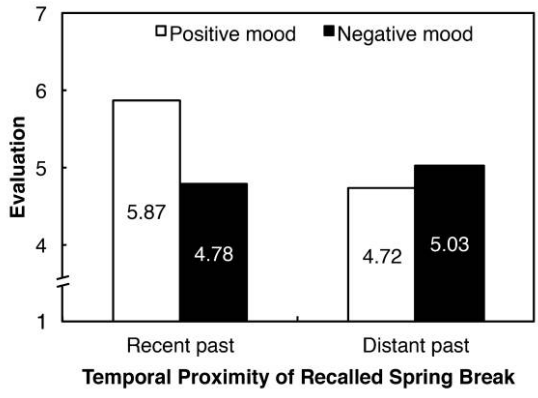
Evaluation. An ANCOVA of participants' evaluations of their spring break, controlling for how they occupied their spring break, uncovered no main effects of mood or spring break proximity ($p > .23$). However, as predicted, the analysis revealed a mood × spring break proximity interaction ($F(1, 76) = 4.21$, $p < .05$). As illustrated in figure 3, participants' moods had a stronger mood-congruent influence on their evaluations of the spring break when it was recent ($M_{pos} = 5.87$ vs. $M_{neg} = 4.78$; $F(1, 76) = 4.28$, $p < .05$) than when it was more distant ($M_{pos} = 4.72$ vs. $M_{neg} = 5.03$; $F < 1$). Therefore, paralleling the results of experiment 3, participants appeared to rely more on their momentary feelings to evaluate a recent personal event than to evaluate a more distant event.

Discussion

Experiment 4's results converge with those of experiment 3 in documenting a greater influence of incidental moods in evaluations related to a more recent past than in comparable evaluations related to a more distant past. Whereas in experiment 3 this effect was observed in evaluations of an external object (video games), in this experiment the effect was replicated in evaluations of an autobiographical experience. It seems unlikely that these effects are due to mood-congruent recall because (*a*) in this experiment, mood was manipulated after participants were asked to recall and describe their experiences and (*b*) in experiment 3, the target information was externally provided, leaving little room for a differential recall explanation to be operative (see Bakamitsos 2006). Instead, we believe that these effects arise

FIGURE 3

EFFECT OF TEMPORAL PROXIMITY OF RECALLED SPRING BREAK AND MOOD ON EVALUATION OF SPRING BREAK (EXPERIMENT 4)



because proximity to the present increases the perceived informativeness of one's affective feelings and therefore the reliance on these feelings in judgments and decisions.

An alternative explanation for these results (and those of experiment 3) is that temporal distance into the past decreases the weight not just of affective inputs but of any judgment input. To test this rival explanation, two independent judges (who were blind to the study conditions and hypothesis) were asked to rate the evaluative content of each participant's description of their spring break on a 3-point scale (−1 = negative, 0 = neutral, +1 = positive). These ratings ($r = .82$) were averaged into an index of the evaluative quality of participants' recalled spring breaks. We then performed an ANCOVA of participants' overall evaluations of their spring breaks similar to the one reported above but with two additional predictors: (*a*) the evaluative quality of the spring break and (*b*) the interaction between this evaluative quality and the temporal proximity of the spring break. Obviously, the evaluative quality of the spring breaks should predict their overall evaluation. However, if temporal distance decreases the weight attached to any judgment input, the interaction between evaluative quality and temporal proximity of the spring break should be significant. The results show, however, that while evaluative quality was a significant predictor of overall evaluation ($b = 1.396$, $t = 6.79$, $p < .0001$), its interaction with temporal distance was not significant ($t = -.03$, NS). (The other results remain the same as in the main analysis.) Therefore, temporal distance did not seem to decrease the weight of every input in participants' evaluations; it seemed to decrease only the weight attached to participants' moods.

To recap, across four experiments we consistently found that proximity to the present increases the influence of affect in judgments and decisions. This effect was found both (*a*) prospectively, when comparing a near-future versus

a distant-future outcome, and (*b*) retrospectively, when comparing targets associated with a recent past versus distant past. In the next experiment, we investigate the possibility that this phenomenon is due to the perceived informativeness of feelings in judgments as a function of temporal proximity.

EXPERIMENT 5: INFORMATION VALUE OF AFFECT WITH NEAR- VERSUS DISTANT-FUTURE OUTCOMES

The first four experiments provide consistent evidence of a differential influence of affective feelings in judgments and decisions depending on the temporal proximity of the outcome or target. Given that all participants made their judgments at the same time and that the target information was held constant across conditions of temporal proximity, we assume that these findings were not driven by a differential intensity of feelings across temporal conditions but rather by a differential reliance on feelings across temporal conditions. The purpose of this fifth experiment is to provide more direct evidence that temporal proximity does increase the reliance on feelings independently of their intensity, and it does so because of the perceived information value (relevance) of feelings when outcomes and targets are closer to the present.

Previous research has shown that one of the main determinants of the perceived information value of feelings—and hence the reliance on feelings—in judgments and decisions is the perceived relevance of these feelings with respect to the judgment at hand (Pham 1998; see Greifeneder, Bless, and Pham [2011], for a review). For example, in consumer decision making, feelings are perceived to be more informative when the motive for the consumption is experiential (e.g., watching a movie for leisure) than when the motive is instrumental (e.g., watching a movie for professional or educational purposes). If the greater influence of affective feelings under temporal proximity is due to a higher perceived information value of feelings when outcomes and targets are proximate, this phenomenon should be moderated by the perceived relevance of the feelings. Temporal proximity is more likely to increase the influence of feelings when they are relevant for the judgment at hand than when they are less relevant.

Participants whose mood states were independently manipulated were asked to assess their intention to attend a movie preview in either the near future or a more distant future. They were given either an experiential or an instrumental motive to attend the preview. It was predicted that among participants with an experiential motive (for whom feelings are relevant), intentions would again be more mood congruent in the near-future condition than in the distant-future condition, as was found in experiment 2. However, among participants with an instrumental motive (for whom feelings are less relevant), the effect would dissipate, and mood would have no influence on intentions in either the near-future or the distant-future condition.

Method

Design. One hundred and forty-three students at Singapore Management University (49% women, average age = 21.7) were randomly assigned to one of eight conditions of a 2 (positive vs. negative mood) × 2 (near- vs. distant-future outcome) × 2 (experiential vs. instrumental motive) between-subjects design.

Procedure. The experiment was administered as two purportedly unrelated studies. In the "first" study, participants' momentary moods were manipulated by asking them to report an affectively charged personal episode (Schwarz and Clore 1983). Under the guise of developing a new scale, participants were asked to write a vivid description of a recent event that made them feel either "really happy, joyful, or cheerful" (positive-mood condition) or "really angry, irritated, or annoyed" (negative-mood condition).

In the "second" study, participants were asked to assess their intention to attend a preview of a particular foreign movie at an independent film festival. All participants received the same movie description. As in Pham (1998), half of the participants were given an experiential motive for attending the movie preview; they were told that "after a long week of school and hard work, every student deserves some leisure time over the weekend." Therefore, they may "want to take a break from school work and enjoy life, at least for a few hours." The other half were given an instrumental motive for attending the preview; they were asked to assume that they could get extra course credit by writing a short paper about an independent film of their choice. A number of studies have shown that such instructions modify the perceived relevance of feelings and hence the reliance on feelings in judgment (Pham 1998; White and McFarland 2009; Yeung and Wyer 2004). To manipulate temporal proximity of the outcome, participants were told that the movie preview would occur either that evening (near-future condition) or in 3 weeks (distant-future condition).

As the main dependent measure, participants were asked to state their intention to attend the movie preview on a scale of 1 ("I would definitely not go") to 7 ("I would definitely go"). To check the mood manipulation, participants were asked to report how they were feeling as they completed the "first" study on five 7-point items (e.g., "bad/good," "unpleasant/pleasant"; $\alpha = .97$). A demand check and basic background information (e.g., gender, familiarity with the target movie) were also collected.

Results

Preliminary Analyses. Although none of the participants had heard of the target movie before the experiment, 12 had to be removed from the analyses for the following reasons: two suspected a connection between the mood manipulation and the decision task, one did not complete the main dependent measures, and nine indicated that they already had plans on the specified preview date. The analyses were based on the remaining 131 observations. As expected, participants

who were asked to recall an event that made them "feel really good" reported being in a more pleasant mood ($M = 5.68$) than did those who were asked to recall an event that made them "feel really bad" ($M = 3.00$; $F(1, 123) = 166.37$, $p < .0001$); other effects were nonsignificant (all $F < 1$).

Behavioral Intention. A 2 (mood) × 2 (temporal proximity) × 2 (motive) ANOVA of participants' stated intentions to attend the preview revealed a main effect of motive, whereby participants with an instrumental motive reported higher intention compared to participants with an experiential motive (5.63 vs. 4.93; $F(1, 123) = 8.93$, $p < .01$). More important, the analysis revealed a significant three-way interaction among mood, temporal proximity, and motive ($F(1, 123) = 5.90$, $p < .02$), suggesting that the differential influence of feelings as a function of temporal proximity was itself contingent on the perceived relevance of the feelings for the task at hand (see fig. 4). When the motive was experiential (and the feelings were relevant), there was a simple mood × temporal proximity interaction ($F(1, 123) = 9.47$, $p < .003$) indicating that intentions were mood congruent in the near-future condition ($M_{pos} = 5.68$ vs. $M_{neg} = 4.60$; $F(1, 123) = 4.62$, $p < .04$), as predicted and consistent with experiment 2, but mood incongruent in the distant-future condition ($M_{pos} = 4.06$ vs. $M_{neg} = 5.17$; $F(1, 123) = 4.85$, $p < .03$), which was not expected. In contrast, when the motive was instrumental (and the feelings were less relevant), none of the effects were significant ($F < 1$): there was no mood effect in either the near-future or the distant-future condition. The fact that when feelings were less relevant, mood did not have any influence on intentions even in the near-future condition is consistent with the idea that the reliance on feelings when outcomes are proximate is driven in part by the perceived information value of the feelings.

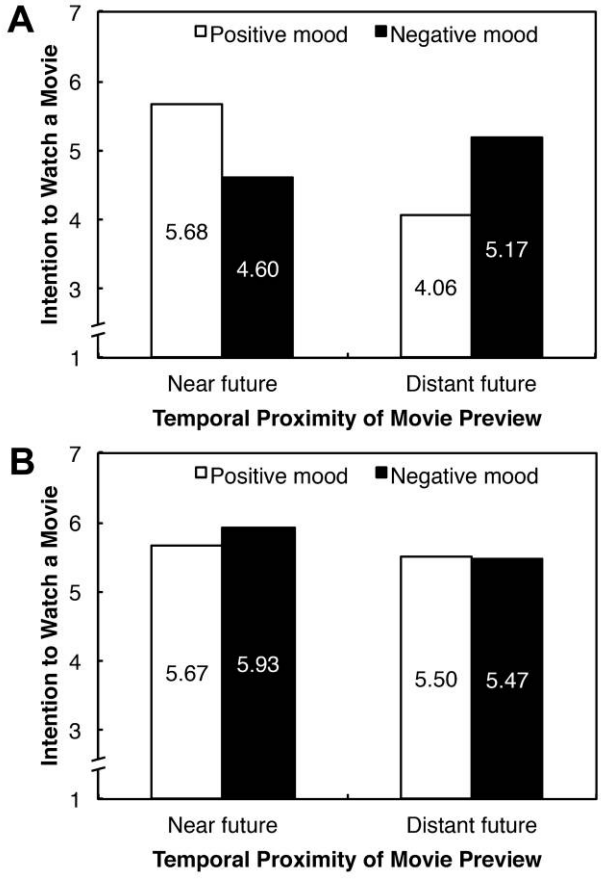
Discussion

The results seem to indicate that the increased influence of affect when outcomes are temporally proximate is itself dependent on the perceived information value of the feelings for the judgment at hand. When the consumption motive was experiential and feelings were relevant, participants' mood had a mood-congruent influence on their behavioral intentions in the near-future condition but not in the distant-future condition. In contrast, when the consumption motive was instrumental and feelings were less relevant, participants' mood did not have any influence on their intentions in either the near-future or the distant-future condition. In other words, temporal proximity seemed to increase the reliance on feelings when they were relevant but not when they were less relevant.

Surprisingly, it was found that when the motive was experiential, participants' intentions were in fact mood incongruent in the distant-future condition—a contrast effect that was not observed in experiment 2. Although this particular finding was not originally expected, it is not entirely inconsistent with our conceptualization. Previous studies have shown that when people consciously attempt to exclude from their judgments contextual inputs (e.g., incidental feelings) that are readily accessible, they sometimes overcorrect, resulting in a contrast effect in the final judgment (Martin, Seta, and Crelia 1990; Ottati and Isbell 1996; Schwarz and Bless 1992). It is therefore possible that when participants with an experiential motive attempted to disregard their otherwise relevant feelings in the distant-future condition, they overcorrected for the influence of their mood state, resulting in mood-incongruent intentions.

FIGURE 4

EFFECT OF TEMPORAL PROXIMITY OF MOVIE PREVIEW, MOOD, AND MOTIVE ON INTENTION TO WATCH A MOVIE (EXPERIMENT 5)



NOTE.—*A*, Experiential motive; *B*, instrumental motive.

GENERAL DISCUSSION

A System of the Present

Various streams of prior literature seem to point to a distinct orientation of the affective system toward the pres-

ent. First, affect tends to be experienced more intensely in decisions whose outcomes are closer to the present. Second, certain emotional areas of the brain are uniquely engaged in decisions with immediate outcomes. And third, in intertemporal choice, affect tends to trigger impatience and myopia, resulting in preferences toward smaller but immediate rewards over larger but delayed rewards. We believe that these various phenomena all reflect different facets of a fundamental underlying property of the affective system: it is a system that is inherently anchored in the present (Pham 2004, 2007). Building on this general thesis, we advance a novel hypothesis about another previously unrecognized facet of the affective system, which is a greater reliance on affective feelings in decisions whose outcomes or targets are closer to the present compared to decisions whose outcomes or targets are temporally more distant.

Consistent with this hypothesis, it was found in experiment 1 that in a choice between an affectively superior option and a functionally superior option, preference for the former is greater when the outcome is set in a near future than when the outcome is set in a more distant future—an effect found across two replications. This shift in relative preference as a function of outcome proximity is consistent with a greater reliance on affective inputs when outcomes are temporally proximate. Note that while this finding may be reminiscent of previous findings on affect-driven impatience in intertemporal choice and self-control situations, it is novel in that in experiment 1, unlike in previous studies, no intertemporal trade-off or self-control dilemma was involved.

Additional direct evidence that decision makers rely more on their feelings when outcomes are temporally proximate was found in experiment 2, which showed that incidental moods exerted a stronger mood-congruent influence on intentions (and willingness to pay) when the outcome was set in a near future than when it was set in a more distant future. The finding that the same feelings—here, manipulated through participants' incidental mood states—can have a differential influence on evaluations of a given target as a function of the temporal proximity of the associated outcome suggests that proximity to the present increases not just the intensity of feelings (their scale value) but also the reliance on these feelings (their weight) in judgments.

Whereas in the first two experiments temporal proximity was operationalized by comparing a near future to a more distant future, in experiments 3 and 4 temporal proximity was operationalized by comparing a recent past to a more distant past. In these latter two experiments, it was found that incidental mood states exerted a stronger mood-congruent influence on evaluations when the target was associated with a recent past than when it was associated with a more distant past. Therefore, proximity to the present seems to increase the reliance on affect both compared to the future and compared to the past.

Finally, it was found in experiment 5 that when feelings were presumably relevant, incidental mood states had a mood-congruent influence on behavioral intentions when the outcome was set in a near future but not when it was set in a distant future. In contrast, when feelings were presumably less relevant, mood states did not have any influence on behavioral intentions, regardless of whether the outcome was in a near future or in a distant future. This dependency of the phenomenon on the perceived relevance of feelings is consistent with the interpretation that the phenomenon is at least partially related to a differential perceived informativeness of feelings when outcomes and targets are proximate versus distant.

Overall, these findings are consistent with the hypothesis of a greater reliance on affective feelings in judgments and decisions whose outcomes or targets are closer to the present. Support for this specific hypothesis in turn reinforces the more general thesis that the affective system of judgment and decision making is inherently a system of the present.

Theoretical Elaborations and Speculations

What Is "Close" and What Is "Far"? An obvious question about our theoretical proposition involves when an outcome or target is sufficiently close that it would increase the reliance on affect or sufficiently distant that it would decrease it. For example, would having dinner with friends next week qualify as a "near" future or as a "distant" future? Consistent with research on the psychophysics of time (Ekman and Lundberg 1971; Gescheider 1985), we believe that what matters in the phenomenon is not the absolute temporal distance of the outcome or target but its subjective distance. In particular, we suggest that outcomes and targets will appear temporally "close"—and trigger a greater reliance on affect—when their distance is less than the usual time horizon involved in decisions related to these outcomes and targets. Similarly, outcomes and targets will appear temporally "distant" when their distance exceeds the usual time horizon involved in decisions related to these outcomes and targets. For example, in deciding whether to see a new movie, 2 weeks will tend to be perceived as "distant" in time (see experiment 5), whereas in deciding whether to rent a given apartment, 2 weeks will tend to be perceived as "close" (see experiments 1 and 2).

Relation to Socioemotional Selectivity Theory. It is interesting to relate our findings to other research in which time plays a central role. According to socioemotional selectivity theory (SEST), social motives tend to fall into two functional categories: (*a*) those related to the acquisition of knowledge and (*b*) those related to the regulation of one's emotional well-being (Carstensen, Isaacowitz, and Charles 1999). SEST's main proposition is that, over the life span, people give different priority to these two classes of motives as a function of their perception of time. When time is perceived as plentiful and open ended, people tend to adopt a longer-term perspective and favor knowledge acquisition (e.g., seeking career advice, undergoing diagnostic tests). In contrast, when time is perceived as limited and constrained, people tend to adopt a shorter-term perspective and focus on emotional well-being (e.g., planning the next vacation,

soliciting a doctor's reassurance). As a result, younger individuals, for whom time usually appears more plentiful, tend to focus on knowledge-related pursuits, whereas older individuals, who typically have less time left in life, tend to be more concerned with matters related to emotional well-being.

Assuming that time may appear more limited and constrained when an outcome is set in a near future than when an outcome is set in a more distant future, one may argue that SEST could also account for the greater influence of affective feelings in decisions involving near-future outcomes that was observed in experiments 1 and 2. However, because in SEST the perception of time is defined mostly by how much one has left in life—that is, time is viewed from a forward-looking perspective—this theory would not account for the results of experiments 3 and 4, which examined the effects of time from a backward-looking perspective.

Relation to Construal Level Theory. It is also interesting to relate our theoretical propositions to those of CLT. As mentioned earlier, according to CLT, temporal distance should increase the relative weight attached to abstract and essential ("high-level") features of the options, whereas temporal proximity should increase the relative weight attached to concrete and nonessential ("low-level") features of the options. To the extent that affect tends to be more concrete, visceral, and context specific (Epstein and Pacini 1999; Metcalfe and Mischel 1999), our predictions would generally align with those of CLT. However, our predictions would depart from those of CLT in two situations.

First, an important proposition of CLT is that higher-level construal of the options promotes a focus on their desirability, whereas lower-level construal promotes a focus on their feasibility (Liberman and Trope 1998). As a result, temporal distance tends to increase the relative weight attached to the desirability of the options, whereas temporal proximity tends to increase the relative weight attached to their feasibility. If the desirability of an option is driven primarily by its affective value and its feasibility by its functional attributes, CLT would predict a greater weight of affect when outcomes are temporally distant than when they are proximate—a prediction that would be opposite from ours. We believe, however, that one should not equate the desirability of an option with its affective value and the feasibility of an option with its functional attributes. Rather, desirability/feasibility and affective/functional value may be better conceptualized as distinct dimensions. For example, an option may be more or less desirable for functional reasons (e.g., the proximity of an apartment to grocery stores); similarly, an option may be more or less feasible for affective reasons (e.g., being too nervous to speak in public). Therefore, an interesting avenue for future research would be to test the effects of temporal proximity of the outcome in settings in which the desirability versus feasibility of the options is varied independently from their affective versus functional value.

Second, while affect generally tends to be concrete and "low level," according to CLT, sometimes affect can be an essential and therefore "high-level" characteristic of the target. In these situations, CLT would predict a greater weight of affect under increased temporal distance, which again would seem opposite to our general prediction. Interestingly, findings from our last experiment seem to be inconsistent with this particular prediction of CLT. Recall that in this experiment, a high relevance of affect (due to experiential motives) seemed to increase the weight of affect under a proximate outcome compared to a distant outcome. Given that a high relevance of affect should have made it an essential aspect of the decision, one would have predicted on the basis of CLT that the influence of affect would have increased, rather than decreased, with temporal distance when affect was highly relevant. Therefore, an important avenue for future research would be to better delineate the conditions under which the two theories' respective predictions are likely to hold. We suspect that it may be useful to make a distinction between (*a*) a concrete and visceral kind of affect that consists of genuine affective experiences associated with a physiological response (e.g., the genuine feelings that one may experience when receiving a gift) and (*b*) a more abstract and mental kind of affect that consists of mere cognitive representations of affective responses with little physiological correlates (e.g., the belief that a particular gift would make someone happy; see Bülbül and Menon [2010] and Robinson and Clore [2002], for related distinctions). The phenomenon and predictions described in our research pertain to the former more basic kind of affect—the kind of affect that presumably guided our ancestors through our evolutionary history. The pattern predicted by CLT may be more likely to hold for the latter more mental kind of affect (see Trope and Liberman 2003, experiment 5).

Generalizability across Feelings. While we suspect that the phenomenon does not extend to abstract kinds of affect, we speculate that within the realm of genuine feeling experiences, the phenomenon has broad generalizability. First, we believe that the greater reliance on affective feelings when outcomes and targets are proximate is not restricted to a particular valence of feelings. In other words, temporal proximity should increase the reliance on both positive and negative feelings in judgments and decisions. Consistent with this conjecture, there was little evidence in our studies that the phenomenon was systematically more pronounced for either positive or negative feelings (see Van Boven et al. [2010] for related findings).

In addition, we speculate that the phenomenon extends to feelings that are not strictly affective, including "cognitive" feelings whose source lies in information processes (e.g., fluency, ease-of-retrieval, feeling-of-knowing) and "bodily" feelings (e.g., feelings of being tired, feelings of being cold). For example, we would predict that subjective experiences of fluency would have more influence on judgments of fame or truth when the target is temporally proximate than when it is temporally distant. Indeed, there is

growing evidence that feelings tend to operate in a similar manner, regardless of whether they are affective, cognitive, or bodily (Greifeneder et al. 2011; see also Hong and Sun 2012).

Generalizability across Dimensions of Psychological Distance. While our research focuses on the effect of time on the reliance on affect, we believe that similar effects would be observed with other variables beyond time that map onto the notion of psychological distance, such as space, social distance, and hypotheticality. What presumably triggers a greater reliance on affect is a proximity to the egocentric self in the "here and now." Therefore, any departure (or distance) from this egocentric self—whether in time, space, social closeness, or reality—would tend to decrease the reliance on affect in judgments. Preliminary support for this conjecture comes from studies showing that (*a*) emotional involvement decreases as a function of physical distance (Bratfisch 1969; Stanley 1968), (*b*) affective intensity decreases as a function of perceived psychological distance (Van Boven et al. 2010), (*c*) the mere priming of physical distance decreases the influence of affect on judgments (Williams and Bargh 2008), and (*d*) affective feelings exert a stronger influence on judgments and decisions made for oneself than on judgments and decisions made for someone else (Pronin et al. 2008; Raghunathan and Pham 1999).

In summary, our studies show that the reliance on affect increases with the temporal proximity of the outcome or target. As discussed in the preceding section, this finding has important theoretical implications and suggests numerous avenues for future research. More important, this finding helps substantiate a broader and more fundamental principle of the affective system: that it is inherently a judgment and decision-making system of the present. As reviewed in this article, this basic principle helps integrate a wide variety of findings across various literatures (see appendix table A1). It additionally suggests the possibility of entirely new predictions. For example, building on this principle, Chang and Pham (2012) recently showed that the pervasive scope-insensitivity bias—a bias generally attributed to the operation of the affective system (Hsee and Rottenstreich 2004)—is more pronounced when outcomes are temporally proximate than when they are temporally distant. This suggests that the entire affective system, including its associated biases, may be more engaged in the present.

APPENDIX A

TABLE A1

PREVIOUS FINDINGS CONSISTENT WITH THE THESIS OF AFFECT AS A DECISION-MAKING SYSTEM OF THE PRESENT

Study	Main task	Operationalization of affect	Valence of affect	Operationalization of time	Findings
	(A) Affect is experienced more intensely in the present				
Ekman and Lundberg (1971), studies 1–3	Ratings of emotional reactions toward events that occurred in multiple points in time	Emotional reactions toward imagined events	. . .	Ratings of events that occur in multiple points in time in the past and in the future, spanning from 1759 to 2174	Stronger emotional reactions toward imagined events as subjective and objective temporal distance to the events decreases
Lundberg, Ekman, and Frankenhaeuser (1971), main study	Ratings of emotional reactions toward impending electric shock at different points in time	Fear from anticipating electric shock	Negative	Ratings of emotional reactions toward electric shock at different points in time within a 30 min. interval with vs. without a clock	Stronger emotional reactions (both heart rates and self-reported measures) as time to expected electric shock decreases, when participants both had or did not have access to a clock
Strack, Schwarz, and Gschneidinger (1985), study 1	Recall and write about three life events and report mood state and life satisfaction	Write about positive vs. negative life events	Positive and negative	Write about present vs. past life events	Describing current positive or negative events has a stronger effect on current mood state than describing past positive or negative events
Van Boven et al. (2009), study 1	Comparative rating of emotional reactions toward pictures viewed at different points in time	Emotionally pleasant and unpleasant pictures vs. neutral pictures	Positive and negative vs. neutral	Rating of current picture compared to pictures seen several seconds earlier	Immediate emotional reactions to picture are perceived to be more intense than previous emotional reactions to equivalent pictures seen several seconds earlier
Van Boven et al. (2009), study 3	Ratings of emotional reactions toward two different movies viewed in a sequence	Two 2 min. clips of scary movies	Negative	Comparison of reactions to two movies seen within a 20 min. interval	Immediate emotional reactions to either movie are perceived to be more intense than previous emotional reactions to other movie seen 20 min. earlier
Van Boven et al. (2010), studies 1–3	Ratings of perceived temporal proximity of various past or future events	Describing event in an emotionally vivid vs. nonemotional, detached manner	Positive and negative	Judged proximity of past or future events	Emotional intensity increases perceived temporal proximity of events
Van Boven et al. (2012), study 1	Willingness to engage in public performance	Anxiety from public performance	Negative	Comparison of willingness to engage in public performance immediately vs. in 5 days	Greater willingness to engage in a temporally distant embarrassing performance than in an immediate embarrassing performance
Huber et al. (2011), study 2	Choice between two humanitarian crises to write a letter supporting humanitarian aid; ratings of emotional reactions toward each crisis; ratings of deservingness of crisis of humanitarian aid	Two films (and their summaries) on humanitarian crisis	Negative	Making decision and judgments immediately after watching the films vs. 1 day after watching the films	More likely to choose the immediate crisis for humanitarian aid, rated the immediate crisis as more deserving of aid, and stronger emotional reactions toward the immediate crisis than the crisis learned about previously, when judgments and decisions were made directly after learning about the crisis than when they were made after a 1-day delay
Huber et al. (2011), study 3	Choice between two humanitarian crises to write a letter supporting humanitarian aid; ratings of emotional reactions toward each crisis	Two films (and their summaries) on humanitarian crisis	Negative	Sequential ordering of films on humanitarian crisis, separated by a 5 min. interval	More likely to choose immediate crisis for humanitarian aid and stronger emotional reactions toward immediate crisis than the other crisis learned about 5 min. earlier

TABLE A1 (*Continued*)

Study	Main task	Operationalization of affect	Valence of affect	Operationalization of time	Findings
	(B) Certain emotional neural areas of the brain are distinctly engaged in decisions with immediate outcomes				
McClure et al. (2004), main study	Choice between smaller, sooner vs. larger, later monetary rewards (between $5 and $40)	Emotional reactions toward monetary rewards	Positive (from the monetary reward)	Receiving money sooner vs. later within a 6-week period (separated by a minimum delay of 2 weeks)	The emotional area of the brain (i.e., "beta" region) is activated by decisions involving immediately available rewards, whereas the cognitive area of the brain (i.e., "delta" region) is engaged uniformly by intertemporal decisions
McClure et al. (2007), studies 1–2	Choice between smaller, immediate vs. larger, delayed appetitive rewards	Physiological reactions toward appetitive reward	Positive	Receiving a smaller volume of drink sooner vs. a larger volume of drink later within a 25 min. period	The emotional area of the brain (i.e., "beta" region) is activated by decisions involving the immediately available drink, whereas the cognitive area of the brain (i.e., "delta" region) is engaged uniformly by intertemporal decisions
Hariri et al. (2006), main study	Choice between smaller ($0.10–$105), immediate reward vs. $100, delayed (0 days to 5 years) monetary rewards	Emotional reactions toward monetary rewards	Positive (from the monetary reward)	Receiving a stated amount of money immediately vs. receiving $100 in 0–1,825 days	Increased activities in ventral striatum, limbic, and medial prefrontal cortex (emotional area of the brain) are associated with stimulus-driven behavioral responses serving immediate goal, whereas increased activities in lateral and dorsal regions of the prefrontal cortex (cognitive area of the brain) are associated with regulating behavior in the context of stimulus-independent long-term goal
	(C) Affect triggers impatience in focal decision task and subsequent, unrelated decision tasks				
Mischel and Ebbesen (1970), main study	Choice between immediate, less preferred vs. delayed, more preferred reward	Presence of reward: immediate, less preferred vs. delayed, more preferred vs. both rewards vs. none	Positive (from the preferred reward)	Waiting time to consume the immediate, less preferred reward vs. the delayed, more preferred reward in a 15 min. interval	Physical presence of the reward increases impatience for the reward, resulting in preference for immediate, less preferred reward over the delayed, more preferred reward
Mischel et al. (1972), studies 1–2	Choice between smaller, sooner vs. larger, later reward	Attention to the reward vs. distraction from the reward	Positive	Waiting time to consume the smaller, sooner reward vs. the larger, later reward	Greater attention to the physical presence of the reward increases impatience for the reward, resulting in preference for smaller, sooner reward over larger, later reward
Mischel et al. (1972), study 3	Choice between smaller, sooner vs. larger, delayed reward	Think about the reward vs. think about unrelated, fun things vs. no explicit instructions	Positive (from the preferred reward)	Waiting time to consume the smaller, sooner reward vs. the larger, later reward	Thinking about the reward increases impatience for the reward, resulting in preference for smaller, sooner reward over larger, later reward
Mischel and Baker (1975), main study	Choice between smaller, sooner vs. larger, delayed reward	Focus on arousing, consummatory qualities of the reward vs. focus on abstract, symbolic qualities of the reward	Positive (from the preferred reward)	Waiting time to consume the smaller, sooner reward vs. the larger, later reward in a 20 min. period	Focusing on arousing, consummatory qualities of the reward increases impatience for the reward, resulting in preference for smaller, sooner reward over larger, later reward
Read and van Leeuwen (1998), main study	Choice between healthy vs. unhealthy snack	Pleasant, appetitive snack vs. equally pleasant but less appetitive snack	Positive	Consumption of a snack immediately vs. 1 week later	More likely to choose unhealthy snacks (short-term gain) over healthy snacks (long-term gain) for immediate consumption than for delayed consumption

Shiv and Fedorikhin (1999), study 1	Choice between chocolate cake vs. fruit salad	Exposure to actual or pictures of pleasant, appetizing dessert vs. equally pleasant but less appetizing dessert	Positive	Short-term vs. long-term benefits of food consumption	Compared to symbolic presentation of desserts, actual presentation of desserts increases impatience for the appetizing dessert when processing resources were limited, resulting in preference for desserts with short-term benefits over desserts with long-term benefits
Li (2008), study 1a	Choice between immediate vs. delayed monetary rewards	Preexposure to appetizing pictures vs. equally pleasant but less appetizing pictures	Positive	Receiving reward tomorrow vs. receiving reward in 10–70 days	Prior exposure to appetizing stimuli increases impatience for receiving unrelated monetary rewards
Li (2008), study 2	Ratings of happiness of receiving a given sum of money at different points in time	Concurrent exposure to ambient cookie scent vs. unscented condition	Positive	Receiving money immediately vs. in 3–24 months	Concurrent exposure to appetizing scent increases impatience for receiving unrelated monetary rewards
Van den Bergh et al. (2008), studies 1a, 1b, and 2	Amount of money required at different future points in time to be indifferent to receiving €15 immediately	Preexposure to sexually arousing stimuli vs. equally pleasant but less arousing stimuli	Positive vs. neutral	Receiving €15 immediately vs. receiving a stated amount of money in 7–30 days	Prior exposure to sexually arousing stimuli increases impatience for unrelated monetary rewards
	(D) Stronger influence of affect in decisions involving outcomes close to the present				
Pronin et al. (2008), study 1	Amount of disgusting liquid to be consumed	Presumed real vs. hypothetical nature of decision to consume a disgusting liquid	Negative	Consumption of a drink immediately vs. next semester	When the decision is presumed to be real, participants were willing to consume less disgusting liquid in the present than in the future. However, when the decision is hypothetical, there is no difference in the amount of liquid participants were willing to consume in the present and in the future
Pronin et al. (2008), study 2	Amount of time to volunteer in a peer tutoring program during exam week	Anxiety experienced during midterm week	Negative	Volunteering in a peer tutoring program this midterms week vs. next midterms week	Fewer minutes of help were volunteered during a midterm week in the present than in the future
Peters et al. (2012), studies 1–2	Willingness to purchase locking device to protect personal possessions in a rented apartment	Possessions described in an affect-rich vs. affect-poor manner	Negative in case of loss	Apartment rented on a 1-year vs. 2-year lease	Stronger willingness to protect possessions described in an affect-rich (vs. affect-poor) manner for a 1-year lease but not for a 2-year lease

APPENDIX B

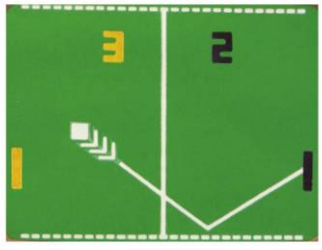
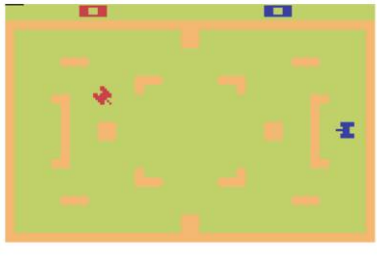
Characteristics of Apartment A:

- Partial courtyard view
- Single window in living room and small window in bedroom
- Spacious closet space
- 630 sq. ft.
- Steps from the subway
- Monthly rent: $1,600

Characteristics of Apartment B:

- Breathtaking view from most rooms
- Oversized windows with lots of sunlight
- Limited closet space
- 450 sq. ft.
- Four bus stops from the subway
- Monthly rent: $2,300

APPENDIX C

	Recent Past	Distant Past
Pong		
	Pong debuted in 2007 [1984]. This is a simple paddle ball game that plays like table tennis or air hockey and is simple to learn. Its objective is to hit the ball across the playing field by moving the paddle up and down and try your best to hit the ball past your opponent's paddle on the other side to score. It can play up to two players.	
Combat		
	Combat was developed in 2007 [1980]. Players pilot a tank around a field apparently constructed out of wooden building blocks, dropping mines and firing shells at the opponent tank. It can play in either the single-player or two-player mode.	
Duck Hunt		
	Duck hunt was developed in 2008 [1985]. Using a zapper light gun for the game, players attempt to shoot down as many ducks or clay pigeons on mid-flight as they can. More than one duck or clay pigeon can appear at once.	

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