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Shape Shared Experiences

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ABSTRACT

Many hedonic experiences consist of a temporal sequence of episodes, such as viewing a series of paintings in an art gallery. These events may be shared with others (joint context) or experienced alone (solo context). However, past research has mostly studied solo contexts, finding that consumers evaluate experiences with an improving trend more positively than those with a declining trend, due to a recency effect in memory-based evaluations. The present research investigates the moderating role of social context on global evaluations of experiences. Participants instructed to undergo hedonic experiences presented as an improving or declining trend replicated the greater evaluation of improving sequences in solo contexts, but demonstrated an attenuation of this preference in joint contexts. These differences occur because joint experiences trigger a more holistic (less analytic) processing style, contributing to primacy-based assimilation, in which evaluations of later episodes assimilate to first impressions (i.e., evaluations of the start).

Many hedonic consumption experiences consist of a temporal sequence of episodes, such as viewing a series of paintings in an art gallery. During these temporal sequences, consumers may differ in the extent to which they feel bonded to others—a factor that is influenced by the experience's social context. For instance, a consumer may co-experience an art gallery by browsing with her friends (joint context), or she may view the gallery on her own with only strangers nearby (solo context). To date, little is known about the impact of these differences in social context on how sequences are experienced, remembered, and evaluated.

Better understanding how consumers evaluate temporal sequences is important to marketers that are striving to design experiences that enhance consumers' enjoyment and future purchase intentions; therefore, temporal sequences researchers have focused on how consumers weight different aspects of an experience in global, retrospective evaluations. This research has shown that consumers heavily weight an experience's final episode, because it is salient when overall evaluations are formed (Fredrickson and Kahneman 1993; Kahneman et al. 1993). Consequently, consumers evaluate experiences that start with the worst episode and end with the best episode (improving sequence) more positively than experiences with the reverse pattern (declining sequence) (Ariely 1998).

Although the improving sequence preference has received considerable support in past work, less attention has been given to understanding how this preference varies across social contexts. Instead, researchers have supported these findings primarily by studying solo experiences. In past studies, participants viewed film clips in a lab entirely alone (Frederickson and Kahneman 1993) or experienced varying levels of pain one person at a time (Ariely 1998; Kahneman et al. 1993). An understanding of how consumers evaluate sequences in joint contexts

is important, because many (if not most) real world experiences are shared with others. Moreover, consumers may recall episodes differently in joint contexts, which could qualify the improving sequence preference observed previously and suggest managerial prescriptions that are contingent on an experience's social context.

This research contributes to the temporal sequences literature by exploring how differences in social context impact sequence preferences. We find that consumers prefer improving sequences in solo contexts, but this preference is attenuated in joint contexts, in which evaluations of later episodes assimilate to first impressions (i.e., evaluations of the start). Thus, by examining the moderating role of social context in hedonic experiences, we are able to determine the conditions under which a preference for improving sequences is replicated and attenuated. Further, we show that differences in consumers' processing style (holistic vs. analytic) during the experience drive these preference shifts.

<div align="center">THEORETICAL DEVELOPMENT</div>

Temporal Sequences

Research on temporal sequences has found that select moments of the sequence— particularly peak intensity and end intensity—largely determine global, retrospective evaluations (Fredrickson and Kahneman 1993; Kahneman et al. 1993). Generally, this research has found that individuals prefer improving versus declining sequences that differ only in the order in which episodes occur (i.e., not in their average intensity) (Ariely 1998). The final episode is weighted more due to a recency effect; end intensity is highly accessible when the experience is evaluated soon after its conclusion (Greene 1986; Montgomery and Unnava 2009). Additionally,

various situational factors, including the experience's cohesiveness (Ariely and Zauberman 2000, 2003) and its stimulus domain (Baumgartner, Sujan, and Padgett 1997; Rode, Rozin, and Durlach 2007) have been shown to moderate these aspects' weighting.

Although not emphasized in the temporal sequences literature, start intensity may also be highly impactful in sequence evaluations. Research on impression formation has shown that information presented at the beginning of a sequence can modify the meaning of later elements through assimilation (Asch 1946)—a finding termed a 'primacy effect' in this literature. Memory research also uses the term 'primacy effect' to refer to greater accessibility of items presented at the beginning of a list of information when recalling the list—an effect that does not necessitate assimilation to the start while interpreting later information in the sequence (Jahnke 1965). In our research, we focus on the former definition of a primacy effect and hereafter refer to this phenomenon as 'primacy-based assimilation' to avoid confusion.

In general, past work has shown that the impact of the start of a sequence on global evaluations depends on the sequence domain. More specifically, research has shown that a large impact of the start of sequence on global evaluations is more prevalent with sequences of information than with hedonic experiences (Zauberman, Diehl, and Ariely 2006). Research on overall evaluations of hedonic experiences consumed alone has only shown an effect of start intensity under very limited conditions (e.g., delayed evaluations, when recency effects dissipate due to memory decay; Montgomery and Unnava 2009). In sum, work on hedonic experiences has mainly supported the influence of final episode intensity but not initial episode intensity on overall evaluations of solo experiences. Still, little is known about how an experience's social context moderates the influence of the start.

Social Context and Processing Style

We claim that individuals feel more connected to others during joint (vs. solo) experiences, a contention based on prior research on shared experiences. Studying verbal interaction during shared experiences, Raghunathan and Corfman (2006) observed that consumers drinking juice together had a need to affiliate and accordingly valued the coherence of their opinions on the juice. Ramanathan and McGill (2007) studied the impact of consumers' subtle, non-verbal signals (e.g., facial expressions) during shared experiences and found that consumers' moment-to-moment evaluations cohered with others whose subtle signals they could observe. Taken together, research has revealed that consumers often bond over shared experiences, and this connected social environment can influence their experience evaluations.

One's social environment may also promote a certain processing style (Nisbett et al. 2001). Nisbett and colleagues have shown that East Asians, who are immersed in social relationships, tend to process information holistically. Comparatively, Westerners, who have relatively looser social ties, tend to process information analytically (Nisbett 2003). *Holistic processing* is characterized by a "top-down" information integration style in which judgments are assimilated to the whole context (i.e., context-dependence). In contrast, *analytic processing* is characterized by an accommodative, "bottom-up" style in which people focus on objects and their attributes detached from the field (i.e., context-independence) (Nisbett et al. 2001).

An individual's processing style can also vary across situational differences in her social environment. For example, Kühnen and Oyserman (2002) primed feelings of social connection by presenting participants either plural or singular pronouns (e.g., 'we' and 'our' vs. 'I' and 'my'). In other social connection primes, participants read a story with self-interest or group-related motivations (Ahluwalia 2008; Jain, Desai, and Mao 2007; Krishna, Zhou, and Zhang

2008). This past work has shown that priming interdependence with others triggers more holistic (less analytic) processing on subsequent tasks. Thus, individuals can process either analytically or holistically, but one processing style may be relatively more operative in certain situations.

We highlight two characteristics of this processing style dichotomy that are pertinent to our framework. First, although analytic and holistic processing styles do not differ systematically in overall levels of attention and memory, they differ in attention devoted to particular information (Nisbett 2003). Specifically, a top-down style of information integration leads holistic processors to attend to contextual information longer than analytic processors, who use a bottom-up style of integration. Accordingly, holistic processors are more likely to recall contextual details than analytic processors (Nisbett et al. 2001; Nisbett and Miyamoto 2005). Second, even when contextual information is attended to, analytic and holistic processors differ in how they incorporate this information into judgments of related targets. Holistic processors are more likely to *assimilate* to the context when making judgments, whereas analytic processors largely make judgments based on individual elements, devoid of the context (Nisbett 2003).

To review, feelings of social connection—both chronically and situationally— impact individuals' processing style. We argue that individuals are more connected when sharing an experience with others versus when experiencing alone. This contention implies that individuals will process more holistically (less analytically) in joint relative to solo contexts, leading to greater context dependence when judging the episodes contained within the experience.

The Effect of Social Context on Sequence Preference

The research reviewed thus far has shown that connection to others triggers holistic processing and greater assimilation to contextual information when forming judgments. As a

result of these processing style differences, social environment may also moderate judgments that are impacted by serial order, including evaluations of temporal sequences. For example, past research has shown that when individuals process in a top-down manner, their first representation influences their encoding of ensuing aspects, but this effect is reduced under bottom-up processing (Belmore 1987; DiGirolamo and Hintzman 1997). Further, relying on past research, Forgas (2011) suggested that a happy (sad) mood triggers a top-down (bottom-up) style of information integration. In a person perception task, he found that participants who processed a sequence of information about a person under a happy (sad) mood formed global perceptions of that person that were based more (less) on early presented information. Finally, research in neuroscience has found that top-down processing leads to lesser usage of stimuli presented later in a sequence, as reflected by weakened neural activity for later stimuli (de Lange, Jensen, and Dehaene 2010). In sum, top-down information integration, which is characteristic of holistic processing, has been shown to increase one's reliance on the initial aspects of a list of information when interpreting later aspects and when forming integrative judgments.

In a similar vein, we suggest that processing style, triggered by the social context of an experience, dictates the extent to which an individual's evaluations of later episodes assimilates to her evaluations of initial episodes. More specifically, we expect that joint experiences activate a holistic processing style, which leads to greater assimilation to the start when forming immediate retrospective evaluations of each episode; the first episode receives more attention and thus provides an overarching frame—an initial context—to which evaluations of later episodes are assimilated. Conversely, we expect that solo experiences activate an analytic processing style, in which evaluations of later episodes are formed in relative isolation; because attention to this initial context is lower, assimilation is less pronounced. Given that the final

episode is the most accessible when forming global, retrospective evaluations (Greene 1986; Montgomery and Unnava 2009), ratings of the final episode will be incorporated into global evaluations in both social contexts. However, we anticipate that evaluation of the final episode *itself* will differ by social context; it will be more assimilated to the initial episode in joint (vs. solo) experiences. Thus, we anticipate that global, retrospective evaluations of the experience will differ as a result of differences in evaluations of the final episode.

We augment research on sequence judgments that are impacted by serial order in two key respects. First, research comparing the effects of serial order under top-down versus bottom-up processing has mainly examined integration of sequences of information, whereas we study hedonic experiences. The impact of the start of a sequence differs for hedonic and informational evaluations (Zauberman, Diehl, and Ariely 2006), suggesting a need for examining hedonic sequences. Second, we study the impact of the start on global evaluations within the framework of social environment and processing style. In comparison, past work has manipulated information integration style without varying social context. For instance, Forgas (2011) manipulated mood in his investigation. Although social context may sometimes influence mood, these factors are often decoupled, and each may influence processing style independently. More generally, manner of information integration is just one dimension of the holistic versus analytic processing style distinction in the social environment literature. Thus, it is important to directly test how judgments of sequences differ across social contexts.

Building on past work, we expect that both solo and joint contexts will produce a recency effect (Ariely 1998; Kahneman et al. 1993). That is, the final episode's intensity will be heavily weighted in global, retrospective evaluations, regardless of social context. However, we expect that primacy-based assimilation will be more pronounced in joint experiences through the

process described above. These differences have implications for consumers' sequence preferences, as reflected by their global, retrospective evaluations. Our framework suggests that consumers will prefer improving (vs. declining) sequences in solo contexts, when a recency effect is expected to occur without primacy-based assimilation. In solo contexts, the final episode is evaluated in relative isolation, with little contextual influence. Thus, individuals should evaluate the final episode more positively in an improving (vs. declining) sequence, resulting in higher global evaluations of improving sequences. However, in joint contexts, this improving sequence preference will be attenuated due to a recency effect that is also accompanied by greater primacy-based assimilation. In joint contexts, the first episode provides a lasting *first impression* that influences how the rest of the experience is interpreted; therefore, evaluations of the final episode are shaped by the broad context of the first episode (i.e., assimilated to the first episode). Thus, individuals should exhibit less of a difference in evaluations of the final episode in improving versus declining sequences, resulting in an attenuated difference in global evaluations for the two sequence trends.

To review, we suggest the following causal chain: An experience's social context (i.e., joint vs. solo) (i) activates a particular processing style (i.e., holistic vs. analytic), which (ii) influences the extent to which ratings of the final episode assimilate to the initial episode, and these differences in evaluations of the final episode in turn (iii) impact global, retrospective evaluations of the sequence. Thus, we hypothesize the following:

H1: Individuals' global, retrospective evaluations will be more positive for improving versus declining sequences when consuming in solo contexts, whereas this preference will be attenuated when consuming in joint contexts.

H2: Individuals' evaluations of later episodes in the sequence will assimilate more to the evaluation of the first episode in joint relative to solo contexts.

H3: Evaluations of the final episode in a sequence will mediate the effect of social context on global evaluations of the experience.

Further, we attribute these effects on experience evaluations to processing style differences that the social context promotes. Thus,

H4: Processing style differences drive individuals' evaluations of sequences. Joint contexts promote a more holistic (less analytic) processing style than solo contexts.

We tested our predictions in four studies involving two stimulus domains. Our manipulations of social context include rich differences in social presence and interaction (e.g., study 4 conducted in public settings) to relatively subtle differences that support our social context framing and address alternative explanations (e.g., mood). Moreover, past research on joint experiences manipulated the presence of and verbal interaction with others (Raghunathan and Corfman 2006; Ramanathan and McGill 2007). We expand this characterization to encompass individuals' perceptions of whether or not they are co-experiencing an event with others. Studies 1 and 2 test our assertions on sequence preference and examine how differences in assimilation to the start contribute to the predicted sequence preferences. Finally, studies 3 and 4 directly test our processing style account.

STUDY 1: AWARENESS OF OTHERS DURING AN ART SEQUENCE

Study 1 had two objectives. First, we sought to document the moderating role of social

context on sequence preferences (hypothesis 1). Second, we wanted to demonstrate the

mediating role of the final episode's enjoyment on overall evaluations of the experience

(hypothesis 3). More specifically, our goal was to show that in a joint (vs. solo) context,

individuals' evaluations of the final episode assimilate more to their evaluations of the first

episode (hypothesis 2), resulting in an attenuation of the improving sequence preference. To that

end, we exposed participants to an art sequence in which our social context manipulation varied

whether participants were aware of others co-experiencing the sequence. We predict that when

awareness of others is not activated (solo context), global, retrospective evaluations will be

higher for an improving (vs. declining) sequence. However, when participants are made aware of

others co-experiencing the art images (joint context), this improving sequence preference will be

attenuated.

Pretest on Art Images

To develop the stimulus materials, 59 undergraduate students were asked to evaluate 20

art images. Ten images were selected from an online gallery for the Museum of Modern Art

(MOMA), which has a world renowned collection housed in New York City. Ten images were

selected from an online gallery for the Museum of Bad Art (MOBA), whose motto is "Art too

bad to be ignored" (see museumofbadart.org). Order of images was counter-balanced.

Participants were asked to evaluate how much they enjoyed viewing each image on a scale from

1 ("not at all") to 7 ("very much"). Based on these ratings, we selected the eight most liked

images (all MOMA) and the seven least liked images (all MOBA); these constituted the 15-

image sequence used in the main study. As expected, the eight MOMA images were evaluated

more positively ($M = 4.14$) than the seven MOBA images ($M = 2.67$; $t(58) = 8.97$; $p < .05$).

Pretest on Joint versus Solo Context Manipulation

The purpose of the second pretest was to confirm that the joint context condition induces

greater feelings of social connection and more holistic (less analytic) processing compared to the

solo context condition. Undergraduate students ($N = 76$) participated in exchange for course

credit. This pretest took place in groups of eight participants and took approximately 20 minutes.

The pre-test procedure mirrored the main experiment as closely as possible. Upon

entering the lab, joint condition participants introduced themselves to another person (assigned

by the lab proctor) and discussed their past experiences with art for five minutes. Solo condition

participants wrote about themselves and their past experience with art for five minutes. The

conversation task was designed to establish rapport between participants, and the writing task

was employed as a comparable, control activity. Next, all participants were told that a local art

gallery was considering a modern art collection for one of its wings. They were also told that the

gallery has an admission fee, but this exact figure was not provided. Joint condition participants

were asked to imagine attending the gallery with their assigned conversation partner, whereas

solo condition participants were asked to imagine attending on their own. Participants were

provided a folder containing the images (already pretested), which were placed in a random

order. We did not manipulate or measure the art pieces' presentation order, because this pretest

only examined the social context manipulation. Participants viewed the art pieces contained in

the folder in any order they chose for two minutes. Of note, we separated participants from each other during the art sequence to eliminate non-verbal communication.

After viewing the art images, participants completed a series of measures. First, they provided 10 words or phrases to describe themselves ("I am…")—a task that measures feelings of independence versus interdependence (Kuhn and McPartland 1954; Mandel 2003). These statements were later coded as idiocentric/self (i.e., personal qualities, attitudes, beliefs, or behaviors that do not relate to others, such as "I am tall") or allocentric/group (relationships or sensitivity to others, such as "I am helpful to others," membership in groups with a common fate, such as "I am Catholic"). Unrelated statements were coded as nonsense (e.g., "I am… not wanting to take this study"). Second, participants completed the five-item, seven-point processing style scale (e.g., "The whole is greater than the sum of the parts.") (Choi et al. 2003, Choi, Koo, and Choi 2007; Monga and John 2008).

We also compared task valence, vividness, and involvement of the writing and conversation tasks, as well as participants' mood, all measured on 7-point scales. To assess valence, respondents indicated how positive or negative the writing (vs. speaking) task was to them (very negative/very positive). Vividness was measured using a 2-item scale (dull/vivid, boring/interesting). Involvement was measured using a 3-item scale (very uninvolved/very involved, concentrating very little/concentrating very hard, paying very little attention/paying a lot of attention). Finally, mood was measured using the 10-item international Positive and Negative Affect Schedule (PANAS) Short Form (I-PANAS-SF; Thompson 2007).

Task vividness and involvement. We conducted an ANOVA with task type (solo writing task vs. joint conversation task) as the factor of interest. The analyses revealed no differences in these measures by task type (all p's $> .1$).

Task valence. An ANOVA showed a main effect of task valence such that the conversation task was rated as more positive than the writing task (M = 5.35 vs. 4.67, $F(1, 74)$ = 4.06, $p < .05$). Thus, we account for potential differences in task valence in the main study.

Mood. The positive items and negative items were subjected to an ANOVA with task type as the factor of interest. The analyses revealed no differences in negative affect by task type ($M_{conversation}$ = 1.68 vs. $M_{writing}$ = 1.61, $p > .1$) and only a directional difference in positive affect ($M_{conversation}$ = 4.16 vs. $M_{writing}$ = 4.53, $p = .09$) by task type. Further, neither positive nor negative affect were significantly correlated with task valence (both p's > .1), suggesting that differences in the positivity or negativity of the task did not trigger ensuing mood differences.

Feelings of social connection. The "I am" statements were subjected to an ANOVA with social context as the between-subjects factor and coding category (self/idiocentric vs. group/allocentric) as the within-subjects factor. In support of our assertions, the analysis revealed a significant interaction ($F(1, 74)$ = 3.89, $p = .05$). Participants in the solo condition listed directionally more "self" statements and significantly fewer "group" statements compared to participants in the joint condition (M_{self} = 9.00 vs. 8.28, $t(74)$ = 1.69, $p < .1$; M_{group} = 0.47 vs. 1.20, $t(74)$ = 2.14, $p < .05$).

Processing style. An analysis of the processing style measure revealed a significant main effect of joint versus solo context. Participants in the joint context exhibited a more holistic processing style (M = 4.85 vs. 4.45, $F(1, 74)$ = 5.20, $p < .05$), consistent with our expectations. Taken together, the pretest confirmed that the joint context triggers greater feelings of social connection and holistic processing compared to the solo context, but the different tasks that begin these conditions (i.e., writing vs. conversation) are otherwise similar in vividness and involvement. Importantly, the effect of social context on processing style remains significant

when controlling for positive and negative affect ($F(1,72) = 4.45$, $p < .05$), increasing our confidence that social connection has an independent effect on processing style, rather than engendering more holistic (less analytic) processing by simply inducing a more positive mood.

Design and Procedure

Undergraduate students ($N = 182$) participated in the main study in a behavioral lab as part of a 1-hour session in exchange for course credit. The study involved a 2 (joint vs. solo context) x 2 (improving vs. declining sequence) between-subjects design.

Participants entered the lab and were seated at computer stations separated by privacy partition panels. Each session had between six and 10 participants. Participants were told that they would be completing a series of tasks on art. The first task was the social context manipulation, which was alternated across sessions, and the second task was the art viewing experience. Thus, the procedure was the same as the second pretest described above, with one modification: Participants viewed the art pieces and completed the target measures using a computer to control the order and viewing time for the art pieces. After the proctor introduced the art viewing experience, participants began the task in which each of the subsequent pages displayed one of the 15 images for a fixed time (six seconds) before advancing to the next page. The images were presented either in an improving or declining order, according to pretested enjoyment ratings. This sequence manipulation was randomly assigned between-subjects, varying across participants within a session. At the conclusion of the sequence, participants were asked to complete the target measures, which were different from the pre-test.

Target Measures

The main dependent measures were global, retrospective evaluations of the sequence and remembered moment-to-moment episode ratings, collected immediately after global evaluations. Global, retrospective evaluations were assessed by asking participants to select a scale item that best represented an amount that they would be willing to pay to visit the gallery. The scale consisted of categories of payment in $5 increments (e.g., "$10.01 - $15", with the lowest category "less than $5" and the highest category "more than $40"). Next, participants rated the valence of the writing or conversation task, using the same scale as in the pre-test. We did not measure mood in the main study.

Participants next provided their immediate retrospective evaluations of each episode. They viewed the same art sequence and consecutively rated each image on remembered enjoyment on a scale from 1 ("not at all") to 7 ("very much"). Our framework presumes that global evaluations of a sequence are determined by memory for the intensity of the episodes contained therein. More specifically, holistic processors' immediate evaluations of later episodes assimilate to their immediate evaluation of the first episode, leading to an attenuated effect of trend on global evaluations of the experience. Although remembered moment-to-moment ratings have been shown to correspond fairly well to affective experience during the original event (Gottman and Levenson 1985; Larsen and Fredrickson 1999), we acknowledge that these ratings may not exactly mirror real-time ratings that are formed as the experience unfolds. However, since our focus is on retrospective (i.e., memory-based) overall evaluations of the experience, we employed remembered moment-to-moment ratings, consistent with other research in this domain (Frederickson 2000; Frederickson and Kahneman 1993).

Results

Task valence. The conversation task was rated as more positive than the writing task ($M =$ 5.80 vs. 4.63, $t(180) = 6.62$, $p < .05$). All analyses reported below include task valence as a covariate, but results replicate without this control.

Global, retrospective evaluations. Retrospective dollar valuations were subjected to an ANOVA with social context (joint vs. solo) and trend (improving vs. declining sequence) as the independent factors. Consistent with hypothesis 1, we found a significant interaction between social context and trend ($F(1, 177) = 6.98$, $p < .05$). The same interaction held when analyzing the rank transformation of the retrospective dollar valuation measure ($F(1, 177) = 5.45$, $p < .05$). Planned contrasts revealed that solo context participants selected a higher category of payment for the improving versus declining sequence ($M = 2.95$ vs. 2.04, $t(177) = 5.63$, $p < .05$), replicating past findings (Kahneman et al. 1993). However, joint context participants' selected category of payment did not differ for the two sequence trends ($M_{improving} = 2.39$ vs. $M_{declining} =$ 2.93, $t(177) = -1.87$, $p = .17$), see table 2. Finally, there were no main effects of social context or trend (p-values $> .10$), but task valence exerted a marginally significant and positive main effect ($F(1, 177) = 3.31$, $p = .07$).

Insert table 2 about here

Remembered moment-to-moment evaluations. Because the conversation or writing task immediately preceded the sequence, it was possible that task valence could carry over into the art sequence. In the declining sequence (with a better start) there were no significant differences in

the initial 13 images' remembered moment-to-moment evaluations by social context (all p's > .1). In the improving sequence (with a worse start), images 4 through 13 also were evaluated equivalently by social context (all p's > .1). However, the average evaluations of the first three images was higher in the joint versus solo context (M = 2.75 vs. 3.59, $t(177)$ = 3.88, p = .05), suggesting a carryover effect.

Of main interest, we expected that assimilation to the first image would be greater in the joint versus solo context (hypothesis 2). Further, we anticipated that this effect would be more likely to be observed later into the sequences for both theoretical reasons and our particular design. Drawing on prior work on top-down processing, joint context participants should be especially rigid in accommodating later (as opposed to early) stimuli. As they accumulated more information, they would be increasingly likely to base their perception of each remaining art piece on their emerging global evaluation rather than on the actual stimulus. Second, according to our stimulus design, the largest distance in objective quality is between the final image and the first image. For instance, even if the second image assimilates to the start's evaluation, it is not that distinct from the first image in objective quality, resulting in minimal effects of assimilation. In contrast, the final images are far different in objective quality from the beginning of the sequence, allowing for larger assimilation effects. Therefore, we focused on evaluations of the final image, but similar effects obtain with the penultimate (14th) image.

Final image ratings were subjected to an ANOVA with social context and trend as the independent factors. There was no main effect of social context (p >.10), but there was a main effect of trend ($F(1, 177)$ = 88.64, p < .05), with higher final image ratings in the improving sequences. Although we expected this finding in both social contexts, we anticipated a smaller trend effect in joint contexts, due to greater assimilation to start intensity. Consistent with

hypothesis 2, we found a significant interaction between social context and trend ($F(1, 177) =$ 9.06, $p < .05$). In the declining sequence (with a worse end), the final image was rated more positively for participants in the joint versus solo context ($M_{solo} = 1.96$ vs. $M_{joint} = 2.77$, ($t(177) =$ 3.76, $p = .05$). In the improving sequence (with a better end), the final image was rated more positively for participants in the solo versus joint context ($M_{solo} = 5.35$ vs. $M_{joint} = 4.52$, ($t(177) =$ -4.32, $p < .05$). To ensure that these results were not driven by carryover effects of task valence (which occurred on the first three images), we conducted two further analyses that controlled for (1) the first image's rating and (2) the first three images' ratings; the results were consistent.

Next, we examined the relationships between the evaluation of the first episode, the evaluation of the final episode, and global evaluations of the experience (i.e., retrospective dollar valuations). In computing these correlations, we collapsed across trend conditions and compared the social context conditions. In the solo context, retrospective dollar valuations were significantly correlated with ratings of the final image ($r(92) = 0.29$, $p < .05$), but the relationship between dollar valuations and ratings of the first image was not significant ($r(92) = -0.13$, $p =$ .21), see table 3. These relationships indicate only a recency effect, whereas the joint context also revealed primacy-based assimilation; global evaluations were significantly correlated with ratings of the first image ($r(90) = 0.24$, $p < .05$), but not ratings of the final image ($r(90) = 0.17$, p = .12). When analyzing across trend conditions, rating of the first image should be negatively correlated with rating of the final image, because in our design, a better start ensures a worse end (and vice versa). Indeed, in the solo context, the first and final image's ratings were significantly negatively correlated ($r(92) = -0.4$, $p < .05$), but this relationship was smaller in the joint context ($r(90) = -0.18$, $p = .08$), suggestive of greater assimilation.

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Insert table 3 about here

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Mediation analysis. To support our contention that assimilation to the start impacts

global, retrospective evaluations of sequences, we conducted a mediation analysis. According to

our framework, although the end is heavily weighted in global evaluations across social contexts,

it should have a muted impact in the joint context, due to reduced differences in intensity by

trend condition. As such, we tested whether differences in ratings of the final image mediated the

differences in overall sequence evaluations we observed between social context conditions

(hypothesis 3).

We tested the following three relationships: (1) Social context and sequence trend interact

to predict retrospective dollar valuations, (2) Social context and sequence trend interact to predict

final image ratings, and (3) When social context, sequence trend, their interaction, and final

image ratings are included as predictors, the final image ratings significantly predict

retrospective dollar valuations. We documented the first two relationships earlier. Testing the

third relationship, when social context, sequence trend, their interaction, and final image ratings

were included in the regression equation, both final image ratings and the interaction

significantly predicted retrospective dollar valuations ($\beta_{\text{final image}} = 0.26$, $t(177) = 2.86$, $p < .05$;

$\beta_{\text{context x trend}} = -0.25$, $t(177) = -1.94$, $p = .05$), indicating partial mediation and a direct effect of

the interaction on dollar valuations. We also employed the test for mediation outlined in Zhao,

Lynch and Chen (2010) using Preacher and Hayes's (2008) macro with bootstrapped samples

(1,000). The indirect path of the effects of the interaction on retrospective dollar valuations

through rating of the final image was negative and significant (a x b = -0.35), indicating complementary mediation, with the 95% confidence interval excluding zero (-0.8874 to -0.0671). As with analyses of final image ratings, this mediation analysis held when controlling for the ratings of the first image.

Discussion

Study 1 had three objectives. First, supporting hypothesis 1, we found that an improving sequence preference in a solo context was attenuated in a joint context. Second, supporting hypothesis 2, we showed that the evaluation of the final image assimilated more to the first episode's evaluation in joint versus solo contexts. Third, supporting hypothesis 3, we found that differences in the final image evaluation mediated the effect of the social context on sequence preference. That is, the improving sequence preference was attenuated in the joint context due to muted differences in immediate evaluations of the final episode in the sequence.

In study 1, we employed a novel manipulation in which we varied individuals' social interaction with others prior to (but not during) the sequence. This design was utilized to control for the possibility that individuals could influence each other when evaluating the sequence through subtle, non-verbal signals (Ramanathan and McGill 2007). However, one could argue that by including social interaction only prior to the experience, participants in the joint context may have paid more attention to the start of the sequence, which immediately followed their conversations. Thus, in study 4, we replicate the results with an ongoing social context manipulation. Further, although study 1 provides some preliminary evidence against alternative accounts, it is possible that the observed effects may be attributed to procedural differences. We conducted study 2 to investigate this issue. More specifically, study 2 tests whether the sequence

preference effects (hypothesis 1) that we observed in study 1 are replicated when others are simply made salient without verbal or nonverbal interaction. Thus, we employ a previously established manipulation from the social environment literature in study 2 to address the confounding role of procedural differences and to clarify the role of social connection.

STUDY 2: PRONOUN PRIME PRECEDING AN ART SEQUENCE

Study 2 was designed to augment study 1 in three ways. First, we sought to generalize study 1's results by investigating whether priming social context is sufficient to produce the observed effects. In particular, we employ a widely used priming method in which participants' feelings of independence from others versus interdependence with others is activated (Gardner, Gabriel, and Lee 1999; Kim, Grimm, and Markman 2007; White, Lehman, and Cohen 2006). Second, using this subtle manipulation, we sought to demonstrate that the effects cannot be attributed to procedural or mood differences in the solo and joint contexts. Third, we wanted to show that the effects are driven by differences in feelings of social connection, which would be evidenced by a self-construal manipulation producing the same effects. Consistent with the sequence preference effects observed in study 1, we predict that interdependent-primed participants will experience the sequence with a joint, shared mindset, producing the attenuation of the improving trend preference that was observed in study 1.

Design and Procedure

Undergraduate students ($N = 221$) participated in this study in a behavioral lab as part of a 1-hour session in exchange for course credit. The study was a 2 (joint vs. solo context prime) x 2 (improving vs. declining sequence) between-subjects design. All participants began the study

simultaneously with shared verbal instructions, allowing them to potentially perceive that the study was co-experienced. To manipulate social context, participants completed Gardner et al.'s (1999) pronoun identification task on their computer, which past research has demonstrated results in differences in feelings of independence versus interdependence without corresponding differences in mood (Lalwani and Shavitt 2009; Krishna et al. 2008; Mandel 2003). This short task involved reading a descriptive paragraph about a trip to a city and counting the number of pronouns contained therein. The text was varied so that the pronouns were either singular in the solo context condition (e.g., 'I', 'my') or plural in the joint context condition (e.g., 'we', 'our').

We argue that the pronoun identification task may prime joint versus solo context in two respects. First, the nature of the pronouns (plural vs. singular) have previously been shown to prime interdependence versus independence, which according to our theory should have similar effects as experiencing the sequence in joint versus solo contexts. Second, the passage employed in this manipulation described a hedonic experience (a trip to a city), which was effectively framed as either a co-experienced event (e.g., "We see all the sights.") or an individually experienced event (e.g., "I see all the sights."). Thus, the pronoun identification task could directly prime thoughts about either a joint context or a solo context hedonic experience.

After completing the pronoun identification task, participants completed the same art viewing experience as in study 1. The images were presented in either an improving or declining order. At the sequence's conclusion, participants responded to the retrospective dollar valuation question employed in study 1. Because the goal of this study was to simply demonstrate that the overall sequence preference effects observed in study 1 can be replicated using an established prime from the social environment literature, we did not collect remembered moment-to-moment evaluations or test for the mechanism in study 2.

Results

Global, retrospective evaluations. Retrospective dollar valuations were subjected to an ANOVA with social context (joint vs. solo) and trend (improving vs. declining sequence) as the independent factors. Replicating study 1's results, we found a significant interaction between social context and trend ($F(1, 218) = 18.43$, $p < .05$). Planned contrasts revealed that solo context participants selected a higher category of payment for the improving sequence ($M = 2.29$) than the declining sequence ($M = 1.81$, $t(218) = 3.26$, $p = .07$)—a difference that was marginally significant but was directionally consistent with study 1's findings and the past literature. In the joint context, participants selected a higher category of payment for the declining sequence ($M = 2.75$) than the improving sequence ($M = 1.64$, $t(218) = -18.49$, $p < .05$), see table 2. As in study 1, no main effects were significant (all p's > .10).

Discussion

Study 2 revealed a crossover pattern in which the improving sequence preference in the solo context was reversed in the joint context, producing a significant declining sequence preference, rather than a preference attenuation. Study 1 also showed a directional declining sequence preference in the joint context, but the difference between evaluations for the improving and declining sequence was not significant. Although consistent with our framework on bolstered primacy-based assimilation in joint contexts, these results suggest that social context could have an effect greater than we anticipated on qualifying past findings in the literature. We return to this issue of a preference reversal in the General Discussion.

Study 2 offers three additional contributions beyond study 1. First, we show that simply priming solo versus joint contexts is sufficient to replicate the main finding of differences in sequence preferences. Second, study 2 did not involve any major procedural differences between social context conditions, increasing our confidence that the effects cannot be attributed to other factors. In particular, a mood-based account of study 2's results is unlikely, because the pronoun prime methodology that we utilized has been employed widely in the literature and has been shown to have no impact on mood. Third, priming independence versus interdependence allows us to link our findings to the literature on social environment and increases our confidence that the effects are attributed to differences in feelings of social connection.

Combined, studies 1 and 2 demonstrate that social context moderates sequence preferences by affecting the extent to which the final episode's evaluation assimilates to the experience's start. However, these studies provide only preliminary support for the mediating role of processing style. We contend that attenuated differences in sequence evaluations occur, because joint (solo) experiences activate a holistic (analytic) processing style, which moderates the influence of the initial context on evaluations of subsequent moments in the experience (i.e., primacy–based assimilation). In studies 3 and 4 we further investigate processing style as the underlying mechanism responsible for the pattern of results observed in studies 1 and 2. As with study 2, in study 3 we attempt to integrate our findings with those from the social environment domain by directly priming processing style using a manipulation from the social environment literature. In addition, we introduce a different stimulus domain in study 3 to increase the generalizability of our findings.

STUDY 3: PRIMING PROCESSING STYLE BEFORE A VACATION SEQUENCE

The goals of study 3 were to replicate the observed effects using a different stimulus domain (a simulated vacation sequence) and to examine processing style as the underlying mechanism. If differences in sequence preferences occur because individuals process more holistically (less analytically) in joint relative to solo contexts, then priming individuals to process analytically should result in the same improving sequence preference that occurs in a solo context without any prime. On the other hand, if individuals are primed to process the experience holistically, then the improving sequence preference should be attenuated or reversed, replicating the pattern of results we previously observed in joint contexts.

Design and Procedure

We employed a 2 (analytic vs. holistic processing prime) x 2 (improving vs. declining sequence) between-subjects design with all participants experiencing the sequence in a solo context. In addition, we included two control conditions in which participants experienced either an improving or declining sequence without a processing style prime. Participants ($N = 152$), ranging in age from 18 to 34 years ($M = 26$ years), were recruited for the study on mTurk. Administering the study on an online panel ensured that participants would not interact with anyone else (e.g., lab proctors, other participants) who might co-experience the procedure.

The study consisted of two parts. Participants in the control conditions simply started the study with the second part. Participants in the other conditions were first asked to complete the processing style priming task from Monga and John (2008, 2010). They viewed a black and white line drawing of a scene which had 11 smaller objects embedded within it (e.g., ski cap, bird, key), see appendix A. The embedded figures were well hidden so that participants would

not notice them unless instructed to find them. Participants primed with analytic processing were asked to find the embedded images within the larger scene. In contrast, participants primed with holistic processing were asked to write about what is happening in the scene while focusing on the scene's background. Finding embedded figures encourages field independence (characteristic of analytic thinking), whereas focusing on the background encourages field dependence (characteristic of holistic thinking) without corresponding differences in attention, ease, or mood. In both conditions the tasks were pre-timed to be four minutes in length.

In the second part, participants read about an individual's one-week vacation and were instructed to imagine experiencing each of the episodes described. The simulated vacation encompassed incidents that occurred individually and with friends such that the vacation was neither purely solo nor joint in nature. This sequence was created using eight vacation episodes from Montgomery and Unnava (2009) that were chosen based on their affective valence and their variance (see table 4). Episodes were presented in either improving or declining order of pre-tested valence and intensity. Each episode description was presented on a separate computer screen for 45 seconds. At the sequence's conclusion, participants completed a global, retrospective evaluation; they indicated how much money they would be willing to pay to experience a one-week vacation like the one that they read about.

Results

We expected that processing style underlies the effect of social context on sequence preference (hypothesis 4). When individuals experience the sequence in a solo context, as in this study, then priming analytic processing should produce a pattern of evaluations that does not differ from the pattern that is exhibited by a control condition, with no processing prime (i.e., an

improving sequence preference). However, priming holistic processing should produce a pattern of evaluations that differs from the control condition's pattern.

To test these assertions, we first regressed willingness to pay values on manipulated trend, a dummy variable for analytic prime, a dummy variable for holistic prime, the interaction between trend and the analytic dummy, and the interaction between trend and the holistic dummy. Thus, all conditions are retained in this analysis; the control condition is an omitted variable, and the interaction between the control condition and trend is an omitted interaction term. According to our predictions, the holistic interaction term should be significant in this model, indicating differences in the pattern of evaluations between the control and holistic prime conditions. However, the analytic interaction term should not be significant, demonstrating an equivalent pattern of results for the control and the analytic prime conditions. The analysis showed a significant, positive effect of trend ($\beta = .36$, $t(147) = 2.92$, $p < .05$), replicating an improving sequence preference. Importantly, in support of our assertions, the analysis showed that the holistic condition interaction term was significant ($\beta = -.28$, $t(147) = -1.96$, $p = .05$), but the analytic condition interaction term was not significant ($\beta = -.03$, $t(147) < 1$). These results held when analyzing the logarithm of WTP as the dependent measure.

An examination of a priori contrasts for each processing style condition further supports our hypothesized pattern of results. Control condition participants were willing to pay more to experience the vacation if it was presented in an improving versus a declining sequence ($M_{improving} = \$1862.96$ vs. $M_{declining} = \$864.24$, $t(58) = -2.33$, $p < .05$). Likewise, under analytic processing, participants preferred the improving sequence ($M_{improving} = \$1642.86$ vs. $M_{declining} = \$766.67$, $t(89) = -2.79$, $p < .05$). However, there was no trend preference under holistic processing ($M_{improving} = \$722.68$ vs. $M_{declining} = \$715.38$, $t(89) < 1$), see table 5.

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Insert table 5 about here

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Discussion

Study 3 replicated the results from studies 1 and 2 using a different stimulus set: a simulated vacation experience. This increases our confidence that the observed effects generalize to other experience domains. More importantly, this study shows that an improving sequence preference under analytic processing is attenuated under holistic processing, consistent with hypothesis 4. Critically, the analytic processing prime produced a similar pattern of evaluations as a control condition, in which there was no prime, but the holistic processing prime produced a significantly different pattern of evaluations. These findings provide additional evidence that processing style is responsible for the effect of social context on sequence preferences. In study 4 we further examine the mechanism underlying this effect by manipulating processing style for both joint and solo contexts using the art sequence that we utilized in the previous studies.

STUDY 4: MODERATION-OF-PROCESS FOR AN ART SEQUENCE

Study 4 had two objectives. First, we sought to further generalize our findings by using a natural and ongoing social context manipulation during an art sequence, rather than priming social context prior to the start of the sequence, as in studies 1 and 2. Second, we build upon study 3's process findings by using a full moderation-of-process design in study 4 (Spencer,

Zanna, and Fong 2005). Specifically, we test hypothesis 4 by examining whether manipulating processing style moderates our predicted differences by social context. We expect that an analytic processing prime should trigger an improving sequence preference that does not differ between joint and solo contexts. In comparison, a holistic processing prime should produce an attenuation of this preference in both joint and solo contexts. Finally, if processing style is not primed, we should observe an improving sequence preference in solo contexts and an attenuation of this preference in joint contexts, consistent with our earlier studies.

Design and Procedure

Study 4 was a 2 (joint vs. solo context) x 2 (improving vs. declining sequence) x 3 (control vs. analytic prime vs. holistic prime) between-subjects design. People ($N = 374$) seated at public spaces on a university campus (e.g., cafeterias, gym, etc.) agreed to participate in the study voluntarily and without compensation. Two research assistants approached participants and asked them if they would be willing to complete a short study on an art experience. Research assistants recruited two types of participants roughly alternately, as they became available: individuals seated alone (solo condition) and groups of two or three people seated together who were already interacting with each other (joint condition). All participants were told not to view others' written responses during the study. Data were collected over two blocks with different sets of research assistants. We control for block in the analyses.

The study consisted of two parts. Participants in the control conditions only completed the second part. Participants in the other conditions were first asked to complete either the holistic or analytic processing style priming task described in study 3 (Monga and John 2008, 2010). Both priming tasks were timed to be between two and four minutes long. Research

assistants later coded participants' responses to these tasks. Their coding confirmed that all participants followed their assigned procedure.

In the study's second part, participants saw a five-image art sequence in either an improving or declining order. Participants were told that they would view a sequence of art pieces that may be displayed at a local art gallery. The instructions describing this scenario were shorter than in studies 1 and 2; participants were not told about gallery admission fees or that the images would constitute one wing of the gallery. The five pieces selected were two MOBA images and three MOMA images rated among the worst and best respectively in the study 1 pretest. These images were printed in color on 8.5" x 11" paper with transparent sheet protectors and then placed sequentially in a binder. The improving sequence had MOBA pieces on the first two pages and MOMA images on the last three pages. The declining sequence had the reverse pattern. The third image was the same MOMA image for both trend conditions. Research assistants reversed the order of images every 30 minutes during the data collection period.

At the sequence's start, a research assistant held the binder at shoulder level and flipped the binder cover to display the first image. Participants were given a few seconds to look at the image before the research assistant flipped the page to display the next image. This same method was continued for images two through five. At the sequence's conclusion, participants reported their global evaluations by writing a number from 0 to 100, with higher numbers indicating greater enjoyment of the art sequence. Finally, participants reported demographic information.

Results

Study 4 involves a 12-cell design. For expositional clarity, we first report the results separately for the three processing style conditions (i.e., control, analytic prime, holistic prime),

and we report the full 12-condition analysis later. For each of the three processing style conditions, global evaluations were subjected to an ANOVA with trend and social context as the independent factors. First, we analyzed the control conditions, in which we did not prime processing style. The analysis showed no main effect of trend ($p > .1$), but revealed a main effect of social context, with higher evaluations in the joint context ($F(1, 122) = 4.12, p < .05$). More importantly, we found a significant interaction between trend and social context, consistent with our earlier studies ($F(1, 122) = 4.14, p < .05$). In the solo context, evaluations were higher in the improving ($M = 77.18$) than the declining sequence ($M = 69.19; t(122) = 4.90, p < .05$). In the joint context, evaluations did not differ by trend ($M_{improving} = 77.56$ vs. $M_{declining} = 80.28, p > .1$), see table 5. Second, we analyzed the analytic processing prime conditions. This analysis revealed only a main effect of trend ($M_{improving} = 81.83$ vs. $M_{declining} = 75.30; F(1, 122) = 5.59, p < .05$), supporting an improving sequence preference. Neither the main effect of social context nor the interaction between trend and social context were significant (both p's $> .1$). Finally, an analysis of the holistic prime conditions showed no significant interaction or main effects (all p's $> .1$).

We next examine the six solo and six joint context conditions separately by reporting the same ANOVA model that we reported in study 3. Global evaluations were subjected to an ANOVA with the following predictors: manipulated trend, an analytic prime dummy, a holistic prime dummy, the interaction between trend and the analytic dummy, and the interaction between trend and the holistic dummy. In the analysis of the solo context, there were no main effects of the processing style dummies or trend (all p's $> .1$). Further, the analytic prime x trend interaction was not significant ($p > .1$). However, we observed an interaction between the holistic dummy and trend ($F(1, 184) = 3.80, p = .05$). Replicating study 3, these results suggest that in

the solo context, the control conditions produced a similar preference as the analytic prime conditions, whereas the holistic prime conditions produced a different preference.

We conducted an identical analysis on the six joint context conditions. There were no main effects of the analytic prime dummy or manipulated trend (both p's > .1). However, there was a main effect of the holistic prime dummy, due to lower evaluations in the holistic prime conditions ($F(1, 176) = 7.64, p < .05$). The holistic prime x trend interaction was not significant for joint context participants ($p > .1$), but there was a marginally significant analytic prime x trend interaction ($F(1, 176) = 3.18, p = .076$). Thus, in the joint context, the control conditions produced a similar pattern of evaluations as the holistic prime conditions, whereas the analytic prime conditions produced a different pattern.

Finally, analyzing all 12 conditions simultaneously, global evaluations were subjected to an ANOVA with the two processing style dummy variables, manipulated trend, social context, and the various interactions between manipulated conditions (i.e., five two-way interactions and two three-way interactions).This analysis produced only a significant main effect of the holistic prime condition ($F(1, 361) = 6.31, p < .05$) and a marginally significant three-way interaction between the holistic prime condition, manipulated trend, and social context ($F(1, 361) = 3.34, p = .068$). The analytic prime x manipulated trend x social context interaction was not significant ($F(1, 361) = 1.89, p = .17$). Although this final three-way interaction did not achieve significance, the overall pattern of means and all a priori contrasts were consistent with our predictions (see table 4).

Discussion

In study 4, we incorporated a full moderation-of-process design (Spencer et al. 2005) to increase our confidence that processing style differences are responsible for the effect of social context on sequence preferences (hypothesis 4). Study 4's results showed that priming analytic processing for joint context participants returns the improving sequence preference observed in solo contexts. Conversely, priming holistic processing for solo context participants attenuates the improving sequence preference, consistent with the results of joint contexts in our previous studies. Taken together, study 4 shows that individuals process relatively analytically by default in solo contexts and relatively holistically by default in joint contexts, and these processing style differences contribute to differences in retrospective evaluations by manipulated trend.

Study 4 also generalizes the effects on art sequence evaluations to a natural social context manipulation. In the joint context, participants were already acquainted with each other prior to the study. Therefore, any effects in this study cannot be attributed to unfamiliarity between individuals in the joint context. As well, joint context participants were seated next to each other, allowing for subtle non-verbal interaction, as in Ramanathan and McGill (2007). Importantly, this manipulation features an ongoing difference in social context over the duration of the sequence, rather than just at the beginning. Joint context participants had already been interacting with each other before they started the study, and the social presence persisted throughout.

GENERAL DISCUSSION

Global evaluations of experiences are important to marketers in that they reflect consumers' enjoyment and future purchases intentions. Past research on temporal sequences has focused on understanding how different aspects of an experience are integrated to form overall

evaluations; marketers may use these findings to better engineer experiences for consumers.
Even though many consumption experiences occur with others (e.g., vacations, movies, museum visits, etc.), research has largely studied sequences that were experienced alone. Thus, it is unclear how consumers differentially integrate extended experiences that occur with others, and how marketers should tailor experiences for varying social contexts to enhance consumers' global evaluations. Our research extends past work by focusing on how sequence preferences are moderated by social context (i.e., joint vs. solo), a defining, real world factor.

Drawing on research related to social environment, we hypothesize and show that an improving sequence preference observed in solo contexts is attenuated in joint contexts. This preference shift occurs, because joint contexts activate a holistic processing style, causing individuals' evaluations of later episodes to assimilate to the start of the sequence. In contrast, solo contexts activate an analytic processing style, resulting in evaluations of later episodes that are relatively devoid of such contextual influence. Four studies employing different social context manipulations offer evidence for this novel effect and our processing style account. By studying the role of social context, we are able to determine the conditions in which an improving sequence preference is replicated and attenuated, providing a robust demonstration of our predictions. Further, by highlighting how the start of an experience impacts evaluations of later aspects of a temporal sequence (i.e., primacy-based assimilation), our research provides a more complete picture of consumers' global evaluations for hedonic experiences.

From a managerial perspective, our findings suggest that the aspects of an experience on which marketers should focus their efforts to enhance global evaluations differ by social context. Marketers should pay particular attention to both the end and the beginning of an experience that is consumed with others, because, though the end of the experience is still highly accessible in

global evaluations, the start has also has a disproportionate impact by providing a broad context that determines how the rest of the experience is interpreted. In contrast, mainly the end of an experience, not the beginning, is especially important for experiences that are consumed alone. Consider a spa employee that wishes to enhance global evaluations of a spa experience for her customers. Our research suggests that she should ensure that the end of the experience is especially intensely enjoyed when a customer visits the spa alone, so the employee may provide the customer with complimentary expensive soaps at the end of the service to make for a more positive end. On the other hand, when two or more people are sharing the spa experience (e.g., couples massage), providing the complimentary soaps at the start of the service may enhance the experience more by making evaluations of each subsequent moment at the spa more positive, including the end of the spa experience.

To more precisely anticipate consumers' reactions, marketers may conjecture whether joint (vs. solo) contexts produce an attenuated sequence preference or a declining sequence preference, as documented in study 2. Although we have conservatively predicted attenuation, a preference reversal is also consistent with our framework. If assimilation in a joint experience is so impactful that later episodes are rated as more enjoyable in a declining than an improving order (i.e., with the same episodes in improving vs. declining orders, the two slopes of episode ratings cross in solo but not in joint contexts), then a declining sequence preference may occur. These outcomes depend on stimulus calibration and various situational factors. Some factors moderate the baseline strength of the recency effect, including the length of the sequence (Jahnke 1965). Other factors impact the baseline strength of primacy-based assimilation. For instance, consumers may consider terminating the sequence early, contingent on their initial impressions (Diehl and Zauberman 2005), and these tentative experiences may highlight the sequence's start.

Thus, altering the strength of primacy-based assimilation, recency, or feelings of social connection will likely determine whether a preference reversal or attenuation obtains.

In addition to contributing to the temporal sequences literature, this research augments our understanding of the role of social context in hedonic experiences. Past work in this domain has focused on direct social influence, particularly verbal interaction (Raghunathan and Corfman 2006) and non-verbal communication (Ramanathan and McGill 2007). We demonstrate that indirect interaction can also impact experience evaluations. Consumers need not even observe each other during the experience in joint contexts for differences from solo contexts to emerge; simply thinking about sharing the experience appears to be sufficient to obtain the observed effects. In this regard, our findings are similar to Argo, Dahl, and Manchanda (2005), who documented social influence in retail settings without direct communication between shoppers.

Our investigation also builds upon the well-known association between social environment and processing style. To our knowledge, the present investigation is the first to demonstrate how different social contexts of experiences (joint vs. solo) generate differences in processing style (holistic vs. analytic). In comparison, past work in this area largely found differences in processing style emerging through cultural influences (Nisbett et al. 2001; Nisbett 2003) and semantic priming (Kühnen and Oyserman 2002). Thus, our research adds to growing literature that investigates how processing style varies within an individual across situations. Further, to our knowledge, our research is the first to directly test how processing style moderates the impact of primacy-based assimilation on judgments.

While our research focuses on processing style differences that result from social context, there may be implications for cultural differences, as well, since past research has shown a link between culture and processing style. Our studies were all conducted in the U.S., and likewise

past research on temporal sequences primarily involved Western participants, who tend to process more analytically by default. However, individuals from cultures that are more socially connected (e.g., East Asians) tend to process more holistically by default (Nisbett 2003). Thus, our findings imply that in these other cultures, the beginning of an experience may be highly impactful on global evaluations, even in solo contexts. The implications of these findings are particularly relevant for marketers who cater to consumers globally and deliver experiences, especially those that are typically consumed alone. These findings suggest that marketers may benefit by structuring experiences differently across cultures. For instance, an advertising agency may develop its mobile advertisements to feature key content at the start (end) of the advertisement in collectivistic (individualistic) markets. Future work should focus on better understanding cross-cultural differences in temporal sequence preferences.

Other non-social factors known to cause top-down versus bottom-up information integration could similarly moderate sequence preferences. For example, construal level differences, brought about by temporal and physical distance, are characterized by differences in the type of information that is attended to and integrated into judgments (Trope and Liberman 2010). Similar to our findings, research in this domain has shown that top-down processing that occurs under a high-level construal (e.g., temporally or physically distant) promotes primacy effects, whereas bottom-up processing that occurs under a low-level construal (e.g., temporally or physically near) reduces primacy effects (Eyal et al. 2010). Perhaps, owing to differences in construal level, consumers might rely on the start of an experience differently depending on whether the experience leads to a high-level or low-level construal. For example, museum visitors may rely more on their ratings of the start of the visit when forming global evaluations if the artifacts are from faraway lands versus local icons, because the feeling of physical distance

primed by the artifacts may produce top-down processing that is associated with a high-level construal. Thus, future research should investigate the moderating role of other factors that are linked to information integration or processing style differences, like construal level, to assess similarities and differences to the effects produced by social context.

Future research may also want to explore other experiential settings in which differences in feelings of social connection may occur. To recapitulate, our research suggests that consumers sharing an experience felt more connected to others than consumers experiencing alone. However, feelings of social connection may also differ across shared experiences. For instance, an individual may feel more connected when co-experiencing with a close other (e.g., a date with a spouse) than with a distant other (e.g., a first date). It is possible that the primacy-based assimilation we find in co-experienced events might be attenuated with a heterogeneous or unfamiliar group, or this effect may become stronger with a group that is very intimate.

Moreover, it is unclear how various forms of social connection may impact evaluations of sequences. Research on self-construal suggests that the social self includes not only the relational self, which involves interpersonal relationships (similar to our examination), but also includes the collective self, which involves membership in larger, more impersonal social categories (Brewer and Gardner 1996). For instance, while watching a live sports game on television, a viewer may feel connected to fans shown in the stadium's stands, who share his affiliation with the home team. Thus, future research should explore whether the effects we find extend to collective forms of social connection during consumption.

Finally, while our investigation focused on evaluations of temporal sequences, social context may impact other hedonic experience evaluations, as well. For instance, past research has investigated factors that shape evaluations of an individual stimulus (Pocheptsova and

Novemsky 2010; Novemsky and Ratner 2003) or adaptation to a stimulus over time (Nelson and

Meyvis 2008). Perhaps differences in processing style associated with social context would

impact evaluations of these other hedonic experiences in ways as yet unexamined. Thus, future

research should investigate the moderating role of social context in other hedonic experience

domains to assess their similarities and differences to temporal sequences.

APPENDIX A: PICTURE TASK FROM STUDIES 3 AND 4
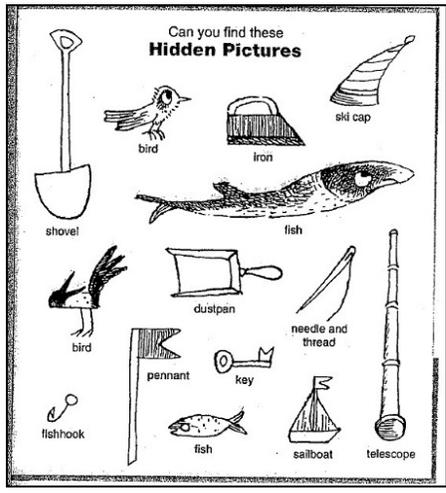
The larger line drawing of a scene (top panel) was presented to participants in both the analytic and holistic processing prime conditions. Participants in the analytic prime condition (but not the holistic prime condition) were also presented the smaller box with the embedded images identified separately (bottom panel).

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Table 1: Evaluations for Studies 1 and 2

		Mean Category of Dollar Valuation	Mean Evaluation of Final Image
Study 1			
Solo context	Declining trend	2.04	1.96
	Improving trend	2.95	5.35
Joint context	Declining trend	2.93	2.77
	Improving trend	2.39	4.52
Study 2			
Solo context	Declining trend	1.81	-
	Improving trend	2.29	-
Joint context	Declining trend	2.75	-
	Improving trend	1.64	-

Table 2: Correlations between dependent measures in Study 1

	Solo Context		Joint Context	
	First image	Final image	First image	Final image
Retrospective dollar valuations	-0.13	0.29**	0.24*	0.17
First image	x	-0.4***	x	-0.18

Note: *p < .05, **p < .01, ***p < .001

Table 3: Study 3 stimuli

Incident Summary Description	Affective Intensity	Variance
Incident 1 – I went to the beach and got a bad sunburn.	-4.75	1.64
Incident 2 – I was supposed to go surfing for the first time, but the instructor cancelled the lesson due to high waves.	-3.75	1.64
Incident 3 – I lost more money than I had budgeted playing blackjack.	-3.50	2.94
Incident 4 – We went for a drive to look at the scenery, but bad weather forced us to return to the hotel.	-1.75	1.64
Incident 5 – We played golf on one of the best courses in the world, and I beat my friend for the first time.	4.20	3.29
Incident 6 – We went to a good Mexican restaurant for dinner.	4.38	1.13
Incident 7 – I went skydiving for the first time.	4.60	2.04
Incident 8 – We went into town and discovered a festival, where we partied with the locals.	5.30	1.79
Incident 9 – My friends won a lot of money gambling. They took us out and paid for everything that evening.	6.38	0.84

Note: These incidents are presented in an improving order. The declining sequence had the reverse pattern.

Table 4: Retrospective evaluation means for studies 3 and 4

		Control	Analytic Processing Prime	Holistic Processing Prime
Study 3 – WTP				
Solo context	Declining trend	$864.24	$766.67	$715.38
Solo context	Improving trend	$1862.96	$1642.86	$722.68
Joint context	Declining trend	-	-	-
Joint context	Improving trend	-	-	-
Study 4 – Global Enjoyment				
Solo context	Declining trend	69.19	74.55	72.95
Solo context	Improving trend	77.18	81.32	70.45
Joint context	Declining trend	80.28	76.10	70.71
Joint context	Improving trend	77.56	82.31	72.13