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WHEN TIME IS *NOT* MONEY: WHY AMERICANS MAY LOSE OUT AT THE NEGOTIATION TABLE

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Although previous research has linked hyperbolic discounting, an economic model of impatience, to negative outcomes such as smoking, problem drinking, lowered academic achievement, and ineffective career search decisions, there is little research that addresses how impatience may impact performance at the bargaining table and whether Americans have a disadvantage in negotiations as compared to other cultural groups as a result. Using the subjective line task, we replicate previous research showing that subjective time perceptions underpin hyperbolic discounting (Study 1a, n = 101) and are related to estimations and perceptions of durations in a timed experiment and impatience in recalled

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negotiations (Study 1b, $n = 202$). Further, in a study of negotiation (Study 2, $n = 132$), Americans viewed time as relatively more condensed and achieved lower negotiation outcomes as compared to Lebanese participants, and moreover, subjective time perceptions mediated the relationship between culture and negotiation outcomes. This research has significant consequences for real-world negotiations, as cultural differences in time perception can be used as an exploitable weakness and may hinder negotiation outcomes.

Editor's Comment

Social scientists of this paper discover that a less compressed view of time may benefit negotiators. The researchers begin their quest with a hunch that perceptions of time scarcity play a powerful role in negotiations. They draw on economic models of impatience to suggest that perceived time scarcity or subjective time compression leads to more impatient behaviors during negotiations. The scientists test their hunch by asking participants to negotiate with a standardized computer agent. Using standardized computer agents has the advantage of ruling out negotiation partner effects. Findings show that subjective time compression not only relates to greater impatience but also lowers profits at the bargaining table. These findings lead the scientists to conclude that, at least in the context of negotiation, "time is not always money." Subjective time compression offers an exciting and novel construct that could spawn new management research beyond the domain of business negotiation. One could think of designing research programs to understand how individuals and cultures differ on perceived time scarcity and the resulting impatient behaviors at the workplace. Future inquiry could also theorize and test the effects of subjective time compression on motivation, team functioning, leader–follower relations, crisis and conflict management, and others.

Soon Ang, Action Editor

INTRODUCTION

AQ:2 Nearly 150 years ago, in *Democracy in America*, Alexis de Tocqueville observed that Americans are impatient. As he noted, "it is strange to see what feverish ardor the Americans pursue their own welfare, and to watch the vague dread that constantly torments them lest they should not have chosen the shortest path which may lead to it" (de Tocqueville, 1863, vol. 2, ch. XIII). In this research, we asked: Is de Tocqueville right? Are Americans actually more impatient than other cultural groups? And moreover, do these differences affect important organizational outcomes such as negotiations?

Indeed, in modern times, a common stereotype of Americans is that they are impatient (Chen, Ng, & Rao, 2005). American negotiators tend to move quickly to substantive issues, glossing over valuable rapport building, and information exchange (Graham & Herberger, 1983). Americans also tend to expect to negotiate for less time (Graham & Lam, 2003). For example, during the Paris Peace Talks, which were intended to negotiate an end to the Vietnam War, the American negotiation team arrived in Paris with hotel reservations for 1 week, whereas the Vietnamese team had leased a property for an entire year (Adler & Gundersen, 2008). In more recent years, some experts suggest that Iran may have taken advantage of Americans' impatience and purposefully drawn out negotiations with the United States over its nuclear program in an effort to avoid making major concessions while extracting sanction relief and rebuilding its fragile economy (Logiurato & Kelley, 2014). Likewise, some sources have cited John Kerry and Barack Obama's impatience to reach a cease-fire as the source of the American failure as a mediator of the Israeli–Palestinian conflict; instead of maintaining and protecting relationships with key actors in the conflict, including Israel, Egypt, and the Palestinian Authority, Kerry was charged with rushing to find a short-term solution (Ignatius, 2014). Consistent with these examples, Alon and Brett (2007) suggested that American negotiators, driven by clock time and a "time is money" metaphor, tend to engage in more urgent, to the point exchanges, whereas Middle Eastern negotiators tend to adhere to event time, and thus tend to emphasize patience, relationship building, and prolonged negotiations (Feghali, 1997).

In this research, we advance some of the first empirical data to examine whether there are indeed cultural differences in impatience—specifically negotiators' experience of durations of time as condensed or expanded—and how these differences affect negotiation dynamics in the United States and Middle East. To date, culture and negotiation research has focused almost exclusively on cultural values such as individualism–collectivism. We broaden this focus to examine cultural dynamics of time, and in particular how *impatience*, or the intolerance of delays, may complicate negotiations between actors from these two regions. As noted below, while cultural research on negotiation has

neglected impatience, research on impatience, while thriving, has largely ignored culture. Our research sought to integrate and expand upon both of these literatures.

THE PSYCHOLOGY OF IMPATIENCE

Decades of research in economics and psychology have examined the construct of impatience and its implications for individual outcomes [e.g., poor sleep quality (Barling & Charbonneau, 1992; Spence, Helmreich, & Pred, 1987), depression (Bluen, Barling, & Burns, 1990), marital dissatisfaction (Barling, Bluen, & Moss, 1990), lower job satisfaction (Bluen et al., 1990), and lowered cooperation in prisoner's dilemma games (Harris & Madden, 2002)]. Impatience is fundamentally related to how people think about and value outcomes in the future (Ainslie, 1975). More specifically, the phenomenon of *temporal discounting* refers to the general tendency for people to prefer immediate rewards to future rewards. Recent research has shown that discounting follows a hyperbolic shape; the value of a given reward will fall sharply in the immediate future, but will fall more slowly in the distant future (Ainslie, 1975; Kirby & Herrnstein, 1995). This pattern deviates from the rational approach to discounting, by which a given value is discounted at a steady rate over time. Further, the hyperbolic shape of the discounting curve leads people to behave inconsistently over time by discounting delayed rewards that occur in the immediate future more than rewards that are delayed for the same time when the delay occurs further in the future. For example, previous studies have found that while a majority of participants would prefer to receive $50 immediately rather than $100 in 2 years, they would prefer to wait 6 years to receive $100 rather than receiving $50 after 4 years, even though the rewards increase the same amount ($50) over the same time (2 years; Ainslie, 1991).

A number of studies have linked delay discounting in humans and animals to impulsive, potentially harmful behavior (e.g., Ainslie, 1975; Bickle, Odum, & Madden, 1999; Critchfield & Kollins, 2001; Vuchinich & Simpson, 1998), and have extended this phenomena to a myriad of outcomes related to time, money, and health (e.g., Cairns & Van der Pol, 1997; Chapman, 1996; Hesketh, Watson-Brown, & Whitely, 1998; Zauberman & Lynch, 2005). In the health arena, hyperbolic discounting has been related to problem drinking (Vuchinich & Simpson, 1998), smoking (Bickle et al., 1999), and body fat (Rasmussen, Lawyer, & Reilly, 2010). Hyperbolic discounting also relates to achievement outcomes like college GPA (Kirby, Winston, & Santiesteban, 2005), as well as how people make public policy-related decisions, such as those involving environmental conservation (Settle & Shogren, 2004). Within the area of organizational psychology, hyperbolic discounting has been shown to predict career decisions in college students (Schoenfelder & Hantula, 2003) and working adults (Saunders & Fogarty, 2001), as well as lowered effort in job searches and a tendency to accept immediate job offers rather than waiting for potential superior opportunities (DellaVigna & Paserman, 2005).

SUBJECTIVE TIME PERCEPTIONS: A PSYCHOLOGICAL MECHANISM UNDERLYING IMPATIENCE

In addition to the outcomes of hyperbolic discounting, recent research has examined the *psychological mechanisms* underlying discounting phenomena. Specifically, Zauberman, Kim, Malkoc, and Bettman (2009) showed that participants' discounting rates were explained by subjective perceptions of time duration. *Subjective perceptions of time* capture how long a given duration of time feels to a person. For example, one measure asks participants how long various time horizons, such as 3, 15, or 36 months, feels to them—does it feel very short, very long, or somewhere in the middle? This measure, which we refer to as the subjective line task, asks participants to mark a line labeled with "very short" on one endpoint and "very long" on the other endpoint to indicate how long the given duration feels to them. Two sample items from this measure are included in Appendix A. Previous research has shown that subjective impressions of durations of time do not map perfectly on to objective time. For example, the *objective* increase in duration from the 3-month item to the 12-month item in Appendix A is fourfold. However, research has shown that participants' *subjective* perceptions of how long the 12-month duration feels are actually much less than four times their perceptions of how long the 3-month duration feels, making individuals insensitive to longer durations of time. In fact, subjective perceptions of time tend to contract as the duration endpoint reaches into the future.

Previous research has shown that the inaccuracy in subjective time perception is indeed related to hyperbolic discounting. When discounting rates are mapped against subjective time rather than objective time, they are in fact nearly constant rather than hyperbolic; thus, these biases in the perception of time are hypothesized to be one factor that drives the hyperbolic discounting curve. Further, individual differences in the contraction of subjective time also affect temporal discounting. Kim and Zauberman (2009) found a significant correlation between the level of contraction in participants' responses to the

line task and the degree of hyperbola in their discounting curves, indicating that individuals who see the time horizons as being longer overall are more likely to discount immediate delays more heavily than future delays. Thus, we expect that individuals who overestimate the passage of time are more likely to be impatient and impulsive, and more likely to take smaller immediate rewards than larger, future rewards (Wittmann & Paulus, 2008).

Culture, Impatience, and Negotiation

We expand the previous literature on subjective time perception and hyperbolic discounting by suggesting that there may be *cultural differences* in subjective time perception, which have an important impact on negotiations. *Culture* can be defined as the "shared standard operating procedures, unstated assumptions, tools, norms, and values" that guide perceptions and behavior (Triandis & Suh, 2002: 136). Culture has been linked to many outcomes in organizations, including motivation, leadership, teams, human resource management practices (Gelfand, Erez, & Aycan, 2007), and most pertinent to this discussion, to conflict and negotiation (see Brett, 2000, 2001; Gelfand & Brett, 2004, Gelfand, Fulmer, & Severance, 2010; Gunia, Brett, & Gelfand, 2016 for reviews). Culture has long been shown to affect negotiator interests, priorities, strategies (e.g., Adair & Brett, 2005; Adair, Brett, Lempereur, Okumura, Tinsley, & Lytle, 2004; Avruch, 2003; Avruch & Black, AQ:3 1991; Brett, 2000, 2001; Brett et al., 1998), negotiator frames (Gelfand & Christakopoulou, 1999; Gelfand et al., 2002; Gelfand, Nishii, Holcombe, Dyer, Ohbuchi, & Fukumo, 2001), and more recently, negotiator trust (Gunia, Brett, Nandkeolyar, & Kamdar, 2011) and emotions (Adam & Shirako, 2013; Adam, Shirako, & Maddux, 2010), and it interacts with situational conditions to affect negotiation outcomes (Brett et al., 1998; Gelfand, Brett, Gunia, Imai, Huang, & Hsu, 2013; Gelfand & Realo, 1999). The current paper builds on this previous research on cultural differences in negotiation as well as theoretical perspectives on cultural differences in time and negotiation (e.g., Alon & Brett, 2007; Macduff, 2006) to empirically investigate how perceptions of time differ across culture and how these differences impact negotiation outcomes and behavior.

We argue that cultural differences in subjective perceptions of time, which underpin impatience as illustrated earlier, can explain cultural differences in negotiation behaviors and outcomes, including how rushed individuals feel during negotiations and ultimately the outcomes they achieve. Indeed, previous research supports the notion that there are cultural differences in time and beliefs about time that may impact negotiation (e.g., Ashkanasy, Gupta, Mayfield, & Trevor-Roberts, 2004; Macduff, 2006; Trompenaars & Hampden-Turner, 1998). For example, Levine and Norenzayan (1999) observed pace of life measures like walking speed, work speed, and the accuracy of public clocks, finding that some cultures, like Japan and Western Europe, had a faster pace of life than other, less-developed countries. Alon and Brett (2007) drew distinctions between event time, in which events are the primary scheduling unit, and clock time, in which people schedule events according to clocks. In their comparison of Western and Middle Eastern cultures, they theorized that American negotiators, driven by clock time and a "time is money" metaphor, tend to engage in more urgent, to the point exchanges. In contrast, Middle Eastern negotiators tend to adhere to event time, and thus tend to emphasize patience and prolonged negotiations. Trompenaars and Hampden-Turner's (1998) theory of sequential and synchronic time addresses whether time is viewed as a line punctuated with orderly, sequential events, or as a cycle in which the past, present, and future merge together through repeated seasons and rhythms (p. 126). These differences have important implications for expectations around the need for detailed scheduling and strict punctuality, as well as the relative importance of relationships over scheduling. Relatedly, the conceptualization of monochronic and polychronic cultures differentiates between cultures that emphasize beginning and completing tasks one at a time versus having multiple events or tasks running simultaneously (Hall, 1959). Finally, several theories AQ:4 address how much emphasis people put on valuing the past and preparing for the future, including long-term versus short-term orientation (Hofstede, 2001) and future orientation (Ashkanasy et al., 2004).

The current study expands these perspectives to address a new construct, namely how the passage of time is subjectively perceived and experienced by individuals and how these perceptions vary across cultures. The measure of subjective time perception used in the current research can be differentiated from previous theories on cultural differences in time in several key ways. Most notably, the measure provides a more direct measure of the experience of time itself, rather than perceptions of how time should be organized. Further, this measure separates perceptions of time from other related constructs, such as scheduling, planning events, preparing for the future, and pacing, to focus solely on cultural differences in the subjective experience of time or how long a given duration of time feels to a person. The current paper not only introduces a unique perspective on cultural differences in time perception, but also links these differences to the vast

literature on hyperbolic discounting and traces how these differences affect negotiations in the United States and Middle East. We explore three core questions.

Research Question 1: Are there differences between the Lebanese and American participants in subjective time perception?

Research Question 2: Will there be a difference in negotiation outcomes based on negotiator culture?

Research Question 3: How does subjective time perception impact the relationship between culture and negotiation outcomes?

Prior to investigating these questions, we provide evidence that subjective time perceptions indeed underlie temporal discounting (Study 1a), thereby replicating previous research that has shown this relationship (Zauberman et al., 2009), and that subjective time perceptions are in fact related to estimations and perceptions of durations in a timed experiment and in recalled negotiations (Study 1b). Study 2 then examines, in a controlled setting, whether there are cultural differences in subjective time perceptions and whether these perceptions mediate the relationship between culture and negotiation outcomes.

STUDY 1: EVIDENCE FOR THE VALIDITY OF THE LINE TASK

Before we addressed our primary research questions, we conducted two studies to assess the validity of our measure of subjective time perception. The purpose of Study 1a is to illustrate the relationship between subjective time perception and discounting. This study replicates the previous research conducted by Zauberman et al. (2009) that links subjective time perception to hyperbolic discounting, and thus increases confidence in the relationship between these constructs.

Study 1a

Participants. A total of 101 American participants (58.4 percent males, 41.6 percent females) were recruited through Amazon's Mechanical Turk system. Of these participants, 76 self-identified as White, 13 identified as Asian or Asian American, 9 identified as Black or African American, 2 identified as Hispanic or Latino, and 1 did not indicate ethnicity. The participant ages ranged from 19 to 62 years [M = 32.7, standard deviation (SD) = 9.1].

A review of the collected data indicated that 13 participants should be excluded from the analyses because they skipped one or more items on the line task or discounting measure, or because they did not provide useable responses for these items (e.g., they answered all discounting items with "$0," answered zero for the 3-month line task item, etc.).

Methods and stimuli. Participants completed the subjective line task, a discounting measure, and demographics. The order of the subjective line task and discounting measures was randomized by the survey software.

Consistent with the methods of Zauberman et al. (2009: 546, Study 2), participants were introduced to the subjective line task measure and then completed 12 items. In each item, participants were asked to imagine a day in 1 of 12 time horizons, which ranged from 3 to 36 months in 3-month increments. Each item included a line of 180 units, with the left endpoint labeled "very short" and the right endpoint labeled "very long." Participants moved a bar that was set in the center of the line to indicate their response. Each item was presented on a separate screen, and the order of the time horizons was randomized by the survey software. See Appendix A for a paper version of the 3- and 12-month line task items.

To measure discounting, participants were presented with a scenario in which they were asked to imagine receiving a $75 gift certificate. The participants were told to imagine that the certificate was valid immediately, and then they were asked how much they would need to be paid to wait to use the gift certificate for each of the time horizons included in the line task. The order of the time horizons was again randomized by the survey software.

Results. We transformed responses to the subjective line task from distance unit to time units. Subjective time horizon was calculated based on the distance from the left endpoint of the line to where the participants placed the response bar. For each participant, we used the participants' response in the 3-month condition to anchor a transformation from distance units into time units. On the basis of the 3-month condition, we calculated the subjective time horizons for the other 11 time horizons by dividing the distance of the given time horizon by the 3-month distance,[1] then multiplying the result by a factor of

[1] In the original analyses, Zauberman et al. (2009) normalized the subjective time estimate by using the mean of the 3-month condition to anchor the transformation of distance into time for each individual. Zauberman et al. (2009) strategy uses the sample mean of the 3-month item distance as the ruler for transforming distance into subjective time horizon across the remaining 11 periods, which effectively eliminating the effects of between-subjects differences in how the 3-month time is perceived. We use the individual's own 3-month response to anchor the transformation of their responses across the other 11 periods, as our core hypotheses address between-subjects differences in time horizons.

three. The subjective time horizon is calculated by multiplying the ratio by three because the anchor of the subjective time calculation is 3 months. Since the 3-month length is the denominator of the ratio, the product of the ratio has to be multiplied by three to get it back to the same time horizons used for objective time (i.e., 3, 6, 9, ... 36 months). This transformation shows how the participants' subjectively view the various time horizons, using their 3-month response as the ruler. For example, if a participant marked the response line at 25 units for the 3-month horizon and 50 units for the 12-month horizon, the subjective perception of the 12-month horizon is actually six [i.e., $(50/25) \times 3$]. Thus, the participants' subjective perception of the 12-month duration is equivalent to 6 months, relative to the anchor of the 3-month duration, showing that subjective perceptions of duration are much shorter than objective duration. The mean distances and SDs of the distance measures from the subjective line task and the objective and subjective time horizons are presented in Table 1. Figure 1 plots subjective time against objective time to illustrate the contraction of subjective time perceptions.

Discounting rate based on objective time was calculated in accordance with Zauberman et al. (2009), using the following formula $r = [\ln(X_{t+k}/X_t)]/k$, where X_t is the amount at the initial time ($75) and k is the length of time expressed in terms of years. We then calculated adjusted discounting rates based on the participants' subjective time horizons.

To replicate the previous relationships between observed time contraction and discounting, we conducted a series of repeated measures analysis of variance (ANOVAs) on the discounting rates. First, as expected, the one-way repeated measures ANOVA with objective time horizon as a within-subjects factor and discounting rate as the dependent variable found a significant main effect for time horizon [$F_{(11,\ 957)} = 103.91$, $p < .001$]. Further review of the pairwise comparisons presented in Table 2 show that the discounting rate decreased significantly between each time horizon, with the exception of the differences between 27 and 30 months and between 30 and 33 months. This pattern is consistent with hyperbolic discounting. When this analysis was repeated for the discounting rate adjusted for subjective time as the dependent variable, we again found significant main effect for time horizon [$F_{(11,\ 957)} = 4.73$, $p < .001$], indicating an overall decrease in discounting rates. In contrast with the results for the discounting rate calculated with objective time, the pairwise comparisons indicated that the decline in the adjusted discounting rates was significant only between 6 and 9 months and between 12 and 15 months. This pattern is consistent with a more constant discounting rate rather than the hyperbolic pattern found when objective time is used. Finally, as expected, our 12 (time horizons) $\times$ 2 (time type: objective versus subjective time) repeated measures ANOVA indicated a significant interaction between time horizon and time type [$F_{(11,\ 957)} = 17.16$, $p < .001$] replicating the findings of Zauberman et al. (2009) that the extent to hyperbolic discounting is a function of whether discounting rates are calculated based on objective time or subjective time perceptions (Figure 2).

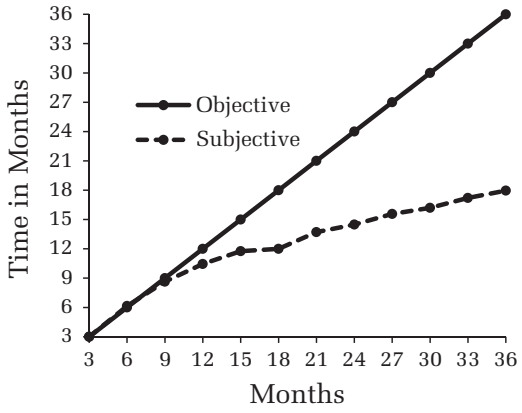
Study 1a Discussion

Study 1 replicates the previously established relationship between subjective time perception and discounting rates. Like Zauberman et al. (2009), we found that the subjective perception of time underpins the phenomena of hyperbolic discounting. When our participants' discounting rates were mapped on to objective time, they showed the typical

TABLE 1
Summary of Means and SDs for Distance Responses, Objective Time, and Calculated Subjective Time for Study 1a

			Time Horizon		
Condition	**Distance M**	**Distance SD**	**Objective**	**Subjective M**	**Subjective SD**
3 months	51.67	38.04	3	3	
6 months	75.41	38.71	6	6.15	4.02
9 months	89.76	38.18	9	8.63	9.61
12 months	102.78	35.85	12	10.44	10.86
15 months	111.34	35.03	15	11.76	12.81
18 months	113.77	34.35	18	12.00	11.96
21 months	125.11	33.80	21	13.71	14.91
24 months	131.35	30.66	24	14.48	14.80
27 months	138.64	31.58	27	15.57	17.08
30 months	141.13	35.36	30	16.19	17.89
33 months	145.77	33.96	33	17.20	20.25
36 months	151.47	32.51	36	17.96	20.57

FIGURE 1
Objective and subjective time



hyperbolic pattern found in previous research, which is linked to a vast literature on self-control and impatience. However, when discounting rates were recalculated to account for how the participants subjectively viewed the various time horizons, the hyperbolic pattern disappeared. These results, which are in line with previous research on this topic, show that subjective perceptions of time are a psychological driver of hyperbolic discounting, which suggests that they are also related to self-control behaviors.

In the next study, we show convergent validity for this measure and expand it to include individuals' assessment of time as they are waiting in a research study. We expected that individuals with longer responses on the line task would feel like time was passing more slowly. We also examined whether subjective time perceptions are related to self-reported impatience in recalled negotiations. Finally, to assess the divergent validity of the subjective line task, we included measures of polychronicity–monochronicity, which measures a person's preference to engage in more than one task or event at a time (Lindquist & Kaufman-Scarborough, 2007), and the measure of time horizon used in Trompenaars and Hampden-Turner's (1998) sequential and synchronic time orientation theory.

Study 1b

Participants. Participants were 202 American workers (50.0 percent males, 49.5 percent females, 1.0 percent unreported) recruited through Amazon's Mechanical Turk system. Of these participants, 169 self-identified as White, 12 identified as Asian or Asian American, 14 identified as Black or African American, 6 identified as Hispanic or Latino, and 1 did not report race or ethnicity. The participant ages ranged from 19 to 81 years (M = 35.1, SD = 10.8).

Seven participants experienced technical difficulties during the duration task that altered the amount of time the task took, and one participant did not respond to the duration estimation items. Three participants did not provide a description of their most recent negotiation or indicated that they had not negotiated recently. Five participants did not provide usable data for the Trompenaars and Hampden-Turner (1998) measure. These participants were excluded from the analyses.

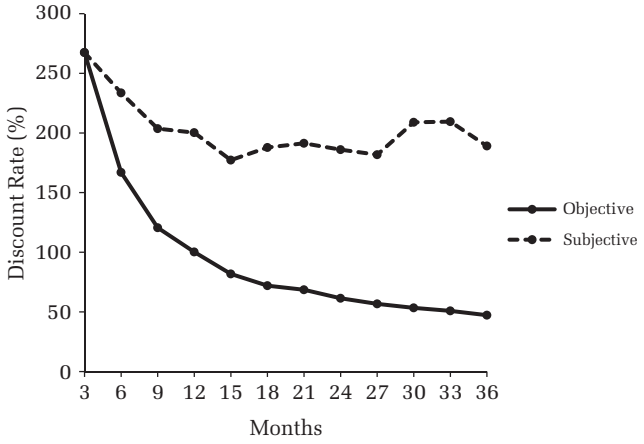
Method and stimuli. All participants completed the 12-item line task measure described in Study 1a. Participants also completed a duration estimation task. This task was designed to measure participants' estimations and subjective perceptions of shorter

TABLE 2
Summary of Mean Discount Rates, SDs, and Decreased in Discount Rates for Study 1a

	Objective Time Horizon				Subjective Time Horizon			
Time Horizon	Discount Rate	SD	Decrease in Discount Rate	*t* Value	Discount Rate	SD	Decrease in Discount Rate	*t* Value
3 months	267.52	215.56			267.52	215.56		
6 months	167.01	134.37	100.51	8.35***	233.57	269.32	33.95	1.68†
9 months	120.57	92.42	46.44	7.53***	203.67	207.87	29.90	2.05*
12 months	100.28	70.42	20.28	5.98***	200.27	208.15	3.40	0.28
15 months	81.81	63.71	18.47	6.50***	177.23	175.90	23.04	2.20*
18 months	71.94	51.94	9.87	3.93***	187.83	192.67	−10.60	−1.49
21 months	68.53	48.73	3.41	1.94†	191.38	197.44	−3.55	−0.51
24 months	61.44	43.48	7.09	4.50***	186.02	188.52	5.36	1.11
27 months	56.72	40.28	4.72	2.84**	181.76	189.35	4.26	0.75
30 months	53.34	37.24	3.39	1.45	208.97	289.68	−27.22	−1.19
33 months	50.85	34.49	2.49	1.28	209.51	269.77	−0.54	−0.02
36 months	47.24	32.57	3.61	2.73**	189.07	188.26	20.45	1.20

* $p < .05$
** $p < .01$
*** $p < .001$
† $p < .10$

FIGURE 2
Discounting rate calculated with objective time and subjective time (mean)



durations of time occurring in a controlled setting. This duration estimation task began with an introductory page that read "On the next page, you will see a shape on your screen. Clear your mind and focus your attention on the shape for as long as it appears. Do not look away from the shape while it is on your screen." When the participants advanced to the next screen, a star shape was presented for 23 seconds. After the shape presentation period, the survey was programmed to advance automatically to a question asking participants how long, in seconds, the shape was on the screen. The participants also answered an item about their subjective perceptions of the duration, which asked them how they felt time passed while they looked at the shape (1 = *time flew*, 3 = *normal*, 5 = *time dragged*; Sackett, Meyvis, Nelson, Converse, & Sackett, 2010). The order of the line task and the duration estimation task were randomized by the survey software.

Every participant completed the line task and duration estimation task, after which the participants were randomly assigned to one of two conditions. Condition A was designed to test the relationship between responses on the subjective line task and perceptions and beliefs during a recalled negotiation, while Condition B was designed to test the divergent validity of the subjective line task from other measures of time perception. The two conditions were used to cut down the overall length of the study and because of concerns regarding participant fatigue. In Condition A, the participants (n = 99) were then asked to think about the last time they negotiated with another person. The participants described the negotiation, including the issue(s) under discussion and the outcome. The participants also indicated when the negotiation occurred, and answered a series of items about their behavior in the described negotiation. These items were drafted by the authors, and focused on impatience in the negotiation and related constructs. The items were *I wished that the other person would respond to my offers faster*; *I started to feel impatient if the other person took too long to speak or respond*; *I felt like the clock was running*; *I wanted to get the exchange over with quickly*; *I acted as if time is money*; *I conceded to try to get it done fast*; *I wanted to get it over with quickly*; and *I pushed the other person into a deal to get the negotiation over with quickly*. The participants indicated their response using a 5-point Likert scale (1 = *very uncharacteristic of me*, 5 = *very characteristic of me*). An exploratory factor analysis of the items using maximum-likelihood estimation supported a one factor solution, with item factor loadings ranging from 0.63 to 0.80. The scale showed an acceptable level of reliability (α = 0.88).

In Condition B, the participants (n = 103) completed 18 items compiled from three measures of polychronicity and monochronicity (Bluedorn, Kalliath, Strube, & Martin, 1999; Kaufman, Lane, & Lindquist, 1991; Lindquist & Kaufman-Scarborough, 2007). Items from Bluedorn et al. (1999) measure were adapted from the group level ("we") to the individual level ("I"). Sample items include *I like to juggle several activities at the same time*, *Doing two or more activities at the same time is the most efficient way to use my time*, and *When I sit at my desk, I work on one project at a time* (reversed). Participants responded using a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). The scale showed acceptable reliability (α = 0.95), and a scale score was created by averaging the items. Higher scores on this measure indicate a greater tendency toward polychronicity.

Participants also completed Trompenaars and Hampden-Turner's (1998) measure of time orientation, which asked participants to indicate their relative time horizons by answering three items. A sample item is *My past started . . . ago, and ended . . . ago*, to which participants provided answers using the scale 7 = *years*, 6 = *months*, 5 = *weeks*, 4 = *days*, 3 = *hours*, 2 = *minutes*, 1 = *seconds*. The reliability of the scale was acceptable (α = 0.77), and consistent with Trompenaars and Hampden-Turner's (1998) treatment of this measure, we took the average of the six scores provided by the participant.

Results. To explore the impact of individual differences in overall time contraction, we averaged the 12 subjective line task items for each participant (M = 116.20, SD = 30.97). Higher scores on this measure indicate that participants viewed the time as more condensed, whereas lower scores indicate that participants viewed the time as more expanded. In other words, a participant who sees 3 months as being a very long time views time as relatively

condensed when compared to a participant who sees 3 months as being a very short time. We then correlated the average subjective time perception with our outcomes of interest. Table 3 presents the means, SDs, and correlations for Study 1b.

The correlation between average subjective time perception and the participant estimates of the duration was 0.23 ($p = .002$), and moreover, there was a significant correlation between subjective time perception and how long the duration felt ($r = 0.22$, $p = .003$). This relationship is such that participants with higher responses to the line task, indicating a more condensed view of time, both estimated that the same objective time was longer and reported feeling that time moved more slowly during the task as compared to participants with lower responses to the line task, which indicate a more elongated view of time.

Subjective time perception was also correlated with the scale on impatience in a previous negotiation ($r = 0.23$, $p = .03$). This positive correlation suggests that participants with higher scores on subjective time perception, indicating a more condensed view of time, also reported being more impatient in their most recent negotiation.

Finally, subjective time perception was not correlated with polychronicity ($r = -0.13$, $p = .23$) or Trompenaars and Hampden-Turner's (1998) measure of time horizon ($r = -0.04$, $p = .74$). The lack of significant correlations with these measures is in line with our expectations, given that there should not be a relationship between our measure of subjective time perceptions and the preference for multitasking or how the past, present, and future relate to one another. These measures also did not correlate with the duration estimation task or the perceptions of the duration, which further strengthens the divergent validity of the subjective line task.

Study 1b Discussion

Study 1b links subjective time perception to both the estimation of a duration of time, subjective experience of that duration, and self-reported impatience in a past negotiation. Notably, even though the waiting time of the duration estimation task was identical for all participants, people with a condensed view of time estimated that the actual amount of time was much longer and also perceived it as feeling much longer. Since the subjective experience of the passage of time may differ from person to person, the experience of time "dragging" may important implications for self-control in general as well as discipline in the negotiating context. We indeed showed that participants with a more condensed view of time reported that they were more impatient in a recent negotiation. In the next study, we address how subjective time horizon impacts negotiation behaviors and outcomes in real-time negotiations.

STUDY 2

Given the support for the relationship between subjective time perception and hyperbolic discounting demonstrated in Study 1a, as well as the initial link between subjective time perception, estimates and perceptions of controlled durations, and impatience in negotiation provided by Study 1b, we now turn to a direct test of our research questions. Namely, we tested whether there are cultural differences in subjective time perception across the United States and Lebanon (Research Question 1), whether participants from these two cultures differ in their negotiation outcomes in a controlled experimental session (Research Question 2), and if subjective time perceptions mediated the relationship between culture and negotiation outcomes (Research Question 3). We expect that American negotiators will view time as condensed or contracted as measured by the subjective line task (i.e., they will have larger scores on the average measure) and will achieve lower negotiation outcomes in terms of their own score and the score difference with the other player. Based on the reviewed theoretical perspectives, we expect that cultural differences in responses to the line task lead to divergences in negotiator outcomes that favor

TABLE 3
Summary of Means, SDs, and Correlations for Study 1b

Measure	*N*	M	SD	1	2	3	4	5	6
1. Subjective time perception	186	116.20	30.97	—					
2. Duration estimation	186	25.17	14.70	0.23**	—				
3. Perception of duration	186	3.44	0.89	0.22**	0.06	—			
4. Negotiation impatience	94	2.87	0.83	0.23*	0.11	0.16	—		
5. Polychronicity score	92	3.91	1.10	−0.13	−0.05	−0.11	—	—	
6. Time horizon score	92	3.71	1.47	−0.04	−0.12	−0.01	—	0.08	—

* $p < .05$
** $p < .01$

negotiators from cultures with a more expanded view of time.

A pilot study conducted in the United States and Lebanon prior to the experiment indeed showed evidence for cultural differences in subjective time perception. A sample of 50 American (52.0 percent females, 58.0 percent White) and 48 Lebanese (41.7 percent females, 68.8 percent Arab) students completed the subjective line task. Participants were given two line task items, one for the 3-month time horizon and one for the 12-month time horizon.[2] The two items were averaged to produce a composite score for each participant. The results showed, as expected, that the American participants perceived time as more condensed than Lebanese players [American M = 75.05, SD = 26.43; Lebanese M = 60.54, SD = 20.00; $t_{(96)} = 3.05$, $p < .01$, Cohen's $d = 0.62$], a finding we also replicate in the laboratory study of actual negotiations discussed below.

Method

Participants. Participants were 132 students from a medium-sized private university in the United States ($n = 55$; 40 percent males, 60.0 percent females) and a small private university in Beirut, Lebanon ($n = 77$; 62.3 percent males, 36.4 percent females, 1.3 percent unreported). Both samples consisted of citizens of their respective countries. In the American sample, 26 participants self-identified as White, 11 identified as Asian or Asian American, 9 identified as Black or African American, 5 identified as Hispanic or Latino, and 4 did not indicate their ethnicity. In the Lebanese sample, 58 participants self-identified their ethnicity as Arab, 10 identified as Lebanese, and 9 identified as Phoenician. Participants were recruited using posted advertisements and classroom announcements. Two Lebanese participants completed the line task but did not negotiate; these participants were excluded from the analyses. Participants received $15 or the equivalent in Lebanese pound.

[2] The subjective line task was computer-based in the United States, but due to logistical constraints, was paper-based in Lebanon. The Lebanese version presented the two items as they appear in Appendix A. Each line was 115 mm, and the participants marked their answers on the lines. American participants were presented with two items identical to those described in Study 1, except the lines in this version were 100 units long rather than 115 units. The American scores were rescaled to match the Lebanese line length by multiplying the American composite score by 1.15, so that the American line was also 115 units. The main study standardized the deployment of the line task.

Negotiation task and procedure. Participants played Colored Trails (CT; Gal, Grosz, Kraus, Pfeffer, & Shieber, 2010), an abstract, conceptually simple game in which players negotiate and exchange resources to achieve individual goals. CT provides a realistic analog of the ways in which goals, tasks, and resources interact in real-world settings, but removes the complexities of real-world domains. CT has been used to study diverse topics relating to human–agent decision-making, such as the role of gender and social relationships in people's negotiation behavior (Katz, Amichai-Hamburger, Manisterski, & Kraus, 2008), evaluating computational models of human reciprocity (Gal & Pfeffer, 2007), the way people respond to interruptions from computers (Kamar, Gal, & Grosz, 2009) and the effect of space-travel conditions on people's negotiation behavior (Hennes, Tuyls, Neerincx, & Rauterberg, 2009).

The CT game is played on a board of colored squares. One square is randomly designated as the "goal square," and each player begins the game on a non–goal square. The players are told that they must move across the board to try to reach the goal square. At the onset of the game, players are issued a set of colored chips in the same palette as the board. To move to an adjacent square, a player must surrender a chip of the same color as that square. Chips represent resources in CT, and the game hinges on players' ability to negotiate chip exchanges. In this study, the CT game was programmed so that both players' chip holdings were visible to one another, as were the players' positions on the board. Thus, the participants could not only see the resources held by their partner, but also which chips their partner would need to reach the goal square. See Appendix B for sample images of the game board and offer interface.

The CT game is played in a series of rounds. Each round consists of a *communication phase*, a *transfer phase*, and a *movement phase.* In the *communication phase*, one player sends a chip exchange offer to his or her partner. The proposing player creates the offer using an interface that allows him or her to select the number of chips of each color that he or she is willing to send to the other player, as well as the number of chips of each color that he or she wants to receive in return (see Appendix B). Once the proposer sends the offer, the partner can either accept or reject it. The game then moves to the *transfer phase*, during which both players select how many of their chips to send to the other player. The chip transfer is simultaneous, so neither player can see how many chips his or her partner chose to send until the end of the transfer phase. The agreements between the players are not binding; they can choose to send all,

some, or none of the chips they agreed to send during the communication phase. This setting was used in the game to mimic real-world negotiations, in which negotiators can choose to adhere to their agreements or defect. The game board includes a history of the agreements and chip transfers made in each game round.

Once the transfer phase ends, the *movement phase* begins. During this phase, the players can choose to move to an adjacent square on the game board. The game proceeds in a series of rounds, with the players alternating between the proposer role and the receiver role. The game ends when at least one player reaches the goal square, or when at least one player does not move for three rounds. A player's score depends on the distance of his or her game piece from the goal square at the end of the game, the number of moves made, and the number of chips possessed at the end of the game.

Participants completed brief tutorial of the game, which explained the rules and scoring function of the game. During the tutorial, participants played one practice game. The tutorial also explained that participants' individual scores during the game would be translated into a monetary bonus of up to $5, which would be added to the base participant payment. Participants then played one CT game. The CT program recorded the players' offers, exchange behavior, and scores.

Participants were told that they were playing the CT game with another participant, but they actually played against an adaptive computer agent standardized to exhibit the same behavior with all participants. The agent used in the game, called the Personality Utility Rule Based (PURB) agent, was programmed to apply a social utility function with rule-based decision procedures (Gal, Kraus, Gelfand, Khashan, & Salmon, 2011). A unique characteristic of the PURB agent is that it was able to adapt its behavior to that of the participant it was playing against. The agent made its decisions in the game (i.e., its own chip exchange proposals, accepting or rejecting the participant's proposals) based on the helpfulness and reliability of the participant over time, as well as a utility function that combined the previous behavior of the participant with the potential future outcomes of all the agent's potential actions for the agent's performance. The helpfulness of the participant was operationalized as the extent to which the participant shared resources with the agent in terms of proposing or accepting agreements. The reliability of the participant was operationalized as the extent to which the participant fulfilled the agreements it made with the agent. The agent was also programmed with a set of heuristics based on the characteristics of the game[3] and the participant, which it used to help narrow down the pool of potential behaviors. The programming of the PURB agent allowed it to balance between cooperative and selfish behavior, including the generosity of its offers during the communication phase and its reliability in the delivering the chips during the transfer phase. The agent was able to do so by predicting the consequences of each of its potential decisions for itself, based on what the agent had learned about its partner's negotiation strategy. See Gal et al. (2011), for an in-depth explanation of the programming of the PURB agent.

The CT platform provided a standardized negotiating context and the agent allowed for comparisons of American and Lebanese negotiating behavior against an identical adaptive opponent. These factors help to rule out potential confounding variables, such as divergent interpretations of the negotiating context or differential opponent behavior. The CT games took approximately 20 minutes. After finishing the CT game, the participants answered questions about the game, completed the line task measure, completed control measures, and provided demographics.

Measures. Subjective time perceptions measured using the 3-month and 12-month time horizon items from the subjective line task. The items were presented in English to both samples given that English is the spoken language in both universities. *Negotiation outcomes* were operationalized as the participant's final score and the final score difference between the agent and the participant. The human and agent scores were calculated by the game as described earlier. The score difference was calculated by subtracting the agent score from the human score.

As we will discuss, we also tested the utility of the participant's first offer for himself or herself as a potential mechanism through which subjective time horizon may impact outcomes in the exploratory analyses presented below. The utility of the first offer for the participant indicates the value of the first offer the participant made during the game for the participant himself or herself.

Finally, we included several control measures, including participant gender, age, motivation to negotiate, trust, and cooperative/competitive orientation. The gender and age controls were taken from the participant

[3] Our team was also interested in developing computer agents to negotiate in different conditions (Gal et al., 2011). Participants were asked to bring a friend to the study and were told that they were negotiating with their friend or a stranger. Participants were also assigned to a dependency condition; the participant was either dependent on the agent to get the chips needed to reach the goal square, the agent was dependent on the participant, or the participant and agent were mutually dependent. These conditions were not of theoretical interest in this study, and controlling for these factors did not change the results.

TABLE 4
Summary of Means, SDs, and Correlations for Study 2

Measure	M	SD	1	2	3	4	5	6	7	8
1. Subjective time horizon	69.43	23.88	—							
2. Participant score	174.54	37.02	−0.22*	—						
3. Score difference	8.81	66.92	−0.29**	0.75**	—					
4. First offer utility	21.49	5.20	−0.19*	0.52**	0.70**	—				
5. Gender	0.54	0.50	0.04	0.17	0.06	−0.06	—			
6. Age	21.34	4.09	−0.03	−0.03	0.07	−0.03	−0.21*	—		
7. Motivation to negotiate	2.28	1.79	0.03	−0.19*	−0.12	−0.03	−0.21*	0.19*	—	
8. Trust	4.99	1.77	0.03	0.23*	0.03	0.09	0.27**	−0.08	−0.08	—
9. Cooperation–competition	2.87	1.88	0.08	0.01	0.14	0.17	−0.07	0.09	−0.05	−0.22*

* $p < .05$
** $p < .01$

demographics. We operationalized motivation to negotiate with a semantic differential item on how concerned the participant was for his or her own outcomes ("*During the interaction I was* . . . 1 = *concerned about my own outcomes*; 7 = *unconcerned about my own outcomes*). We also operationalized trust with a semantic differential item about the participants' partner ("*During the interaction the other person was* . . . 1 = *Untrustworthy*; 7 = *Trustworthy*"). Finally, we operationalized cooperation/competition with a semantic differential item ("*During the interaction*, I was . . . 1 = *Cooperative*; 7 = *Competitive*). All of the semantic differential items were answered by the participant after the CT game.

Results

Subjective time horizon. The two items from the line task were averaged to provide a measure of subjective time horizon. The two items showed acceptable reliability in both subsamples (overall $\alpha = 0.80$, American $\alpha = 0.86$, Lebanese $\alpha = 0.77$). Because the two-item measure cannot be submitted to factor analysis to check for measurement equivalence between the two samples, we instead calculated the correlation between the two items in each sample, and found that the correlations were not significantly different in the two samples (American $r = 0.76$, $p < .01$, Lebanese $r = 0.63$, $p < .001$; $Z = 1.48$, $p = .14$). Variable means, SDs, and correlations are presented in Table 4.

In response to Research Question 1, there was a significant difference in players' average subjective time horizon. American players perceived time as more condensed than Lebanese players [American M = 79.26, SD = 21.28; Lebanese M = 62.21, SD = 23.22; $t_{(128)} = 4.28$, $p < .001$, Cohen's $d = 0.77$].

Cultural differences in negotiation outcomes. In response to Research Question 2, there were significant cultural differences in negotiation performance. American participants scored fewer points than the Lebanese participants [American M = 164.09, SD = 43.58; Lebanese M = 182.20, SD = 29.37; $t_{(128)} = -2.83$, $p < .01$, Cohen's $d = 0.49$]. The difference in scores also differed across the samples; the Lebanese participants outperformed the identical agent to a greater extent than the American players [Lebanese M = 20.53, SD = 59.65; American M = −7.18, SD = 73.28; $t_{(128)} = -2.38$, $p = .02$, Cohen's $d = 0.41$].

Subjective time perception as a mediator of cultural differences in negotiation. To address Research Question 3, we explored how subjective time perception impacts the relationship between culture and negotiation outcomes. In particular, we were interested in whether perceptions of time may mediate the relationship between culture and negotiation outcomes, which we tested by conducting bootstrap analyses (5,000 resamples) using Hayes's PROCESS SPSS macro (2012, 2013). Subjective time horizon mediated the relationship between culture and the participant's final score [95 percent bias-corrected confidence interval (CI): 0.42, 9.80; ratio of indirect effect to direct effect: 3.95/14.15 = 0.28] and between culture and the final human–agent score difference (95 percent bias-corrected CI: 3.25, 24.76; ratio of indirect effect to direct effect: 11.61/16.10 = 0.72).[4]

[4] Ironically, the American participants took longer to play the game than the Lebanese participants [American M = 452.47 seconds, SD = 301.15; Lebanese M = 224.41, SD = 76.97, $t_{(128)} = 6.29$, $p < .001$]. The difference in game time may be attributable to the fact that the American participants were somewhat less reliable in delivering the chips they promised to the agent than the Lebanese participants [American M = 0.79, SD = 0.79; Lebanese M = 0.94, SD = 0.16, $t_{(128)} = -1.60$, $p = .11$]. The agent player was programmed to respond to the player's reliability by adjusting its own reliability. The agent adjusted to the American players' relatively lower reliability by become less reliable itself, which may have made the games take longer. In support of this suggestion, the correlation between the player reliability ($r = -0.42$, $p < .001$). The line task did not mediate the relationship between culture and game time, or between culture and reliability. The mediation analyses were rerun with game time covaried out of the mediational variable. The overall pattern and significance of the mediation results were not altered.

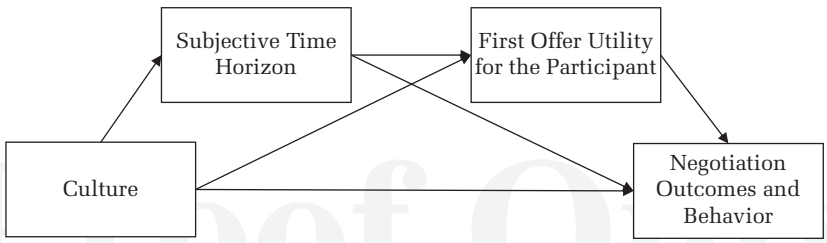
Exploratory analyses of first offers. After addressing our core research questions regarding the relationship between culture, subjective time perception, and negotiation outcomes, we explored a potential mechanism through which subjective time perception may impact participant's score outcomes. In particular, we were interested in how the participants' first offers may act as a lever through which subjective time perception produces the reported score outcomes. First offers in negotiations have received considerable attention in previous research, which supports the notion that first offers are strong predictors of final outcomes (e.g., Galinsky & Mussweiler, 2001). Based on our theoretical foundation, we would also expect that participants with more condensed perceptions of time may be more willing to immediately compromise rather than take time to work out an agreement. If negotiators with a more condensed view of time make first offers of higher value to their counterpart without recouping this value elsewhere, the final outcomes will reflect this sacrifice.

We ran an exploratory mediation model to test our theory. We operationalized the first offer as the utility of the participant's first offer for himself or herself. The utility of the first offer was significantly correlated with subjective time horizon ($r = -0.19$, $p = .03$), as well as the participant's score ($r = 0.51$, $p < .001$) and score difference ($r = 0.70$, $p < .001$). This variable was added as sequential mediator in the model following subjective time horizon (Figure 3). For the participant score outcome, the total indirect effect was not significant (95 percent CI: −3.40, 10.83). Notably, the indirect effect for the path from culture to subjective time horizon to first offer utility to the participant's final score was significant (95 percent bias-corrected CI: 0.34, 6.37); ratio of indirect effect to direct effect: 2.61/14.78 = 0.18). The indirect effect of culture on the participant's score through subjective time horizon was not significant (95 percent bias-corrected CI: −1.51, 5.48), as was the indirect effect of culture on participant score through the first offer utility (95 percent bias-corrected CI: −7.77, 5.40). These results tentatively suggest that cultural differences in the line task are related to more competitive first offers, which in turn are related to higher final scores for the participants.

For the final score difference outcome, the total indirect effect was not significant (95 percent CI: −7.01, 27.00). The indirect effect for the path from culture to subjective time horizon to first offer utility to score difference was significant (95 percent bias-corrected CI: 0.83, 15.48; ratio of indirect effect to direct effect: 6.41/17.65 = 0.36). The indirect effect of culture on the score difference through subjective time horizon was also significant (95 percent bias-corrected CI: 0.14, 12.94); ratio of indirect effect to direct effect: 5.20/17.65 = 0.29), but the indirect effect of culture on score difference through the first offer utility was not (95 percent bias-corrected CI: −18.84, 13.20). Though exploratory, these finding provides preliminary evidence that the cultural differences in subjective time perception impact first offers in negotiations, which in turn impact outcomes.

Control analyses. In addition to the primary analyses reported earlier, we also ran the analyses with a variety of control measures, including participant gender, age, and single-item measures of motivation to negotiate, trust in the opponent, and cooperation/competition. We first ran separate one-way analyses of covariance (ANCOVAs) for the line task, participant final score, and score difference, with culture as the independent variable and gender, age, motivation, trust, and cooperation/competition as covariates. In the analysis of the line task, none of the listed covariates significantly predicted the line task outcome, and the cultural differences in the line task remained significant with the covariates in the model [$F_{(1, 122)} = 21.98$, $p < .001$]. For the negotiation outcomes, the only significant covariate in the analyses of the participants' final score was trust [$F_{(1, 122)} = 8.96$, $p = .003$], and culture remained a significant predictor [$F_{(1, 122)} = 9.09$, $p = .003$]. For the score difference, participant cooperation/competition was the only significant covariate [$F_{(1, 122)} = 5.56$, $p = .02$], and culture again remained a significant predictor [$F_{(1, 122)} = 9.29$, $p = .003$].

FIGURE 3
Conceptual illustration of exploratory sequential mediation model



In the primary mediation analyses, the indirect effect remained significant despite the inclusion of the covariates for the participant's score (95 percent bias-corrected CI: 0.51, 12.01; ratio of indirect effect to direct effect: 5.06/16.67 = 0.30) and the score difference (95 percent bias correlated CI: 3.91, 29.13; ratio of indirect effect to direct effect: 13.91/26.86 = 0.52). Finally, for our exploratory analyses using first offer utility as a second mediator, adding the covariates to the model for the participant's final score produced a significant indirect effect for the path from culture to subjective time horizon to first offer utility to participant's final score (95 percent bias correlated CI: 0.26, 7.58; ratio of indirect effect to direct effect: 3.08/13.84 = 0.22). The other indirect paths were not significant. For the final score difference outcome, adding the covariates to the model produced a significant indirect effect for the path from culture to subjective time horizon to first offer utility to score difference (95 percent bias correlated CI: 0.69, 18.55; ratio of indirect effect to direct effect: 7.77/19.70 = 0.39). The other indirect effects in the model were not significant.

DISCUSSION

The current study is of the first to test whether cultural differences in impatience relate to negotiation behaviors and outcomes. Using the subjective line task, which we showed is linked to hyperbolic discounting, duration estimations and perceptions, and self-reported impatience in a negotiation, we found that on average, American participants viewed time as relatively more condensed than Lebanese participants. Using CT, a negotiation game, and a standardized agent, we found that the American participants achieved lower negotiation outcomes than the Lebanese participants, both in terms of their own scores and the difference between the player and agent scores. Finally, we found that subjective time perceptions partially mediated the relationship between culture and negotiation behaviors and outcomes, and that participants' first offers may play a key role in producing these effects.

We showed that Americans' condensed perceptions of time may lead them to sacrifice value in negotiations in order to reach agreement. Future research should also explore the mechanisms and consequences of cultural differences in subjective time perception and impatience on negotiation. Our exploratory analyses suggest that one mechanism through which cultural differences in impatience manifest in negotiation is with lower first offers. These preliminary findings open the door to exploring how impatience may impact the sequence of offers, concessions in a negotiation, and negotiator style. For example, negotiators who are more impatient may make fewer offers overall in an attempt to end the exchange quickly. Impatient negotiators may also be more likely to concede to reach a quick agreement, or they may be more likely to dominate their partner to push through an agreement. In contrast, patient negotiators may be more likely to share information with their counterpart and work to find integrative, win-win agreements, even when those agreements take longer to achieve. Future research should also address how different levels of negotiator impatience may play out based on the *match between negotiators*. Previous theoretical and anecdotal accounts suggest that when an impatient negotiator is matched with a more patient partner, the patient partner may be able to exploit this difference using delays or other tactics (Adler & Gundersen, 2008; Graham & Lam, 2003). Research should compare how different combinations of negotiator impatience impact individual outcomes, joint outcomes, and negotiator satisfaction with the agreement. Finally, future research can explore how to manipulate subjective time perception and impatience to explore the malleability of these tendencies (e.g., Ebert & Prelec, 2007).

The current study links a measure of basic time perception to culture and negotiation outcomes. Thus, the study connects performance and behavior in negotiations to basic judgment and decision-making phenomena, particularly the findings on impatience and increased discounting of future rewards. The study points to the need for future research exploring cultural differences in responses to the subjective line task and impatience. The current research provides initial evidence for cultural differences on this metric and the implications of these differences in negotiation. Future research should expand the cultures and outcomes under investigation to provide additional documentation of culture-level differences in subjective time perception and impatience. For example, cultural differences in subjective time perceptions may affect team processes and outcomes, leader–follower dynamics, CEO behavior, and explain other organizational differences across cultures. Further, this research should explore the relationship between the subjective line task and other cultural variables, such as individualism–collectivism, power distance, and tightness–looseness, to better understand how subjective time perception and impatience relate to the existing landscape of cross-cultural psychology. Future research should also explore the societal factors that may establish and propagate cultural differences in subjective time perception and impatience.

Cultural differences in impatience may even be associated with metrics at the societal level, including variables such as nation-level political stability (e.g., Stillwell, Gelfand, Ting, Salmon, & Fulmer, 2013). Finally, it will be important to examine how cultural differences in subjective time perceptions affect intercultural interactions at the dyadic, team, and organizational levels.

Practical Implications

This research empirically demonstrates that American impatience can be detrimental at the negotiation table, lending credence to anecdotes and speculations about American impatience and its possible negative impact on negotiation outcomes in international business deals. It may also affect political negotiations as well. For example, after the Arab Spring, some questioned whether Barack Obama's impatience with traditional diplomatic processes and corresponding failure to build lasting relationships in the region might hamper his ability to influence foreign decision-makers in favor of the United States (Cooper & Worth, 2012). Our data suggest that American impatience can indeed be a liability in negotiations and accordingly needs to be understood and managed. However, it is possible that impatience in negotiation does not always produce poorer outcomes. For example, impatience may not hinder negotiations that are very simple or straightforward, as these negotiations may be easier and faster to resolve than more complex situation. It would be premature to conclude that American negotiators, with their higher level of impatience, generally do not perform as well as negotiators from the Middle East who are less impatient. Further, it is important to note that there is a time cost of negotiation—perhaps an impatient negotiator may find lower outcomes to be an acceptable trade-off for saving time, particularly in negotiations that he or she deems unimportant.

At the same time, this research suggests that negotiators need to understand how their own impatience level may impact negotiation, particularly in intercultural contexts. Negotiators should carefully assess how their impatience may impact the amount and type of negotiation preparation they engage in, the tactics they use, as well as how their counterpart reacts to them. For example, negotiators may benefit from periodic self-assessments in which they examine whether they may be making decisions or behaving in a way that conflicts with their longer-term goals in the situation. In addition to this individual-level approach, the current study also suggests that negotiators should adopt a culturally sensitive approach to negotiation with regard to time, in that they must understand that negotiation behavior may stem from fundamental cultural differences and not from other, more sinister motives. For example, if a negotiator seems to be rushing through the exchange, his or her opponent may consider that the target has a fundamentally different understanding of time that impacts expectations for and displays of negotiating behavior. Instead of assuming that the target does not care about the negotiation or is trying to trick the opponent by moving quickly, the perceiver may avoid this attribution error by understanding cultural differences in time perception. Further, it may be helpful to openly discuss assumptions about how long the various stages of the negotiation will take, with an eye toward bringing expectations for time management and duration into alignment.

In *Democracy in America*, de Tocqueville highlights the American drive to accomplish things as quickly as possible. de Tocqueville (1863) suggested that for Americans, "the recollection of the shortness of life is a constant spur" (vol. 2, ch. XIII), pushing them into rapid action and decisions that ultimately undermine gratification. Although the current study supports de Tocqueville's observations in the realm of negotiation, future investigations should expand the populations and outcomes under exploration to better understand the potentially wide-ranging effects of cultural differences in subjective time perception, especially in intercultural interactions. Further, although we show the impact of cultural differences in time perception, additional research is

Author's voice:
What motivated you to undertake this research?

Author's voice:
How did the paper evolve and change as you worked on it?

Author's voice:
What was the most difficult or challenging aspect of this research project and paper

Author's voice:
Was there anything that surprised you about the findings? If so, what?

necessary to understand the sources of these differences. Finally, future research should explore if there are any positive outcomes of American impatience at the negotiating table, or if American haste always makes waste.

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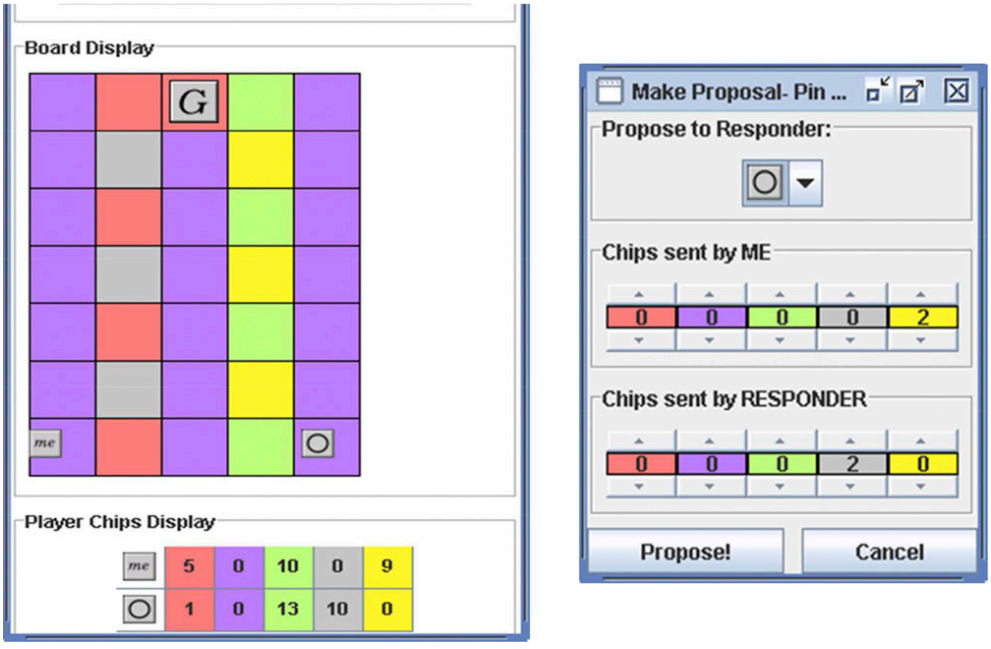
APPENDIX A

Sample Subjective Line Task Items (Zauberman et al., 2009: 546)

Please imagine a day in **3 months**. How long do you consider the duration between today and a day **3 months from now?**
Place a mark along the line below to indicate the duration.
Very short Very long
Please imagine a day in **12 months**. How long do you consider the duration between today and a day **12 months from now?**
Place a mark along the line below to indicate the duration.
Very short Very long

APPENDIX B
Colored Trails Game Board and Offer Interface



AUTHOR QUERIES

AUTHOR PLEASE ANSWER ALL QUERIES

AQ:1_AU: Per journal style, reference citations are not allowed in the Abstract and therefore "Zauberman, Kim, Malkoc, and Bettman (2009)" has been deleted.

AQ:2_AU: Will you please indicate where the 4 audio clips should appear throughout your paper?

AQ:3_AU: The citation "Brett et al., 1998" matches multiple references. Please add letters (e.g. "Smith 2000a") to uniquely match references and citations. Please make sure to indicate "a" or "b" in each in-text citation of Brett et al., 1998.

AQ:4_AU: The in-text citation "Hall, 1959" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.

AQ:5_AU: Reference "Bickel, Marsch, 2001" is not cited in the text. Please add an in-text citation or delete the reference.

AQ:6_AU: There are multiple references that could be cited as (Brett, et al, 1998). Please use a,b extensions to dates to eliminate ambiguity, both in the reference list and all in-text citations.

AQ:7_AU: Please provide the dates of access for the references "Cooper and Worth, 2012," "Hayes, 2012," and "Ignatius, 2014," and "Logiurato and Kelley, 2014."

AQ:8_AU: Reference "Duckworth, Seligman, 2005" is not cited in the text. Please add an in-text citation or delete the reference.

AQ:9_AU: Please provide publisher location in the reference "Gelfand et al., 2010."

AQ:10_AU: Please provide publisher location in the reference "Kamar et al., 2009."