

EMBRACING WANDERLUST: A CONCEPTUAL REPLICATION EXPLORING
THE RELATIONSHIP BETWEEN TRAVEL EXPERIENCES AND SAVORING

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by
Ella Lorraine Tarnate
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CERTIFICATION OF APPROVAL

I certify that I have read *Embracing Wanderlust: A Conceptual Replication Exploring the Relationship between Travel Experiences and Savoring* by Ella Lorraine Tarnate, and that in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirement for the degree Master of Arts in Psychology: Mind, Brain, and Behavior at San Francisco State University.



Ryan T. Howell, Ph.D.
Associate Professor of Psychology



Avi Ben-Zeev, Ph.D.
Professor of Psychology

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Ella Lorraine Tarnate
San Francisco, California
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This paper suggests that conceptual replications are key to making science cumulative by helping generalize findings and ensuring intersubjectivity. Attempts were made to conceptually replicate previously proposed findings (e.g., Quoidbach et al., 2015) that accumulating travel experiences may undermine a person's ability to savor pleasant, but more ordinary experiences. In line with the original experiment, we manipulated participants' perceptions of feeling well-traveled and subsequently measured how much they savored their experience going through a virtual tour of a tourist attraction in Boston. Study 1a and 1b successfully replicated the original manipulation, making participants feel a sense of being well-traveled. However, Studies 2, 3, and 4 failed to replicate the original findings that feeling abundantly traveled hindered savoring. We discuss the importance of conceptual replication in the current debated topic.

I certify that the Abstract is a correct representation of the content of this thesis.



Chair, Thesis Committee

5/11/2017

Date

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Embracing Wanderlust: A Conceptual Replication Exploring the Relationship between Travel Experiences and Savoring

Americans are now traveling more than ever before. According to the National Travel and Tourism Office, the rate of Americans traveling abroad has increased by 8.2 percent year over year (Lieberman, 2016). Furthermore, a survey of more than 34,000 people from 137 countries found that travelers are spending less time in “major gateway cities” and instead exploring more remote destinations and choosing long-term backpacking trips instead of two-week jaunts, with the average trip lasting 58 days (Richards, 1999). It is safe to say that wanderlust—the strong desire to wander or travel and explore the world—has gone mainstream.

The benefits of travel (defined as taking pleasurable trips outside an individual’s usual environment; Chen & Petrick, 2013) have been highlighted in prior research and has been shown as a type of experiential purchase that people tend to derive a significant amount of happiness from, both when anticipating and retrospectively (Guevarra & Howell, 2014; Richards, 1999). While there is vast knowledge on the benefits of travel, there is minimal research that covers the non-financial downsides to this type of life experience. However, a recent study titled, “The Price of Abundance: How a wealth of experiences impoverishes savoring,” revealed that accumulating pleasurable life experiences might come with a hidden cost—undermining a person’s ability to savor (Quoidbach, Dunn, Hansenne, & Bustin, 2015).

Savoring is an emotion-regulation strategy that involves self-regulating positive feelings— most typically creating, preserving, or even enhancing positive affect to a particular experience (Bryant, Chadwick, & Kluwe, 2011). Prior research suggests that savoring can predict subjective well-being and is positively related to a wealth of favorable advantages such as optimism, higher self-control, and life satisfaction (e.g., Bryant, 2003; Hurley & Kwon, 2012; Quoidbach et al., 2010; Werner-Seidler, Banks, Dunn, & Moulds, 2013). The importance of both savoring and traveling to our well-being have been consistently highlighted in past research, which makes this notion that having an abundance of life experiences diminishes our tendency to savor both intriguing and paradoxical.

Literature Review

Travel is seen as an integral feature of human life for many people (Richards, 1999). A breadth of research shows that travel is generally very beneficial to individuals. Traveling has been shown to be related to such health benefits as stress-reduction, even cardiovascular health gains (Chen & Petrick, 2013; Filep, 2014). A study done by Gump and Matthews (2000) examined the association between frequency of vacationing and health risks among over 12,000 men who were at risk for heart disease in the United States. They found that individuals who traveled more frequently had fewer nonfatal cardiovascular events and lower risk factors for coronary heart disease (Gump & Matthews, 2000).

Even a short trip can provide positive change. One study that used questionnaires and results of saliva samples from forty women suggested that even short periods of travel (i.e., three days, two nights) can bring about a reduction in distress and acquisition of eustress; in other words, a feeling of being uplifted or fulfilled (Toda et al., 2010). During the participants' short leisure trip, the researchers found a change in two key indicators of stress: a decrease in cortisol levels, and an increase in chromogranin A (CgA) levels (Toda et al., 2010).

Taking vacations can also contribute to well-being by providing more work-life balance. For example, a series of studies was conducted to investigate the impact of vacation on burnout. The results indicated that taking vacations decreased respondents' job stress and burnout (Westman & Eden 1997; Westman & Etzion 2001, 2002; Westman, Etzion, & Gattenio 2008). One particular study examined fluctuations in the levels of work-family conflict and burnout during three different stages of international business trips among 66 business travelers who completed questionnaires prior to the trip, during the stay abroad, and after the trip (Westman & Etzion 2002). The researchers detected significant differences in work-family conflict and burnout levels among the three stages of the trip, moderated by gender. Furthermore, as a result of vacationing, people have more opportunities to detach from their work environment, are able to experience something new, and can control what they want to do during their time off (Fritz & Sonnentag 2006; Sonnentag & Fritz 2007). One such study showed that recovery experiences (i.e., psychological detachment from work, relaxation, mastery, and control)

revealed moderate relations with measures of job stressors and psychological well-being (Sonnentag & Fritz 2007).

Another concept that can positively affect well-being is savoring—an emotion-regulation strategy that involves amplifying or maintaining positive affect to an event (Bryant & Veroff, 1989). There are several ways to savor; strategies can include, but are not limited to, (a) being mindful of the present moment by deliberately directing attention to the current pleasant experience, (b) expressing positive emotions with non-verbal behaviors, (c) mental time traveling, including vividly remembering or awaiting positive events, and/or (d) communicating and celebrating positive events with others (Nelis et al., 2011; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

Previous research largely indicates that savoring, or positive emotion regulation in general, can help people in achieving success and psychological growth, improve their mental and physical health, and provide more satisfying and lasting social relationships (for review, see Quoidbach, Mikolajczak, & Gross, 2015). For instance, a study examining behaviors that are known to induce happiness found that savoring had the strongest relationship to self-reported happiness when compared to other activities known to induce happiness (Warner & Vroman, 2011). Moreover, Isen (2001) provided evidence that savoring can enhance decision making and problem solving, and as it is associated with increased flexibility in cognitive processes which may be important in dealing with conflicting demands.

Also, savoring strategies are an effective way to promote increased well-being. For example, Schueller (2010) found that a savoring intervention that instructed participants to do a short daily reflection on two pleasurable experiences they had that day, and to make that feeling of pleasure last as long as possible, reported higher levels of happiness a week after doing the exercise. Another intervention taught participants different savoring strategies and had them brainstorm ways they could have savored three positive activities they experienced throughout the past week. They were then asked to use those savoring strategies throughout the next week and track the number of times they savored events in a log. Participants who completed this savoring intervention experienced significant reductions in negative emotions; however, they did not find any significant boosts in positive emotions, which might indicate that savoring serves to buffer against negative life events (Hurley & Kwon, 2012).

The Price of Abundance Study:

How a wealth of experiences impoverishes savoring

As mentioned, a field experiment done by Quoidbach, Dunn, Hansenne, and Bustin (2015) suggested that accumulating life experiences (i.e., travel experiences) may be detrimental to our ability to savor. In the original study, Quoidbach and colleagues tested the specific hypothesis that feelings of being well-traveled reduces the ability to savor pleasant, but more ordinary experiences. To test this, they conducted a naturalistic study where they visited a popular tourist attraction—the Old North Church in Boston, Massachusetts. The idea was that this particular attraction was a pleasant, but more

mundane experience compared to that of a more exotic tourist attraction (say, seeing the Eiffel Tower in Paris or the Colosseum in Rome).

Outside of the Old North Church, two research assistants asked visitors to complete a survey in exchange for a free soda. The participants answered demographic questions, were asked about their mood (which was used as a covariate), and were put into either one of two conditions: a well-traveled condition or a less-traveled condition. Those in the well-traveled condition were asked to check off cities that they have visited from a list of common destinations (e.g., New York, Chicago, Las Vegas, Orlando) while those in the less-traveled condition received a list of exotic destinations (e.g., Tokyo, New Delhi, Sydney, Bruges). The authors hypothesized that American participants who receive the common destinations list will check off more cities and subsequently feel better-traveled than those in the exotic condition, who would likely check off less cities. After, they measured how long the participants spent inside the church by timing the moment participants entered the church to the time they retrieved their free soda. Because savoring involves taking the time to absorb your experience, the time spent in church was used as a behavioral measurement of savoring (see Quoidbach et al., 2010; Vohs, Wang, Gino, & Norton, 2013). What the researchers found was that participants who completed the checklist of common destinations spent 30% less time in the church than those who completed the checklist of exotic destinations. Theoretically, people in the well-traveled condition spent less time savoring their visit to the Old North Church as a result of completing the checklist that led them to feel like they had an abundance of travel

experiences, and therefore reducing their motivation to savor their experience at a less exotic tourist attraction.

However, a potential confound may have been that the exotic destinations checklist provided participants with negative feedback because of how little they were able to check off, and that simply seeing the list of exotic (vs. common) destinations primed people to savor their own tourist experience more by activating their associations with these international destinations. To address this, the researchers replicated the study with a larger sample and a few tweaks to the design.

The replication study used the same exotic and common destination checklists used in the previous study, except this time, only half of the participants were asked to make travel-relevant judgments, reporting which places they had visited. The other half were randomly assigned to a control condition in which they saw the same checklists (exotic or common), but were asked whether they were familiar with any sports teams from each city. The addition of the travel-irrelevant (i.e., sports team) condition allowed the researchers to control for the effects of exposure to the lists of exotic (vs. common) cities, while also controlling for the experience of failing to check off many of the cities presented in the exotic condition. Confirming the results of the previous study with a larger sample, participants spent about 30% less time in the church after completing the common destinations checklist, which was designed to make them feel well-traveled. In contrast, exposing participants to the same sets of cities and asking them to complete travel-irrelevant reports of their familiarity with the cities produced an effect in the

opposite direction, revealing the unlikeliness of priming and social comparison confounds accounting for their findings.

The results of the Price of Abundance study certainly provided an intriguing theoretical phenomenon that can be a non-financial downside to accumulating travel experiences. However, doing a naturalistic experiment can come with several extraneous factors affecting the design of the study that are beyond an experimenter's control, such as social influences (i.e., friends or family who are with the participants) affecting the time spent at the tourist attraction, or even a person's walking pace. Therefore, this current study attempts to conceptually replicate the original experiment done by Quoidbach and colleagues in a more controlled online setting to create an environment where we can control for many of the factors that may have affected how long participants spent in the church. There are several reasons that warrant a conceptual over direct replication; but first, it is important to distinguish the differences between these two types of studies.

Conceptual vs. Direct Replications

Psychology has generated an ardent discussion about the importance of replication, particularly in light of the recent replication efforts by Brian Nosek with the Open Science Collaboration (2015) that found that less than half of the replications of 100 previous studies failed to reject the null hypothesis of the original studies, despite using high-powered designs and original materials. These findings fueled a debate on

how replications ought to be carried out and how they should be interpreted by others in the field.

In an in-depth analysis of this replication debate, Earp and Trafimow (2015) draw a distinction between replications used to bolster confidence in a *finding* (i.e., “direct” replication) and replications used to bolster confidence in a particular *theory* (i.e., “conceptual” replications). The goal of a direct replication is to validate a previous finding— or, a fact that has been a result of a previous experiment. A conceptual replication, on the other hand, seeks to validate the underlying theory or phenomenon that has been proposed by the initial experiment, and to also establish any boundary conditions within which the theory holds true (Earp & Trafimow, 2015; Nosek et al., 2012).

Conceptual replications help generalize findings, ensure intersubjectivity, and are key to making science cumulative. However, Earp and Trafimow (2015) explain that conceptual replications are impossible without direct replications: “If we cannot be sure that findings are reliable to begin with (whether the results are coincidental, a false alarm due to questionable research practices, publication bias, etc.), then we are in no position to begin testing the theory by which it is supposedly explained” (P.23; Earp & Trafimow, 2015). That said, the aim of this current study is to explore the hypothesis initially introduced by Quoidbach et al. in their study on travel experiences and savoring by conducting a conceptual replication of their original field experiment.

Current Study

For our study, we will be focusing on conceptual replications, mainly to validate the phenomenon in a broader context. Moreover, because the original authors already replicated the findings themselves with a second field experiment, our focus was to determine whether the same concept of diminished savoring after feeling well-traveled applied in other environments. Both of the field experiments done by Quoidbach and colleagues were well-powered with medium effect sizes (original study, $d = .50$, replication, $d = .35$). However, as mentioned above, the naturalistic study may have been affected by the social setting, difficulty in tracking participants, and/or participant time constraints. Also, the original study proposed several mechanisms that may explain why having a rich experiential background could diminish savoring, but they did not test for another potential mechanism—subjective wealth.

The idea of wealth reminds people of personal strength and resources. In fact, research suggests that even subtle reminders of wealth can exert profound effects on behavior (Vohs, Mead, & Goode, 2006). For example, participants who were exposed to a reminder of wealth spent less time savoring a piece of chocolate and exhibited reduced enjoyment of it compared with participants who were not exposed to wealth (Quoidbach et al., 2010). The idea of feeling “wealthy,” or having a sense of abundance, may be an underlying mechanism that can hinder the ability to appreciate pleasurable experiences. On the contrary, perceived scarcity may allow one to savor more by eliciting focus on the positive experience which seems to be a scarce occurrence. Given these previous

findings, we propose that a sense of subjective monetary wealth may be driving those who feel more well-traveled to savor less.

Several online studies were conducted in an effort to conceptually replicate and extend the original naturalistic experiments done at the Old North Church. Study 1a examined whether the manipulation of the destinations checklists used in the original experiment did, in fact, make people feel like they had a wealth of travel experiences. Quoidbach and colleagues confirmed that those who were presented with a list of common destinations reported that they had visited more places than those in the exotic destinations. Also, in a pretested sample of 50 American adults, they found that the manipulation did make people feel better-traveled. Study 1a aimed to confirm this idea that the destination lists used in the original study actually manipulated feelings of being well-traveled or less-traveled with a larger sample size.

Similarly, the goal of Study 1b was to confirm that time spent in the Old North Church was an accurate behavioral measurement of savoring. Because savoring involves taking the time to fully appreciate an experience during the moment (Bryant, 2003), the original study used the time participants spent in the Old North Church to indicate how much participants savored their experience. Yet, there was no assessment of whether time spent in the church correlated with any self- or other-reported measure of savoring. Therefore, Study 1b aimed to assess the hypothesis that time is an accurate behavioral measurement of savoring by converging a behavioral measure of savoring (time in church) with a self-reported measure of savoring.

Study 1a and 1b created the building blocks for Study 2. The objective for Study 2 was two-fold: to replicate the findings of the original study in an online setting instead of in a naturalistic or physical setting, and to do an extension of the original experiments to explore the possible mechanism of subjective wealth. Therefore, Study 2 aimed to do a full conceptual replication that is nearly identical to the design of the original study, but done in a more controlled online environment. Furthermore, this study included a subjective wealth prime at the beginning of the experiment to test the hypothesis that feelings of subjective monetary wealth may be driving the effect of diminished savoring as a result of feeling well-traveled.

Study Method

For all experiments, we used Amazon's Mechanical Turk (MTurk), an online system of paid survey-takers (see Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010 for justification of using Mechanical Turk participants in research). Furthermore, we used TurkPrime, a research platform that integrates with MTurk and supports tasks that are common to the social and behavioral sciences. TurkPrime allowed us to exclude participants on the basis of previous participation, and monitor dropout and engagement rates. In order to stay as close to the original field experiment as possible, all participants were American, meaning that all participants answered "United States of America" (or similarly) when asked, "In what country do you live in most of the time?" Lastly, for consistency, analyses for all studies were done using JASP Version 0.8.0.1, a free and open-source program for statistical analysis.

Study 1a – Feelings of Travel Experiences

Method

Participants. Study 1a consisted of participants ($N = 138$; $M_{age} = 35.06$, $SD = 10.63$; 58.3% female; 74.1% Caucasian; completion rate: 90%; bounce rate: 15%) recruited via MTurk, and were paid \$.05 to complete a study that was advertised as a 1-minute study (median time: 4 minutes).

Procedure. To explore the hypothesis that feeling well- or less-traveled can be manipulated, we conducted an online experiment that was similar to the design of the original naturalistic experiment. Participants were asked for their age, gender, ethnicity, and country where they primarily resided before receiving either a list of common destinations or exotic destinations, in which they checked off any of the listed cities they have previously visited (See Appendix A for full design). Following the checklist, participants were asked two questions about their travel experiences, both on a 7-point Likert scale. The first question asked how they felt about their overall experience with travel, ranging from 1 (I do not feel well-traveled at all) to 7 (I feel very well-traveled). The second question asked participants to rate how much they considered themselves to be 1 (Not well-traveled at all) to 7 (Very well-traveled). A bivariate correlation indicated that the two items were significantly correlated ($r = .81$, $p < .001$) and thus aggregated into one variable ($M = 4.04$, $SD = 1.78$, $\alpha = .90$).

Results

As expected, participants who completed the common destinations checklist ($n = 69$; $M_{common} = 4.72$; $SD = 1.45$) felt significantly well-traveled more so than those who received the exotic destinations checklist ($n = 69$, $M_{exotic} = 3.35$, $SD = 1.82$; $t(136) = 4.92$, $p < .001$, $d = .84$, 95% CI [.82, 1.93]). In other words, checking off cities on a list of common destinations manipulated people into feeling more traveled than those who received a list of exotic destinations.

Brief Discussion

As with the original study, people felt a sense of being well-traveled when completing a checklist of common destinations that they may have visited, as opposed to those who received a list of exotic destinations. Since the independent variable (feelings of travel) was confirmed, the next study was to ensure that the behavioral measurement of savoring used in the original study is an accurate measure. Doing the next study in a virtual setting allowed us to measure the amount of time participants spent in an online virtual tour more precisely by using a timer function embedded into the page. This timer determined when they entered and when they pressed the exit button at the bottom of the screen to leave the virtual tour.

Study 1b – Time as a Behavioral Measure of Savoring

Method

Participants. Study 1b consisted of participants ($N = 51$; $M_{age} = 34.67$, $SD = 11.49$; 49.4% female; 49.8% Caucasian; completion rate: 88%; bounce rate: 18%) recruited via MTurk, and were paid \$.60 to complete a study that was advertised as a 14-minute study (median time: 13 minutes). Participants in this study were not able to complete the survey if they had already participated in Study 1a.

Procedure. In order to conceptually replicate the experience of visiting a tourist attraction in an online setting, participants were first informed that they will experience an online virtual tour. This virtual tour consisted of 28 high-quality images of the Old North Church, the same church used in the original experiment. Participants could click on any photo, browse the images, or click from one photo to the next in succession. Each photo highlighted a different part of the church (e.g., photos showing outside of the church, the pews inside, historical memorabilia, etc.). Immediately before starting the virtual image tour, participants were given instructions to “*try and envision as vividly as you can what it would feel like to be in the Old North Church... imagine the sights, sounds, and smells you might encounter during your visit,*” and were told to spend as much or as little time as they wanted in the tour. After participants exited the tour, they completed a series of measures asking how much they savored their online experience of the church (see Appendix B for full design).

Behavioral Measure of Savoring. Similar to the variable of time spent visiting the church in the original naturalistic experiment, we measured how long participants stayed in the virtual image tour's webpage as a behavioral measure of savoring ($M_{minutes} = 1.76, SD = 1.01$). Several participants were spending much more time in the virtual tour than on average, which created outliers that positively skewed the data (see Figure 1 for distribution plot). As a result, we used the non-parametric correlation test Spearman's Rho in our analysis.

Self-Report Measure of Savoring. Participants were asked to rate on a 7-point scale ranging from 1 (not at all) to 7 (a great deal) how much they: (a) tried to be as mindful as possible during their experience, and (b) tried to savor the present moment during the virtual tour (Nelis, Quoidbach, Hansenne, & Mikolajczak, 2011). A bivariate correlation indicated that the two items were significantly correlated ($r = .61, p < .001$) and thus aggregated into one variable ($M_{savor} = 5.78, SD = 1.03, \alpha = .75$).

Results

In line with our hypothesis, the time participants spent in the virtual tour was positively correlated with their self-reported savoring measure ($r_s = .28, p = .048$). In other words, the more time a person spent in the virtual tour, the more that they reported savoring their experience.

Brief Discussion

Study 1b's findings lend to the evidence that time is, in fact, an accurate behavioral measurement of self-reported savoring. So far, we confirmed that both the independent variable (feelings of travel) and the dependent variable (savoring) in the original study were internally validated. Thus, the goal of Study 2 was two-fold: first, to conduct a full conceptual replication of the original naturalistic study; and second, to extend the original study in order to explore the possible mechanism of subjective wealth. That is, if people perceive themselves to feel wealthier as a result of feeling well-traveled, then their ability to savor is hindered by these feelings of wealth.

Study 2 – Replication and Extension – Subjective Wealth

Method

Participants. Study 2 consisted of participants ($N = 102$; $M_{age} = 33.25$, $SD = 9.91$; 46.5% female; 75.3% Caucasian; completion rate: 93%; bounce rate: 13%) recruited via MTurk, and were paid \$.40 to complete a study that was advertised as an 8-minute study (median time: 6 minutes). Participants in this study were not able to complete the survey if they had already participated in Study 1a and Study 1b.

Procedure. Much like the previous studies, we attempted to replicate the original naturalistic study in an online setting by prompting participants to imagine themselves as tourists while going through a virtual tour (the same image tour of Old North Church used in Study 1b). The independent variable (feelings of travel) was randomly assigned; that is, participants were put in either the well-traveled condition, where they were given

a list of common destinations and asked to check off the cities they have visited, or they were put in the less-traveled condition, where they were given a list of exotic destinations and asked to check off the cities they visited. To test for subjective wealth as a possible mechanism, participants were asked to rate on a scale of 1 to 10 how wealthy they felt relative to other people in the United States (Adler, Polak, & Schwartz, 2000). Following the wealth prime, participants rated their current mood (as was done in the original naturalistic study to control for mood). Subsequently, we tested the dependent variable (savoring) both behaviorally and through self-report. Participants visited a virtual tour of Old North Church, and were timed on how long they stayed in the tour (behavioral measurement of savoring). Following their tour, participants were asked to complete a measure of savoring after their experience in the virtual tour (self-report measurement of savoring that is identical to Study 1b).

Subjective Wealth. Subjective feelings of wealth were measured through the MacArthur Scale of Subjective SES (Adler et al., 2000). On an image of a ladder containing 10 rungs representing people with different levels of income, participants selected a rung to represent where they felt they stood relative to others in the United States. Scores on this measure ranged from 1 to 10 ($M_{wealth} = 5.12$, $SD = 1.74$), and the assumption of normality was met, indicating that the sample represented the full spectrum of social-class backgrounds (see Appendix C for full design & scale).

Savoring. We measured savoring in the same way as in Study 1b. Behavioral savoring indicated how long participants stayed in the virtual image tour ($M_{minutes} = 1.93$,

$SD = 1.31$). Again, the dependent variable (time spent in the virtual tour) was significantly skewed (see Figure 2 for distribution plot). Identical to Study 1b, self-reported savoring included questions about how mindful they were and how much they savored their experience on a 7-point scale ranging from 1 (not at all) to 7 (a great deal). Again, a bivariate correlation indicated that the two items were significantly correlated ($r = .43, p < .001$) and were aggregated into one variable measuring overall savoring ($M_{savor} = 5.91, SD = .98, \alpha = .59$).

Results

As predicted, a Spearman's Rho test determined that the time participants spent in the virtual tour was significantly correlated positively with participants' self-reported savoring ($r_s = .30, p = .002$), providing further evidence to the hypothesis that time is an effective behavioral measure of savoring. Next, we analyzed our results using an independent samples t -test, as was done in the original study. Yet, contrary to the original study, we found no significant differences between the well-traveled and less-traveled conditions in either behavioral savoring ($M_{well-traveled} = 2.03, SD = 1.48; M_{less-traveled} = 1.80, SD = 1.07; t(100) = .874, p = .384, d = .17, 95\% \text{ CI } [-.29, .74]$) or self-reported savoring ($M_{well-traveled} = 5.87, SD = 1.10; M_{less-traveled} = 5.96, SD = .83; t(98) = -.437, p = .663, d = -.09, 95\% \text{ CI } [-.48, .31]$). Furthermore, there was no significant difference between conditions for subjective wealth, ($M_{well-traveled} = 5.27, SD = 1.87; M_{less-traveled} = 4.94, SD = 1.57; t(100) = .96, p = .339, d = .19, 95\% \text{ CI } [-.36, 1.02]$).

However, given that the behavioral measure of the dependent variable (time savoring) was skewed, we reanalyzed the data using a non-parametric Mann-Whitney test. Again, the amount of time that participants in the well-traveled condition ($Mdn_{well-traveled} = 1.74$; $5\% \text{ Trimmed Mean} = 1.88$) spent in the virtual tour did not differ significantly from the amount of time that participants in the less-traveled condition spent ($Mdn_{less-traveled} = 1.52$; $5\% \text{ Trimmed Mean} = 1.73$; $U = 1,218$, $z = -.47$, $p = .638$, $r = -.05$). Therefore, both parametric and non-parametric tests failed to replicate the original results from the Price of Abundance study.

Brief Discussion

Study 2 was unsuccessful in conceptually replicating and extending the original experiment done at the Old North Church. Our first goal to achieve the same results as the original naturalistic study failed; and furthermore, we determined that subjective wealth had no significant effect on savoring. A possible reason for the failure to replicate is the added variable of measuring subjective wealth, which may have introduced a confound into our conceptual replication. Perhaps the priming of wealth washed out the effect of savoring the virtual tour experience. To address this possible confound, we thought it necessary to repeat Study 2 without including the wealth prime. Our decision to conduct an additional study was in order to remove the measurement of subjective wealth and modify the design towards fully mimicking the original experiment done at the church. Therefore, the main objective of Study 3 was to do as close to a full

conceptual replication of the original naturalistic study as possible, but in a more controlled online setting.

Study 3 – Full Conceptual Replication

Method

Participants. Study 3 consisted of participants ($N = 207$; $M_{age} = 35.11$; $SD = 12.67$; 51.9% female; 73.2% Caucasian; completion rate: 93%; bounce rate: 16%) recruited via MTurk, and were paid \$.35 to complete a study that was advertised as a 7-minute study (median time: 6 minutes). Participants in this study were not able to complete the survey if they had already participated in Study 1a, Study 1b, and Study 2.

Procedure. The procedure of Study 3 was nearly identical to Study 2, but with the items measuring subjective wealth removed, and the manipulation check of feelings of being well-traveled added. That is, participants were asked to imagine themselves as tourists while going through a virtual tour of the Old North Church. The independent variable (feelings of travel) was randomly assigned, where participants received either a common destinations list (well-traveled condition) or an exotic destinations list (less-traveled condition) and asked to check off the cities they visited, as well as two self-report items on how they felt about their experiences with traveling. Participants then rated their current mood. Subsequently, the dependent variable (savoring) was measured both behaviorally by timing the length of stay in the virtual tour, and through self-report with two follow-up questions about their experience savoring the tour (see Appendix D for full design).

Feelings of Travel. The two items used to measure subjective feelings of travel are identical to those used in Study 1a. An aggregate of the two items regarding how well-traveled participants felt was computed to form one variable ($r = .87, p < .001, M_{travel} = 4.17, SD = 1.84, \alpha = .93$).

Savoring. Identical to Study 1b and Study 2, we measured savoring both behaviorally and through self-report. Time used as a behavioral measurement of savoring, and was once again skewed by outliers ($M_{minutes} = 2.26, SD = 2.65$; see Figure 3 for distribution plot). The participants' self-reported ratings of how much they savored their experience was also collected ($r = .53, p < .001, M_{savor} = 5.90, SD = 1.01, \alpha = .69$).

Results

As confirmation on the validity of the independent variable of feeling of travel, again, we found that participants who were given the common destinations checklist ($n = 103; M_{common} = 4.80, SD = 1.57$) felt well-traveled more so than those who were given the exotic destinations checklist ($n = 104; M_{exotic} = 3.55, SD = 1.89; t(205) = 5.15, p < .001, d = .72, 95\% CI [.77, 1.72]$). Similarly, after testing validity for the dependent variable of savoring, we found similar results to Studies 1b and Study 2 in that the time spent in the virtual tour and self-reported savoring were positively correlated ($r_s = .24 p < .001$).

Next, we analyzed our results using an independent samples t -test, as was done in the original study. As before, we found no significant differences between the well-traveled and less-traveled conditions in either behavioral savoring ($M_{well-traveled} = 2.46, SD = 2.81; M_{less-traveled} = 2.06, SD = 2.49; t(205) = 1.085, p = .279, d = .15, 95\% CI [-.33,$

1.13]) or self-reported savoring ($M_{well-traveled} = 5.95, SD = .98; M_{less-traveled} = 5.85, SD = 1.05; t(203) = .717, p = .474, d = -.10, 95\% CI [-.18, .38]$).

However, the behavioral measure of the dependent variable (time savoring) was skewed once again, requiring us to reanalyze the data using a non-parametric Mann-Whitney test. The Mann-Whitney test showed that the amount of time participants spent in the virtual tour in the well-traveled condition ($Mdn_{well-traveled} = 1.67; 5\% Trimmed Mean = 2.08$) did not differ significantly from the amount of time that participants spent in the less-traveled condition ($Mdn_{less-traveled} = 1.65; 5\% Trimmed Mean = 1.78; U = 5,069, z = -.666, p = .505, r = -.05$). Therefore, the results indicate another failure to replicate the results found in the Price of Abundance study.

Brief Discussion

For the second time, our efforts failed to find similar results to the original study done by Quoidbach and colleagues, even though the design was more closely replicated. A possible reason for this failure may have been the descriptive wording used to put the participants into a tourist mindset right before their task to go through the virtual tour. In the original naturalistic study at the Old North Church, participants did not need to be given directions to “act like a tourist”—they already were tourists visiting an actual tourist attraction. However, bringing the experiment to an online setting required a description of how they should be going through the virtual tour with a “tourist’s mindset” in order to mimic the same experience as actually being at the church. Here is the exact description participants received right before they entered the virtual tour:

Please take some time to go through this "virtual image tour" of Old North Church. While viewing these images, imagine that you are actually inside the church visiting as a tourist. Try and envision as vividly as you can what it would feel like to be in the church. Think of what may be going on around you while you are there— imagine the sights, sounds, and smells you might encounter during your visit. Take as much time as you'd like looking at these images with the feeling that you are really exploring the church. And, just as you would do if you were there, feel free to exit out of the church at your own leisure by choosing the exit button at the bottom of the page.

The verbiage in the description above may have inadvertently caused participants to savor more after reading it, therefore washing out the differences in savoring among the two conditions. That said, we felt it necessary to conduct another study to address this issue. Therefore, the goal of Study 4 was to make minor revisions to the instructions given immediately before the virtual image tour, making it more general and less descriptive.

Study 4 – Full Conceptual Replication with Revised Savoring Instructions

Method

Participants. Study 4 consisted of participants ($N = 107$; $M_{age} = 33.50$, $SD = 10.24$; 42.9% female; 69.5% Caucasian; completion rate: 92%; bounce rate: 12) recruited via MTurk, and were paid \$.35 to complete a study that was advertised as a 7-minute

study (median time: 5 minutes). Participants in this study were not able to complete the survey if they had already participated in Study 1a, Study 1b, Study 2, and Study 3.

Procedure. The design of Study 4 is nearly identical to Study 3—the only difference is the verbiage in the instructions shown immediately before virtual image tour. Specifically, Study 4 removed the previous instructions to “*Try and envision [the church] as vividly as you can by imagining the sights, sounds, and smells you might encounter during your visit,*” to a more general instruction. Here is the full description with the updated verbiage (see Appendix E for full design):

Please take some time to go through this "virtual image tour" of Old North Church. While viewing these images, imagine that you are actually visiting the church as a tourist. Try and imagine as best as you can what it would feel like to be there and to do the things you would normally do while visiting a tourist attraction. Take as much or as little time as you'd like looking at these images. And, just as you would do if you were there, feel free to exit out of the church at your own leisure by choosing the exit button at the bottom of the page.

Feelings of Travel. The two items used to measure subjective feelings of travel are identical to those used in Study 1a and Study 3. An aggregate of the two items regarding how well-traveled participants felt was computed to form one variable ($r = .86$, $p < .001$; $M_{travel} = 3.89$, $SD = 1.82$, $\alpha = .86$).

Savoring. Identical to Study 1b, Study 2, and Study 3, savoring was measured both behaviorally and through self-report, with time used as a behavioral measurement of savoring, which was skewed once again ($M_{minutes} = 1.58$, $SD = 1.08$; see Figure 4 for distribution plot), and the participants' self-reported ratings of how much they savored their experience ($M_{savor} = 5.62$, $SD = 1.07$, $\alpha = .59$).

Results

Our analytic plan was to do the exact same analysis that was done in the previous studies. As expected, validity for feelings of travel were met, where those who received the common destinations list felt better traveled than those who received the exotic destinations list ($M_{common} = 4.51$, $SD = 1.51$; $M_{exotic} = 3.27$, $SD = 1.90$; $t(102) = 3.69$, $p < .001$, $d = .72$, 95% CI [.58, 1.90]). Also, validity for time as an accurate measurement of savoring was also met, where time spent in church was positively correlated with self-reported savoring ($r_s = .44$, $p < .001$).

Next, using an independent samples *t*-test (like in the original study), again, there were no significant differences between the well-traveled and less-traveled conditions in either behavioral savoring ($M_{well-traveled} = 1.57$, $SD = 1.24$; $M_{less-traveled} = 1.60$, $SD = .89$; $t(99) = -.145$, $p = .885$, $d = -.030$, 95% CI [-.46, .40]) or self-reported savoring ($M_{well-traveled} = 5.75$, $SD = 1.15$; $M_{less-traveled} = 5.49$, $SD = .96$; $t(99) = 1.205$, $p = .231$, $d = -.25$, 95% CI [-.15, .67]).

However, the behavioral measure of the dependent variable (time savoring) was skewed once again, requiring us to reanalyze the data using a non-parametric Mann-

Whitney test. A Mann-Whitney non-parametric test showed that there was no significant difference between the well-traveled ($Mdn_{well-traveled} = 1.34$; $5\% \text{ Trimmed Mean} = 1.48$) and less-traveled conditions ($Mdn_{less-traveled} = 1.56$; $5\% \text{ Trimmed Mean} = 1.56$) in the amount of time they spent in the virtual tour, $U = 1,410$, $z = .924$, $p = .355$, $r = .09$. After several replication attempts, we were unable to achieve similar results to the original experiments.

Brief Discussion

In summary, this latest attempt to replicate the original Price of Abundance study failed to find similar results. Despite the change in wording of the savoring task that may have presented a flaw in our study design, Study 4 did not yield different results than the previous studies. After exploring possible explanations of why this might be the case, we determined that it would be ideal to analyze the original studies' data to better understand the differences between our study and the Price of Abundance study.

Reanalysis of the Price of Abundance Study Data

For each study involving time as behavioral measure of savoring, a common trend we found was that the variable was consistently skewed by outliers. Parametric tests (i.e., independent samples t -tests) were originally conducted in the Price of Abundance study, and thus, also used for our analyses to maintain a close conceptual replication. However, since our time variable consistently violated the assumption of normality, we reanalyzed the variable using non-parametric tests, since independent samples t tests require a normal sampling distribution.

Recall that in the Price of Abundance, Quoidbach and colleagues conducted two naturalistic studies. In the first experiment (Price of Abundance - Study 1), participants were asked to check off cities that they have visited from a list of common or exotic destinations; and in the second experiment (Price of Abundance - Study 2), the addition of the travel-irrelevant (sports teams) condition allowed the researchers to control for the effects of exposure to the lists of exotic vs. common cities, while also controlling for the experience of failing to check off many of the cities presented in the exotic condition. We reanalyzed the original data using the necessary non-parametric test (i.e., Mann-Whitney Test). Below are the results of both the independent samples t tests and the Mann-Whitney non-parametric tests for the two original naturalistic studies.

Price of Abundance - Study 1

The original field experiment recruited 80 American participants (56% women; $M_{age} = 43.1$; $SD = 14.8$; age range = 17-70 years; 93% Caucasian) visiting Boston's Old North Church to participate in a brief survey on travel experiences. An independent samples t test showed a significant difference between the common condition ($n = 42$, $M_{minutes} = 7.14$, $SD = 4.49$) and the exotic condition ($n = 35$, $M_{minutes} = 10.14$, $SD = 6.98$) in the amount of minutes spent at the Old North Church ($t(75) = -2.28$, $p = .026$, $d = .50$, 95% CI [.04, .96]).

However, the variable of time spent in church was significantly skewed (see Figure 5 for distribution plot). A Mann-Whitney U test was run to determine if there were differences between conditions in the amount of time spent in the Old North Church. The

amount of time spent at the church did not significantly differ between participants who received the common destinations checklist ($Mdn_{common} = 6.00$; 5% *Trimmed Mean* = 6.68) and participants who received the exotic destinations checklist ($Mdn_{exotic} = 7.00$; 5% *Trimmed Mean* = 9.78; $U = 889.50$, $z = 1.60$, $p = .111$; $r = .18$). In other words, there was no significant difference in behavioral savoring between the common and the exotic conditions.

Price of Abundance - Study 2

The replication of the field study used a 2 x 2 between-subjects design, adding a travel-irrelevant condition. Because we are only interested in the travel-relevant condition, participants who received the travel-irrelevant condition were removed from the reanalysis. The resulting sample consisted of 138 American participants (53% women; $M_{age} = 45.00$; $SD = 15.84$; age range = 19-72 years; 92% Caucasian) visiting Boston's Old North Church.

An independent samples *t* test showed a significant difference between the common condition ($n = 65$, $M_{minutes} = 6.58$, $SD = 4.58$) and the exotic condition ($n = 73$, $M_{minutes} = 9.71$, $SD = 11.62$) in the amount of minutes spent at the Old North Church ($t(136) = -2.03$, $p = .044$, $d = .35$, 95% CI [-6.01, -.24]).

However, the variable of time spent in church was significantly skewed (see Figure 6 for distribution plot). A Mann-Whitney U test was run to determine if there were differences between conditions in the amount of time spent in the church. The amount of time spent at the church did not significantly differ between participants who received the

common destinations checklist ($n = 65$; $Mdn_{common} = 6.00$; 5% Trimmed Mean = 6.26) and participants who received the exotic destinations checklist ($n = 73$; $Mdn_{exotic} = 6.00$; 5% Trimmed Mean = 7.74; $U = 2,599$, $z = .97$, $p = .332$, $r = .08$). Therefore, there was no significant difference in behavioral savoring between the common and the exotic conditions.

General Discussion

If a series of replications is carried out, independently by different labs, and deliberately tailored to the parameters and conditions so described—yet they reliably fail to produce the original result—then this should be considered informative. At the very least, it will suggest that the effect is sensitive to theoretically-unspecified factors, whose specification is sorely needed. At most, it should throw the existence of the effect into doubt, possibly justifying a shift in research priorities. ~ Earp & Trafimow (Pg. 9; 2015)

After several attempts to conceptually replicate the experiments done in Price of Abundance Study, we were unsuccessful in expanding the original study's theory into a different setting other than in a naturalistic situation. However, what is particularly relevant in the above passage is “justifying a shift in research priorities.” Thus, the present research contributes to the meaningful, yet often onerous, discussion of replications in the field of psychology.

Whereas Study 1a and Study 1b successfully validated the independent and dependent variables—that is, that we can manipulate people into feeling well-traveled or less-traveled by giving them a list of common or exotic destinations of places they may have visited, and that time is an effective behavioral measurement of savoring— Studies 2, 3, and 4 failed to show statistically significant differences in savoring between those who felt well-traveled and those who felt less-traveled when going through a virtual online tour. We initially hypothesized that doing the experiment online may have presented such a different experience than doing the experiment in person that it made it unlikely to find the same phenomenon within the two environments, and this can certainly be true. However, a reanalysis of the original study data found that, when using the appropriate non-parametric test for non-normative distributions, the results of the original naturalistic experiments were also non-significant.

In this instance, it is erroneous to conclude a failure in conceptually replicating the original study. Our findings also do not indicate that the original results or the theory that predicted them have been a result of fraudulent, coincidental, or bias practices. There is still reason to believe that there is a meaningful effect on having an abundance of experiences on savoring pleasant, but more ordinary experiences, and this is a hypothesis that warrants further investigation.

For example, a potential moderator in the relationship between feelings of travel and savoring may be mindfulness (i.e., the quality or state of being conscious or aware of the present moment; Langer, 1989). For those high in mindfulness, it is possible that

manipulating feelings of travel is activating this idea of perceived scarcity, which was earlier described as a potential mechanism proposed by Quoidbach and colleagues. The concept of perceived scarcity, put concisely, is the idea that “having less elicits greater focus” (p. 682; Shah, Mullainathan, and Shafir, 2012). Scarcity, as opposed to abundance, causes a person to focus in on whatever is a scarce resource, and simultaneously reduces their attention towards anything else (Mullainathan & Shafir, 2013; Quoidbach et al., 2015). In relation to this current study, it may be that those who are low in mindfulness may not savor their experience as much as those high in mindfulness, regardless of whether they feel more- or less-traveled. In other words, having a wealth of life experiences may hinder a person’s ability to savor if they are already highly mindful. It would be worthwhile to extend this line of research by using more complex measures of mindfulness to determine whether this trait moderates the effect of travel experiences on savoring.

Another possible influence that may have affected the results of these studies is the fact that visiting any tourist attraction inherently social. A person often visits a new place with partners, friends, and/or family members. Even in cases where they do visit a new destination alone, most popular tourist attractions generate a good amount of traffic, which likely requires them to be among a crowd of people who are also having a similar experience. These social interactions may have affected the dependent variable of time spent in the church. For example, it is possible that, depending on who the participants were with, seeing the destinations checklist may have sparked conversations about the

times when they visited a certain city on the list or plans to see a new country or exotic place. These conversations may have occurred inside the church and consequently prolonged their visit. Likewise, several visiting factors are known to affect tourist behavior when experiencing an attraction such as interest in content, levels of fatigue, educational versus social motive (Moscardo, 1996).

A limitation in our current research is that the experience of visiting a virtual tour on a computer is likely to be solitary. We originally hypothesized that the means would simply shift to a lower average of time spent in the virtual tour, but with similar trends to that of the naturalistic study. But what we found is that, although there is no statistically significant difference between the common vs. exotic conditions in both time spent in the virtual tour and savoring in our studies, the trends were consistently in the opposite direction, indicating that those in the common condition were spending a little more time in the virtual tour. It may be that a travel experience alone harbors feelings of savoring because of the ability to take in the moment without outside distractions or others requiring your attention. Perhaps, one is able to self-identify with their travel experience more by paying attention to how they're feeling at the moment. Future studies would benefit from manipulating the social aspect when in the virtual tour to determine whether that has an effect on how long participants spend experiencing the online task. Similarly, controlling for social interactions when testing the hypothesis in a naturalistic experiment would be necessary.

Conclusion

Both traveling and savoring can greatly affect well-being, as displayed consistently in past research. Accordingly, the idea that having a wealth of travel experiences actually reduces our ability to savor pleasant, everyday moments seems counterintuitive to what we already know about traveling and savoring. There may very well be a connection between the two—however, the Price of Abundance study and our conceptual replication of their naturalistic experiments have yet to unlock that important connection. For now, it is safe to say that those with wanderlust can continue to enjoy new and exotic places, unique moments, and an abundance of experiences without diminishing their capacity to savor the simpler pleasures in life.

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Table 1

Table 1. Summary of parametric and non-parametric tests for online replications and original naturalistic studies (sorted by variable)

Variable	Study	Well-Traveled (Common)			Less-Traveled (Exotic)			<i>t</i>	<i>df</i>	<i>sig. (t)</i>	<i>d</i>	95% <i>C.I.</i>	<i>U</i>	<i>sig.(U)</i>	<i>R(U)</i>
		<i>M</i>	<i>SD</i>	<i>Median</i>	<i>M</i>	<i>SD</i>	<i>Median</i>								
Behavioral Savoring (Time)	Study 2	2.03	1.48	1.74	1.80	1.07	1.52	.874	100	.384	.174	-.289, .743	1,358	.640	-.05
	Study 3	2.46	2.81	1.67	2.06	2.49	1.65	1.085	205	.279	.151	-.327, 1.126	5,643	.506	-.05
	Study 4	1.57	1.24	1.34	1.60	.89	1.56	-.145	99	.885	.029	-.460, .397	1,138	.357	.09
	PoA 2	7.14	4.49	6.00	10.14	6.98	7.00	-2.277	75	.026*	.521	-5.625, -.375	580.50	.112	.18
	PoA 3	6.58	4.58	6.00	9.71	11.62	6.00	-2.034	136	.044*	.347	-6.169, -.087	2,146	.333	.08
Self-Report Savoring	Study 2	5.87	1.10	6.50	5.96	.83	6.00	-.437	98	.663	.088	-.477, .305	-	-	-
	Study 3	5.95	.98	6.00	5.85	1.05	6.00	.717	203	.474	.100	-.177, .380	-	-	-
	Study 4	5.75	1.15	6.00	5.49	.96	5.50	1.205	99	.231	.240	-.165, .675	-	-	-
Feelings of Travel	Study 1a	4.72	1.45	5.00	3.35	1.82	3.00	4.917	136	<.001*	.823	.823, 1.931	-	-	-
	Study 3	4.80	1.57	5.00	3.55	1.89	3.75	5.154	205	<.001*	.717	.768, 1.719	-	-	-
	Study 4	4.51	1.51	5.00	3.27	1.90	2.75	3.685	102	<.001*	.723	.573, 1.908	-	-	-

Abbreviations: (PoA) = Price of Abundance Studies; (*t*) Independent samples *t* test; (*d*) Cohen's *D* effect size; (*C.I.*) Confidence Interval; (*U*) = Mann-Whitney Test; *r* (*U*) = Mann-Whitney Effect Size.

Figure 1 - Study 1b

Figure 1. Distribution of time spent in virtual tour for Study 1b

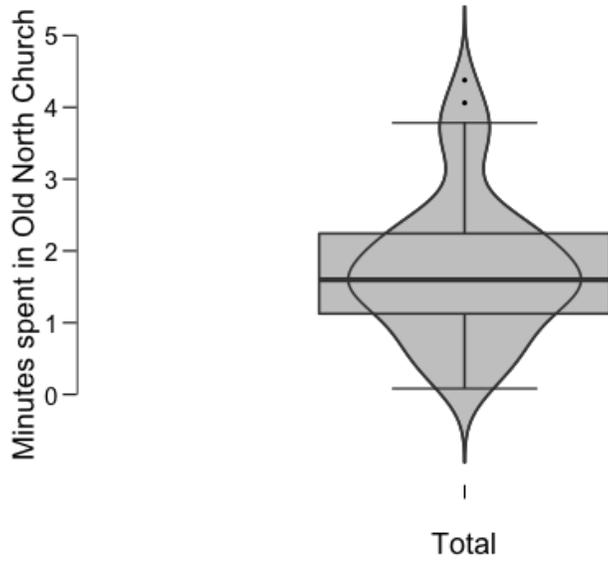


Figure 1 caption: A test of normality revealed that the dependent variable of time spent in the virtual tour was significantly non-normal ($D(51) = .137, p < .001$).

Figure 2 - Study 2

Figure 2. Distribution of time spent in virtual tour for Study 2

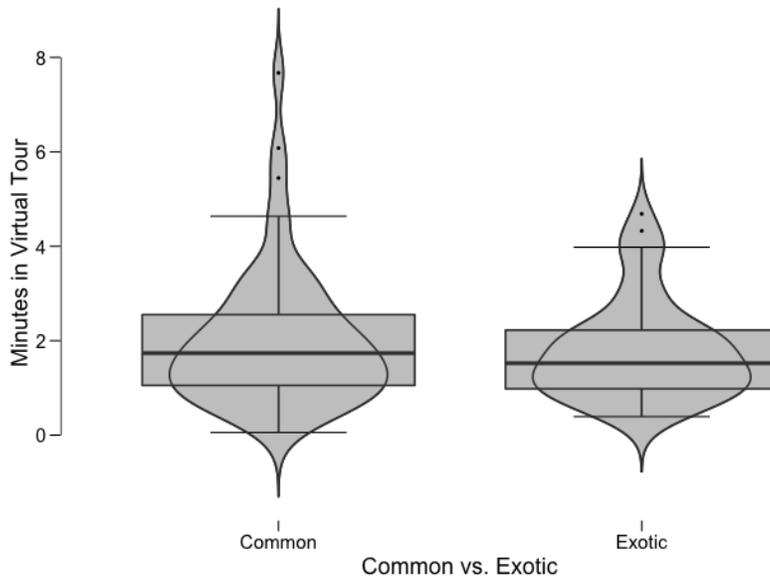


Figure 2 caption: A Shapiro-Wilk test of normality revealed that the dependent variable of time spent in the Old North Church was violated the assumption of normality (Common condition: $S-W = .862, p < .001$; Exotic condition: $S-W = .902, p < .001$).

Figure 3 - Study 3

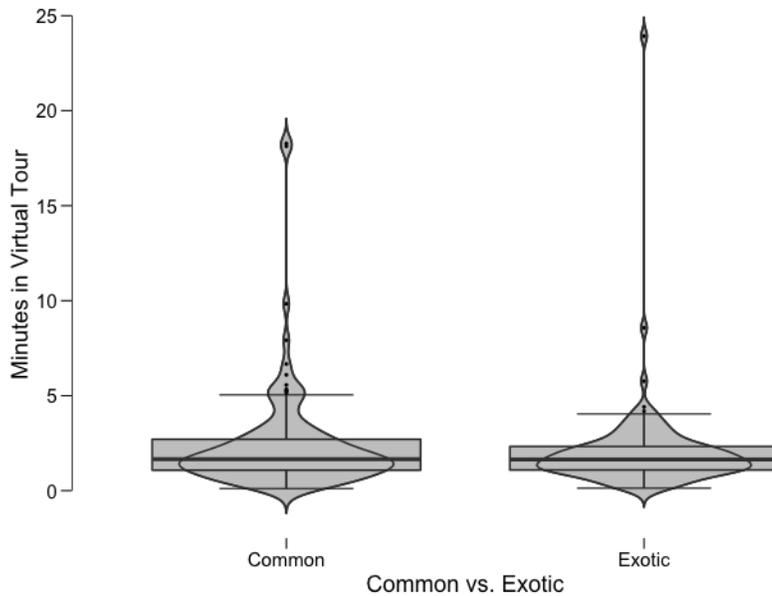
Figure 3. Distribution of time spent in virtual tour for Study 3

Figure 3 caption: A Shapiro-Wilk test of normality revealed that the dependent variable of time spent in the Old North Church was violated the assumption of normality (Common condition: $S-W = .661, p < .001$; Exotic condition: $S-W = .442, p < .001$).

Figure 4 - Study 4

Figure 4. Distribution of time spent in virtual tour for Study 4

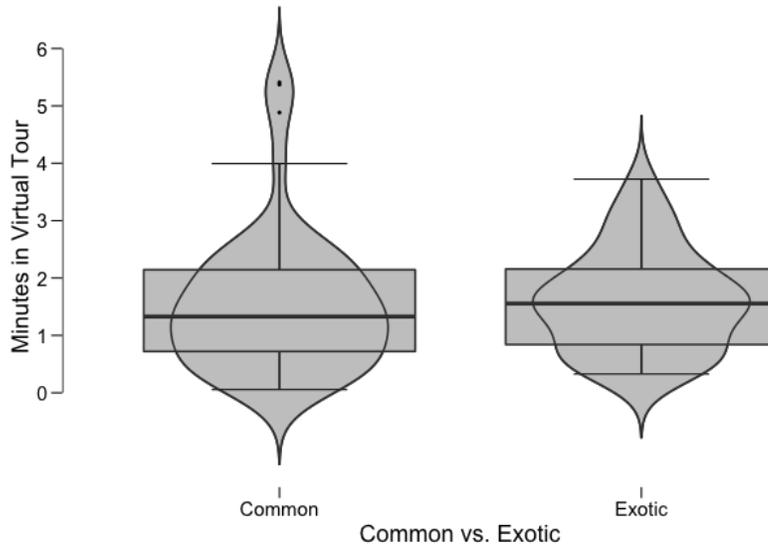


Figure 4 caption: A Shapiro-Wilk test of normality revealed that the dependent variable of time spent in the Old North Church was violated the assumption of normality (Common condition: $S-W = .863$, $p < .001$; Exotic condition: $S-W = .954$, $p = .052$).

Figure 5 – Price of Abundance Study 1

Figure 5. Distribution of time spent in Old North Church (naturalistic experiment)

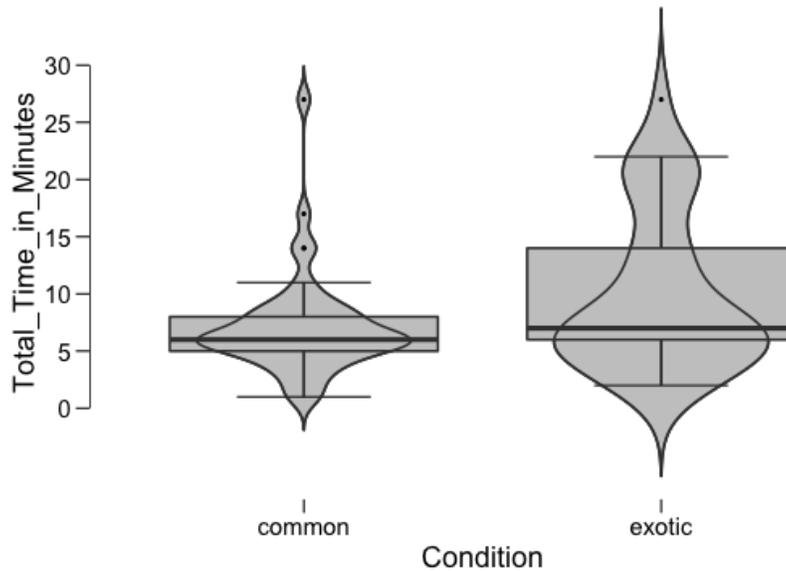


Figure 5 caption: A Shapiro-Wilk test of normality revealed that the dependent variable of time spent in the Old North Church was violated the assumption of normality (Common condition: $S-W = .779, p < .001$; Exotic condition: $S-W = .863, p < .001$).

Figure 6 – Price of Abundance Study 2

Figure 6. Distribution of time spent in Old North Church (naturalistic replication experiment)

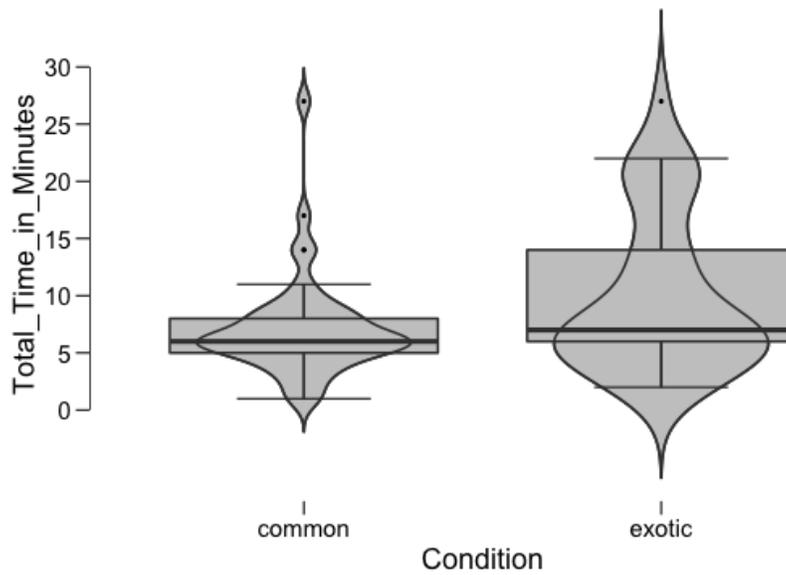


Figure 6 caption: A Shapiro-Wilk test of normality revealed that the dependent variable of time spent in the Old North Church was violated the assumption of normality (Common condition: $S-W = .861, p < .001$; Exotic condition: $S-W = .580, p < .001$).

Appendix A

Study 1a – Survey Flow

The purpose of this research is to investigate people's traveling experiences. This is a pilot study. The results of this study will not be shared or disseminated for publication, or made available to others outside the organization associated with the research. Compensation for participating in this research will be \$0.05. The survey should take approximately 1 minute to complete. **PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.** You may choose to participate or not. If you do not wish to participate, you may simply log out with no penalty to yourself. If you do participate, your participation in the survey indicates your consent to the above conditions.

Please provide information about yourself.

How old are you?

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your race/ethnicity? (select all that apply)

- White/Caucasian
- Black/African
- Hispanic
- Asian
- Native American
- Other _____
- Prefer not to say

In what country do you live in most of the time?

(COMMON DESTINATIONS)

Please check the destinations that you have visited in the past:

- Orlando, FL
- New York City, NY
- Chicago, IL
- Anaheim/Orange County, CA
- Miami, FL
- Las Vegas, NV
- Atlanta, GA
- Houston, TX
- Philadelphia, PA
- San Diego, CA

(EXOTIC DESTINATIONS)

Please check the destinations that you have visited in the past:

- Paris, France
- Shanghai, China
- Sydney, Australia
- New Delhi, India
- Tokyo, Japan
- Venice, Italy
- St. Petersburg, Russia
- London, England
- Bruges, Belgium
- Prague, Czech Republic

On a scale of 1-7, please indicate how you feel about your overall experience with travel.

- 1 I do not feel well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- 7 I feel very well-traveled 7

I consider myself:

- 1 Not well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- 7 Very well-traveled 7

Appendix B

Study 1b – Survey Flow

Implied Consent to Participate in Research. The purpose of this research is to investigate people's experiences of tourist attractions in virtual settings. The researcher, Ella Tarnate, is a graduate researcher at San Francisco State University, conducting research in the Psychology department. You are being asked to participate in this study because you are 18 or older and live in the United States. You must be 18 years of age or older to participate. There are no risks or benefits to you in participating in this survey. Your identity will never be known to the researcher because answers to the online surveys do not require participants to identify themselves. Any collected data will be stored in an encrypted document. Demographic information is for the use of reporting in aggregate form only. Compensation for participating in this research will be \$0.60. **PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.** You may choose to participate or not. If you do not wish to participate, you may simply log out with no penalty to yourself. If you do participate, your participation in the survey indicates your consent to the above conditions. The survey should take up to approximately 14 minutes to complete. When the study is completed, you will receive a full debriefing on the purpose and the procedures of the research. You will be given an opportunity to leave any comments or feedback towards the end of the study. If you have any questions about the study, you may contact the researcher by email at evtarnate@gmail.com. You are free to decline to participate in this research study, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research study will have no influence on your present or future status at San Francisco State University.

If you consent to participate, please click agree and indicate whether you are 18 or older.

- Yes, I am 18 years old or older
- No, I am younger than 18

If you consent to participate in this research study, click "Yes". If you do not consent to participate in this research study, click "No". Participants who do not consent to participating in this study will be directed to a page informing them they are not eligible to participate. Thank you very much for your time.

- Yes
- No

Purpose

The purpose of this study is to help researchers understand differences in people's experiences with tourist attractions in a virtual setting. A virtual tour is a simulation of an existing location that can allow a user to view an environment while online. Currently, a variety of industries (i.e., real estate, universities, travel) use virtual tours to help market their services and products.

Your Task

The following questions and tasks will include general demographic questions, a virtual tour task in which you will be viewing still images of a popular tourist attraction, and follow-up questions to understand your experience of the task. Now, put yourself into a mindset of a tourist. Imagine that you are visiting a popular tourist attraction while on vacation. This particular tourist attraction is known for its unique architecture and historical significance. Please proceed with this "tourist mindset" as you complete the study.

Please provide information about yourself.

How old are you?

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your race/ethnicity? (select all that apply)

- White/Caucasian
- Black/African
- Hispanic
- Asian
- Native American
- Other _____
- Prefer not to say

In what country do you live in most of the time?

Please indicate how you currently feel:

- Very Unhappy
- Unhappy
- Somewhat Unhappy
- Neither Happy nor Unhappy
- Somewhat Happy
- Happy
- Very Happy

As previously mentioned, the researchers are interested in learning about your personal experience with virtual tours. The following page displays a website that contains an image-slideshow of Old North Church, a Boston landmark.

Please take some time to go through this "virtual image tour" of Old North Church. While viewing these images, imagine that you are actually inside the church visiting as a tourist. Try and envision as vividly as you can what it would feel like to be in the church. Think of what may be going on around you while you are there— imagine the sights, sounds, and smells you might encounter during your visit. Take as much time as you'd like looking at these images with the feeling that you are really exploring the church. And, just as you would do if you were there, feel free to exit out of the church at your own leisure by choosing the exit button at the bottom of the page.

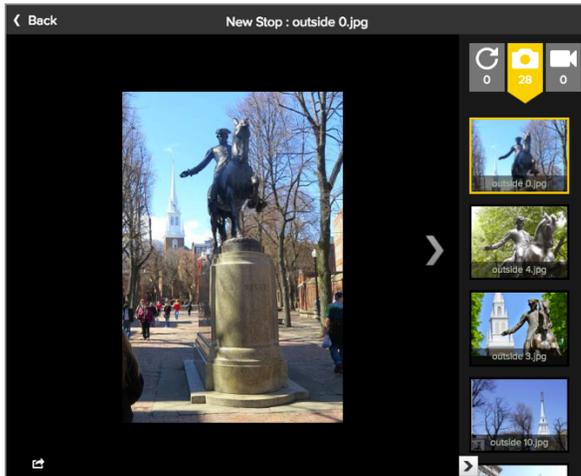
Do you understand the task?

- Yes, I understand the task.
- No, I do not understand the task.

Please take some time exploring Old North Church by viewing the images in the slideshow below.

Again, take as much time as you'd like looking at these images with the feeling that you are actually there taking a tour. When you are ready to exit out of the cathedral, click the exit button at the bottom of the page to proceed to the follow-up questions.

Click on the "photos" icon at the bottom of the page to begin your tour.



Click the button below to exit Grace Cathedral and move on to the follow-up questions.

- EXIT

Appendix C

Study 2 – Survey Flow

Implied Consent to Participate in Research. The purpose of this research is to investigate people's experiences of tourist attractions in virtual settings. The researcher, Ella Tarnate, is a graduate researcher at San Francisco State University, conducting research in the Psychology department. You are being asked to participate in this study because you are 18 or older and live in the United States. You must be 18 years of age or older to participate. There are no risks or benefits to you in participating in this survey. Your identity will never be known to the researcher because answers to the online surveys do not require participants to identify themselves. Any collected data will be stored in an encrypted document. Demographic information is for the use of reporting in aggregate form only. Compensation for participating in this research will be \$0.50. PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You may choose to participate or not. If you do not wish to participate, you may simply log out with no penalty to yourself. If you do participate, your participation in the survey indicates your consent to the above conditions. The survey should take up to approximately 10 minutes to complete. When the study is completed, you will receive a full debriefing on the purpose and the procedures of the research. You will be given an opportunity to leave any comments or feedback towards the end of the study. If you have any questions about the study, you may contact the researcher by email at evtarnate@gmail.com. You are free to decline to participate in this research study, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research study will have no influence on your present or future status at San Francisco State University.

If you consent to participate, please click agree and indicate whether you are 18 or older.

- Yes, I am 18 years old or older
- No, I am younger than 18

If you consent to participate in this research study, click "Yes". If you do not consent to participate in this research study, click "No". Participants who do not consent to participating in this study will be directed to a page informing them they are not eligible to participate. Thank you very much for your time.

- Yes
- No

Purpose

The purpose of this study is to help researchers understand differences in people's experiences with tourist attractions in a virtual setting. A virtual tour is a simulation of an existing location that can allow a user to view an environment while online. Currently, a variety of industries (e.g., real estate, universities, travel) use virtual tours to help market their services and products.

Your Task

The following questions and tasks will include general demographic questions, a virtual tour task in which you will be viewing still images of a popular tourist attraction, and follow-up questions to understand your experience of the task. Now, put yourself into a mindset of a tourist. Imagine that you are visiting a popular tourist attraction while on vacation. This particular tourist attraction is known for its unique architecture and historical significance. Please proceed with this "tourist mindset" as you complete the study.

Please provide information about yourself.

How old are you?

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your race/ethnicity? (select all that apply)

- White/Caucasian
- Black/African
- Hispanic
- Asian
- Native American
- Other _____
- Prefer not to say

In what country do you live in most of the time?

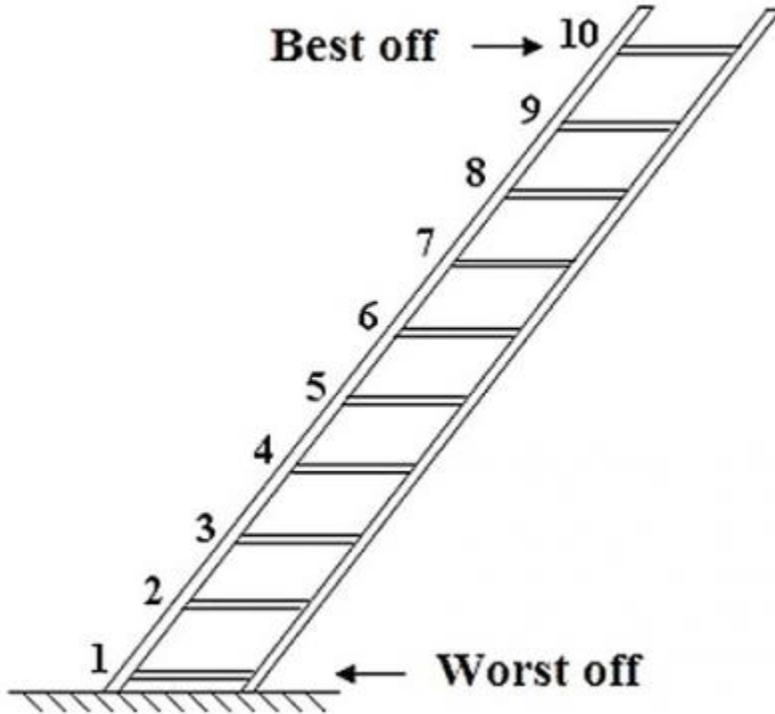
Please check the destinations that you have visited in the past:

- Orlando, FL
- New York City, NY
- Chicago, IL
- Anaheim/Orange County, CA
- Miami, FL
- Las Vegas, NV
- Atlanta, GA
- Houston, TX
- Philadelphia, PA
- San Diego, CA

Please check the destinations that you have visited in the past:

- Paris, France
- Shanghai, China
- Sydney, Australia
- New Delhi, India
- Tokyo, Japan
- Venice, Italy
- St. Petersburg, Russia
- London, England
- Bruges, Belgium
- Prague, Czech Republic

Think of this ladder as representing where people stand in the United States. At the top of the ladder are the people who are the best off - those who have the most money, the most education and the most respected jobs. At the bottom are the people who are the worst off - who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom. Where would you place yourself on this ladder?



Please indicate where you think you stand at this time in your life, relative to other people in the United States.

- Worst off 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- Best off 10

Please indicate how you currently feel:

- Very Unhappy
- Unhappy
- Somewhat Unhappy
- Neither Happy nor Unhappy
- Somewhat Happy
- Happy
- Very Happy

As previously mentioned, the researchers are interested in learning about your personal experience with virtual tours. The following page displays a website that contains an image-slideshow of Old North Church, a Boston landmark.

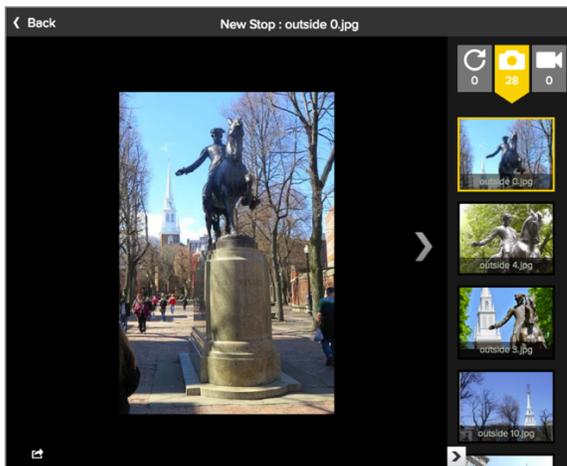
Please take some time to go through this "virtual image tour" of Old North Church. While viewing these images, imagine that you are actually inside the church visiting as a tourist. Try and envision as vividly as you can what it would feel like to be in the church. Think of what may be going on around you while you are there— imagine the sights, sounds, and smells you might encounter during your visit. Take as much time as you'd like looking at these images with the feeling that you are really exploring the church. And, just as you would do if you were there, feel free to exit out of the church at your own leisure by choosing the exit button at the bottom of the page.

Do you understand the task?

- Yes, I understand the task.
- No, I do not understand the task.

Please take some time exploring Old North Church by viewing the images in the slideshow below.

Again, take as much time as you'd like looking at these images with the feeling that you are actually there taking a tour. When you are ready to exit out of the cathedral, click the exit button at the bottom of the page to proceed to the follow-up questions.



Click the button below to exit Grace Cathedral and move on to the follow-up questions.

- EXIT

Appendix D

Study 3 – Survey Flow

Implied Consent to Participate in Research. The purpose of this research is to investigate people's experiences of tourist attractions in virtual settings. The researcher, Ella Tarnate, is a graduate researcher at San Francisco State University, conducting research in the Psychology department. You are being asked to participate in this study because you are 18 or older and live in the United States. You must be 18 years of age or older to participate. There are no risks or benefits to you in participating in this survey. Your identity will never be known to the researcher because answers to the online surveys do not require participants to identify themselves. Any collected data will be stored in an encrypted document. Demographic information is for the use of reporting in aggregate form only. Compensation for participating in this research will be \$0.35. PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You may choose to participate or not. If you do not wish to participate, you may simply log out with no penalty to yourself. If you do participate, your participation in the survey indicates your consent to the above conditions. The survey should take up to approximately 7 minutes to complete. When the study is completed, you will receive a full debriefing on the purpose and the procedures of the research. You will be given an opportunity to leave any comments or feedback towards the end of the study. If you have any questions about the study, you may contact the researcher by email at evtarnate@gmail.com. You are free to decline to participate in this research study, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research study will have no influence on your present or future status at San Francisco State University.

If you consent to participate, please click agree and indicate whether you are 18 or older.

- Yes, I am 18 years old or older
- No, I am younger than 18

If you consent to participate in this research study, click "Yes". If you do not consent to participate in this research study, click "No". Participants who do not consent to participating in this study will be directed to a page informing them they are not eligible to participate. Thank you very much for your time.

- Yes
- No

Purpose

The purpose of this study is to help researchers understand differences in people's experiences with tourist attractions in a virtual setting. A virtual tour is a simulation of an existing location that can allow a user to view an environment while online. Currently, a variety of industries (e.g., real estate, universities, travel) use virtual tours to help market their services and products.

Your Task

The following questions and tasks will include general demographic questions, a virtual tour task in which you will be viewing still images of a popular tourist attraction, and follow-up questions to understand your experience of the task. Now, put yourself into a mindset of a tourist. Imagine that you are visiting a popular tourist attraction while on vacation. This particular tourist attraction is known for its unique architecture and historical significance. Please proceed with this "tourist mindset" as you complete the study.

Please provide information about yourself.

How old are you?

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your race/ethnicity? (select all that apply)

- White/Caucasian
- Black/African
- Hispanic
- Asian
- Native American
- Other _____
- Prefer not to say

In what country do you live in most of the time?

Please check the destinations that you have visited in the past:

- Orlando, FL
- New York City, NY
- Chicago, IL
- Anaheim/Orange County, CA
- Miami, FL
- Las Vegas, NV
- Atlanta, GA
- Houston, TX
- Philadelphia, PA
- San Diego, CA

Please check the destinations that you have visited in the past:

- Paris, France
- Shanghai, China
- Sydney, Australia
- New Delhi, India
- Tokyo, Japan
- Venice, Italy
- St. Petersburg, Russia
- London, England
- Bruges, Belgium
- Prague, Czech Republic

On a scale of 1-7, please indicate how you feel about your overall experience with travel.

- I do not feel well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- I feel very well-traveled 7

I consider myself:

- Not well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- Very well-traveled 7

Please indicate how you currently feel:

- Very Unhappy
- Unhappy
- Somewhat Unhappy
- Neither Happy nor Unhappy
- Somewhat Happy
- Happy
- Very Happy

Appendix E

Study 4 – Survey Flow

Implied Consent to Participate in Research. The purpose of this research is to investigate people's experiences of tourist attractions in virtual settings. The researcher, Ella Tarnate, is a graduate researcher at San Francisco State University, conducting research in the Psychology department. You are being asked to participate in this study because you are 18 or older and live in the United States. You must be 18 years of age or older to participate. There are no risks or benefits to you in participating in this survey. Your identity will never be known to the researcher because answers to the online surveys do not require participants to identify themselves. Any collected data will be stored in an encrypted document. Demographic information is for the use of reporting in aggregate form only. Compensation for participating in this research will be \$0.35. PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You may choose to participate or not. If you do not wish to participate, you may simply log out with no penalty to yourself. If you do participate, your participation in the survey indicates your consent to the above conditions. The survey should take up to approximately 7 minutes to complete. When the study is completed, you will receive a full debriefing on the purpose and the procedures of the research. You will be given an opportunity to leave any comments or feedback towards the end of the study. If you have any questions about the study, you may contact the researcher by email at evtarnate@gmail.com. You are free to decline to participate in this research study, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research study will have no influence on your present or future status at San Francisco State University.

If you consent to participate, please click agree and indicate whether you are 18 or older.

- Yes, I am 18 years old or older
- No, I am younger than 18

If you consent to participate in this research study, click "Yes". If you do not consent to participate in this research study, click "No". Participants who do not consent to participating in this study will be directed to a page informing them they are not eligible to participate. Thank you very much for your time.

- Yes
- No

Purpose

The purpose of this study is to help researchers understand differences in people's experiences with tourist attractions in a virtual setting. A virtual tour is a simulation of an existing location that can allow a user to view an environment while online. Currently, a variety of industries (e.g., real estate, universities, travel) use virtual tours to help market their services and products.

Your Task

The following questions and tasks will include general demographic questions, a virtual tour task in which you will be viewing still images of a popular tourist attraction, and follow-up questions to understand your experience of the task. Now, put yourself into a mindset of a tourist. Imagine that you are visiting a popular tourist attraction while on vacation. This particular tourist attraction is known for its unique architecture and historical significance. Please proceed with this "tourist mindset" as you complete the study.

Please provide information about yourself.

How old are you?

What is your gender?

- Male
- Female
- Other
- Prefer not to say

What is your race/ethnicity? (select all that apply)

- White/Caucasian
- Black/African
- Hispanic
- Asian
- Native American
- Other _____
- Prefer not to say

In what country do you live in most of the time?

Please check the destinations that you have visited in the past:

- Orlando, FL
- New York City, NY
- Chicago, IL
- Anaheim/Orange County, CA
- Miami, FL
- Las Vegas, NV
- Atlanta, GA
- Houston, TX
- Philadelphia, PA
- San Diego, CA

Please check the destinations that you have visited in the past:

- Paris, France
- Shanghai, China
- Sydney, Australia
- New Delhi, India
- Tokyo, Japan
- Venice, Italy
- St. Petersburg, Russia
- London, England
- Bruges, Belgium
- Prague, Czech Republic

On a scale of 1-7, please indicate how you feel about your overall experience with travel.

- I do not feel well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- I feel very well-traveled 7

I consider myself:

- Not well-traveled at all 1
- 2
- 3
- 4
- 5
- 6
- Very well-traveled 7

Please indicate how you currently feel:

- Very Unhappy
- Unhappy
- Somewhat Unhappy
- Neither Happy nor Unhappy
- Somewhat Happy
- Happy
- Very Happy

As previously mentioned, the researchers are interested in learning about your personal experience with virtual tours. The following page displays a website that contains an image-slideshow of Old North Church, a Boston landmark.

Please take some time to go through this "virtual image tour" of Old North Church. While viewing these images, imagine that you are actually visiting the church as a tourist. Try and imagine as best as you can what it would feel like to be there and to do the things you would normally do while visiting a tourist attraction. Take as much or as little time as you'd like looking at these images. And, just as you would do if you were there, feel free to exit out of the church at your own leisure by choosing the exit button at the bottom of the page.

Do you understand the task?

- Yes, I understand the task.
- No, I do not understand the task.

