

TESTING SELECT PROPOSITIONS ABOUT ABSORPTION FROM  
THE THEORY OF STRUCTURED EXPERIENCE

A Dissertation

by

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## ABSTRACT

The purpose of this study was to advance understanding of absorption experiences by testing select propositions from the theory of structured experience (TSE). Absorption is a transitory condition of heightened attention, motivation, and emotion characterized by relaxation, pleasure, and the absence of demand for behavioral action or active thinking. Three studies were conducted. Study 1 was an online experiment involving 218 panel participants, Study 2 included 26 study abroad tourists who were university students, and Study 3 included 20 4-H youth study abroad travelers. Studies 1 and 2 examined both determinants (presumed causes) and results (presumed effects) of absorption by experimentally manipulating encouraged savoring techniques (focus on the present, mental time travel, and behavioral expression of emotion) and encouragement of co-creation. Additionally, Study 1 examined the potential effect of a construct new to TSE; instructional engagement, on absorption. Study 3 examined the relations between absorption and its theoretical results: deep structured experience, perceived value of time spent, delight, and proclivity to recommend the experience to other people. Results from Studies 1 and 2 indicated that the three savoring techniques were not significant predictors of absorption. Encouragement to co-create significantly reduced absorption. Instructional engagement was a significant predictor of absorption. Absorption was a significant predictor of results specified by the theory of structured experience: deep structured experience prevalence and deep structured experience frequency. Similarly, deep structured experience prevalence was a significant and positive predictor of perceived value of time spent, delight, and proclivity to recommend.

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## NOMENCLATURE

TSE	The Theory of Structured Experience
DSE	Deep Structured Experience
PV	Perceived Value of Time Spent

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## CHAPTER I

### INTRODUCTION

The intentional design and structuring of absorption experiences is imperative to the success of many organizations in the experience industries, particularly those providing multi-sensory experiences highlighting sight, sound, smell, taste, and touch. Absorption has been defined as a transitory condition of heightened attention, motivation, and emotion characterized by relaxation, pleasure, and the absence of demand for behavioral action or active thinking (Ellis, Freeman, Jamal, & Jiang, 2017; Pine & Gilmore, 1999; 2011). Activities that emphasize sensory experiences apart from demand for action or need to follow an emerging story give rise to absorption. Examples of such activities are quietly watching a beautiful sunset, savoring tastes and aromas of food and drink, or receiving a pleasing massage. Industries for which absorption experiences are important generate a great deal of revenue from consumer spending. For example, the spa (\$16.8 billion; International Spa Association, 2016), corporate wellness (\$7.8 billion; IBISWorld, 2018), restaurant (\$799 billion; National Restaurant Association, 2017), and hotel (\$495 billion; TUI, 2017) industries collectively generate over 1.3 trillion dollars in consumer spending each year. Consumers who enjoy relaxing, pleasurable, and absorbing experiences will return as future opportunities allow and may also serve as active promoters for the businesses that provide memorable absorption experiences.

Intense competition exists among these individual businesses. In the restaurant industry, almost two out of three restaurants fail in their first three years (Behmen, 2018). The hotel industry also experiences intense competition and may struggle to retain loyal customers (Kandampully, & Suhartanto, 2000). As Pine and Gilmore (1999; 2011) emphasize, in order to succeed, businesses cannot afford to compete on the basis of price alone. Experiences must be

optimized. Organizations need to be ready to offer not only top-tier service quality, but memorable experience quality as well. To flourish, organizations providing absorption experiences will need to understand and use specific strategies for optimizing their customers' absorption experiences.

Behavioral science may help identify those strategies. From a social science perspective, however, little is known about absorption, the effects of absorption experiences, or how providers might design and structure absorption experiences. Scholars have yet to fully explicate the absorption experience and empirically verify mechanisms necessary to reliably facilitate absorption. Mechanisms have, though, been proposed. Positive psychologists (Bryant, Chadwick, & Kluwe, 2011; Bryant, Smart, & King, 2005; Bryant & Veroff, 2007; Jose, Lim, & Bryant, 2012; Suddendorf & Corballis, 2007; Quoidbach, Wood, & Hansenne, 2009; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010) have proposed “savoring” mechanisms that may yield absorption, including mental time-travel (anticipation), behavioral expression of emotion, and attentional focus on the present. In addition, an expansive body of literature in tourism and leisure studies points to the importance of participants co-creating experiences (e.g., Binkhorst, 2005; Campos, Mendes, Valle, & Scott, 2015; Campos, Mendes, Valle, Scott, 2016; Duerden, Ward, & Freeman, 2015; Ellis et al., 2017; Iso-Ahola, 1980; Neulinger, 1975; Prahalad & Ramaswamy, 2004). The TSE (Ellis et al., 2017) advances propositions for how absorption experiences might be structured using these techniques, but these propositions have not yet been tested. Therefore, the purpose of this study is to advance the understanding of absorption experiences by testing select propositions from TSE (Ellis et al., 2017).

## CHAPTER II

### LITERATURE REVIEW

The focus of this research is to evaluate propositions about the presumed causes and effects of absorption as defined in TSE (Ellis et al., 2017). This chapter provides background for the study including definitions of experience, absorption, domains of absorption, and experiences similar to absorption. The literature review begins by defining experience and providing a description of TSE (Ellis et al., 2017). Next, the review provides historic context by examining three conceptualizations of absorption: Tellegen (1974), Pine and Gilmore (1999; 2011), and Ellis et al. (2017). Ellis et al., (2017) discussed the domains of their conceptualization of absorption. Therefore, the domains of absorption as defined by Ellis et al. are reviewed. These include relaxation, pleasure, mindfulness, savoring, and sensory engagement. The remainder of the literature review provides a description of a variety of experiences similar to absorption, that is, experiences that are relaxing, pleasurable, do not demand active thinking or do not demand behavioral or emotional action (e.g., aesthetic, awe, flow, hypnosis, meditation, peak experience, psychedelic, solitude, and spiritual). The chapter concludes with a review and critique of research on absorption.

#### **Defining Experience**

The frequent use of the word *experience* in day-to-day communication may lead one to assume it has a clear and universal definition, but the definition of experience is far from universal (Rossman & Ellis, 2012). *Experience* refers to readily observable objective behaviors and to lived, subjective states of consciousness (Caru & Cova, 2003; Cutler & Carmichael, 2010). A “travel experience” thus implies both an observable act of separating oneself from one’s typical environment as well as the conscious states of attention, motivation, and emotion that

occurred during that separation. Knowledge or skill development are also suggested by use of the word, “experience.” A job candidate on an interview may, for example, declare that she or he has a given number of years of experience in the industry. The comment suggests that the candidate has acquired the knowledge and skills necessary to succeed in the position. The connotations of the word “experience” are thus extensive and complex. For the purpose of the current study, Duerden, Freeman, and Ward’s (2015) definition was used:

[Experience refers to both] the objective, interactive encounters between participants and provider manipulated frameworks (e.g., dining at a restaurant, attending a concert, playing in a softball tournament) and the resulting subjective participant outcomes (e.g., feeling unhappy with the quality of food at a restaurant, being emotionally moved by a song at a concert, deciding to return again next year to play in the same softball tournament and win the whole thing) of experiences (p. 603).

Subjective experiences are states of consciousness. The subjective experience of awe, for example, is a state of consciousness that includes the motivational, emotional, and attentional subjective experiences of amazement, involuntary attention, focus on the present, and a sense of extraordinary achievement or possible intervention by a higher power (Keltner & Haidt, 2003). *Experience*, then, refers to objective activities (observable behaviors) as well as the subjective states of consciousness associated with those activities or behaviors (Duerden et al, 2015).

### **The Theory of Structured Experience**

Informed by Duerden et al.’s (2015) structured experience framework, Ellis et al. (2017) created a formal theory for structured experiences. Theory is a pivotal component of scientific inquiry and is “at the heart of the scientific process” (Jaccard & Jacoby, 2010, p. ix). Theory distinguishes science from simple empiricism. Hans Zetterberg (1965), in his seminal book on

theory in sociology describes theory as, “systematically organized, law-like propositions about society and social life” (p. 5). Propositions are a central element of theory building (Hollander, 1967; Jaccard & Jacoby, 2010; Tinsley & Tinsley, 1986). TSE includes 32 propositions about relationships between the determinants and results of structured experiences (see Table 1).

Table 1

*Propositions of the Theory of Structured Experience*

---

Propositions about Service Quality

---

SQ 1 When reliability reaches a threshold of acceptability, immersion, absorption, engagement, and DSE may occur.

SQ 2 When assurance reaches a threshold of acceptability, immersion, absorption, engagement, and DSE may occur.

SQ 3 When tangibles reach a threshold of acceptability, immersion, absorption, engagement, and DSE may occur.

SQ 4 When empathy reaches a threshold of acceptability, immersion, absorption, engagement, and DSE may occur.

SQ 5 When responsiveness reaches a threshold of acceptability, immersion, absorption, engagement, and DSE may occur.

---

Propositions about Immersion

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I1: If service quality thresholds are met or exceeded in an encounter that (a) requires demand for action with immediate feedback I2: on the efficacy of that action and (b) affords opportunity to focus attention on a limited stimulus field, then

I3: as self-relevance of the activity increases immersion tends to increase.

I4: when challenge of the activity matches or slightly exceeds skills, immersion tends to increase.

---

Propositions about Absorption

---

A1: as focus on the present increases, absorption tends to increase.

A2: as awareness of problems decrease, absorption tends to increase.

A3: as anticipation increases, absorption tends to increase.

A4: as behavioral expression of reactions to welcome sensory stimuli increase, absorption tends to increase.

A5: as social expression of reactions to sensory stimuli increase, absorption tends to increase.



Table 1 Continued

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Propositions about Engagement

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- E1: as story provocation increases, engagement tends to increase.  
E2: as story coherence increases, engagement tends to increase.  
E3: as personal relevance of the story increases, engagement tends to increase.  
E4: as mindfulness on the story increases, engagement tends to increase.

---

Propositions about Deep Structured Experience

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- I. Activity Type Propositions: If service quality thresholds are met or exceeded, then  
DSE 1: as immersion increases in intensity, DSE is more likely to occur.  
DSE 2: as absorption increases in intensity, DSE is more likely to occur.  
DSE 3: as engagement increases in intensity, DSE is more likely to occur.
- II. Provider Action Propositions: If service quality thresholds are met or exceeded, then  
DSE 4: as intrinsic appeal in an activity with a limited stimulus field increases, the probability of DSE increases.  
DSE 5: as intrinsic appeal of the activity and pervasiveness of theme increase, the probability of DSE increases.  
DSE 6: as intrinsic appeal of the activity and welcomed, thematic engagement of multiple senses increases, the probability of increases.  
DSE 7: as intrinsic appeal of the activity increases and unexpected value-added actions occur, the probability of DSE increases.  
DSE 8: as intrinsic appeal of the activity and personalization increase, the probability of DSE increases.

---

Propositions about Evaluated Experiences

---

- EE1: As the prevalence of DSE increases perceived value tends to increase.  
EE2: As the prevalence of DSE increases positivity of affect tends to increase.  
EE3: As the prevalence of DSE increases delight tends to increase.  
EE4: As the frequency of DSE increases perceived value tends to decrease.  
EE5: As the frequency of DSE increases positivity of affect tends to decrease.  
EE6: As the frequency of DSE increases delight tends to decrease.
-

TSE formally defines and distinguishes among four in-situ subjective states of consciousness: engagement, immersion, absorption, and deep structured experience (DSE). Engagement experiences are those that occur when attention is focused on unfolding narrative or stories. Specifically, engagement is defined as, “a transitory condition of heightened attention, emotion, and motivation characterized by (a) extraordinarily high focus of attention on an unfolding narrative or story told in words, actions, and/or music, (b) heightened emotions, and (c) agentic inclinations” (Ellis et al., 2017, p. 7). Examples of engagement experiences may include viewing a theatrical presentation, listening to a TED Talk, or conversing with a friend.

Immersion is the experience associated with performance. Examples of immersion experiences may include playing a game of chess, learning to swim, competing in a sport, acting in a play, singing a song, or painting. Immersion is an instance of the “flow” experience (Csikszentmihalyi, 1975). As such, immersion experiences are affected by challenge, skill, and self-relevance of the activity. The formal definition is “a transitory condition of action, attention, and intrinsic motivation characterized by (a) high focus of attention on a limited stimulus field, (b) environmental demand for immediate action, (c) automatic responses (i.e. action without conscious, calculated decisions), (d) immediate feedback on the efficacy of those actions, and (e) perception of control” (Ellis et al., 2017, p. 5).

Absorption experiences are inherently sensory experiences. Absorption is defined as, “a transitory condition of heightened attention, motivation, and emotion characterized by (a) high levels of relaxation and pleasure, (b) absence of demand for behavioral or mental action in response to stimuli, and (c) absence of active thinking” (Ellis et al., 2017, p. 6). Examples of absorption experiences may include watching a beautiful sunset, sipping a fine wine, or listening to a melodic symphony.

TSE also defines a fourth resulting state of DSE. DSE results from high levels of engagement, immersion, or absorption (Ellis et al., 2017) and is defined as, “a state of effortless concentration during which individuals lose (a) their sense of time, (b) their thoughts about themselves, and (c) awareness of their problems” (Ellis et al., 2017, p. 9). DSE is characterized by a narrow stimulus field, effortless concentration, automatic actions, loss of self-consciousness, loss of perception of time, and a strong intrinsic motivation to continue to experience. DSE is a state similar to and informed by other intense states of motivation and attention such as flow (Csikszentmihalyi, 1990), ecstasy (Maslow, 1962), and deep play (Ackerman, 2011). Additionally, TSE includes a component of evaluated experiences (Cutler & Carmichael, 2010). That is, structured experiences are evaluated after the fact and include constructs theoretically related to satisfaction, quality, and value.

TSE defines a structured experience as, “a planned invitation extended by an experience provider for a heightened subjective state of motivation, attention, and emotion to occur” (Ellis et al., 2017, p.3). Structured experiences include a distinct beginning and end, and may involve co-creation of the experience by the participant and provider (Prahalad & Ramaswamy, 2004). Co-creation is similar to perceived freedom, intrinsic motivation, and leisure as a state-of-mind (Iso-Ahola, 1980; Neulinger, 1975).

TSE has potential to be an important step in understanding and designing experiences. Its formal, Aristotelian, definitions and propositions about key relationships lay a foundation for future empirical inquiry. While a number of TSE propositions have been tested for validity (e.g., Ellis, Lacanienta, Freeman, & Hill, 2018; Lacanienta, Ellis, Taggart, Wilder, & Carroll, 2018), select propositions of absorption have not yet been empirically examined. Therefore, absorption experiences are the main focal point of this dissertation.

## Past Research on Absorption

Tellegen and his colleagues introduced absorption in the early 1970's (e.g., Tellegen & Atkinson, 1974). Absorption was described as a disposition for having focused attention that engaged creative resources. The term absorption finds roots in dreams (Wild, Kuiken, & Schopflocher, 1995), imagination (Hilgard, 1979) and openness to experience (Coan, 1972). From these perspectives, absorption is an experience in which individuals are prepared for new experiences, engagement, and increased attention to a given task with a goal of cognitive restructuring.

Absorption experiences became pivotal when Pine and Gilmore (1999; 2011) revolutionized *experience* in their book *The experience economy: Work is theatre and every business is a stage* later to be revised to *The experience economy* (2011). Pine and Gilmore propose a variety of experiences and design strategies including theming, multi-sensory engagement, engagement experiences, immersion experiences, and absorption experiences. Absorption experiences are defined as experiences that “occupy a person’s attention by bringing the experience into the mind from a distance” (Pine & Gilmore, 2011 p. 46). In other words, if the experience enters into the participant such as is the case with listening to music this is an absorption experience. These experiences are characterized on a continuum from passive entertainment to active education experiences.

Although *The Experience Economy* (Pine & Gilmore, 1999; 2011) is considered a seminal book in business, leisure, and tourism, a variety of clarifications and additions are needed. Influenced by *The Experience Economy*, Duerden et al. (2015) proposed a framework for structured experiences. This framework describes an iterative experience process in which participants and providers interact to co-create experiences. Building upon the structured

experience framework Ellis, et al. (2017) developed a TSE proposing a formal theory and process model of structured experiences. Their theory provides clarification on experience economy concepts and establishes formal definitions and propositions for facilitating immersion, engagement, absorption and deep structured experiences.

Absorption as defined by Ellis et al. (2017) is, “a transitory condition of heightened attention, motivation, and emotion characterized by (a) high levels of relaxation and pleasure, (b) absence of demand for behavioral or mental action in response to stimuli, and (c) absence of active thinking” (p. 6). Absorption includes a loss of self-consciousness as the mind is silenced and active thought ceases. Examples of absorption experiences might include enjoying a beautiful sunset, sipping fine bourbon, or relaxing during a quiet spa treatment.

### **Domains of Absorption**

Absorption as defined by Ellis et al., (2017) as a condition that includes domains of relaxation, pleasure, lack of demand for emotional or behavioral action, and lack of active thinking. This portion of the review will discuss domains of absorption as defined by Ellis et al. including relaxation, pleasure, and mindfulness (i.e., lack of active thinking and lack of demand for emotional and behavioral action). Ellis et al. characterized absorption experiences as being inherently focused on immediate *sensory experiences*, and positive psychology literature on savoring of sensory experiences (e.g., Bryant & Veroff, 2007; Jose, Lim, & Bryant, 2012) was used to construct propositions about factors that may increase absorption. Based on the savoring literature, TSE proposes three techniques for elevating savoring experiences: mental time-travel (anticipation), behavioral expression of emotion, and focus on the present. Discussion of each of these domains follows.

## **Relaxation**

Relaxation and stress relief are popular topics in corporate wellness, therapy, self-help, and medicine (Good, Stanton-Hicks, Grass, Anderson, Choi, Schoolmeesters, & Salman, 1999). Relaxation can be defined as the experience of letting go, releasing tension, and sustaining a passive yet simple focus (Ghoncheh & Smith, 2004). A large variety of techniques exist to facilitate relaxation including muscle relaxation, breathing exercises, yoga, stretching, meditation, and guided imagery. Davidson and Schwartz (1976) differentiated between cognitive (e.g., meditation, imagery) and somatic (e.g., progressive muscle relaxation, yoga stretching) techniques, which can be selectively targeted to cognitive and somatic symptoms. Attentional Behavioral Cognitive (ABC) relaxation theory provides clarity to the variety of relaxation techniques and their accompanying psychological effects (Smith, 1999). Smith (2001) clarified relaxation by identifying 15 resulting relaxation states (i.e., sleepiness, disengagement, physical relaxation, mental quiet, rested or refreshed, at ease or at peace, childlike innocence, energized, joyful, thankfulness, mystery, awe and wonder, prayerfulness, timelessness, and awareness) that are related to health and well-being.

Environmental, emotional, and physiological factors all come into play when facilitating relaxation. Creating a soothing environment by using soft music may help create a relaxing and pleasant experience. Relaxation techniques have shown clear evidence of relationships with stress relief, decreased anxiety, and improved depression. In one study, relaxation helped improve individuals' ability to focus and pay attention (Olmos, Gomex, Alcaniz, Contero, Andres-Sebastia, & Martin-Dorta, 2015). Through relaxation, physical bodily tension is able to release, consequently leading to a more calm and stress free mind-set.

## **Pleasure**

Pleasure is sometimes considered ineffable (Frijda, 2010). Pleasure is defined positive affect that can be described by words such as, pleasant, agreeable, attractive, or nice (Frijda, 2010). Pleasure has a variety of additional synonyms including satisfaction, hedonic tone, utility, or positive emotion (Russell, 2003). Some scholars have argued that all positive emotions are considered variants of the general state of pleasure (Frijda, 2010; Russell, 2003).

Pleasure has been conceptualized as both unitary and differentiated. Unitary pleasure refers to how good it feels to interact with a single thing (Simpson & Weiner, 1989). On the other hand, a differentiated view claims no end to a variety of different states of pleasure. Differentiated pleasures range from pleasures of the body, pleasures of the mind, pleasures derived from work, and many others. Other categorizations of pleasure include Duncker's (1941) three types of pleasure: sensory, aesthetic, and accomplishment. Sensory pleasure is derived from an immediate object of pleasure like the flavor of wine or the touch of a hand at a spa treatment. Aesthetic pleasure is offered by the natural world, or created by a human being. Examples might include music or a beautiful mountain vista. Lastly, accomplishment pleasure is similar to mastery. For example, passing a board exam or being accepted to University.

## **Mindfulness**

Discussion on mindfulness can be tracked back over 2,500 years to ancient Buddhist cultures (Kaufman & Gregoire, 2016). Greek philosophy, existentialism, naturalism, and transcendentalism also share distinct overlap with mindfulness (Brown et al., 2007). Ellen Langer has been exploring mindfulness since the late 1980's (e.g., Langer, 1989). She defines mindfulness as a conscious awareness and focus on the present moment (Alexander, Langer, Newman, Chandler, & Davies, 1989; Langer, 1992; Langer & Moldoveanu, 2000). Mindfulness

is derived from the Pali word *sati*, which translates into *to remember* indicating presence and focus (Bodhi, 2000; Brown, Ryan, & Creswell, 2007). When individuals are mindful they are aware of both the *context* and the *content* of the current experience (Langer, 1992). Awareness includes an aspect of flexibility; the ability to step back and take a look at the big picture or focus in on specific details (Brown et al., 2007). Mindfulness is also an experience of novelty. Novel information can facilitate a level of engagement that allows individuals to stay focused and grounded in the present moment (Kaufman & Gregoire, 2016; Langer & Moldoveanu, 2000). The subjective experience of mindfulness may feel like wakefulness or being present (Langer & Moldoveanu, 2000). This includes clarity in thoughts, emotions, and observations of the current environment.

Mindfulness does not require action and reaction like you would expect during a game of chess. Nor does it require sharp, active thinking. Mindfulness includes observing the world around us, enjoying the present, and removing noise from the mind. Techniques for promoting mindfulness are similar to meditation (Academic Mindfulness Interest Group, 2006). Intentional mindfulness can take place while sitting, lying down, or walking. Small pauses, deep breaths, and intentional focus during mundane daily tasks can also facilitate a feeling of mindfulness.

The benefits of mindfulness can be freeing as individuals break away from the mindlessness of every day routines and begin to engage the world with new eyes. When individuals are mindful actions become more honest, enjoyable, and healthy. Fears of the past and negative anticipation of the future are eliminated (Kaufman & Gregoire, 2016). Mindfulness allows for exposure to new insights and allows for greater self-regulation, autonomy, and relationship capacity (Brown et al., 2007). Medically speaking, mindfulness can help with pain management, reduction of anxiety, and eliminating stress (Academic Mindfulness Interest



Group, 2006). From an educative standpoint, mindfulness may enhance learning, understanding, task concentration, long-term attention, enhanced memory retention, problem solving skills, and creativity (Kaufman & Gregoire, 2016).

### **Savoring**

Savoring is a process individuals engage in to “attend to, appreciate, and enhance the positive experiences in their lives” (Jose, Lim, & Bryant, 2012, p. 178). Positive psychology literature suggests certain processes classified as savoring may increase the intensity of immediate experiences. Savoring processes allow individuals to regulate the emotional impact of positive events and experiences through cognitive and behavioral responses. Savoring can be characterized as a focus of attention, that is, a self-regulation of positive affect while engaging in reflection, mindfulness, or anticipation of experiences past, present, or future (Bryant, Chadwick, & Kluwe, 2011).

Bryant and Veroff (2007) were among the first to identify a list of intentional savoring processes including, sharing with others, memory building, self-congratulations, sensory-perceptual sharpening, comparing, absorption, behavioral expression, temporal awareness, counting blessings, and kill-joy thinking. Quoidbach et al. (2010) also outlined intentional processes for savoring: behavioral display, being present, capitalizing, and mental time travel (MTT). The first approach, behavioral display includes expressing positive affect without verbal action (e.g., smiling; Lyubomirsky, 2008). Second, synonymous with mindfulness, being present invites individuals to be focused and centered in the immediate experience (Bryant, 2003; Langer, 1989). Third, capitalizing, is defined as a social expression elicited by stimuli. That is, discussion or celebration with others (Bryant & Veroff, 2007; Deci & Ryan, 2008). Lastly,

mental time travel, takes individuals in a mental time machine to reflect the past or anticipate the future.

Mental time travel (MTT) is formally defined as a savoring strategy that “allows individuals to mentally project themselves backwards in time to reflect or forward in time to pre-live events” (Suddendorf & Corballis, 2007, p.317). Basic foundations of imagination, recall and episodic memory are present in children as young as age three. At this age children are also able to reason between the past and the future (Atance & Meltzoff, 2005). Mentally reflecting on past events is similar to episodic memory and has received a great deal of attention (e.g., Tulving 1984; 2005). Future MTT or the act of foreseeing, planning, anticipating, and mentally experiencing an event before it takes place is still in need of further exploration.

Mental time travel does not often take place without intention and effort. Certain characters are necessary for effective MTT all of which are found in the theatre (e.g., the stage, actors, director, etc.; Suddendorf & Corballis, 2007). Effective MTT should include the following:

- A stage created within your imagination where you can entertain future events or reflect on the past. An example may include a mountain forest where people are gathering for a music festival.
- A playwright who will generate the unfolding story of the MTT. An example may include the narrative of Steve and his partner attending their very first music festival together.
- Actors are necessary to carry out the story or prototype results in different settings. An example of actors might include Steve, his partner, their fellow camp group, and Steve’s younger cousin Jamal.

- A set will provide a physical context with rules of engagement. This might include laws of the land or rules and regulations of the festival that serve as guidelines for the MTT. For example, even if Steve wants to engage in illicit drug use, the rules of the festival will not allow him to do so and therefore Steve cannot engage in illicit drug use during his MTT.
- A director guides the many different possibilities and outcomes during MTT allowing for rehearsal and practice of different scenarios. For example, Steve may be shy, so his MTT will intentionally include moments when he will meet new people. He might direct this MTT one way, reiterate, reiterate again, and reiterate a last time until he feels his experience was positive.
- A broadcaster engages in social and behavioral expressions as a result of MTT. This may include planning for the festival with others based on your MTT or simply declaring out loud your excitement for the upcoming event.

MTT as a savoring strategy has been operationalized in a variety of ways including mental reminiscing of the past (Bryant, Smart, & King, 2005), anticipation of future experiences (Quoidbach et al., 2009), and writing, audio recording, or thinking about significant past events (Lyubomirsky, Sousa, & Dickerhoof, 2006). Positive experiences reminiscing in the past predicted the ability to enjoy life. Similarly individuals who used their imagination through cognitive imagery were better able to savor compared to individuals who used tangible memorabilia to savor. This is a notable contradiction to The Experience Economy (Pine & Gilmore, 1999; 2011) as memorabilia is detailed as a key concept of memorable experiences. That said, both instances of reflective MTT showed increases in happiness.

Regarding future MTT, projecting into the future may be related with anticipation and happiness. Quoidbach et al. (2009) found positive MTT was related to significant increases in happiness and reduction in stress. Lastly, MTT reflection on negative life events through writing or audio recording led to greater life satisfaction, mental health, and physical health compared to individuals who only thought about the events (i.e., traditional MTT). Interestingly though, MTT reflection on positive experiences had a reverse effect. That is, thinking about positive experiences (i.e., traditional MTT) led to greater life satisfaction than those who wrote about or audibly recorded their thoughts. This may be due to the nature of analytical processes like writing and talking. Savoring a positive experience without in depth analysis (e.g., writing it down) allows for the retention of mystery and delight (Wilson & Gilbert, 2003) while the organized and systematic nature of writing or talking about an experience may interfere with the potential benefits of MTT and savoring. Savoring processes such as MTT are also suggested to increase gratitude, awe, pride, pleasure, happiness, and life satisfaction (Bryant et al., 2011; Jose et al., 2012). Savoring is an extreme focus on an event present, past, or future so it makes sense then, that savoring is also related to greater memorability of experiences.

### **Sensory Experiences**

Experience designers need to be aware of the importance of sensory engagement (Schifferstein & Desmet, 2008). Researchers and practitioners are avidly investigating the use of tactile, olfactory, auditory, gastronomic, and visual experiences to create a greater sense of absorption and presence in an experience (Dinh, Walker, Hodges, Song, & Kobayashi, 1999). Retail practitioners, for example, have started to guide customers' purchasing behaviors by using multi-sensory experiences to influence cognition and emotion (Helmefalk & Hulten, 2017).

Sensory experiences may be defined as any intentional experience that engages one or

more of the five senses. In a brand context, multi-sensory experiences create value for the brand and refer to the involvement of the five senses in generating customer value, positive experiences, and loyalty (Hulten, 2011). Multi-sensory aspects of an experience aim to communicate certain sensations, feelings, emotions, and impressions that might reinforce a brand or memory in the mind of the individual customers. A sensor (e.g., smell, sound, sight, taste, or touch) leads to a certain type of sensation (e.g., atmospheric, auditory, visual, gastronomic, or tactile). These sensations then lead to a behavioral or social expression based on the sensory experience (Hulten, 2011).

Sensory experiences by way of sight, sound, smell, taste, and touch may increase a sense of presence in the moment and an increase in long-term memorability of the experience (Dinh et al., 1999). Additionally, the more sensory cues that are present the greater the sense of presence in the experience. Visual sensory cues specifically, influence levels of participants' pleasure (Helmefalk & Hulten, 2017). Olfactory experiences have shown evidence of influencing emotion, risk-taking, memory, and curiosity in consumers. Additional benefits of sensory experiences are relaxation, enjoyment, and concentration (Hope, 1998). Related to brand loyalty and influence, engaging the five senses brings customers closer a brand and more deeply imprints the brand on the customer's mind (Hulten, 2011). Multi-sensory experiences are key in differentiating one experience from another as it reinforces positive emotion, creates loyalty for the brand, and generates a deeper level of value for customers (Hulten, 2011).

### **Experiences Similar to Absorption**

In an effort to gain additional insight about absorption the literature review sought to examine experiences similar to absorption. That is, literature was reviewed on experiences that are generally relaxing, pleasurable, and do not demand active behavioral, mental, or cognitive

action. Each experience is outlined below including history, benefits, and relationship with absorption as defined by Ellis et al. (2017).

### **Aesthetic**

The study of aesthetic experience began as early as the ancient Greeks (Madsen, Brittin, & Capperella-Sheldon, 1993). Philosophers as early as Plato defined the aesthetic experience as engagement with beauty, resulting in a pleasurable experience (Reber, Schwarz, & Winkielman, 2004). The word *aesthetic* is derived from the Greek word *aisthesis* referring to the understanding of sensuous knowledge and sensory experience.

The aesthetic experience continues to be defined in a variety of ways. Definitions include a heightened sense of emotion (Madsen et al., 1993), focused attention on an object, suppression of everyday concerns (Cupchik, Vartanian, Crawley, & Mikulis, 2009), and a pleasurable, immediate, sensory experience (Hekkert, 2006). The aesthetic experience is commonly associated with beauty, which includes three defining features: value positive, intrinsic, and objectified (Santayana, 1955). Value positive means beauty provides added value or pleasure, the act of engaging with the beauty must be intrinsically motivated, and individuals have an aesthetic experience when they find beauty in an object. Kant claimed that the aesthetic experience needed to be preceded by a measure of bodily desire (Joy & Sherry, 2003). Aesthetic experiences, specifically in art contexts are posited to include balance, symmetry, proportion, information, complexity, contrast, and clarity (Reber et al., 2004). Lastly, consumption of aesthetic experiences is autotelic (Joy & Sherry, 2003).

The aesthetic experience may arise during a period of concentration, focus, and attention (Madsen et al., 1993). This may include engaging with beauty, art, design, or nature (Kuchinke, Trapp, Jacobs, & Leder, 2009). Aesthetic experiences result in a variety of feelings including

thrills, goose bumps, or full-body excitement (Madsen et al., 1993). Aesthetic experiences may yield enjoyment, satisfaction, warmth, and other positive emotions (Kuchinke et al., 2009).

Aesthetic experiences and absorption experiences are essentially one in the same. Both experiences are focused on multi-sensory engagement; and include elements of relaxation, pleasure, and mindfulness. Absorption experiences may all include an aspect of aesthetic beauty. Whether it is taking in the aesthetic beauty of a rare art collection, the aesthetic beauty of a delicious meal, or the aesthetic beauty of an amazing symphony, all include elements of pleasure, positive emotion, and immediate sensory stimulation.

### **Solitude**

Philosophers dating back to ancient Greece celebrated solitude as necessary to pursuits of a good life. Aristotle argued that solitary experiences such as contemplation were of high value for man (Kaufman & Gregoire, 2016). In fact, many thought leaders, spiritual gurus, and artists have attested the benefits of solitude (Long & Averill, 2003). Religious leaders such as Moses, Jesus, and Buddha, for example, all had experiences in solitude. The Oxford English Dictionary defines solitude as, “The state of being or living alone; loneliness; seclusion; solitariness (of persons)” (Simpson & Weiner, 1991 p. 977). Solitude though, is *meaningful*, brings enjoyment and fulfillment (Kaufman & Gregoire, 2016) and should be distinguished from loneliness (i.e., a negative state). Solitude includes being disengaged from the demands of those around you. You are free to choose your own activities, thoughts, and actions. While this often happens while we are alone, being alone is not a requirement for solitude. Perceived solitude may take place in the presence of others (Long & Averill, 2003). For example, even while with a group of people and individual may be able to shut out distraction, separate from communication, and reconnect with their inner self. That said, solitude is not solely about the lack of distraction. Similar to

meditation, it is about giving our mind the quiet it needs to ponder, make connections, and establish purpose. Solitude is related to a variety of positive outcomes including self-discovery, positive reflection, creative insight, information processing, and making meaning from past experience (Kaufman & Gregoire, 2016). Solitude allows individuals to reflect on all the aspects of the self.

Solitude is almost perfectly defined as an absorption experience. Solitude is inherently pleasurable, relaxing, and mindful. Solitude allows individuals to experience meaningful alone time, focusing on the present, and disengaging from the demands of the world. Solitude allows individuals the opportunity to be mindful and present due to the lack of external stimuli. Similarly, solitude allows for experiences of relaxation and pleasure. As individuals are able to disengage, the mind is able to relax and find joy in acting intrinsically, according to the goals of the self (Czislak, 1990). Therefore, absorption experiences may be more likely to occur in perceived or actual solitude.

### **Peak Experience**

Maslow (1962) conceptualized peak experiences as transient experiences of self-actualization characterized by intense happiness, ecstasy, perfection and even transformation (Baruss, 2003; Maslow, 1962). Peak experiences have been described as mystic, awe inspiring, blissful, and pure. Fear, inhibitions, weakness, and self-consciousness disappear in an instant as individuals experience divine joy, satisfaction, and fulfillment. Peak experiences historically took place in conjunction with religious experiences but may also take place during moments of great achievement or fulfillment (Maslow, 1971). Examples might include moments of love, bursts of inspiration, the birth of a child, or athletic accomplishments. While there are a variety of paths to a peak experience it does not require great intention or planning (Maslow, 1962). For



example, while intention may be included in practicing for a competitive foot race, the feeling of peak experience upon winning first place is serendipitous. Many of the paths to peak experience include multi-sensory elements (e.g., music, sex, art, and other forms of sensory or body awareness; Maslow, 1971). A peak experience may lead to feelings of excitement, high energy, and alertness. Conversely, it may also lead others to be relaxed, quiet, serene, and mindful (Maslow, 1962). Peak experiences may cause a disorientation of time and space allowing individuals to get lost in the experience (Baruss, 2003).

While the actions leading up to a peak experience may not be inherently absorbing the immediate, subjective peak experience can be. For example, a person falling in love for the first time may feel increased levels of pleasure. After winning an intense swim competition someone may experience a decrease in pressure, increase in relaxation, relief from the demand for action, and a quiet, focused mind. Childbirth may not seem inherently absorbing. In fact, it may be the exact opposite. There is very little relaxation or pleasure and there is a large demand for active thinking and behavioral action. That said, the peak experience that follows childbirth might be one of overwhelming positive emotion, relaxation, and mindful focus on the new life that has been brought into the world.

## **Psychedelic**

Psychedelic experiences with mind-altering drugs have been used for many years. Across various cultures, psychedelic experiences play a role in rituals, parties, and escapism (Baruss, 2003). Psychedelic experiences may be induced by a variety of substances including but not limited to LSD, psilocybin (mushrooms), mescaline, DMT, ayahuasca, MDMA, and marijuana. Psychedelic experiences vary depending on the substance. Generally speaking psychedelic

experiences include feelings of euphoria, loosening of inhibitions, and empathy. Results of psychedelic experiences may also include the following:

- LSD causes magnified sensory feelings and lost perception of time.
- Mushrooms create an enhanced visual experience.
- Ayahuasca initiates bright visions, prickling sensations on the skin and the physical sensation of flight.
- MDMA enhances the intensity to all sensory reactions.

Psychedelic experiences have the potential to be incredibly absorbing. Psychedelic experiences include an array of sensory stimulation including magnified tactile experiences, enhanced visual experiences, or sensations of flight. Some psychedelic experiences may induce a relaxed and pleasurable state. Due to the mind numbing effect of psychedelic substances there is also a lack of demand for active thinking or behavioral action. It is possible that the brain may experience mindfulness or mindlessness. Marijuana for example may render its user mindless as it provides a mind numbing experience (Baruss, 2003). Alternatively, Ayahuasca and certain strains of marijuana have been shown to provide insightful, spiritual, and even transformative experiences as the brain engages in concentrated levels of thinking (Baruss, 2003).

## **Awe**

Awe has roots in psychology, philosophy, sociology, and religion (Keltner & Haidt, 2003). Awe has been historically categorized as religious, divine, daunting, admirable, and even fearsome (Bonner & Friedman, 2011). Awe has also been described as an emotional state with a soft focus (Konecni, 2005; Rudd, Vohns, & Aaker, 2012). One of the most widely accepted definitions of awe includes two factors: 1) Perceived vastness and 2) a need for accommodation (Keltner & Haidt, 2003). Perceived vastness describes a stimulus larger than the self either by

way of physical size, transcendental grandeur, or normal frame of reference. For example, standing at the base of Mount Everest might elicit awe due to the physical enormity of the peak. The need for accommodation describes individuals' need to adjust mental structures in order to understand, absorb, or make sense of an experience (Piaget & Inhelder, 1969). For example, experiencing the vastness of the Milky Way galaxy may be "mind-blowing" and difficult to accommodate in an individual's current mental structure leaving them in awe.

Awe may take place in the grandeur of the outdoors while viewing a national park or in the confines of a museum examining a fine art piece. Awe may also take place in the presence of exceptional ability or virtue where the individual experiencing awe is impressed or awestruck (Keltner & Haidt, 2003). Experiences that cause thrills, chills, or a sense of supernatural may also invoke awe (Konecni, 2005). Awe is generally experienced on an individual level; therefore the perception of being alone may be pre-requisite for awe. In accordance with the definition provided by Keltner and Haidt (2003), awe is elicited by experiences that are strikingly vast. The stimuli in this case may facilitate self-diminishing feelings due to the perception of greatness outside of the individual. Additionally, in relation to the need for accommodation, humble individuals may be more prone to experience awe because they are more willing to modify or change their perceptions and mental structures.

Awe may facilitate feelings of openness, willingness to accept uncertainty, increased self-awareness, and self-reflection. Experiencing awe has the ability to alter the subjective experience of time and therefore create a more focused, present, and grounded space (Shiota, Keltner, & Mossman, 2007). Awe may evoke greater understanding of self-awareness, loss of self-consciousness, and increased feelings of self-content. While lacking a social aspect of wanting to revisit certain people, awe may evoke a desire to revisit places time after time (Kyle,

Graefe, Manning, & Bacon, 2003; Shiota et al., 2007). Awe experiences might also leave highly memorable impressions (Konecni, 2005).

Awe is similar to absorption in a variety of ways. First, awe is evoked by rich sensory stimuli entering the body (e.g., music entering the ears or viewing a magnificent mountain through your eyes). Additionally, while awe has previously been conceptualized to include fear, it is generally a relaxed state accompanied by positive emotions. For example, watching the burning sun set behind the mountains and a vast sky full of stars appear may be an inherently positive, pleasurable, and relaxing experience. As with absorption, awe does not include a demand for behavioral or emotional action. Keltner and Haidt (2003) posit that awe includes a need for accommodation or cognitive restructuring. This means, while there is no actual demand for behavioral or emotional action, there is a certain amount of active thinking happening as individuals in awe may ponder actively about the vastness of the stimuli and the need to accommodate stimuli that fall outside of his or her current mental structure.

## **Spiritual**

Spiritual experiences are more closely categorized as personal religion than institutional religion (Hart, 2006). Spiritual experiences tend to include a quieter, more personal experience with divinity as opposed to religiosity, which is often more of a communal gathering experience. Spiritual experiences have been summarized in a variety of ways including involving the high levels of cognitive, moral, and emotional development, connected relationships, and a quiet, centered mindset focused on a greater cause. Spiritual experiences include feelings of clarity, connection, openness, and energy.

Inspired by prayer, meditation, or yoga, individuals may seek out spirituality in an effort to feel connection with something greater (Vaughn, 2002). This search may take the form of a

quest for meaning, additional insight, or revelation to incorporate new systems of beliefs and a sense of coherence in ones life (Hart, 2006; Kennedy, Kanthamani, & Palmer, 1994). Spiritual experiences have a variety of benefits related to physical health, mental health and overall well-being. From a mental health perspective, empirical evidence has shown spiritual experiences help decrease anxiety and distress and increase happiness and life satisfaction (Ellison & Fan, 2008). Spiritual experiences may provide feelings of comfort, love, and peace leading to enhanced moral, meaning, and purpose in life. Gaining and establishing meaning and purpose have both shown relationships with spiritual experiences (Heath & Heath, 2017; Kennedy et al., 1994). When meaning and purpose are established it may allow individuals to determine self-identity, origins, and values (Ellison, 1983).

The spiritual experience is relaxing and positive in nature. The intimate, individual nature of spiritual experiences allows quiet, self-paced engagement with divinity. Because spiritual experiences do not require accountability to an organized religion, there is not demand for behavioral or emotional action. While spiritual experiences may lead an individual to act in the future, the subjective spiritual experience does not demand action. That said, because spiritual experiences are often based on discovery, revelation, and pondering (Hart, 2006; Kennedy, Kanthamani, & Palmer, 1994) the brain often experiences active thinking and processing.

## **Hypnosis**

The term hypnosis is derived from the Greek word for *sleep* (Baruss, 2003; Braid, 1960). Hypnosis experiences are created through a process of induction (creating a safe, calm, and relaxed space), giving suggestions such as lifting the arm or engaging in other motor skills, then eventually bringing the participant back into reality. Similar to trance experiences, hypnotic experiences include an appearance of awareness, but in reality are sleep-like states characterized

by involuntary behaviors (Baruss, 2003). Hypnosis can also take the form of a meditation or guided imagery in which the participant imagines the body becoming relaxed and calm. Hypnosis may take place with a single individual (self-hypnosis is even possible) or in a group setting.

Hypnosis is innately relaxing. Hypnosis is similar to a relaxing sleep-like state with a lack of active thinking. Hypnosis is not inherently pleasurable since individuals in hypnosis may not be exactly coherent or aware of their feelings. Additionally, there is a demand for behavioral and emotional action. After being induced into hypnosis the individual hypnotizing often requires the individual being hypnotized to behave or act in certain ways such as imitating animals or engaging other motor skills. Therefore, while hypnosis is a mildly absorbing experience, there are still aspects of hypnosis that significantly differ from absorption.

## **Meditation**

Similar to mindfulness, meditation is rooted in Buddhism and has been practiced for over 5,000 years. Meditation experiences have origins in insight, contemplation, and reflection (Cahn & Polich, 2013; Jain, Shapiro, Swanick, Roesch, Mills, Bell, & Schwartz, 2007). Historically, meditation experiences are included in religious or spiritual settings in an effort to foster spiritual growth, personal transformations, or transcendence (Ospina, Bond, Karkhaneh, Tjosvold, Landermeer, Liang, & Klases, 2007). These benefits are obtained by curating a soft, non-judgmental awareness from moment to moment (Jain et al., 2007). Meditation is widely accepted as an alternative approach to improving psychological, emotional, spiritual, and physical well-being.

Meditation can be characterized into two types of meditative experiences, mindful meditation and concentrative meditation (Cahn & Polich, 2013). These two experiences of

meditation lay on a continuum. On one end, mindful meditation focuses on allowing thoughts and feelings to flow while maintaining a soft sense of attention. This means unattached, with no judgment, no analysis, and no thought for action. On the opposite end, concentrative meditation is focused on a specific activity, action, or goal (e.g., a repeated sound, repeated mantra, visual image, or breathing). Both styles include a form of attention, but the former is a broad, observation-based attention while the latter is a narrower field of focus.

Meditation experiences may be grouped by different phenomenological characteristics such as the goal of meditation, direction of attention, the focus point, and the physical stance while meditating (Ospina et al., 2007). Goals might include spiritual or therapeutic, attention can be observatory or concentrative, focus points might include breathing or a mantra, and stance might include lying or sitting. For example, transcendental meditation includes a mantra as a focus point. Repeating the mantra for approximately 20 minutes focuses the mind and allows for relaxation and stillness (Baruss, 2003).

Meditative experiences have shown evidence of a variety of benefits including relaxation, stress relief, and heightened awareness (Jain et al., 2007). Due to the focused nature of meditation, benefits include the ability to reduce rumination and distraction. This has great implications for education, work settings, and overall well-being as a tool to focus and clear the mind (Cahn & Polich, 2013). Long-term benefits may include a deep sense of calm and comfort, stress management, reduced anxiety, and enhanced well being (Colzato, Szapora, & Hommel, 2012). A meta-analysis concerning the benefits of meditation showed consistent evidence of heightened awareness, decreased heart rate, deeper rest, improved mental health, and lower blood pressure (Alexander et al., 1989).

The experience of meditation is quite similar to absorption experiences. At first glance, meditation and mindfulness are identical. The single largest dissimilarity is with the demand for action. Mindfulness (i.e., quiet observation without thought for action) is more closely characterized as an absorption experience because of the lack of demand for action. On the other hand, meditation may include a demand for action. This may take place during experiences of guided imagery, guided breathing techniques, or repeating a mantra a number of times. Apart from this difference, meditation is very similar to absorption. Meditation experiences include a soft focus that is inherently relaxing and pleasurable (Jain et al., 2007). Intentional breathing, mindful pondering, and focused thought may provide a pleasurable and relaxing absorption experience.

## **Flow**

Flow experiences often take place during skill performance activities that are enjoyable, intrinsically rewarding, and autotelic (Privette, 1983). When experiences provide a proper balance of self-relevant challenge and skill individuals may experience flow (Ellis, Voelkl, & Morris, 1994). Flow states include actions with total and complete involvement in the task (Hsu & Lu, 2004). Individuals may push themselves to accomplish new tasks and experience enjoyment in the challenge, consequently gaining new skills and increasing self-esteem (Csikszentmihalyi & LeFevre, 1989). Early work on flow focused on work and leisure settings (Csikszentmihalyi & LeFevre, 1989), but flow has now been explored in a variety of settings including art, nature, music, sex, exercise, education, childbirth, aesthetics and science (Csikszentmihalyi & LeFevre, 1989; Maslow, 1971).



Flow is characterized as including fun, active engagement, intrinsic motivation, goals, and pleasure. Csikszentmihalyi (2014) stated eight clear characteristics of experiences that are likely to facilitate flow:

1. Experiences with a chance of completion.
2. Individuals must be able to concentrate on the given experience.
3. The experience must have clear goals.
4. The experience must provide immediate, clear feedback.
5. Participants must act with deep and effortless involvement. This consequently removes awareness of worries and frustrations of daily life.
6. Participants exercise a sense of control.
7. Self-consciousness disappears and a greater sense of self emerges.
8. The perception of time is altered.

Flow experiences are quite different from absorption. While flow includes aspects of pleasure in relation to accomplishment, it is not inherently relaxing. In fact, it includes action, reaction, and challenge that may involve a healthy amount of stress or tension. Individuals may need to use active thinking to learn new skills and act at a level where skill and challenge meet.

### **Examining Absorption Methodologically**

Absorption experiences have received little to no quantitative empirical attention. Much of the methodological work on similar experiences has been conceptual or qualitative in nature. Few studies aimed at measuring absorption have established scales specific to the construct. Most empirical studies have created manipulation groups and empirically tested the results. For example, one study on relaxation and meditation divided study participants into three groups (i.e., mindfulness meditation, somatic relaxation, and control). The treatment groups acted as the

determinants and the results included psychological distress, positive affect, distraction, and spiritual experience (Jain et al., 2007). So, few scales that measure the subjective state of absorption exist.

Absorption as defined by TSE is yet to be operationalized. Fortunately, Ellis et al., (2017) and colleagues have experienced success operationalizing and testing key propositions from TSE (e.g., Ellis et al., 2018; Ellis, Freeman, Jiang, & Lacanienta, 2018; Lacanienta et al., 2018). One method of valid and reliable measurement has been accomplished by measuring the percent of time individuals felt TSE constructs on a sliding scale of 0 percent (i.e., none of the time) to 100 percent (the entire time). For example, one domain of absorption in TSE is pleasure, so participants may be asked what percent of the time during their experience they felt pleasure.

### **Contexts and Populations**

Contextually speaking, absorption experiences may be engineered in a variety of different settings. Awe, for example, may take place alone at breathtaking scene such as the Grand Canyon (Keltner & Haidt, 2003). Individuals might use savoring processes (Jose et al., 2012) in a crowded restaurant with low light and soft music playing. Lastly, a quiet Sunday morning with the congregation at Catholic mass might invite a thoughtful, spiritual experience (Hart, 2006). These examples illustrate that absorption experiences may take place, physically, almost anywhere. That said, it is important to recognize the environment can influence an absorption experience. Environmental distractions such as loud noises, uncomfortable temperature, or crowding may reduce individuals' ability to experience pleasure, relaxation, mindfulness, or savoring.

Study populations are another salient point of exploration concerning absorption states. As absorption is a state of attention, motivation, and emotion researchers should expect these

domains to vary radically between youth, teens, adults, and seniors (Semple, Lee, & Miller, 2006). It is important to note that absorption is quite mindful. Absorption requires the ability to savor the moment, relax, enjoy the present, become completely absorbed, and forget about everything else happening in life. At first thought experiencing absorption may be easier for adults than youth. The upcoming generation has been described as the most distracted generation in the history of the world (e.g., Anderson & Rainie, 2012; Malikhao & Servaes, 2011). This may lead one to assume that youth may have a difficult time achieving absorption (e.g., sitting down, relaxing, forgetting about what their other friends are doing, or forgetting what the latest social media buzz is). In some cases this is true, but interestingly, a number of studies have shown that youth do have the ability to be mindful and experience absorption (e.g., Hooker & Fodor, 2008; Thompson & Gauntlett-Gilbert, 2008; Semple, Lee, Rosa, & Miller, 2010). It is important to note, however, that these studies facilitated mindfulness training. So while youth have the ability to learn to be mindful and experience absorption, it may not be inherent in most youth. This is applicable to states of absorption and other experience research. Studies on youth age populations may wish to employ certain training techniques introduced as a workshop before the core experience. The practice of training in a workshop has been successfully used in other designed experiences (e.g., live-action role play; Nilsen, Stark, & Lindahl, 2014).

### **Synthesis**

This manuscript has reviewed absorption as originally conceptualized by Tellegen (Tellegen & Atkinson, 1974), Pine & Gilmore (1999; 2011), and Ellis et al. (2017). Discussion on domains of absorption including relaxation, pleasure, mindfulness, savoring, and sensory engagement were also discussed. Additional absorption experiences were also explored including aesthetic, awe, flow, hypnosis, meditation, peak experience, psychedelic substances,

solitude, and spirituality. Measures, contexts, and populations for absorption experiments were also examined. In an effort to synthesize this information Table 2 provides a summary of the reviewed absorption experiences. Table 2 includes definitions, characteristics, scales, and key citations. Additionally, Table 3 provides clarifying information about the relationships between domains found in absorption. For example, how do awe or flow experiences relate to absorption (i.e., relaxation, pleasure, mindfulness)?

Table 2

*Summary of Experiences Similar to Absorption*

	Definition	Characteristics and similar concepts	Established Scale(s)	Citations
Absorption	A disposition to enter under conducive circumstances psychological states that are characterized by marked restructuring of the phenomenal self and world	Daydreaming, openness to experience, awe, imagination, dreams	MPQ Absorption Scale	Tellegen, 1992
Absorption (Theory of Structured Experience)	A transitory condition of heightened attention, motivation, and emotion characterized by (a) high levels of relaxation and pleasure, (b) absence of demand for behavioral or mental action in response to stimuli, and (c) absence of active thinking	Pleasure, relaxation, focus on the present, mindful, savoring, multi-sensory	Absorption scale	Ellis, Freeman, Jamal, & Jiang, 2017
Aesthetic	A heightened sense of emotion, focused attention on an object, suppression of everyday concerns, and a pleasurable, immediate, sensory experience.	Beauty, bodily desire, autotelic, balanced, thrilling, concentration	Continuous Response Digital Interface (CRDI) dial for Aesthetics	Cupchik, Vartanian, Crawley, & Mikulis, 2009; Hekkert, 2006;

Table 2 Continued

	Definition	Characteristics and similar concepts	Established Scale(s)	Citations
Awe	An experience of perceived vastness and the need for accommodation	Spiritual, divine, daunting, admirable, focused, vast, self-diminishing	Dispositional Positive Emotions Scale	Keltner & Haidt, 2003
Flow	A mental state of functioning when an individual is performing actions that are a balance of challenge and skill, intrinsically motivated, and resulting in the loss of perception of time.	Enjoyable, intrinsically rewarding, autotelic, clear goals, feedback, control	Experience sampling method (ESM)	Csikszentmihalyi & LeFevre, 1989
Hypnosis	A sleep state that includes involuntary behaviors	Calm, relaxing, trance, meditative	n/a	Baruss, 2003
Meditation	The practice of mindful contemplation and reflection	insightful, calm, relaxed, reflective, transcendent, spiritual, focused	n/a	Cahn & Polich, 2013; Jain, Shapiro, Swanick, Roesch, Mills, Bell, & Schwartz, 2007
Mindfulness	A conscious state of awareness and focus on the present moment	Present, focused, aware, observatory, novel, quiet	Mindfulness Scale	Langer, 1992; 2001
Multi-sensory engagement	Intentional experiences that engage one or more of the five senses not inherent in the activity	Stimulating, memorable, present, loyalty	n/a	Hulten, 2011
Peak Experience	Transient episodes of self-actualization	Intense happiness, ecstasy, perfection, transformation, blissful, loss of self-consciousness	Peak Scale; Peak Performance and Peak Experience	Maslow, 196; Mathes, 1982; Privette, 1984

Table 2 Continued

	Definition	Characteristics and similar concepts	Established Scale(s)	Citations
Pleasure	A positive evaluation of sensations, objects, movements, people, and events	Pleasant, agreeable, attractive, nice, cool, satisfaction, hedonic tone, utility, or positive emotion	Pleasure-Arousal-Dominance; Positive and Negative Affect Schedule;	Crawford & Henry, 2004; Frijda, 2010; Mehrabian, 1996; Russell, 2003
Psychedelic Drugs	Mind-altering state induced by substances such as LSD or marijuana	Euphoria, loosening of inhibitions, empathy, lost perception of time, enhanced sensory experience	n/a	Baruss, 2003
Relaxation	Feelings of letting go, releasing of tension, and sustaining a passive yet simple focus	Breathing, yoga, stretching, calm, joyful, concentrated	Smith Relaxation States Inventory (SRSI)	Olmos, Gomex, Alcaniz, Contero, Andres-Sebastia, & Martin-Dorta, 2015; Smith 2001
Savoring	The process individuals engage in to attend to, appreciate, and enhance the positive experiences in their lives	Mental time travel, focused attention, self-regulation, mindfulness, anticipation	Savoring Scale	Bryant, 1989; Jose, Lim, & Bryant, 2012
Solitude	The state of being or living alone; loneliness; seclusion; solitariness	meaningful alone time, contemplative, creative, meditation, connection with the self	Preference for solitude scale	Burger, 1995; Kaufman & Gregoire, 2016

Table 2 Continued

	Definition	Characteristics and similar concepts	Established Scale(s)	Citations
Spiritual Experience	An intimate experience with divinity not connected to institutional religion	High levels of cognitive, moral, and emotional development, connected relationships, a quiet, centered mindset focused on a greater cause.	Spiritual well-being and spirituality, but no measure for spiritual experience	Hart, 2006; Vaughn, 2002

Table 3

*Conceptual Overlap Between Absorption and Absorption Similar Experiences*

Absorption related concepts	Relaxation	Pleasure	Multi-sensory	Mindful	Savoring	Closely related to	Citations
Awe	X	X	X	X	X	Spirituality	(Keltner & Haidt, 2003; Konecni, 2005; Rudd, Cohns, & Aaker, 2012).
Peak Experience	X	X		X		Flow	(Maslow, 1962)
Hypnosis	X					Meditation	(Baruss, 2003)
Psychadelic Drugs		X	X			Flow, Spiritual experience, Peak experience	(Baruss, 2003)
Meditation	X	X		X	X	Spiritual, Solitude	(Alexander, Langer, Newman, Chandler, & Davies, 1989; Ospina et al., 2007)
Flow		X		X	X	Peak experience	(Csikszentmihalyi, 2014)
Spiritual Experience	X			X		Peak experience	(Heath & Heath, 2016; Kennedy, Kanthamani, & Palmer, 1994; Maslow 1963)
Aesthetic		X	X	X	X	Awe	Cupchik, Vartanian, Crawley, & Mikulis, 2009; Hekkert, 2006
Solitude		X		X	X	Meditation	(Kaufman & Gregoire, 2016; Long & Averill, 2003)

## **Co-creation**

A salient topic in the absorption is co-creation. Co-creation has a fairly rich history in marketing and has recently entered into other fields including recreation, city design, tourism, and experience design. Originally conceptualized by Prahalad and Ramaswamy (2004) co-creation has been defined as a process of value creation that involves an interactive set of experiences and activities performed by the provider and the customer (Payne, Storbacka, & Frow, 2008). Prahalad and Ramaswamy discuss the consumer as playing a more active role in the design and consumption process. This active role can take place through dialogue, transparency, and access to products, services, and experiences. Co-creation, for example, may include individuals choosing to engage in certain interactive portions of a presentation. It may include customers engaging in the design of their products or experiences. Some manufacturers of houseboats, for example, invite purchasers to play an active role in designing the arrangement of living quarters. Similarly, co-creation may be as simple as allowing customers to personalize their experience in ways that are more individual to their needs and interests. During camp experiences, for example, youth may choose to engage or disengage from themes established by activity leaders (Lacanienta et al., 2018).

TSE defines co-creation as individuals' degree of perceived freedom to engage in a structured experience in ways of their own choosing. This may include the setting, duration, or level of his or her engagement. Individuals may choose to fully participate and engage in an experience or they may choose to disengage and experience boredom. Experience providers bring a skeleton or framework and individual customers are then allowed to co-create their own experience.



Although founded in marketing literature, the concept of co-creation also has roots in recreation and leisure literature. From a big picture perspective, co-creation consists of a provider designing an experience and allowing the customer or consumer to engage with that experience as he or she pleases. In other words, co-creation is simply an expression of perceived freedom and leisure as a state-of-mind (Iso-Ahola, 1980; Mannell & Iso-ahola, 1987; Neulinger, 1975). Effective attempts to encourage co-creation may include creating a space where participants feel free to act intrinsically by engaging in activities of their own choosing, when they want, how they want, and with whomever they want. It is important to note, though, that co-creation may only be encouraged or invited. The *co* prefix identifies doing something together or mutually, meaning participants have the option to engage or disengage. Experience providers may look for personalized, engaging, and intentional ways to facilitate or invite co-creation. For example, providing opportunities to customize the experience before arriving may give customers a certain level of buy-in since they played a role in the design of the experience. Conversely, though, if individuals choose to passively disengage from an experience then that may very well be their way of co-creating the experience.

There are a variety of benefits that stem from engaging in co-creation (Binkhorst, 2005; Campos, Mendes, Valle, & Scott, 2015; Campos, Mendes, Valle, Scott, 2016). For example, setting expectations may be positively related to satisfaction. Co-creation provides a forum where producers, consumers, and other stakeholders are able to interact, set expectations, and build anticipation for the upcoming core experience (Chathoth, Altinay, Harrington, Okumus, & Chan, 2013). Value and benefits arise not only from the core experience, but also based on the fact that consumers are given the power to co-create their own experience (Prahalad & Ramaswamy, 2003). Co-creation may facilitate immersion, mindfulness, and increased attention

leading participants to experience deep, meaningful experiences (Campos et al., 2015).

Participatory, co-created experiences allow active experimentation as opposed to passive viewing and in turn may allow for increased development of relationships with co-participants.

Due to the participatory nature of co-creation, interactions, engagement, and active thinking may result in increased memorability of the experience (Campos et al., 2015; Newport, 2016).

### **Instructional Engagement**

During the synthesis of absorption experiences it has become clear that absorption experiences may include two distinct phases: Instructional engagement and the immediate structured experience itself. The first phase, instructional engagement, is defined as the preparatory phase of a structured experience in which providers give instructions necessary to the success or quality of the experience. This may take place through a video, pamphlet, or in person instruction. For example, during a spa visit the customer may be briefed at the front desk then instructed by the massage therapist as to where to place their clothes, which robe to wear, and how to choose the proper music or light settings in the room. Following a successful instructional engagement session individuals was equipped with the knowledge necessary to fully relax and experience the entirety of the structured absorption experience.

The instructional engagement phase of a structured experience is informed by the TSE. Engagement in TSE is defined as, “a transitory condition of heightened attention, emotion, and motivation characterized by (a) extraordinarily high focus of attention on an unfolding narrative or story told in words, actions, and/or music, (b) heightened emotions, and (c) agentic inclinations” (Ellis et al., 2017, p. 7). Engagement has been operationalized by measuring coherence, provocation, and self-relevance. The instructional engagement phase of an absorption experience should be inherently engaging. That is, the experience requires a high focus of

attention on the instruction being given. Instructions should be coherent, understandable, and self-relevant. Unfortunately, studies examining TSE have yet to explore the interactions between different experience types (e.g., engagement and absorption). Therefore, this study will examine this interaction and explore how the instructional engagement phase of a structured experience effects the immediate structured experience of absorption.

### **Toulmin's Approach to Verification**

Toulmin's approach to theory verification involves inquiry into five questions: data, warrant, support, qualifiers, and rebuttal. We will exemplify Toulmin's (2003) approach using an absorption proposition from TSE: As focus on the present (FP) increases, absorption tends to increase (Ellis et al., 2017, p 11). First, an examination of existing *data* is important. Are there existing data concerning the relationship between FP and absorption that may serve as persuasion and reasoning behind the claim? Maybe a well-known experience designer, Steve, uses a focus on the present to facilitate absorption experiences. Second, the *warrant* serves as a bridge between the data and the claim. Warrants explain why the data means the claim is true. For example, if Steve had longitudinal evaluation data examining the relationship between FP and absorption it might explain that a focus on the present allows individuals to quiet the mind, eliminate external stimuli, and become fully absorbed. Third, *support* is needed if the warrant is called into question. Additional data and arguments may be necessary as an added support. For example, Steve might also have a number of academic and popular press articles that have studied the relationship between FP and absorption to serve as additional support to the previously supplied warrant. Most arguments are not absolute; therefore, it is important to identify *qualifiers*. Qualifiers help identify the relative strength or weakness of our warrants. For example, a strong qualifier would indicate that FP *definitely* leads to greater absorption; while a

weaker qualifier would indicate that FP *possibly* leads to greater absorption. Lastly, the *rebuttal* acknowledges any limitations to the argument. Rebuttals also indicate settings, contexts, or conditions in which the warrant is not applicable. For example, FP will probably not facilitate absorption in settings that are inherently loud or distracting.

Toulmin's (2003) model for argumentation and verification has been closely examined in the preparation of this study. Each TSE proposition and hypothesis from the study has been examined in relation to Toulmin's model. For each hypothesis we outline whether published data, warrants, support, qualifiers, or rebuttals exist (see Table 4). As demonstrated in Table 4 some conceptual evidence of TSE propositions and the study hypotheses is available. All of which has been established by TSE. Unfortunately, no empirical evidence concerning these relationships has been established. This study will add to the literature by building upon the previously established conceptual and theoretical work in TSE and empirically testing proposed relationships about absorption.

Table 4

*Toulmin's Approach to Verification*

Claim	Data	Warrant	Support	Qualifier	Rebuttal
H <sub>1</sub> : If attentional focus on the present is encouraged, absorption increases	C	C	C	C	N
H <sub>2</sub> : If anticipation (mental time travel) is encouraged, absorption increases	C	C	C	C	N
H <sub>3</sub> : If behavioral expressions of emotions are encouraged, absorption increases	C	C	C	C	N
H <sub>4</sub> : If co-creation is encouraged, absorption increases	C	C	C	C	N
H <sub>5</sub> : As engagement increases, absorption increases	N	N	N	N	N
H <sub>6</sub> : As absorption increases, prevalence of deep structured experience increases	C	C	N	C	N
H <sub>7</sub> : As absorption increases, the frequency of deep structured experience decreases	C	C	N	C	N
H <sub>8</sub> : As prevalence of deep structured experience increases, the proclivity to recommend the structured experience to others increases	C	C	N	C	N
H <sub>9</sub> : As prevalence of deep structured experience increases, the perceived value of time spent on the structured experience increases	C	C	N	C	N
H <sub>10</sub> : As absorption increases, delight with the structured experience increases	C	C	N	C	N
H <sub>11</sub> : As frequency of deep structured experience decreases, the proclivity to recommend the structured experience to others increases	C	C	N	C	N
H <sub>12</sub> : As frequency of deep structured experience decreases, the perceived value of time spent on the structured experience increases	C	C	N	C	N
H <sub>13</sub> : As frequency of deep structured experience decreases, delight with the structured experience increases	C	C	N	C	N

*Note.* Conceptual = C, Empirical = E, None = N

## Summary

Absorption is a complex topic related to a vast body of literature. While this review has covered a breadth of absorption experiences it is not exhaustive. Experiences in trance, dreaming, cosmic consciousness, mystic experiences may be informative to the study of absorption (Bucke, 2009; Tart, 1972; Windt & Metzinger, 2007; Winkelman, 1986) and require exploration. These experiences were not reviewed as part of this dissertation because they are generally not *structured* experiences. In addition to conceptual inquiry, future empirical research is needed to better understand the absorption and its determinants and results.

This review also adds value to experience design scholarship by further exploring the absorption. This knowledge may inform the design and structuring of absorption experiences that may be imperative to the success of organizations in the experience industries, particularly those providing multi-sensory experiences. The assumption that these absorption experience staging techniques can produce such outcomes, however, has not been subject to experimental scrutiny. Therefore, the purpose of this study was to advance understanding of absorption experiences by testing select propositions from TSE (Ellis et al., 2017). The hypotheses in Table 5 were tested in three different studies.

Table 5

*Hypotheses*

Hypothesis	Studies in which H <sub>i</sub> was tested
H <sub>1</sub> : If attentional focus on the present is encouraged, absorption increases	1 and 2
H <sub>2</sub> : If anticipation (mental time travel) is encouraged, absorption increases	1 and 2
H <sub>3</sub> : If behavioral expressions of emotions are encouraged, absorption increases	1 and 2
H <sub>4</sub> : If co-creation is encouraged, absorption increases	1 and 2
H <sub>5</sub> : As engagement increases, absorption increases	1
H <sub>6</sub> : As absorption increases, prevalence of deep structured experience increases	1, 2, and 3
H <sub>7</sub> : As absorption increases, the frequency of deep structured experience decreases	1, 2, and 3
H <sub>8</sub> : As deep structured experience prevalence increases, the proclivity to recommend the structured experience to others increases	1, 2, and 3
H <sub>9</sub> : As deep structured experience prevalence increases, the perceived value of time spent on the structured experience increases	1, 2, and 3
H <sub>10</sub> : As deep structured experience prevalence increases, delight with the structured experience increases	1, 2, and 3
H <sub>11</sub> : As deep structured experience frequency increases, the proclivity to recommend the structured experience to others decreases	1, 2, and 3
H <sub>12</sub> : As deep structured experience frequency increases, the perceived value of time spent on the structured experience decreases	1, 2, and 3
H <sub>13</sub> : As deep structured experience prevalence increases, delight with the structured experience decreases.	1, 2, and 3

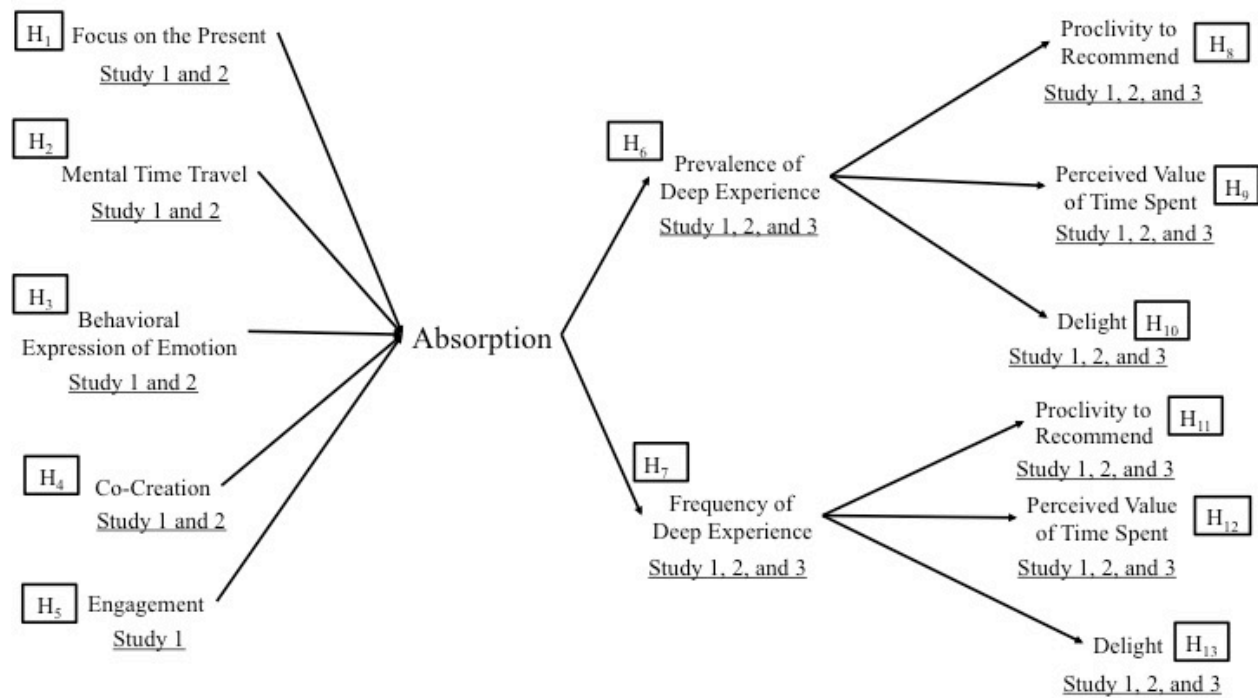
## CHAPTER III

### METHOD

Data from three studies were analyzed. Study 1 involved collection of original data and Study 2 and 3 involved secondary analysis of existing data. Data from Studies 1 and 2 were used to test H<sub>1</sub>-H<sub>5</sub> (see Figure 1). Collectively, these hypotheses represent both the presumed causes of absorption and the presumed effects (“results”; Zetterberg, 1965) of absorption on other dimensions of experience and experience quality. Data from Study 3 were sufficient only to test the presumed effects of absorption as a determinant of other experience variables as results (i.e., H<sub>6</sub>-H<sub>13</sub>). A description of the methods used for each of the three studies follows.

Figure 1

#### Hypotheses Tested per Study





## Study 1

### Participants

Data collection from Amazon's Mechanical Turk yielded a final sample of 218 observations. MTurk is an internet-based panel organization that distributes and collects questionnaires to contracted employees for a fee. Contracted employees completed the study through interactions with their computer screens and were presumed to not be in a social setting. Participants were 49 % female and 49% male. Participants included White/European Americans (54%), Asian Americans (16%), and Black/African Americans (12%). The majority of participants were ages 20-29 (25%), 30-39 (33%), or 40-49 (22%; see Table 6).

Table 6

<i>Study 1 Demographics</i>			
	<i>Item</i>	<i>N</i>	<i>percent</i>
Sex			
	Male	101	49%
	Female	102	49%
	I choose not to answer	3	1%
Age			
	20-29	50	25%
	30-39	66	33%
	40-49	44	22%
	50-59	28	14%
	60-69	8	4%
	70+	4	2%
Ethnicity			
	White/European American	112	54%
	Black/African American	24	12%
	Hispanic/Latino American	6	3%
	Asian American	33	16%
	Native American	2	1%
	Hawaiian/Pacific Islander	3	1%
	Middle Eastern	3	1%
	Other	18	9%
	I choose not to answer	5	2%
Total		208	100%

A variety of advantages and disadvantages are associated with using panel groups such as MTurk. The most obvious disadvantage is that scientific generalization of the magnitude of estimates of parameters is not possible. Panelists are not randomly sampled from well-defined populations nor are they necessarily representative of other groups that may share their demographic characteristics, personal histories, interests, or purchasing habits. Panelists respond to invitations to participate in the research projects and they receive compensation for those services. This limitation regarding generalizing parameter estimates is pivotal to studies in which researchers seek to estimate the magnitude of one or more individual population parameters. In predicting the outcome of a political election, for example, strict adherence to scientific sampling techniques in a precisely defined population of voters is essential.

In this study, however, panel data were used to test hypotheses about relationships between and among variables, not to estimate the magnitude of individual population parameters. TSE includes no propositions suggesting relationships irrelevant to adult panel members. If panelists are exposed to savoring techniques, for example, increases in absorption are hypothesized to result. This study, then, was an instance of “theoretical generalization” (Privitera, 2017, p. 25). In contrast to “empirical generalization,” where the intent is to estimate the magnitude of a population parameter, theoretical generalization applies to circumstances in which hypotheses about relationships between and among variables are tested.

Other strengths and limitations of panel studies may be considered. Results from panel studies have been shown to replicate in other populations. Mechanical Turk panels in the United States, for example, were found to more reliably replicate results than university student samples (Paolacci, Chandler, & Ipeirotis, 2010). Due to the customization available with panel studies,

another advantage lies in the ability to recruit cross-cultural or multi-national samples. Customization allows researchers the ability to exercise a degree of control over the homogeneity or heterogeneity of the sample. Panel data have shown to be valid and reliable (e.g., Buhrmester, Kwang, & Gosling, 2011; Byun & Jang, 2015; Mason & Suri, 2012). A limitation of panel data is that the research participants are not supervised or monitored by research personnel. Thus, research participants may be unengaged, distracted, or mindless, as compared to participants who complete experiments in laboratory settings. Panel organizations like Mechanical Turk provide quality management on the data they retrieve. Additionally, manipulation checks embedded within the questionnaires may help investigators identify and manage faulty data.

## **Procedures**

Each panel participant was exposed to one of the eight videos. Each video was divided into two parts: an instructional engagement video and an absorption experience video. An actor portraying a “wizard” hosted each instructional engagement video. The wizard provided a different set of instructions in each version of the video. Table 7 shows the narrative for the instructional experience video in which all four factors are present. The instructional engagement video was used to manipulate the four factors in the design (encouragement of mental time-travel [anticipation], encouragement of behavioral expression of emotion, encouragement to focus on the present, and encouragement of co-creation). Four versions of the instructional engagement section encouraged focus on the present ( $H_1$ ) and four did not. Four versions of the section included an anticipation (mental time-travel) experience ( $H_2$ ) and four versions did not. Four versions encouraged behavioral expressions of emotions ( $H_3$ ) and four versions did not. Lastly, four versions encouraged co-creation ( $H_4$ ), and four versions did not.

The video manipulations were created using a four-factor orthogonal “Taguchi” design. Taguchi experiments involve designing combinations of experimental treatment conditions using an orthogonal array. The orthogonal array was based on the three savoring techniques and encouraged co-creation. The orthogonal array ensures unambiguous interpretation of the effects of the factors (independent variables) in the design; if the design is balanced (equal numbers of participants per group) all correlations between the factors are zero. The absence of correlation means that an effect observed for a given factor is indeed attributable to that factor and cannot be the result of confounding with one or more other factors in the experiment. Eight structured absorption experiences were required to produce the orthogonal array of treatment combinations (See Table 8).

Focus on the present is the act of inviting participants to focus attention fully on the immediate experience and nothing else (Ellis et al., 2017; Langer, 1989). Mental time travel is a savoring technique that invites participants to reflect on past experiences or anticipate future experiences (Jose, Lim, & Bryant, 2012). Mental time travel includes intense mental imagery and imagining smells, sounds, sights, tastes, and tactile sensations. Mental time travel was operationalized as the act of inviting participants to imagine a future or past experience, setting, or set of circumstances. Co-creation (Pralhad & Ramaswamy, 2004) as outlined in TSE is important for perceived freedom and autonomy in structured experiences. Co-creation was operationalized as the act of inviting participants to exercise freedom to pursue participation in an activity in ways of their own choosing. Behavioral expression of emotion was operationalized as the act of inviting participants to communicate their affective responses through observable actions (e.g. a thumb up, nods, smiles, wink, or telling your neighbor how great your meal was; Bryant & Veroff, 2007; Ellis et al., 2017).

After viewing the instructional engagement video participants viewed the absorption video. The absorption experience video was constant for all eight versions of the video. Beautiful scenery with accompanying music was displayed. The theme of the slideshow was “attractions along Route 66.” Route 66 is a United States highway stretching from Illinois to California. It was one of the original highways in the United States highway system. After viewing the absorption experience video research participants participated in a three to five minute questionnaire using the online Qualtrics survey software.

Table 7

*Example Manipulation of Determinants*

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Codes:

MTT: Mental Time Travel

CC: Co-Creation

FP: Focus on the Present

BE: Behavioral Expression of Emotion

Script

Wizard Zedalf Appears on the Projector

Welcome to our relaxing evening attraction! We are going to review and reflect on some highlights of our day through a brief photograph slide show!

(MTT1) First, turn your thoughts to some of the places we visited today. You will see pictures of some of those places in a few minutes. Imagine how exciting it is going to be to walk down memory lane and re-live some of the memorable experiences from the day. Think for a minute about some of the most awesome things you saw, heard, tasted, and smelled. [Pause]. Can you do that? Now think about things you touched and recall their temperature and texture. Did you touch something warm? Cool? Smooth? Rough? Sharp? What photographs do you expect to see?

## Table 7 Continued

(CC1) Now, let's all get as comfortable as possible. (pause) Now you will use your imagination to create a perfect setting in which you would like to view the slide show. That setting will be your dream-land. You can imagine you are anywhere in the world and with the person you would most want to be with in this place. If you like mountains, you can be with that person on top of a mountain. If you like beaches, you can be on a beach. Do you like cities? Parks? Or Ships? Now, who do you most want to be there with? Close your eyes and use your imagination to be anywhere, and with anyone you choose. Imagine details – smells, sights, tastes, and sounds. (pause) Now imagine a magic portal through which you can pass to enter that dream-land.

(FP1) Now look at the magic portal. It is oval shaped and brilliant yellow-gold in color. In fact, it shines like polished gold! Imagine that the portal is big enough for you to easily walk through. We will be doing that in just a minute. But first, you need to know a rule. When we pass through the magic portal you are not permitted to bring any worries or thoughts about things you need to do. Worries and concerns must remain on this side of the portal. They are not welcome in the imaginary dream-land we will be visiting. You can pick them up when we return. After we pass through the magic portal, you are free to enjoy the immediate feelings and sensations you experience in viewing the photographs, right then focused on that very moment!

(CC2) Now, in your mind's eye, envision looking through the magic portal. You can see the beach, mountain, city, boat, park or other place you created in your mind! Look carefully! The person you chose to be with is already on the other side of the portal! She or he is beckoning you to enter! Can you see him or her? Now step through the portal into your dreamland

(FP2) Ok, take three deep breaths; let your worries melt away as you pass through the magic portal. Remember to leave your troubles on this side and focus on the present moment. Worries cannot travel with you through the magic portal. We will be sure they are secure for you to pick up when you return.

(BE1) Welcome to your dream-land! It is customary for visitors to smile, nod, give a thumbs-up, or in some other way show that they are pleased to be here. So, please do that right now. It is also customary for visitors who wish to do so to briefly describe what their dream-land is like. That is, is your dream land a mountain? A beach? A city street? Aboard a boat? Please tell the person to your left something about your dream land

(MTT2) Now that we have settled in let us prepare for the reflection activity. I want you to reflect and imagine in your mind your most memorable moment from the day. Think about the sights, smells, tastes, touches, and sounds of that memory. It's going to be fantastic to experience and re-live some of these moments. Now we will turn the time over to Distinguished Dr. Billy Zanolini and the gang to guide us through a relaxing and pleasurable photo reflection of the day.

Wizard Zedalf Disappears (Video ends)

Table 7 Continued

\*During the reflection try to focus on sensory stimuli. For each picture showing on the screen  
\*Try to not tell stories, lest you lapse into an engagement experience.\* Instead, focus on the multi sensory elements of the picture/moment/experience.

Help students imagine smells, tastes, feelings, sights, and sounds. This is guided so you are in charge. Simply create a short 2-3 minute reflection of the day that allows them to think and cherish what they have experienced

“I see Wizard Zedalf has come to lead us home!”

Wizard Zedalf reappears on the projector.

(BE2) Well, I hope you have enjoyed the photographic reflection experience. If you have, please smile, show a thumbs up, or give me a nod or a wink!

(CC3) It is time to pass back through the magic portal to the real world. Close your eyes and imagine the land of your dreams again. In your mind’s eye, take a look around at the world you created, mountains, beach, city, whatever it is. Imagine the smell, sounds, and sights. Gaze over the world you created. Now step back through the portal to the real world.

(MTT3) Now, as is customary in our dreams, you must capture a memory of something you did here. Please think of a memorable sensation, thought, interaction, or experience, and catch it in your hand and store it away in long-term memory.

(FP3) Focus on this moment, take a couple of mindful, cleansing, deep breaths then close your eyes pass back into the real world.

(BE3) Welcome back everyone! It was a pleasure to share this experience with you. The last thing I want to do is give you a moment to tell the person beside you one thing you enjoyed about this reflection experience.

Then you may proceed to answer the questions in the Qualtrics questionnaire. I look forward to seeing you in a future adventure!

Ta ta!

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Table 8

<i>Orthogonal Manipulation Assignments</i>				
Experience date/location	Focus on the present (FP)	Mental time travel (MTT)	Behavioral expression (BE)	Co-creation (CC)
<b>Study 1</b>				
Video 1	X	X	X	X
Video 2	X			X
Video 3				
Video 4		X		X
Video 5		X	X	
Video 6	X	X		
Video 7	X		X	
Video 8			X	X
<b>Study 2</b>				
Tuesday, June 19	X	X	X	X
Wednesday, June 20	X			X
Thursday, June 21				
Friday, June 22		X		X
Saturday, June 23		X	X	
Sunday, June 24	X	X		
Monday, June 25	X		X	
Tuesday, June 26			X	X
<b>Study 3</b>				
Rome			X	X
Italy		X	X	
Italy 2	X			X
Venice	X	X		
Croatia		X		X
Switzerland				
Vienna	X		X	
Paris	X	X	X	X

## Measurement

Research participants completed brief measures of absorption, instructional engagement, DSE prevalence, DSE frequency, delight, PV, and proclivity to recommend. Absorption is assumed to be a function of the three encouraged savoring techniques, encouraged co-creation, and participants' degree of engagement during the instructional section administered by the "wizard." TSE establishes DSE prevalence, delight, PV, and proclivity to recommend as "results" (Zetterberg, 1965) of absorption. A summary of each of these measurement instruments follows.



**Absorption.** Absorption is defined as, “A transitory condition of heightened attention, motivation, and emotion characterized by (a) high levels of relaxation and pleasure, (b) absence of demand for behavioral or mental action in response to stimuli, and (c) absence of active thinking” (Bryant & Veroff, 2007; Ellis et al., 2017, p. 6; Jose, Lim, & Bryant, 2007; Pine & Gilmore, 1999; 2011). The key domains of absorption are pleasure, relaxation, a focus on the present moment, and feeling free of stress (Ellis et al., 2017). This study measured absorption using an absorption scale based on classical test theory (Crocker & Algina, 1986). The question prompt read, “Approximately what percent of the time during the experience did you feel:”. A sliding scale from 0 to 100 percent was included for each of the following constructs: pleasure, relaxation, focused on the present moment, free of stress, and absorbed. This method of measuring structured experiences has been found reliable and valid in previous research to test key propositions of TSE (e.g., Ellis, Lacanienta et al., 2018; Lacanienta et al., 2018; Taggart, Ellis, Lacanienta, & Lepley, 2018). The absorption scale produced an alpha reliability of .91 in Study 1.

**Engagement.** Engagement is defined as, “a transitory condition of heightened attention, emotion, and motivation characterized by (a) extraordinarily high focus of attention on an unfolding narrative or story told in words, actions, and/or music, (b) heightened emotions, and (c) agentic inclinations” (Ellis et al., 2017, p. 7). Most structured absorption experiences include an instructional engagement phase. For example, before an absorbing dining experience a waiter or host may instruct guest where to sit, explain the wine menu, and give recommendations for their favorite dishes. The instructional engagement phase of an absorption experience is defined as an instructional or descriptive phase that takes place immediately before the structured experience.

Engagement was measured through a scale used in previous TSE research (Ellis et al., 2017). Research participants were asked to estimate the *percent of time* during the instructional phase they were, “completely focused”, “had deep interest”, “felt strong emotion”, and “had thoughts about what might happen”. The instructional engagement scale produced an alpha reliability of .86 in Study 1.

***Deep Structured Experience.*** DSE is a binary phenomenon; it is either present or absent at a given moment (Ellis, Freeman, Jiang, & Lacanienta, 2018). A graphical approach is used to measure its prevalence during a particular time period and the frequency of its occurrence during that time period (see Appendix D). Research participants are presented with a formal definition of the concept and are then asked to indicate instances during a structured experience in which they were “in” that state. They draw lines inside a rectangle. The end points of the rectangle represent the beginning and end of the structured experience. Participants are free to draw lines as long or short as needed to represent their experiences, and they may draw as many lines as they wish. Measures of prevalence, frequency, and pattern of DSE can be derived from the measure. Prevalence is the percentage of time a behavior is present (Suen, 1990). Prevalence is scored by measuring the length of the line(s) inside the box and dividing it by the total length of the box. Frequency is the number of occasions during that interval in which a target behavior is initiated (Suen, 1990). Frequency is measured by counting the amount of lines drawn inside the rectangular box.

This graphical approach to measurement, while effective, is not as plausible in an electronic questionnaire. Therefore, a simplified measure of DSE was employed. Participants were presented with the definition of DSE: Deep experience is defined as effortless concentration so deep that you lost: a) your sense of time, b) your thoughts about yourself, and c)

your thoughts about your problems. You wanted very much to keep doing this activity.”

Following that definition, participants were asked, “Approximately what percent of the time did you feel that you were in a state of deep experience? Responses were provided on a sliding scale from 0 to 100 percent.

The frequency of DSE was also measured. Traditionally, frequency is calculated by counting the number of lines drawn in the graphical box described earlier. Electronic versions of the questionnaire do not allow lines to be drawn, so frequency was determined by simply stating, “Approximately how many times did you cycle in and out of this state of deep experience?” with a blank area for participants to type their response. To compare both the original instrument and the revised instruments used for this study please see Appendix D.

***Perceived Value of Time Spent.*** PV was measured using an existing measurement (Ellis, Taggart, Martz, Lepley, & Jamal, 2016). High scores indicate that the respondents considered their choice to participate in the structured experience to be superior to other options that could have been pursued. PV was measured using a five-item Likert-scale. Participants were instructed to “indicate the extent to which you disagree (1) or agree (7) with the following statements:”. An example item is “this activity was an excellent use of my time.” Scores were calculated by assigning a value to each response (i.e., disagree = 1 and agree = 7) and summing across the items. The alpha reliability estimate for this scale has been consistently above .80 (e.g., Ellis, Lacanienta, et al., 2018; Ellis, Taggart, Martz, Lepley, & Jamal, 2016; Lacanienta et al., 2018). The alpha reliability of the PV scale was .91 in Study 1.

***Delight.*** Oliver (2010) defined delight as “an extreme expression of affect” and also emphasized that it is “a high-arousal manifestation of satisfaction” (p. 22). Torres and Kline’s (2006) analysis of qualitative data led to the conclusion that customer delight can be defined as

“the highest state of engagement experienced” by a guest (p. 648). Consistent with previous research (Ellis, Lacanienta, et al., 2018; Lacanienta et al., 2018), delight consisted of a single item measure, with a 5-point “slider scale” response format. Anchor points for that scale ranged from “delight” to “disgust”. Delight scores were calculated by assigning a value to each response (i.e., disgust = 1 and delight = 5) and summing across items.

***Proclivity to Recommend.*** Proclivity to recommend was not part of the original formulation of TSE (Ellis et al., 2017), but it has been explored during recent TSE research (Ellis et al., 2018; Lacanienta et al., 2018). Results have supported its role relative to the original TSE construct. It was thus included in this study as well.

A single-item scale, “net promoter score” (Reichheld, 2003) was used to measure the proclivity to recommend. Reichheld argued that using a single question to replace the “complex black box of the typical customer satisfaction survey” can “...put consumer survey results to use and focus employees on the task of stimulating growth.” The approach uses a 10-point scale. Respondents are asked to indicate the likelihood of promoting the product or service to their friends, family, or colleagues. The scale is anchored with “extremely likely” (scored 10) and “not at all likely” (scored 0). “Neutral” is printed at the midpoint of the scale.

Net promoter scores are often reduced to ordinal level of measurement to facilitate interpretation. Scores of 0 – 6 indicate “detractors”, 7 – 8 are “passive” and scores of 9 – 10 indicate promoters. A total net promoter score for an economic offering is calculated by summing the total responses for each group, dividing the group total by the total number of responses, then subtracting the percentage of total detractors from the percentage of total promoters. This score is a percent, but can be changed to an integer (i.e., 60% = 60). Scores can range from -100 to 100.

## Method of Data Analysis

The data were extracted from the Qualtrics and input into an Excel spreadsheet. The data were cleaned, coded, and organized. Incomplete responses were deleted, reverse items were re-coded, and manipulation checks examined to confirm that participants were actively engaged in the questionnaire. Outliers were also removed. Specifically, DSE frequency included alarming outliers and z-scores greater than 3.0 were removed (Pituch, Stevens, & Whittaker, 2013).

The cleaned data were exported to SPSS statistical software version 25. Descriptive statistics, including mean, standard deviation, skewness, and kurtosis were calculated to provide clear visual displays of the data. Cronbach's alpha was used to evaluate the reliability of the measurement instruments.

Ordinary least squares (OLS) regression was used to test the effects of the four experimentally manipulated factors and instructional engagement, i.e.,

- H<sub>1</sub> encouragement of attentional focus on the present increases absorption,
- H<sub>2</sub> encouragement of anticipation [mental time travel] increases absorption,
- H<sub>3</sub> encouragement of behavioral expression of emotion increases absorption, and
- H<sub>4</sub> encouragement of co-creation increases absorption and
- H<sub>5</sub> instructional engagement increases absorption.

To test H<sub>1</sub> through H<sub>5</sub>, absorption was regressed on coded vectors representing the effects of the encouragement of attentional focus on the present, encouragement of mental time travel, encouragement of behavioral expression of emotion encouragement, encouraged co-creation and instructional engagement. OLS regression was also used the test relations between absorption and its hypothesized results: prevalence of deep experience (H<sub>6</sub>) and frequency of deep experience (H<sub>7</sub>). OLS regression was also used to test relations between DSE prevalence and

DSE frequency and proclivity to recommend ( $H_8$  and  $H_{11}$ ), PV ( $H_9$  and  $H_{12}$ ), and delight ( $H_{10}$  and  $H_{13}$ ) respectively. Effect sizes were examined through interpretation of  $R^2$  and standardized regression coefficients (beta weights).

## Study 2

### Participants

Data collection yielded a final sample of 199 observations from a large, private, western university study abroad program. The sample of participants ( $n = 26$ ) was 81% female and 19% male. The majority of participants identified as White/European (92%). Ages of participants ranged from 18 to 24. The 26 research participants were part of a study abroad group that visited eight countries over a six-week period of time. The sample of experiences included tours, cooking classes, and other sight seeing experiences (see Table 9).

Table 9

<i>Study 2 Demographics</i>			
<i>Item</i>		<i>N</i>	<i>percent</i>
Sex			
Male		5	19%
Female		21	81%
Age			
18		1	5%
19		2	8%
20		8	29%
21		5	19%
22		6	24%
23		3	10%
24		1	5%
Ethnicity			
White/European		24	92%
Hawaiian/Pacific Islander		2	8%
Experiences			
Tour of Rome		25	13%
Italian Cooking Class		26	14%
Italian Leather Factory		24	13%
Paragliding Switzerland		25	13%
Gondola Lessons Venice		25	13%
Castles in Croatia		24	13%
Bike Tour in Vienna		19	10%
Museums of Paris		24	13%
Total		26	100%

## **Procedures**

At the end of eight separate evenings research participants gathered to reflect on the day. These reflections were comprised of photographs taken by members of the research team during their daily experiences on a study abroad trip in Europe.

Identical to Study 1, each participant was exposed to one of eight videos. Each video was divided into two parts: an instructional engagement video and an absorption experience video of photos. The instructional engagement video manipulations were created using a four-factor orthogonal “Taguchi” design. The orthogonal array was based on four factors (i.e., savoring techniques and encouraged co-creation). Eight structured absorption experiences were required to produce the orthogonal array of treatment combinations.

An actor portraying a “wizard” hosted each instructional engagement video. The Wizard provided a different set of instructions in each version of the video. After viewing the instructional engagement video, participants had an absorption experience by viewing a photo slide show. The slide show played in Apple Photos and included select moments from their daily experiences. The slideshow included soft, relaxing music. The reflection sessions varied in duration from approximately 5 minutes to 15 minutes. After viewing the slideshow, research participants completed a questionnaire using the online Qualtrics survey application.

## **Measurement**

TSE proposes that absorption yields DSE prevalence, delight, PV, and proclivity to recommend. Aside from instructional engagement, this study used all of the same measurement instruments as outlined in Study 1. The instructional engagement scale was not included in Study 2. In Study 2 the five-item absorption scale produced an alpha reliability of .92 and the five-item PV scale produced an alpha reliability of .92

## Method of Data Analysis

Data cleaning was conducted identical to Study 1. Once the data were properly cleaned data were exported to SPSS statistical software version 25. Descriptive statistics, including mean, standard deviation, skewness, and kurtosis were calculated to provide clear visual displays of the data. Cronbach's alpha was used to evaluate the reliability of the measurement instruments.

H<sub>1</sub>-H<sub>13</sub> were tested using hierarchal linear modeling. Each individual participant served as a random-effects (level-two) variable in the hierarchical linear model, accounting for the lack of independence of observations.

Hypothesis tests were conducted using the *t* ratios associated with standardized coefficients associated with each of the four factors (i.e., encouraged attentional focus on the present, encouraged mental time travel, encouraged behavioral expression of emotions, and encouraged co-creation). The first model examined the relationship between hypothesized determinants of absorption and the absorption experience. The second model examined the relationship between absorption and its hypothesized results: DSE prevalence and DSE frequency. The third model examined the relationship between DSE prevalence and its hypothesized results: proclivity to recommend, PV, and delight. The fourth model was a test of the relationship between DSE frequency and its hypothesized results: proclivity to recommend, PV, and delight.

The strength of relations in all models was evaluated through calculation of  $R^2_{PRE}$ . These values were calculated based on the reduction in variance in a null model, as compared to models with factors added.



### Study 3

#### Participants

One hundred eight observations were collected from an adolescent sample of Texas 4-H Global Travelers ( $n = 20$ ). The sample of participants was 70 % female and 30% male. One hundred percent of participants identified as White/European. Ages ranged from 16 to 19. The 20 research participants were part of a global travelers group who visited Argentina for 14 days. The sample of experiences included tours to wineries, markets, and other agriculture based sites (see Table 10).

Table 10

<i>Study 3 Demographics</i>			
	<i>Item</i>	<i>N</i>	<i>%</i>
Sex	Male	6	30%
	Female	14	70%
Age	16	1	5%
	17	9	45%
	18	9	45%
	19	1	5%
Ethnicity	White/European	20	100%
Experiences			
	6/20 Tour of Buenos Aires	20	19%
	6/21 Grain Terminal	17	16%
	6/22 Livestock Market	19	18%
	6/23 Winery	18	17%
	6/24 Tour of the Andes	16	15%
	6/25 Tango Lessons	3	3%
	6/26 City Tour	15	14%
Total		20	100%

#### Procedures

At the end of eight consecutive evenings research participants gathered to reflect on the day. These reflections were comprised of photographs taken by members of the research team

during their daily experiences on a study abroad trip in Argentina. The reflection absorption experience comprised of a slide show that included select moments from their daily experiences. Slide shows were viewed in hotel rooms, empty sections of restaurants, or other public spaces. Each session was preceded by a period of relaxed silence, where participants were asked to relax and begin to reflect on their experiences of that day. Following the period of relaxation, a series of photographs taken throughout the day were projected to a wall or makeshift screen. Participants were asked to view the images and reflect on their day. After participating in the structured, sensory reflection experience, research participants completed a questionnaire using the online Qualtrics survey application.

### **Measurement**

TSE proposes that absorption yields DSE prevalence, delight, PV, and proclivity to recommend. This study used select measurement tools to examine these relationships. Aside from instructional engagement, this study used all of the same measurement instruments as outlined in Studies 1 and 2. In Study 3 the five-item absorption scale produced an alpha reliability of .82 and the five-item perceived value scale produced an alpha reliability of .86.

### **Method of Data Analysis**

Linear mixed modeling was used to test hypotheses 6-13. The approach was identical to Study 2 using models two through four. That is, Study 3 did not examine the determinants of absorption but focused on the results (outcomes) of absorption.

## CHAPTER IV

### RESULTS

This chapter presents results of data analysis from three studies. Study 1 was an on-line experiment. Two hundred eighteen panel participants viewed one of eight videos. Each video represented a unique combination of treatment conditions (encouraged vs. not encouraged) of the four hypothesized determinants of absorption: attentional focus on the present, mental time-travel (anticipation), behavioral expression of emotion, and co-creation. Immediately after the video, participants completed measures of absorption, engagement during an instructional segment of the video, and five additional concepts within and related to TSE: DSE prevalence, DSE frequency, PV, delight, and proclivity to recommend.

Study 2 included 192 experience observations from 26 study abroad tourists. For each of eight evenings, students participated in a daily reflection activity. A slideshow depicting events from that day's experiences was projected. Each slideshow was structured such that a different combination of treatment levels of the same factors as Study 1 (encouraged vs. not encouraged) was present each evening. With the exception of instructional engagement, the same outcome variables as Study 1 were measured (DSE prevalence, DSE frequency, PV, delight, and proclivity to recommend).

Study 3 included 108 experience observations from 20 Texas 4-H Global Travelers. Like Study 2, students participated in a slideshow reflection activity each day. No manipulation of the hypothesized determinants of absorption occurred, but students completed the absorption scale and measures of its hypothesized results immediately following the reflection experience.

Thirteen hypotheses were tested across the three studies (see Figure 1). Study 1 examined all thirteen hypotheses. Hypotheses 1 through 5 addressed hypothesized determinants of

absorption (encouraged attentional focus on the present [H<sub>1</sub>], encouraged mental time travel [H<sub>2</sub>], encouraged behavioral expression of emotion [H<sub>3</sub>], encouraged co-creation [H<sub>4</sub>], and instructional engagement [H<sub>5</sub>]). Hypotheses 6 and 7 addressed the hypothesized results of absorption: DSE prevalence [H<sub>6</sub>] and DSE frequency [H<sub>7</sub>]. Hypotheses 8 through 13 addressed the results of DSE prevalence and DSE frequency. These two variables are each hypothesized to affect PV, delight, and proclivity to recommend.

Study 2 examined four hypothesized determinants (H<sub>1</sub>-H<sub>4</sub>) of absorption, absorption's hypothesized effects on DSE prevalence and DSE frequency (H<sub>6</sub>-H<sub>7</sub>), and the hypothesized results of DSE prevalence and DSE frequency.

Study 3 examined the hypothesized effect of absorption on DSE prevalence and DSE frequency (H<sub>6</sub>-H<sub>7</sub>). Study 3 also involved testing the hypothesized results of DSE prevalence and DSE frequency (i.e., PV, delight, and proclivity to recommend; H<sub>8</sub>-H<sub>13</sub>).

## **Study 1**

### **Descriptive Statistics**

Descriptive statistics for Study 1 are summarized in Table 11. Distributions of six variables were negatively skewed. The highest negative value was delight (-1.59). Extreme positive skewness was evident in DSE Frequency (3.70). Notable kurtosis was also evident. Distributions of DSE frequency (15.43) and delight (4.10) were markedly leptokurtic. Focus on the present (-2.01), mental time travel (-1.93), behavioral expression (-1.98), and co-creation (-2.02) were platykurtic. See Appendix A for histograms of each of the variables.

Table 11

*Study 1 Descriptive Statistics*

Variable	<i>N</i>	# of items	$\alpha$	<i>M</i>	<i>SD</i>	<i>SK</i>	<i>K</i>	<i>min</i>	<i>max</i>
Focus on the Present	218	-	-	0.47	0.50	0.11	-2.01	0.00	1.00
Mental Time Travel	218	-	-	0.43	0.50	0.30	-1.93	0.00	1.00
Behavioral Expression	218	-	-	0.45	0.50	0.20	-1.98	0.00	1.00
Co-creation	218	-	-	0.49	0.50	0.06	-2.02	0.00	1.00
Instructional Engagement	218	5	0.91	256.81	97.05	-0.51	-0.42	2.00	400.00
Absorption	212	4	0.86	387.69	100.54	-1.23	1.54	5.00	500.00
DSE Prevalence	213	1	-	67.45	29.70	-0.95	-0.18	0.00	100.00
DSE Frequency	208	1	-	3.60	5.18	3.70	15.43	0.00	30.00
Perceived Value of Time Spent	207	5	0.91	20.08	4.85	-1.00	0.78	5.00	25.00
Delight	207	1	-	4.40	0.74	-1.59	4.10	1.00	5.00
Proclivity to Recommend	207	1	-	6.62	3.10	-0.79	-0.42	0.00	10.00

Table 12 presents the Pearson correlations among the study variables. The strongest correlations in the matrix were between delight and PV ( $r=.70, p<.01$ ), delight and proclivity to recommend ( $r=.68, p<.01$ ), and PV and proclivity to recommend ( $r=.63, p<.01$ ). The weakest correlation in the matrix was between focus on the present and proclivity to recommend ( $r<.01, p=.98$ ).

Table 12

*Study 1 Pearson Correlations*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Focus on the Present	-										
2. Mental Time Travel	-0.04	-									
3. Behavioral Expression	0.03	0.08	-								
4. Co-creation	0.09	0.03	-0.03	-							
5. Absorption	-0.07	-0.07	-0.04	-0.11	-						
6. Engagement	0.02	-0.09	-0.08	0.02	.44**	-					
7. DSE Prevalence	0.05	-0.04	-0.06	-0.01	.55**	.62**	-				
8. DSE Frequency	0.13	0.05	0.04	0.04	-0.14*	-0.01	-0.06	-			
9. Proclivity to Recommend	0.01	-0.03	-.16*	0.08	.37**	.59**	.55**	0.02	-		
10. Perceived Value of Time Spent	-0.10	-0.06	-.14*	-0.02	.50**	.49**	.48**	-0.07	.63**	-	
11. Delight	-0.06	-0.01	-0.06	0.04	.47**	.51**	.56**	-0.04	.68**	.70**	-

Note. \*\*  $p < .01$ , \*  $p < .05$

Correlations between the hypothesized determinants of absorption (focus on the present, mental time travel, behavioral expression, co-creation) ranged between .03 and .09 and were non-significant. A perfectly orthogonal design would have resulted in coefficients of 0 between all pairs of factors. Weak correlations were introduced into the data because the procedures did not result in identical numbers of participants per video. Group sizes differed due to missing data. The number of panel participants was not evenly divisible by 8 (i.e., the number of videos; see Table 13). The coefficients are sufficiently weak, though, to minimize concerns about confounding among the factors. Correlations between absorption and outcome variables were moderate-to-strong, as predicted by the TSE: DSE prevalence ( $r=.55, p<.01$ ), DSE frequency ( $r=-.14, p<.05$ ), PV ( $r=.50, p<.01$ ), delight ( $r=.47, p<.01$ ), and proclivity to recommend ( $r=.37, p<.01$ ).

Group means are presented in Table 13. The absorption means ranged from 344.43 (the group in which all of the four factors were present, YYYY) to 404.44 (focus on the present and behavioral expression of emotion encouraged; YNYN). TSE propositions suggest that the “NNNN” treatment condition (i.e., when all four determinants not encouraged) should yield the lowest levels of absorption. The absorption mean for that condition (NNNN), however, was higher than six of the seven other groups.

DSE frequency means are also notable. DSE frequency means ranged from 2.42 (the group in which none of the factors were present; NNNN) to 4.76 (the group in which all four factors were present; YYYY). It appears conditions with more factors may be more distracting or intrusive and therefore cause participants to phase in and out of focused states of attention more frequently.

Table 13

*Study 1 Orthogonal Array, Groups, and Conditions*

Video	<i>n</i>	Conditions	Absorption Mean	Instructional Engagement	DSE prevalence Mean	DSE frequency Mean	Perceived Value of Time Spent Mean	Proclivity to Promote Mean	Delight Mean
		Present FP, MTT, BE, CC (Y=Yes; N=No)							
1	21	YYYY	344.43	226.33	66.00	4.76	18.95	6.65	4.35
2	26	NYNY	391.15	272.38	67.64	2.75	20.95	7.73	4.64
3	25	NNYY	390.20	246.67	64.75	2.88	19.26	5.70	4.35
4	34	YNNY	376.00	279.30	69.33	4.59	20.48	7.30	4.39
5	25	NYYN	386.64	243.36	61.04	4.17	19.80	5.68	4.32
6	21	YYNN	393.62	243.05	69.95	4.05	19.10	6.05	4.25
7	27	YNYN	404.44	272.22	70.22	3.73	19.33	6.33	4.37
8	39	NNNN	403.15	255.84	69.13	2.41	21.59	7.08	4.46

**Hypothesis Tests**

Hypothesis test results (i.e.,  $H_1$ - $H_{13}$ ) are summarized in Table 14 and Figure 2. Some results support TSE propositions about absorption and some do not. Perhaps most notably, none of the three savoring techniques had a significant effect on absorption ( $H_1$ - $H_3$ ). This result suggests the need for conceptual inquiry to identify additional strategies and guidelines for structuring experiences to facilitate absorption. Also, contrary to the TSE-based expectations, absorption was significantly lower when co-creation was encouraged ( $H_4$ ). This result suggests that absorption experiences may need to be structured as more “hands-off” and less intrusive.

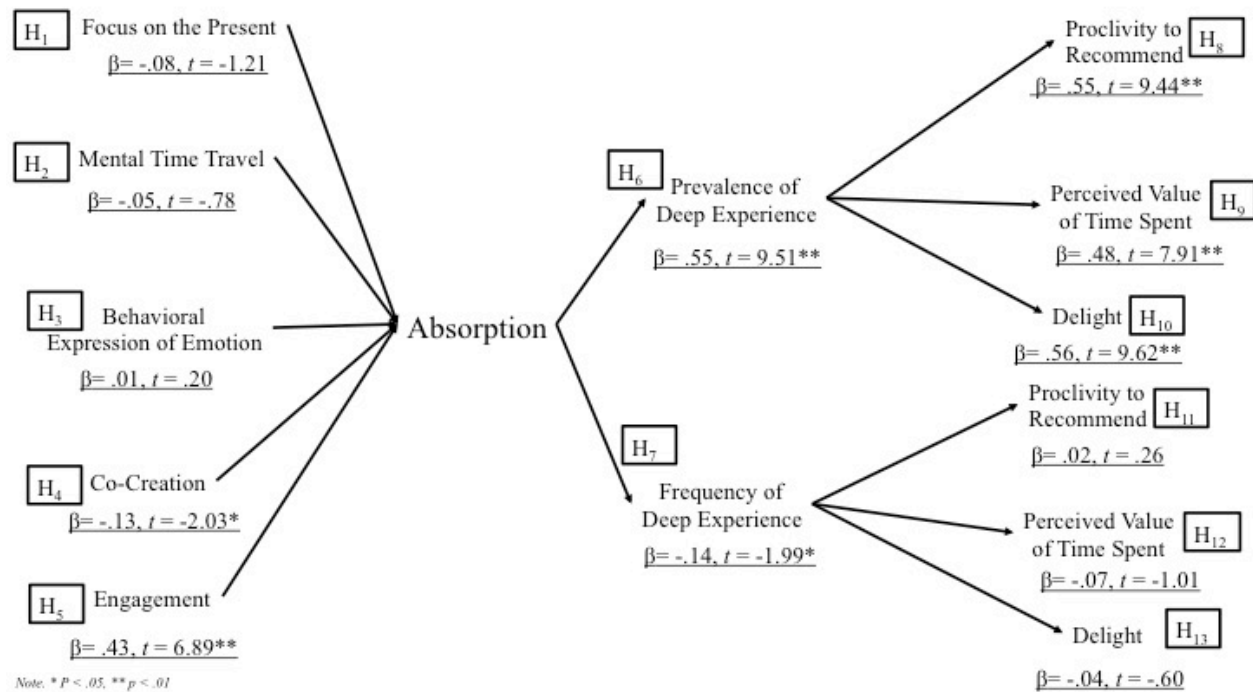
Table 14

## Study 1 Hypothesis Results

Hypothesis	Determinant (x)	Result (y)	$\beta$	B	SE B	t	p	R <sup>2</sup>
H <sub>1</sub>	Focus on the Present	Absorption	-0.08	-15.33	12.70	-1.21	0.23	<.01
H <sub>2</sub>	Mental Time Travel	Absorption	-0.05	-10.02	12.88	-0.78	0.44	<.01
H <sub>3</sub>	Behavioral Expression	Absorption	0.01	2.50	12.75	0.20	0.84	<.01
H <sub>4</sub>	Co-creation	Absorption	-0.13	-25.73	12.69	-2.03	0.04	0.01
H <sub>5</sub>	Instructional Engagement	Absorption	0.43	0.45	0.07	6.89	<.01	0.21
H <sub>6</sub>	Absorption	DSE Prevalence	0.55	0.16	0.02	9.51	<.001	0.30
H <sub>7</sub>	Absorption	DSE Frequency	-0.14	<-.01	<.01	-1.99	0.05	0.02
H <sub>8</sub>	DSE Prevalence	Proclivity to Recommend	0.55	0.06	0.01	9.44	<.001	0.30
H <sub>9</sub>	DSE Prevalence	Perceived Value of Time Spent	0.48	0.08	0.01	7.91	<.001	0.23
H <sub>10</sub>	DSE Prevalence	Delight	0.56	0.01	<.01	9.62	<.001	0.31
H <sub>11</sub>	DSE Frequency	Proclivity to Recommend	0.02	0.01	0.04	0.26	0.80	<.01
H <sub>12</sub>	DSE Frequency	Perceived Value of Time Spent	-0.07	-0.07	0.07	-1.01	0.32	<.01
H <sub>13</sub>	DSE Frequency	Delight	-0.04	<-.01	0.01	-0.60	0.55	<.01

Figure 2

## Study 1 Path Model and Results





In contrast to these results regarding the presumed determinants of absorption, relations among the subjective experiences measured were largely consistent with TSE predictions. Absorption was found to be a significant determinant of DSE prevalence ( $H_6$ ;  $\beta = .55$ ,  $t = 9.51$ ,  $p < .001$ ,  $R^2 = .30$ ) and DSE frequency ( $H_7$ ;  $\beta = -.14$ ,  $t = -1.99$ ,  $p = .05$ ,  $R^2 = .02$ ). DSE prevalence was found to be a significant determinant of proclivity to recommend ( $H_8$ ;  $\beta = .55$ ,  $t = 9.44$ ,  $p < .001$ ,  $R^2 = .30$ ), PV ( $H_9$ ;  $\beta = .48$ ,  $t = 7.91$ ,  $p < .001$ ,  $R^2 = .23$ ), and delight ( $H_{10}$ ;  $\beta = .56$ ,  $t = 9.62$ ,  $p < .001$ ,  $R^2 = .31$ ). DSE frequency was not a significant predictor of proclivity to recommend ( $H_{11}$ ;  $b = .02$ ,  $t = .26$ ,  $p = .80$ ,  $R^2_{PRE} < .01$ ), PV ( $H_{12}$ ;  $\beta = -.07$ ,  $t = -1.01$ ,  $p = .32$ ,  $R^2_{PRE} < .01$ ), or delight ( $H_{13}$ ;  $\beta = -.04$ ,  $t = -.60$ ,  $p = .55$ ,  $R^2_{PRE} < .01$ ).

Hypothesis 5 involved testing a new variable that has not previously been examined as an extension of TSE: instructional engagement. Instructional engagement was found to be a significant predictor of absorption ( $H_5$ ;  $\beta = .43$ ,  $t = 6.89$ ,  $p < .01$ ,  $R^2 = .21$ ).

Estimates of percent variance explained ( $R^2$ ) ranged from  $<.01$  to  $.31$ . Six of the relations produced an  $R^2$  of less than  $.01$ . The strongest relation,  $.31$ , was between DSE prevalence and delight. The weakest relations were between the hypothesized determinants of absorption ( $H_1$ - $H_4$ ) and absorption. These results show that the proposed determinants (encouraged focus on the present, encouraged mental time travel, encouraged behavioral expression of emotion, and encouraged co-creation) of absorption account for negligible variance in absorption.

## Study 2

### Descriptive Statistics

Descriptive statistics are presented in Table 15. Negative skewness was evident in seven variables. The largest negative value of skewness was delight ( $-.93$ ). Focus on the present

(-2.02), mental time travel (-2.01), behavioral expression (-2.02), and co-creation (-2.02) were platykurtic. See Appendix B for histograms of key variables.

Table 15

*Study 2 Descriptive Statistics*

<i>Item</i>	<i>N</i>	<i># of items</i>	<i>α</i>	<i>M</i>	<i>SD</i>	<i>SK</i>	<i>K</i>	<i>min</i>	<i>max</i>
Focus on the present	192	-	-	0.49	0.50	0.05	-2.02	0	1
Mental time travel	192	-	-	0.52	0.50	-0.09	-2.01	0	1
Behavioral expression	192	-	-	0.48	0.50	0.07	-2.02	0	1
Co-creation	192	-	-	0.51	0.50	-0.03	-2.02	0	1
Absorption	187	5	0.92	336.62	112.78	-0.69	-0.14	14	500
DSE prevalence	188	4	-	55.66	27.80	-0.30	-1.01	0	100
DSE frequency	187	1	-	3.30	1.90	0.56	0.29	0	9
Perceived Value of Time Spent	192	5	0.92	23.63	7.06	-0.29	-0.29	5	35
Delight	159	1	-	3.97	0.93	-0.93	0.43	1	5
Proclivity to Promote	180	1	-	6.04	2.56	-0.18	-0.71	0	10

Table 16 presents the Pearson correlations among key study variables. The strongest correlations in the matrix were between absorption and DSE prevalence ( $r=.84, p<.01$ ), proclivity to recommend and PV ( $r=.80, p<.01$ ), and delight and PV ( $r=.77, p<.01$ ). The weakest correlation in the matrix was between DSE frequency and focus on the present ( $r=.01, p=.92$ ).

Table 16

*Study 2 Pearson Correlations*

Variable	1	2	3	4	5	6	7	8	9	10
1.Focus on the Present	-									
2.Mental Time Travel	0.04	-								
3.Behavioral Expression	-0.05	0.02	-							
4.Co-creation	0.02	-0.05	0.04	-						
5.Absorption	-0.03	0.07	0.01	-0.17*	-					
6.DSE Prevalence	-0.03	-0.04	-0.01	-0.14	.84**	-				
7.DSE Frequency	0.01	0.09	0.03	0.02	0.02	0.09	-			
8.Perceived Value of Time Spent	0.01	0.06	-0.02	-0.09	.69**	0.69**	<-.01	-		
9.Delight	-0.03	0.10	-0.06	-0.10	.67**	.64**	0.09	.77**	-	
10.Proclivity to Recommend	0.01	0.08	0.01	-0.15*	.75**	.73**	0.01	.80**	.69**	-

*Note.* \*\*  $p < .01$ , \*  $p < .05$

Correlations between the determinants of absorption (focus on the present, mental time travel, behavioral expression, co-creation) used in the orthogonal design were ranged between  $r = -.05$  to  $r = .02$ . A perfectly orthogonal design would have resulted in coefficients of 0 between all pairs of factors. Weak correlations were introduced into the data through the random assignment process and due to missing data; group sizes were not all equal (see Table 17). The coefficients are sufficiently weak to minimize concerns about confounding among the factors. While correlations between the determinants of absorption and absorption were non-significant, correlations between absorption and outcome variables were high as would be theoretically expected DSE ( $r = .84, p < .01$ ), PV ( $r = .69, p < .01$ ), delight ( $r = .67, p < .01$ ), proclivity to recommend ( $r = .75, p < .01$ ).

Group means are presented in Table 17. The absorption means ranged from 305.33 (the group in which all of the four factors were present, YYYY) to 379.96 (focus on the present and mental time travel encouraged; YYNN). These descriptive statistics again show interesting insights into absorption. TSE would hypothesize YYY having the highest absorption mean, but instead it is the lowest. Similarly, DSE prevalence is lowest in the YYYY manipulation. TSE

would hypothesize that the YYY Y manipulation would yield high absorption and consequently high levels of DSE prevalence. The opposite was the case for this study.

Table 17

*Study 2 Orthogonal Array, Groups, and Conditions*

Video	<i>n</i>	Conditions Present- FP, MTT, BE, CC (Y=Yes; N=No)	Absorption Mean	DSE prevalence Mean	DSE frequency Mean	Perceived Value of Time Spent Mean	Proclivity to Promote Mean	Delight Mean
1	25	NNYY	342.80	59.29	3.52	24.60	6.17	3.95
2	26	NYYN	369.92	60.42	3.32	24.12	6.78	4.14
3	24	YNNY	308.83	54.46	3.00	22.42	5.61	3.86
4	25	YYYY	305.33	46.40	3.92	22.72	5.39	3.71
5	27	YYNN	379.96	62.93	3.69	26.85	7.20	4.28
6	24	NYNY	309.96	47.48	3.21	21.83	5.30	3.94
7	19	YNYN	324.18	55.17	2.83	21.79	5.50	3.76
8	24	NNNN	330.21	57.43	3.48	23.13	5.83	3.90

## Hypothesis Tests

Hypothesis test results (i.e.,  $H_1$ - $H_4$  and  $H_6$ - $H_{13}$ ) are summarized in Table 18 and Figure 3. Results of hypothesis tests about determinants of absorption did not support TSE propositions. None of the three experimentally manipulated savoring techniques had a significant effect on absorption ( $H_1$ - $H_3$ ): focus on the present ( $H_1$ ;  $\beta = -.06$ ,  $t = -1.22$ ,  $p = .23$ ,  $R^2_{PRE} < .01$ ), mental time travel ( $H_2$ ;  $\beta = .08$ ,  $t = 1.77$ ,  $p = .08$ ,  $R^2_{PRE} < .01$ ), or behavioral expression ( $H_3$ ;  $\beta < .01$ ,  $t = -.07$ ,  $p = .94$ ,  $R^2_{PRE} < .01$ ). Contrary to TSE predictions, absorption was significantly higher when co-creation is not encouraged ( $H_4$ ;  $\beta = -.12$ ,  $t = -2.75$ ,  $p = .01$ ,  $R^2_{PRE} = .01$ ). These results suggest the need for additional conceptual inquiry into determinants and antecedents of absorption.

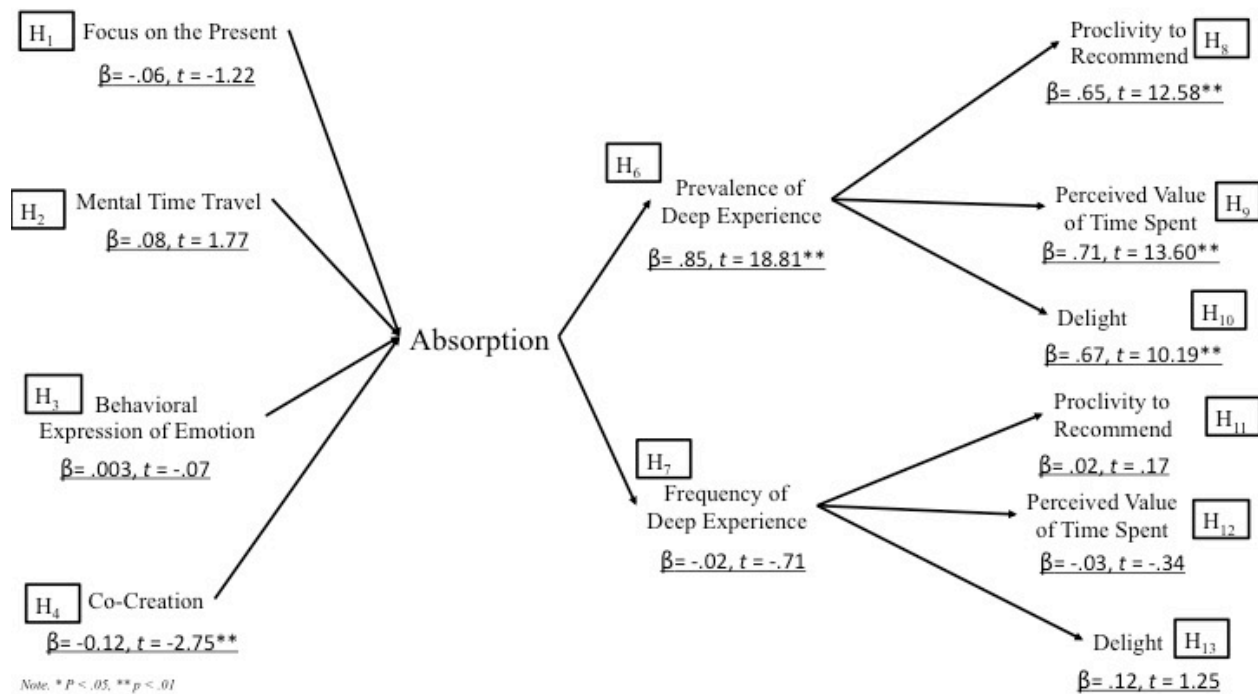
Table 18

Study 2 Hypothesis Results

Hypotheses	Determinant (x)	Result (y)	$\beta$	$t$	$p$	df <sub>1</sub>	df <sub>2</sub>	$\sigma^2_r$	$\sigma^2_{\rho 0}$	$R^2_{PRE}$
H <sub>1</sub>	Focus on the Present	Absorption	-0.06	-1.22	0.23	1.00	162.53	5,224.68	7,826.59	<.01
H <sub>2</sub>	Mental Time Travel	Absorption	0.08	1.77	0.08	1.00	162.66	5,174.48	7,817.61	<.01
H <sub>3</sub>	Behavioral Expression	Absorption	<.01	-0.07	0.94	1.00	162.34	5,276.01	7,780.27	<.01
H <sub>4</sub>	Co-creation	Absorption	-0.12	-2.75	0.01	1.00	162.70	5,055.80	7,646.09	0.01
H <sub>6</sub>	Absorption	DSE Prevalence	0.85	18.81	<.001	1.00	90.13	210.92	24.71	0.70
H <sub>7</sub>	Absorption	DSE Frequency	-0.02	-0.28	0.78	1.00	177.48	2.50	2.00	<.01
H <sub>8</sub>	DSE Prevalence	Proclivity to Recommend	0.65	12.58	<.001	1.00	180.56	2.08	0.99	0.55
H <sub>9</sub>	DSE Prevalence	Perceived Value of Time Spent	0.71	13.60	<.001	1.00	192.27	16.26	8.78	0.50
H <sub>10</sub>	DSE Prevalence	Delight	0.67	10.19	<.001	1.00	147.06	0.34	0.14	0.45
H <sub>11</sub>	DSE Frequency	Proclivity to Recommend	0.02	0.17	0.87	1.00	179.55	3.51	3.17	0.02
H <sub>12</sub>	DSE Frequency	Perceived Value of Time Spent	-0.03	-0.34	0.74	1.00	191.19	29.18	18.70	0.05
H <sub>13</sub>	DSE Frequency	Delight	0.12	1.25	0.21	1.00	144.13	0.57	0.26	0.05

Figure 3

Study 2 Path Model and Results



Hypotheses about the “results” (outcomes) of absorption experiences were largely consistent with TSE predictions. Absorption was found to be a significant predictor of DSE prevalence ( $H_6$ ;  $\beta = .85$ ,  $t = 18.81$ ,  $p < .001$ ,  $R^2_{PRE} = .70$ ). DSE prevalence was a significant predictor of proclivity to recommend ( $H_8$ ;  $b = .65$ ,  $t = 12.58$ ,  $p < .001$ ,  $R^2_{PRE} = .55$ ), PV ( $H_9$ ;  $\beta = .71$ ,  $t = 13.60$ ,  $p < .001$ ,  $R^2_{PRE} = .50$ ), and delight ( $H_{10}$ ;  $\beta = .67$ ,  $t = 10.19$ ,  $p < .001$ ,  $R^2_{PRE} = .45$ ). Results related to DSE frequency, though, were inconsistent with TSE predictions. Absorption was not found to be a significant predictor of DSE frequency ( $H_7$ ;  $\beta = -.02$ ,  $t = -.28$ ,  $p = .78$ ,  $R^2_{PRE} < .01$ ), and DSE frequency was not a significant predictor of proclivity to recommend ( $H_{11}$ ;  $b = .02$ ,  $t = .17$ ,  $p = .87$ ,  $R^2_{PRE} = .02$ ), PV ( $H_{12}$ ;  $\beta = -.03$ ,  $t = -.34$ ,  $p = .74$ ,  $R^2_{PRE} = .05$ ) or delight ( $H_{13}$ ;  $\beta = .12$ ,  $t = 1.25$ ,  $p = .21$ ,  $R^2_{PRE} = .05$ ).

$R^2_{PRE}$  is a measure of the reduction in error variance resulting from inclusion of an independent variable in a model. Estimates of proportional reduction in variance ( $R^2_{PRE}$ ) ranged from  $R^2_{PRE} < .01$  to  $R^2_{PRE} = .70$ . Four variables had  $R^2_{PRE}$  values of  $< .01$ . Only one relationship, absorption as a determinant of DSE prevalence had a  $R^2_{PRE}$  of .70.  $R^2_{PRE}$  is useful in assessing model fit and association strength. Consistent with the hypothesis test results,  $R^2_{PRE}$  values indicate that the proposed determinants of absorption account for negligible portions of variance in absorption. Conversely, absorption explains a large amount of variance in DSE prevalence ( $R^2_{PRE} = .70$ ). Similarly, DSE prevalence explains large amounts of variance in PV ( $R^2_{PRE} = .50$ ), delight ( $R^2_{PRE} = .45$ ), and proclivity to recommend ( $R^2_{PRE} = .55$ ).

### Study 3

#### Descriptive Statistics

Descriptive statistics are presented in Table 19. Substantial negative skewness was evident in five variables. Negative skewness values ranged from absorption (-1.44) to PV (-

3.41). These results suggest the structured absorption experiences produced very positive states of emotion, attention, and motivation. Scores were also very leptokurtic for DSE prevalence (9.74), PV (12.06), delight (2.93), and proclivity to recommend (6.38). See Appendix C for histograms of key variables.

Table 19

*Study 3 Descriptive Statistics*

Variable	<i>N</i>	# of items	$\alpha$	<i>M</i>	<i>SD</i>	<i>SK</i>	<i>K</i>	<i>min</i>	<i>max</i>
Absorption	117	5	0.82	443.61	68.90	-1.44	1.41	201.00	500.00
DSE Prevalence	117	1	-	90.21	14.80	-2.74	9.74	7.00	100.00
DSE Frequency	110	1	-	2.85	2.04	0.65	0.22	0.00	10.00
Perceived Value of Time Spent	117	5	0.86	33.87	3.11	-3.41	12.06	19.00	35.00
Delight	116	1	-	4.81	0.42	-1.97	2.93	3.00	5.00
Proclivity to Recommend	117	1	-	9.51	1.05	-2.53	6.38	5.00	10.00

Table 20 presents the Pearson correlations among key study variables. The strongest correlations in the matrix were between absorption and DSE prevalence ( $r=.74, p<.01$ ), DSE prevalence and PV ( $r=.68, p<.01$ ), and DSE prevalence and proclivity to recommend ( $r=.65, p<.01$ ). The weakest correlations in the matrix were relations between DSE frequency and PV ( $r=-.12, p=.18$ ), delight ( $r=-.19, p=.06$ ), and proclivity to recommend ( $r=-.10, p=.34$ ).

Correlations between absorption and outcome variables were high as would be theoretically expected DSE prevalence ( $r=.74, p<.01$ ), DSE frequency ( $r=-.34, p<.01$ ), PV ( $r=.44, p<.01$ ), delight ( $r=.39, p<.01$ ), proclivity to recommend (.43,  $p<.01$ ).

Table 20

*Study 3 Pearson Correlations*

Variable	1	2	3	4	5	6
1.Absorption	-					
2.DSE Prevalence	.74**	-				
3.DSE Frequency	-.34**	-.27**	-			
4.Perceived Value of Time Spent	.44**	.68**	-.12	-		
5.Delight	.39**	.49**	-.19	.52**	-	
6.Proclivity to Recommend	.43**	.65**	-.10	.73**	.50**	-

Note. \*\*  $p < .01$ , \*  $p < .05$

## Hypothesis Tests

Hypothesis test results (i.e.,  $H_6$ - $H_{10}$ ) are summarized in Table 21 and Figure 4. Results are consistent with TSE propositions. Absorption was found to be a significant predictor of DSE prevalence ( $H_6$ ;  $\beta = .81$ ,  $t = 12.31$ ,  $p < .001$ ,  $R^2_{PRE} = .54$ ) and DSE frequency ( $H_7$ ;  $\beta = -.31$ ,  $t = -3.40$ ,  $p = .001$ ,  $R^2_{PRE} = .11$ ). Thus, as absorption increases, DSE prevalence increases and DSE frequency decreases. As hypothesized by TSE, DSE prevalence is a significant predictor of proclivity to recommend ( $H_8$ ;  $\beta = .68$ ,  $t = 9.69$ ,  $p < .001$ ,  $R^2_{PRE} = .42$ ), PV ( $H_9$ ;  $\beta = .61$ ,  $t = 10.32$ ,  $p < .001$ ,  $R^2_{PRE} = .45$ ), and delight ( $H_{10}$ ;  $\beta = .54$ ,  $t = 6.62$ ,  $p < .001$ ,  $R^2_{PRE} = .28$ ). DSE frequency did not significantly predict a negative relationship with PV ( $H_{12}$ ;  $\beta = -.16$ ,  $t = -1.73$ ,  $p = .09$ ,  $R^2_{PRE} < .01$ ), delight ( $H_{13}$ ;  $\beta = -.22$ ,  $t = -2.14$ ,  $p = .04$ ,  $R^2_{PRE} < .01$ ), or proclivity to recommend ( $H_{11}$ ;  $\beta = -.13$ ,  $t = -1.31$ ,  $p = .20$ ,  $R^2_{PRE} < .01$ ).

Estimates of proportional reduction in variance ( $R^2_{PRE}$ ) ranged from  $< .01$  (DSE frequency predicting proclivity to recommend, PV, and delight) to  $.54$  (absorption predicting DSE prevalence).  $R^2_{PRE}$  results provide support for TSE in that absorption explains a large amount of variance in DSE prevalence ( $R^2_{PRE} = .54$ ). Similarly, DSE prevalence explains large amounts of variance in PV ( $R^2_{PRE} = .45$ ), delight ( $R^2_{PRE} = .28$ ), and proclivity to recommend ( $R^2_{PRE} = .42$ ).

Table 21

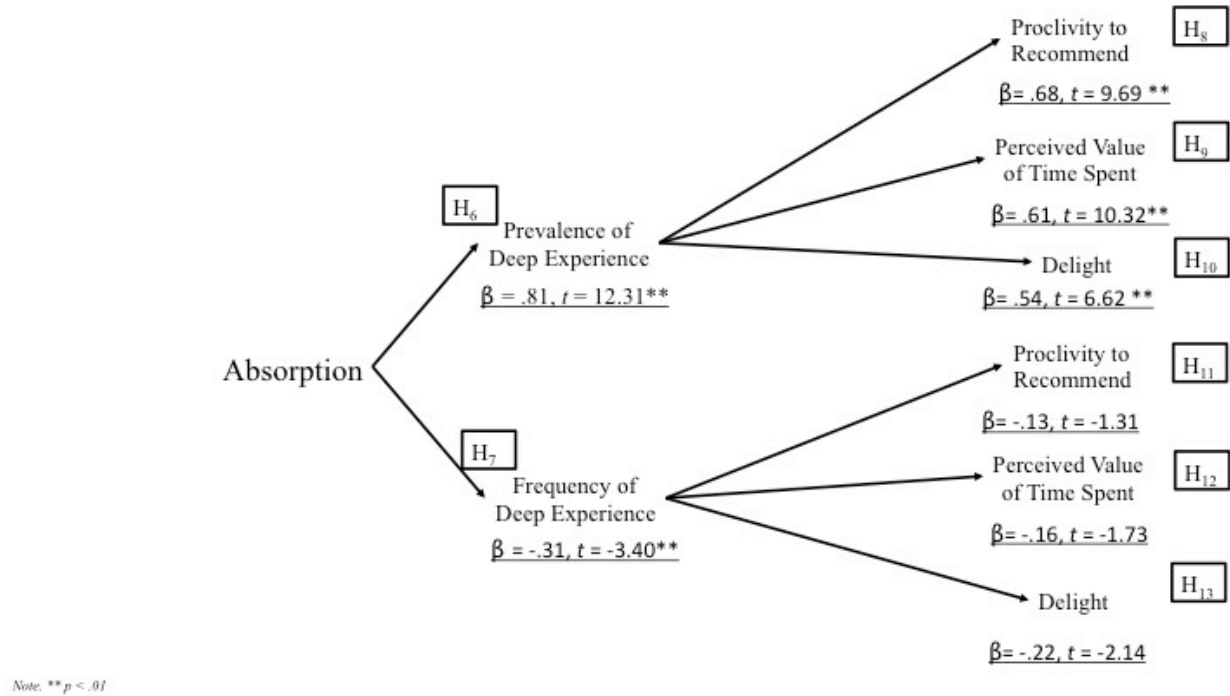
### Study 3 Hypothesis Tests

Hypothesis	Determinant (x)	Result (y)	$\beta$	$t$	$p$	$df_1$	$df_2$	$\sigma^2_r$	$\sigma^2_{\mu o}$	$R^2_{PRE}$
$H_6$	Absorption	DSE Prevalence	0.81	12.31	<.001	1.00	112.59	74.06	26.91	0.54
$H_7$	Absorption	DSE Frequency	-0.31	-3.40	<.01	1.00	106.89	2.72	1.04	0.11
$H_8$	DSE Prevalence	Proclivity to Recommend	0.68	9.69	<.001	1.00	114.95	0.50	0.14	0.42
$H_9$	DSE Prevalence	Perceived Value of Time Spent	0.61	10.32	<.001	1.00	108.36	2.84	2.58	0.45
$H_{10}$	DSE Prevalence	Delight	0.54	6.62	<.001	1.00	113.25	0.10	0.03	0.28
$H_{11}$	DSE Frequency	Proclivity to Recommend	-0.13	-1.31	0.20	1.00	102.02	0.99	0.18	<.01
$H_{12}$	DSE Frequency	Perceived Value of Time Spent	-0.16	-1.73	0.09	1.00	105.61	5.76	4.56	<.01
$H_{13}$	DSE Frequency	Delight	-0.22	-2.14	0.04	1.00	101.42	0.15	0.03	<.01



Figure 4.

### Study 3 Path Model and Results



### Summary of Results

Overall, savoring techniques and encouragement of co-creation do not have the hypothesized effects on absorption. Encouragement of co-creation diminished absorption in both Study 1 and 2. Study 1 showed a positive, significant relationship between instructional engagement (H<sub>5</sub>) and absorption. Relations among the endogenous variables are fully consistent with TSE propositions regarding DSE prevalence. All three studies found a strong, positive relationship between absorption and DSE prevalence (H<sub>6</sub>). All three studies found DSE prevalence to be a significant predictor of proclivity to recommend (H<sub>8</sub>), PV (H<sub>9</sub>), and delight (H<sub>10</sub>). Table 22 summarizes the results from the three studies by displaying hypotheses, expected results, and actual results. Study 1 includes standardized OLS betas and R<sup>2</sup> values, Studies 2 and 3 include standardized maximum likelihood regression coefficients and R<sup>2</sup><sub>PRE</sub> values.

Table 22

*Expected Results Vs. Actual Results*

Hypothesis	Determinant	Result	Study 1		Study 2		Study 3	
			Expected results	Actual results	Expected results	Actual results	Expected results	Actual results
1	Focus on the present	Absorption	+	-0.08	+	-0.06	+	na
2	Mental time travel	Absorption	+	-0.05	+	0.08	+	na
3	Behavioral expression	Absorption	+	0.01	+	<.01	+	na
4	Co-creation	Absorption	+	-0.13*	+	-0.12**	+	na
5	Instructional engagement	Absorption	+	0.43**	+	na	+	na
6	Absorption	DSE prevalence	+	0.55**	+	0.85**	+	0.81**
7	Absorption	DSE frequency	-	-0.14*	-	-0.02	-	-0.31**
8	DSE prevalence	Proclivity to recommend	+	0.55**	+	0.65**	+	0.68**
9	DSE prevalence	Delight	+	0.48**	+	0.71**	+	0.61**
10	DSE prevalence	Perceived value	+	0.56**	+	0.67**	+	0.54**
11	DSE frequency	Proclivity to recommend	+	0.02	+	0.02	+	-0.13
12	DSE frequency	Delight	+	-0.07	+	-0.03	+	-0.16
13	DSE frequency	Perceived value	+	-0.04	+	0.12	+	-0.22

*Note.* Study 1 coefficients are standardized OLS beta weights. Study 2 and 3 coefficients are standardized maximum likelihood regression coefficients.

\*\*  $p < .01$ , \*  $p < .05$

## CHAPTER V

### DISCUSSION

This dissertation sought to advance the understanding of absorption experiences. Select propositions from TSE about the determinants and results (Zetterberg, 1965) of absorption were tested (Ellis et al., 2017). Specifically, we examined the effect of encouraging select savoring mechanisms (i.e., attentional focus on the present, mental time travel, and behavioral expression of emotion; e.g., Jose, Lim, & Bryant, 2012), encouraging co-creation, and instructional engagement on absorption. Additionally, theoretical relations between absorption and its theoretical results (i.e., DSE prevalence, DSE frequency, PV, delight, and proclivity to recommend) were tested. Two determinants had a significant effect on absorption: co-creation and instructional engagement. The direction of the effect of co-creation, though, was opposite to the effect posited in the theory. That is, when co-creation was encouraged absorption decreased. The effect of instructional engagement was consistent with predictions. Absorption was found to significantly DSE prevalence and DSE frequency (only in Studies 1 and 3). DSE prevalence significantly predicted PV, delight, and proclivity to recommend. The remainder of this chapter synthesizes and integrates the findings for each of the three studies.

#### **Synthesis and Integration**

Study 1 and Study 2 sought to examine both the determinants and results of absorption. Concerning determinants, while none of the proposed savoring techniques (H<sub>1</sub>-H<sub>3</sub>) had a significant effect on absorption, co-creation (H<sub>4</sub>) and instructional engagement (H<sub>5</sub>; instructional engagement was included in Study 1 only) did. Contrary to predictions, absorption scores were higher when co-creation was *not* encouraged. Instructional engagement (H<sub>5</sub>) significantly

predicted absorption. Intentional structuring of instructional engagement thus seems to be an effective strategy for structuring an absorption experience.

### **Savoring Techniques**

None of the three savoring techniques had a significant effect on absorption. These results raise the question about the efficacy of the savoring techniques proposed by Jose et al. (2012) and Quoidbach et al. (2010). The *nature* and *timing* of the effect of savoring techniques may require reconsideration. Zetterburg (1965), for example, stressed that some relations between determinants and results are “sequential” while others are “coextensive” (immediate). In the case of an absorbing sensory experience, perhaps spontaneous expressions of emotion, both social and behavioral, elevate absorption at present instant, but they do not serve as a sequential determinant. Although Jose et al. (2012) and Quoidbach et al. (2010) proposed that mental time-travel is a determinant of absorption, it is also reasonable to argue that it is an absorption experience in itself. Reflection, or mental travel to a previous time, yields a change in emotional and attentional states, as does mental time-travel to an anticipated occasion. Thus, perhaps mental time travel should be removed from TSE propositions regarding determinants of absorption.

Non-significant effects of proposed savoring techniques were surprising, but allow for progress of behavioral science knowledge. A theory was created, propositions were made, propositions were tested, and future adjustments to the theory may be discussed. Absorption experiences are characterized as relaxing, pleasurable, having an absence of demand for behavioral or mental action in response to stimuli, and absence of active thinking (Ellis et al., 2017). Savoring techniques such as focusing on the present, facilitating mental time travel, or soliciting a behavioral expression may diminish absorption. They demand behavioral action,

emotional action, or active thinking that may interrupt the focus of attention essential for absorption. For example, simply asking participants to focus on the present is a request for participants to remain aware of the need for action during a sensory experience. This awareness of the need for action may detract from the absorption experience.

Post-hoc exploratory analysis in Study 1 provided support to the notion that savoring techniques may distract attention from the immediate sensory experience. Notable heterogeneity of variance was present in the data (see Table 23). The variance in absorption increased as the number of intentional structuring techniques to which participants were exposed (proposed determinants) increases. The variance of the groups that received all four strategies shows a 193% increase compared to the group that received none of the four strategies. It is also notable that the means of absorption decreased as the number of requests for savoring techniques and co-creation increased. The group with zero invited strategies produced an absorption mean of 401.15 while the group with four invited strategies produced an absorption mean of 344.43.

Table 23

*Test for Homogeneity of Variance between  
absorption and number of factors*

Number of factors	Mean	Variance	% increase
0	403.15	8,314.5	--
2	389.63	8,542.78	3
4	344.43	24,354.76	193

*Note.* \*\*  $p < .01$

Results suggest the more demand for action from the provider towards the participant, the more variance in the participant responses. It may then be assumed that if the provider initiates the absorption experience and leaves participants alone it is likely they will have a positive experience. On the other hand, if the provider initiates the absorption experience and continues to interact with the guests, encouraging participation or interaction, some participants are likely to experience dissatisfaction, distraction, and lack of absorption in the experience. This supports the notion that absorption experiences require significant intentional design and preparation *before* the experience so that the experience providers can be hands off once the experience begins.

### **Encouraged Co-creation**

When co-creation was not encouraged the experience was found to be more absorbing. Conceptually this result is reasonable, as co-creation (Prahalad & Ramaswamy, 2004) is *active* interaction between an experience provider and a guest or participant. Co-creation assumes that the experience provider will take a facilitator role in an effort to allow participants to co-create their own, personalized experience. Key elements of co-creation include active participation, open dialogue, and collaboration between provider and participant. Active participation may take place during all stages of the experience including anticipation, participation, and post-experience reflection. Like behavioral expression of emotion, co-creation requires use of cognitive activities that are not conducive to absorption.

Co-creation has been posited as a key element to structured experiences (e.g., Duerden et al., 2015; Ellis et al., 2016). The co-creative nature of these experiences allow participants to engage as intrinsically motivated. Providing freedom to act, react, and engage facilitates perceived freedom and autonomy (Mannell, 1980). This expression of perceived freedom is a key element of leisure as a state-of-mind (Mannell & Iso-Ahola, 1987). Co-creation can be

highly personalized as participants select different elements of the experience, when to engage, and how to participate. For example, autotelic guests with goal-seeking personalities may engage much more fully than a bored or tired individual (Csikszentmihalyi, 1975).

Although both conceptual and empirical research have posited co-creation as a positive element of an experience (e.g., Binkhorst, 2005; Duerden et al., 2015; Ellis et al., 2016), this study provides evidence that this may not be the case with structured absorption experiences. Revisiting the definition, absorption is, “a transitory condition of heightened attention, motivation, and emotion characterized by (a) high levels of relaxation and pleasure, (b) absence of demand for behavioral or mental action in response to stimuli, and (c) absence of active thinking (Ellis et al., 2017, p. 6). In opposition to this definition, co-creation includes demand for behavioral action, mental action, and active thinking. Co-creation may or may not be pleasurable depending on the desires of the participant, but it is often not relaxing. Relaxation is the experience of letting go, releasing tension, and maintaining a passive, simple focus on an experience (Ghoncheh & Smith, 2004). Co-creation may actually encourage participants *not* to let go by inviting participants to hold on and participate (Prahalad & Ramaswamy, 2004). Due to the active, participatory nature of co-creation it may induce tension as opposed to releasing it. Lastly, co-creation is an active and participatory engagement in the experience as opposed to a passive observation of the experience.

Although research posits co-creation as a key antecedent to quality experiences, absorption may be one experience type in which a high level of co-creation is not appropriate. Perhaps co-creation can be a key element of *planning* a sensory experience. An individual preparing for a massage experience, for example, might be presented with choices of music, aromas, and type of massage. A visitor to a national park might choose to visit a scenic vista, in

order to enjoy contrasts associated with shadows and light at a particular time of day. Both of these cases exemplify co-creation as a part of the planning process, but not as a potential distractor during the actual sensory experience. Future research may continue to examine the concept of co-creation including how providers appropriately facilitate co-creation, how participants co-create, and appropriate intensities of co-creation for different experience types (e.g., immersion, engagement, absorption).

### **Instructional Engagement Effects on Absorption**

Instructional engagement was built only into Study 1. Instructional engagement was the period in which participants were instructed and prepared for their subsequent sensory experience. The savoring variables and co-creation were manipulated through the instructional engagement phase. Instructional engagement had a significant, positive relationship with absorption: instructional engagement may elevate an absorption experience. These results are particularly notable for experience designers. Strategies that TSE suggest to elevate engagement (coherence, provocation, and self-relevance) may also be used to elevate absorption via instructional engagement. As experience designers plan the instructional engagement phase of their structured experience they may keep engagement strategies in mind. For example, instructional engagement at a spa before a massage experience should be *coherent*. That is, clear, logical, and consistent, so that your guest understands instructions and feels prepared to begin his or her massage experience. Coherence also refers to the existence of a meaningful storyline, or theme. Thus, an interpreter at a national park might share a story about an early explorer of an area of natural significance and ask visitors to imagine that they are a member of the exploration team. Similarly, instructional engagement must be self-relevant. If the receptionist at the spa



explains information that is not relevant to the guest and their treatment it will be confusing and distracting as opposed to engaging.

Instructional engagement results are consistent with research in instructional design. Principles of instructional design posit that the first objectives of instructional design include enabling participants (Gagne, Wager, Golas, Keller, & Russell, 2005). Instructional engagement serves this purpose by instructing absorption participants, preparing them, and enabling them to have a quality experience. Gagne's (1965) nine events of instruction include gaining attention, informing, presenting information, and providing guidance as key conditions of learning. Instructional engagement can successfully employ these techniques during the instructional engagement phase in an effort to prepare participants to have a high quality absorption experience. Returning to our spa example, the receptionist might gain attention by asking, "are you ready for the most relaxing experience of your week?" He or she may continue the instruction by presenting proper information and informing the guest what to expect. Then guide guests to the room where they might change and wait for their massage therapist.

The relationship between instructional engagement and absorption is noteworthy as it is part of the first empirical exploration between experience types in the TSE (Ellis et al., 2016). While the theory posits these experience types (i.e., engagement, absorption, immersion) are not mutually exclusive, the theory does not provide any propositions about their relationships with one another. Future research may continue to explore these relationships. For example, how do immersion and engagement experiences work together for greater DSE prevalence, perceived value, delight, or proclivity to recommend?

## **Presumed Effects (Results) of Absorption**

Studies 1, 2, and 3 explored the results of absorption. These studies provided substantial evidence of the theorized results of absorption. That is, absorption leads to greater DSE prevalence, and greater DSE prevalence leads to greater PV, delight, and proclivity to recommend. This study is the first to test the relationship between absorption experiences and DSE prevalence, the results of DSE prevalence are consistent with past research employing DSE and related outcome measures (Ellis et al., 2018; Lacanienta et al., 2018; Taggart et al., 2018). These findings are notable for both research and practice.

Additionally, Study 1 and 3 are among the first to find significant relationships between immediate experiences (in this case absorption) and DSE frequency. The relation was not significant in Study 2. TSE posits that as absorption increases DSE frequency will decrease (Ellis et al., 2017). Consequently, as DSE frequency decreases TSE proposes an increase in PV and delight. While Study 1 and 3 showed a significant relation between absorption and DSE frequency they did not show a significant relation between DSE frequency and PV, delight, and proclivity to promote. This finding calls for future research.

This line of research on DSE frequency is particularly important because the empirical findings are inconsistent with sound reasoning establishing that interrupted attention diminishes the quality of experience. DSE frequency is defined as the number of occasions that a state of DSE is initiated. In other words, a high frequency value would include a participant phasing in and out of a focused, attentive state. DSE frequency may be caused by distractions, boredom, negative cues (Pine & Gilmore, 1999; 2011), or a number of other factors. Implications for experience providers are important. Consistent with previous discussion, when designing an absorption experience, it may be important to ensure the experience is relaxing, pleasurable, and

with minimal distraction to allow for a lower frequency of phasing in and out of focus and attention. As evidenced by the somewhat intrusive savoring techniques, absorption experiences are best had with little to no interruption or demand for behavioral action, emotional action, or active thinking. Future research may explore DSE frequency in depth with a variety of experience types (e.g., absorption, immersion, engagement), varying levels of experience quality, and among a variety of different age demographics.

These studies advance TSE by establishing evidence for propositions of the results of absorption and creating new measurement. Absorption has now been empirically tested and demonstrated to be a determinant of DSE prevalence, DSE frequency, PV, delight, and the proclivity to recommend. Additionally, this dissertation designed and employed a new measure of absorption. The five-item measure is highly reliable ( $\alpha = .82 - .92$ ). Researchers and practitioners alike may use this measure as they design, stage, and evaluate absorption experiences.

### **Re-examining Propositions of Absorption**

Future research is needed to explore antecedents and determinants of absorption within TSE. Based on the definition, the immediate absorption experience should be designed in a way that is relaxing, pleasurable, and without demands for active thinking or behavior. Propositions for increasing absorption include: 1) as focus on the present increases, absorption tends to increase, 2) as awareness of problems decrease, absorption tends to increase, 3) as anticipation increases, absorption tends to increase, 4) as behavioral expression of reactions to welcome sensory stimuli increase, absorption tends to increase, and 5) as social expression of reactions to sensory stimuli increase, absorption tends to increase. Informed by the results of this study we propose a variety of suggestions to structuring absorption experiences.

First, an in-situ invitation to focus on the present may diminish the absorption experience. This is quite intuitive. If you interrupt someone's absorption experience to remind him or her to focus on the present, it is likely you are acting as a distraction from his or her mindful attention to the sensory experience. Therefore, an effort to remove distractions from the absorption experience may increase the ability to focus on the present. Similarly, a coherent, smooth, and consistent absorption experience may help participants focus on the present. For example, playing similarly themed music throughout the experience, keeping participants in the same room without making them move spaces, or keeping the lighting and atmosphere similar throughout the experience. All of which may increase participants' ability to focus on the present and avoid distraction.

Second, as awareness of problems decrease, absorption tends to increase. Similarly, with focusing on the present it is counterintuitive to interrupt a participant's absorption experience to remind them to forget about their problems. In fact, calling his or her attention to forget his or her problems might accidentally encourage him or her to think of their problems. Therefore, during the instructional engagement phase of the experience it may facilitate absorption to encourage participants to notice features of the immediate environment as the experience begins. Features may include novel sights, sounds, smells, tastes, or feelings. The immediate environment might be designed in a way that follows aesthetic principles of beauty such as balance, symmetry, proportion, or contrast (Reber et al., 2004). This immediate environment design effect falls in line with the idea of intrinsic structuring techniques. That is, within the experience, prefaced beforehand, or used at the end. Encouragement of anything should not take place during the absorption experience itself.

Third, as anticipation increases, absorption tends to increase. This study utilized mental time travel (Jose, Lim, & Bryant, 2012) to operationalize anticipation and found no significant relationship with absorption. Mental time travel may be an absorption experience in itself as opposed to a determinant of absorption. Instead of mental time travel, anticipation for the experience may be better facilitated before the absorption experience begins. Intentionally designing the anticipation phase of an experience is key (Rossman & Schlatter, 2008). Building anticipation might include sending participants a surprise in the mail before the experience begins, offering taste samples of the full meal before the dining experience begins, or sending a scented card as a hint for what the absorption experience might entail. Similarly, you might co-create with participants by including them in the design or personalization of the experience (Prahalad & Ramaswamy, 2004) to facilitate anticipation for what they have helped create. Any of these *anticipatory* actions may help to increase the anticipation for the upcoming absorption experience.

Fourth and fifth, as behavioral expression of reactions to welcome sensory stimuli increase, absorption tends to increase, and as social expression of reactions to sensory stimuli increase, absorption tends to increase. These two propositions are essentially one in the same. If you are making a social expression of a reaction it requires you to behave in a certain way. Similarly, if you conduct a certain behavior it will be socially noticeable. Therefore, we propose these two be combined into one proposition. Additionally, the results of this study suggest that the proposition related to social and behavioral expressions of emotion must either be a) spontaneously carried out by the participant or b) structured as an end-experience (Heath & Heath, 2017). That is, if participants spontaneously, without encouragement react to the experience with a thumbs up or a smile, they are likely to experience greater absorption.

Similarly, at the end of the absorption experience an encouraged behavioral expression, such as smiling (Lyubomirsky, 2008) might increase absorption. The experience is ending regardless and therefore the distraction of encouraging a participant to smile will not jar the participant out of the absorption experience as it may if it was encouraged in the middle of the experience.

In summary, future research on the determinants of absorption might explore a) proper timing of and guidance of savoring techniques and b) intrinsic structuring strategies. That is, structuring techniques should be employed before or after the participants begin their experience as to not distract or jar participants from their experience. If an experience facilitator wants to invite his or her participants to smile, for example, they should do so at the end of the experience as a reflection on the experience that just took place.

Intrinsic structuring techniques are intentionally designed before participants enter and are inherent or built into the experience in a way that does not require demand of behavior or active thinking. Examples might include elements of novelty in the stimuli within an absorption experience. Meow Wolf, an art installation in Santa Fe, New Mexico, for example, installed glowing, fluorescent trees in the entrance to its museum. This is novel offering may allow participants to enter the space and become immediately absorbed without an employee demanding it of them.

Intrinsic structuring techniques may also include unique atmospherics related to sight, sound, smell, touch, and taste may also augment an absorption experience. TSE posits that absorption experiences are inherently multi-sensory. It makes sense then, that a unique, novel atmosphere for the absorption experience might be one way to use intrinsic experience structuring techniques. Retrospectively examining the current study, the rooms in which participants in Studies 2 and 3 viewed the slide shows could have been intentionally structured to

include a theme, certain scents, specific levels or colors of light, snacks to taste, or special pillows to sit on. These intrinsic elements of the experience are designed before the experience starts and may provide additional opportunities to be absorbed without needing employees to demand active thinking or behavior from guests.

Elements of beauty and aesthetic may also play a role in intrinsic structuring techniques. Designing an experience that includes elements of balance, symmetry, proportion, or contrast may facilitate a more aesthetically pleasing and thereby more absorbing experience (Reber et al., 2004). Again, elements of aesthetic design can be taken into account during the creation and preparation of an experience in an effort to stay “hands-off” of participants *during* the absorption experience. Revisiting our absorption reflections in Studies 2 and 3, the rooms might have been set up intentionally with beautiful furniture, flowers, and curtains. We might have staged the room to be perfectly symmetrical and contrasted colors used in the room’s décor. A clean and neat room may be more aesthetically pleasing and may thereby be more absorbing.

Lastly, elements of solitude may be important in facilitating absorption. This may include actual solitude (i.e., being completely alone) or perceived solitude (i.e., the perception of being completely alone; Long & Averill, 2003). Perceptions of solitude may include a *communicative separation*, that is, it is appropriate to be with another person but still feel in solitude due to the lack of communication. This study suggests that participants do not want to be bothered, distracted, or otherwise interrupted during their absorption experiences, and if they are, absorption decreases. The proposed concept of solitude falls in line with these results. It may be safe to assume that if participants are in solitude or perceive solitude that there is a lack of distraction or extraneous, unnecessary or distracting stimuli.

## The Future of Absorption

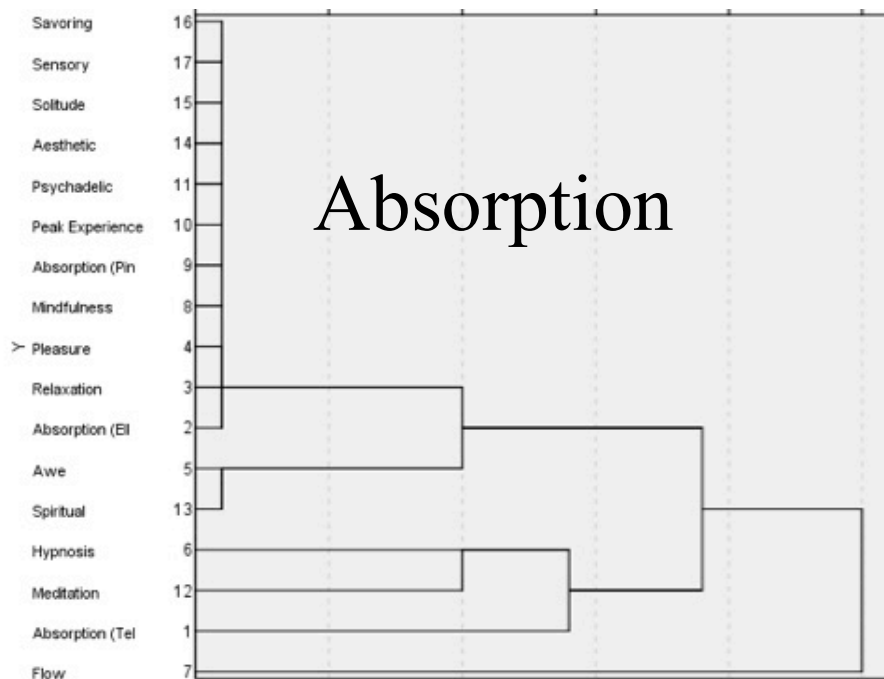
This dissertation reviewed absorption and a number of experiences similar to absorption including aesthetic, solitude, awe, and mediation. In an effort to synthesize the literature review and study results Tables 2 and 3 were used to inform a cluster analysis that graphically represents absorption in Figure 5.

Figure 5 is a dendrogram that links groups to show how these different experiences naturally fit together based on their relationship with the absorption (Ellis et al., 2017). The largest grouped is named *absorption* and includes absorption (Pine & Gilmore, 1999; 2011), absorption (Ellis et al., 2017), relaxation, pleasure, mindfulness, sensory engagement, savoring, solitude, aesthetic, psychedelic, and peak experience. Conceptually, this makes sense. Absorption as defined by Pine and Gilmore informed absorption as conceptualized by Ellis et al. Similarly, it makes sense that the domains and propositions of absorption (i.e., relaxation, pleasure, mindfulness, sensory engagement, savoring) in TSE would fit into this group. Insights gained from this brief analysis concern the states and experiences that were clustered with absorption and include solitude, aesthetic, psychedelic, and peak experience. This may suggest that these states and experiences are, generally speaking, absorbing. As you move down the dendrogram each state or experience strays more and more from the state of absorption as defined by Ellis et al. (2017). It seems the state of awe and spiritual experiences are more closely related to absorption than flow for example. This makes theoretical sense. Flow is generally characterized as a state of challenge, skill, action, and reaction. Although it may be pleasurable, flow states often include stress and a great deal of active thinking.



Figure 5

Dendrogram of Absorption



Based on the literature review, synthesis of absorption related experiences, and nonsignificant results related to determinants of absorption, I recommend the following 1) additional guiding factors for propositions of a) timing and b) intrinsic structuring techniques, 2) clarification of the *absence of active thinking* in the definition, and 3) adding elements of solitude and aesthetic in a new definition of absorption.

First, the future of absorption will include additional insight related to the determinants of absorption. Due to the lack of the efficacy of savoring techniques, alternative structuring techniques and guidelines are necessary. As mentioned previously, two guiding factors include 1) timing and 2) intrinsic structuring techniques. Timing refers to explicit structuring techniques that invite co-creation or active participation before or at the end of an absorption experience. That might include inviting participants to smile or focus on the novel sensory environment in

the upcoming absorption experience. These structuring techniques should be avoided in-situ during the absorption experience in an effort to allow participants to stay relaxed and absorbed throughout the entire experience.

Intrinsic structuring techniques are structuring techniques that are designed ahead of time by the experience provider, built into the experience in a way that does not solicit active engagement or participation from the guests. Examples of intrinsic structuring techniques might include elevating novelty of sensory stimuli, designing for aesthetic beauty, or facilitating perceived solitude. Unique atmospherics may absorb guests as they are enveloped in novel sights, sounds, smells, tastes, and feelings. While previously proposed savoring techniques required participants to actively participate in the provider's requests, intrinsic structuring techniques are built in and inherent in the experience itself. Participants are able to freely engage with the experience as they feel is most appropriate and conducive to a relaxing, pleasurable, and personalized absorption experience.

Second, the definition of absorption currently includes, *absence of active thinking*, but in the review of the literature on experiences similar to absorption, subjective absorption experiences appear to have a rather salient element of thought and *mindfulness*. Propositions in TSE even posit that increased *focus on the present* increases absorption. Similarly, states such as awe and mindfulness, require a soft focus to be able to bring in the vastness of the awe invoking experience (Keltner & Haidt, 2003; Langer, 1989). Informed by literature on awe, meditation and mindfulness, I propose this portion of the definition be revised to, "active observation without thought of immediate action." This definition allows for low to moderate levels of active thinking, largely focused on observation or *absorbing* the experience into the mind and body (Pine & Gilmore, 1999; 2011). It also focuses, similar to mindfulness, on observing as opposed

to acting. It is a soft focus, simple observation, possible behavioral or social expression of reaction to stimuli, but action based on observation is absent. For example, during an absorption related experience like a nature walk your mind might be actively observing, not thinking about everyday worries or stresses, but observing what you see around you. The song of a bird or the sight of wildlife might bring out spontaneous smile or thumbs up (behavioral or social expression of reaction to stimuli). Similarly, during a meditation experience your mind may be actively pondering life or observing the world around you without any energy being exerted towards action or immediate change.

Third, I believe it is salient to include elements of solitude into the reconceptualization of the state of absorption. While there are a variety of sensory, absorption related experiences that include more than one person (e.g., a musical concert or a delicious family meal) an element of solitude might be important to the nature of absorption. A state of solitude can take place alone, but it can also take place with a group of people and include the *perception* of solitude. The setting, such as a quiet forest may invite a state of solitude. Similarly, the state of awe is also characterized as an individual experience as opposed to a communal or group experience. Solitude, whether perceived or real may be key in facilitating relaxation, lack of demand for behavioral and emotional action, and active thinking. If you are experiencing solitude or perceived solitude it is unlikely anyone will demand anything from you or ask you to actively think about anything. Therefore, I recommend *an element of perceived solitude* be added to the definition of absorption.

Aesthetic is almost inherent in any absorption related sensory experience and should be included in the definition of absorption. Many absorption related experiences include an element or appreciation of beauty whether it be the beauty of a breathtaking mountain range, the beautiful

taste of a fine meal, the beautiful sound of a symphony, or the beautiful smell of a rose garden.

Designing an experience that includes element of balance, symmetry, proportion, or contrast may facilitate a more aesthetically pleasing experience (Reber et al., 2004). So, although, aesthetic is inherent in the nature of absorption I recommend the definition include aesthetic appeal.

Based on the presented information, I recommend the following definition for the state of absorption: *a transitory state of heightened attention, motivation, and emotion characterized by (a) relaxation, (b) pleasure, (c) absence of demand for behavioral or mental action in response to stimuli, (d) active observation without thought of immediate action (e) perceived solitude, and (f) aesthetic appeal.*

## **Implications**

Results from this dissertation provide implications for both research and practice. Research implications include matters pertaining to TSE proposed determinants, proposed modifications to determinants, outcomes of absorption, and measurement of structured experiences. Practical implications for study abroad and study abroad-like programs will also be discussed.

Proposed savoring techniques as determinants need to be reconsidered. Future research concerning the types of savoring techniques and the proper timing of employing savoring techniques is needed. For example:

- Is it reasonable to treat mental time travel as an absorption experience itself instead of a determinant of absorption?
- Are social and behavioral expressions of emotion sequential or coextensive in nature (Zetterberg, 1965)? Spontaneous behavioral action may be positive, but encouraged or invited behavioral action may be distracting.

Conceptual and empirical research to identify additional determinants is needed. These areas of research include but are not limited to beauty, aesthetic, solitude, novelty, arousal, and mindfulness. Co-creation is active in nature and if included should be utilized during the planning and anticipation phase of the sensory experience. During the sensory experience providers should remain *hands-off* and allow participants to focus and enjoy the experience without distraction or encouragement for participation. Instructional engagement has the potential to be an important variable in structuring absorption experiences. Ensure instructional engagement is coherent, provocative, and self-relevant.

This study was successful in creating a succinct and reliable measure of absorption. This measure may be employed by researchers and practitioners in measuring and evaluating absorption experiences.

This study has notable implications for study abroad experiences as well as other structured education based programs. Experience providers on multi-day/week experiences may employ absorbing reflection experiences with their participants in an effort to reflect, remember, and value their experience. As indicated in the results, viewing the photo reflection of the day's activities accompanied by music created an absorbing multi-sensory experience in which participants were a relaxed and pleased, and mindful. After a long day of active traveling, sightseeing, and other study abroad related activities a relaxing, absorbing experience may be welcomed by participants.

TSE posits, and as evidenced by the results, that high levels of absorption lead to high levels of DSE prevalence consequently leading to increased proclivity to recommend, perceived value, and delight. This has a number of implications for directors of study abroad or study abroad-similar programs. Study abroad participants who experience deep, valuable, and

delightful experiences may return for another study abroad, encourage others to participate, or even donate to the organization in the future. Designing absorption experiences for these types of experiences may be key to an organizations success.

As the TSE propositions for facilitating absorption (i.e., savoring techniques) were not found to be significant, study abroad designers might look elsewhere for staging techniques. Future research in absorption may examine intrinsic structuring strategies and the timing of the use of savoring techniques. It may be important to design the experience and play the role of a hands-off facilitator in order to allow for absorption.

Artistic and technical factors (Ellis & Rossman, 2008) may also play a role in designing the experience ahead of time. Technical factors may include preparing the customer service (e.g., Parasuraman, Zeithaml, & Berry, 1988) factors while artistic factors would include incorporating a theme, sensory engagement, or memorabilia into the experience. This could all take place before participants arrive for the evening reflection in order to prepare the experience in a way that participants can enter, relax, and enjoy the experience uninterrupted.

## **Limitations**

Limitations for the studies must be noted. The data produced negative skewness causing concern for statistical conclusion validity of the distributions. The negatively skewed data indicates that these staged absorption experiences were highly positive or valued. A solution to this limitation may include conducting laboratory research. In a laboratory setting researchers will be able to manipulate and vary experience quality and thereby provide a clearer picture into determinants and results of experiences.

Each study took place in a different setting. Study 1 included panel participants who participated in a variety of spaces. Study 2 included study abroad students who engaged in

reflection experiences in a variety of different physical settings and countries. Study 3 included study abroad adolescents who engaged in reflection experiences in a variety of hotels and enclosed spaces. Some settings may have been more inherently absorbing while others might have detracted from absorption due to cramped space, temperature, or uncomfortable seating. In Study 2, for example, the directors of the study abroad experienced technical difficulties with the sound for the experience. Field experiments will almost always include extraneous variables that may have confounding effects. Again, laboratory research instead of a field experiment might be better at detecting predicted determinants of absorption and other experience types.

Future research might also examine standardizing variables within person in an effort to account for the nature of their daily experiences. This study, for example, included reflections on daily experience, but the daily experiences varied widely. For example, one day, participants went paragliding, an incredibly absorbing experience. On another day they participated in a cooking class, which is largely immersive, as it requires action, challenge, and skill. So while the experiences measured during this study were the reflection experiences and not the experiences participated in during the day, those daily experiences may have a confounding effect on the absorption of the reflection experience. Therefore, future research may examine standardizing variables within person in an effort to avoid this issue.

A limitation of Study 1 and 2 is the low number of participants. The association strengths (effect size) for savoring techniques were very weak, suggesting that future research with those techniques might need a larger sample. Additionally, the studies were not fully balanced. Predictors of absorption should have produced a fully balanced design with zero correlation among each other. Due to missing data and lack of balance in the groups, very weak correlations existed.

A manipulation check (see Table 24) was employed for Study 1, but not for Study 2 and Study 3. Future research should include manipulation checks in each sample. Manipulation checks for Study 1 revealed that only 65.9% of participants ( $n=137$ ) “listened very carefully to what the Wizard said, and did all of the things he asked them to do.” Future research may examine how to more fully engage the entire sample.

Table 24

<i>Manipulation Check</i>		
Variable	<i>n</i>	%
I did not pay much attention to that Wizard.	9	4.3%
I listened to what the Wizard said, but I only did some of the things he asked me to do.	57	27.4%
I listened very carefully to what the Wizard said, and I did all of the things he asked me to do.	137	65.9%
I listened very carefully to what the Wizard said, but I did not do any of the things he asked me to do.	4	1.9%

In order to execute rigorous scientific inquiry it is important to note that possible threats to internal, external and statistical validity were examined. In an effort to address any concerns with the validity of this research we tried to control, partially control, or at the very least recognize the threats to validity and address them as best as possible. Most threats to validity (i.e., history, maturation, instrumentation, measurement, attrition, outcome, temporal, and low power) were controlled or deemed a non-issue.



The most notable threats to validity include testing, multiple-treatment interference, reliability of treatment implementation, ecological validity, extreme variability of participants, and inflation of experimentwise alpha due to multiple tests.

- Testing: In Study 2 and 3, participants responded to the same questionnaire on multiple occasions. It is thus possible that responses to items on previous tests affected responses on a given occasion. Use of multilevel modeling, though, helps control intra-individual error variation.
- Multiple treatment interference: Due to the repeated measures design in Study 2 and 3 it is possible that a carry over effect took place between treatments. For example, in one treatment participants were invited to focus on the present and take deep breaths. In the next treatment condition they may not have been invited to focus on the present and take deep breaths but done it regardless because they remembered doing it in the last treatment condition.
- Reliability of the treatment implementation: Study personnel immediately associated with this research were not on site to monitor or conduct in-situ manipulation checks.
- Concerning the inflation of experimentwise alpha due to multiple tests: The more tests that are conducted equates to a higher likelihood of a Type I error. This study included nine tests (i.e., mental time travel, co-creation, behavioral expression, focus on present, engagement, and all variables' interaction with engagement and yielded an experimentwise alpha of .37 at the alpha level of .05.

## **Future Research**

This study provides an appropriate foundation for future research on absorption experiences and the theory of structured experience (Ellis et al., 2017). In relation to absorption there are a number of important next steps. First, while this study focused on propositions that imply actions that might be carried out by experience providers, future research might begin to explore what participants can do to experience greater absorption. While the participants can enact some of the propositions such as focusing on the present, forgetting about worries, and behaviorally expressing emotion there are also other avenues of research that might examine absorption from a participant's lens. For example, what role does novelty or self-relevance play in the intensity of participant's absorption experiences? Do individuals who have brand loyalty to an organization experience greater intensities of absorption or are they more easily absorbed than those who are not brand loyal? There are a number of questions to explore regarding the participant perspective on absorption.

Nonsignificant results of savoring techniques brings up the question of unknown moderators. Future research might examine the relationship between savoring techniques and absorption in an effort to identify and empirically test these moderators. While the theory of structured experience does not include such moderators, variables such as age, sex, physical location, experience type, introversion, extroversion, or self-relevance may moderate the relationship between savoring techniques and absorption.

Another avenue of future research is regarding mindfulness. Mindfulness techniques may be employed in future examinations of absorption experiences in an effort to intensify or increase absorption. This may include identifying novel ways objects look, feel, smell, or taste. Being mindful means intentionally becoming aware of the contextual big picture and the content or

details of that big picture (Langer, 1992). Mindfulness includes observing the world around us while removing distracting noise from the mind. Future research on which mindfulness strategies to employ, when to employ them, and how often they should be employed is an important avenue for future research.

The role of objective environmental features and physical space may also play a salient role in the intensity of an absorption experience. Kaplan and Kaplan (1972), for example, posit there are four distinct variables that explain environmental preferences. While initially described for natural, outdoor, and landscape situations, the core principles may be applicable for absorption design. The four variables include physical attributes (e.g., vegetation, water, sky), land cover types (e.g., agriculture, weeds, forests, grass), informational variables (repeated elements, richness, signage, paths), and perception-based variables (e.g., amount of space available, uniformity, ease of access). Future research may examine the role that the physical space and landscape of absorption play and whether physical space can be intentionally designed for greater absorption.

As previously mentioned, the determinants of absorption need a great deal of future research. The timing and nature of savoring techniques must be further explored. Additional determinants such as perceived solitude, aesthetic, and mindfulness might also provide novel insights into determinants of absorption. Future research may also identify and examine intrinsic structuring techniques. That is, what can providers do to naturally build in things that will be inherently and naturally absorbing? How can the physical space be utilized? How can the instructional engagement phase be used effectively? How might we structure powerful end moments (Heath & Heath, 2017)?

This study also provides a launching pad for clarifications and extensions of the theory of structured experience (Ellis et al., 2017). This study set the stage for future research examining the relationships between experience types (e.g., immersion and engagement). While this study saw a positive relationship between engagement and absorption, future research might examine relationships between immersion and engagement or immersion and absorption. Live-action role-play, for example, may be an appropriate avenue for exploring an experience that is both highly immersive (action and reaction) and engaging (includes an unfolding narrative).

DSE frequency needs further research including studying the construct experimentally as a determinant. For example, three groups may participate in an absorbing dining experience. One group may be interrupted six times while another group is interrupted 12 times and the third group is not interrupted at all. This would allow researchers to examine DSE frequency as a determinant as opposed to a result (outcome). Measurement of DSE frequency may also need to be reconsidered. DSE frequency has been measured a variety of ways including asking, “How many times did you phase in and out of a state of deep structured experience?”, and counting the deficits and cycles of moving in and out on other measures of DSE. Additional research on this measurement instrument is needed.

Lastly, as research on experience, experience design, and the theory of structured experience progresses it will be necessary to experimentally manipulate the quality of experiences in the experiment. Historically, the experimental design of experiences manipulates a variety of variables posited to increase experience quality or satisfaction. It is obvious then, that intentionally designed high quality and satisfying experiences will often yield skewed data. Future research may experimentally manipulate experiences to include manipulations that are

high, medium, and low in quality. Varied experience quality may allow for normal distributions of data and a better picture of determinants and results of immediate experiences.

## CHAPTER VI

### CONCLUSIONS

The intentional design and structuring of absorption experiences is imperative to the success of many organizations in the experience industries. The purpose of this study was to advance understanding of absorption experiences (Ellis et al., 2017) and, in doing so, to provide new insights for research and practice. While TSE propositions of determinants were found to be nonsignificant or detrimental to the absorption experience this study provided new insights to move forward and extend TSE. Absorption experiences may be optimized as providers remain “hands-off”, utilizing intrinsic structuring techniques and guiding savoring techniques at appropriate times (i.e., before starting or as the experience comes to a close). Researchers may use this information in the continued exploration of experience, experience design, and TSE. Similarly, practitioners, by appropriately guiding savoring techniques and staging “hands-off” absorption experiences that are pleasurable and relaxing can facilitate deep structured experiences with their guests leading to high quality and satisfying experiences that will be shared with others and improve the organization’s bottom line.

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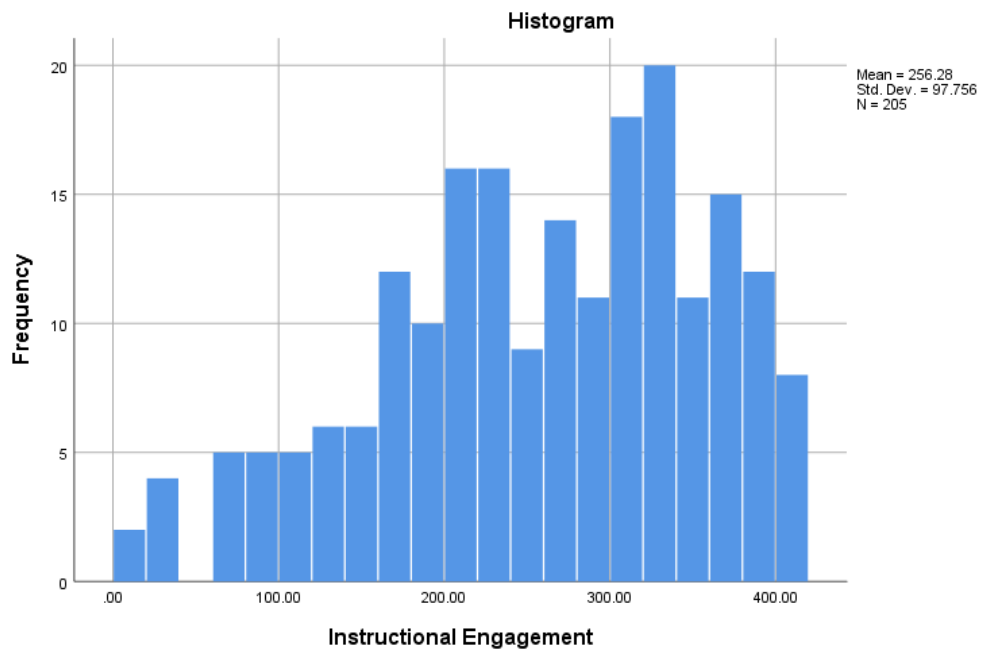
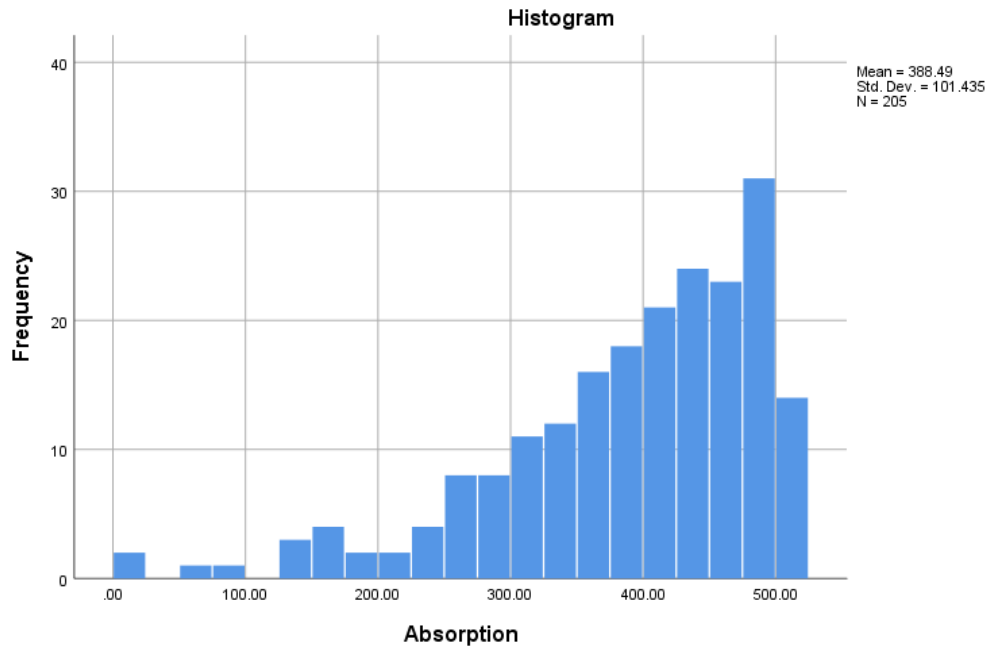
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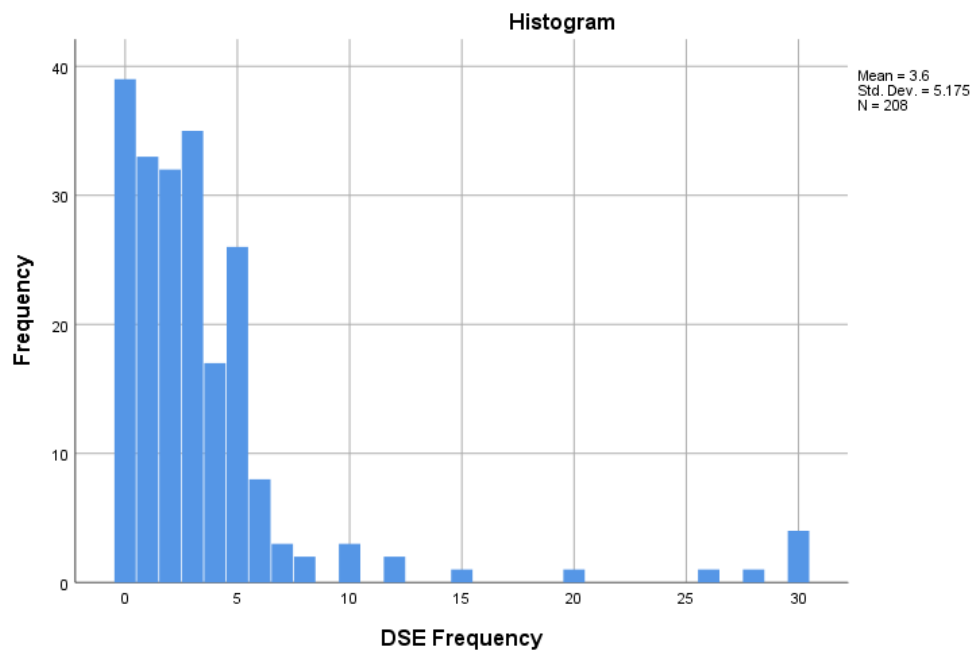
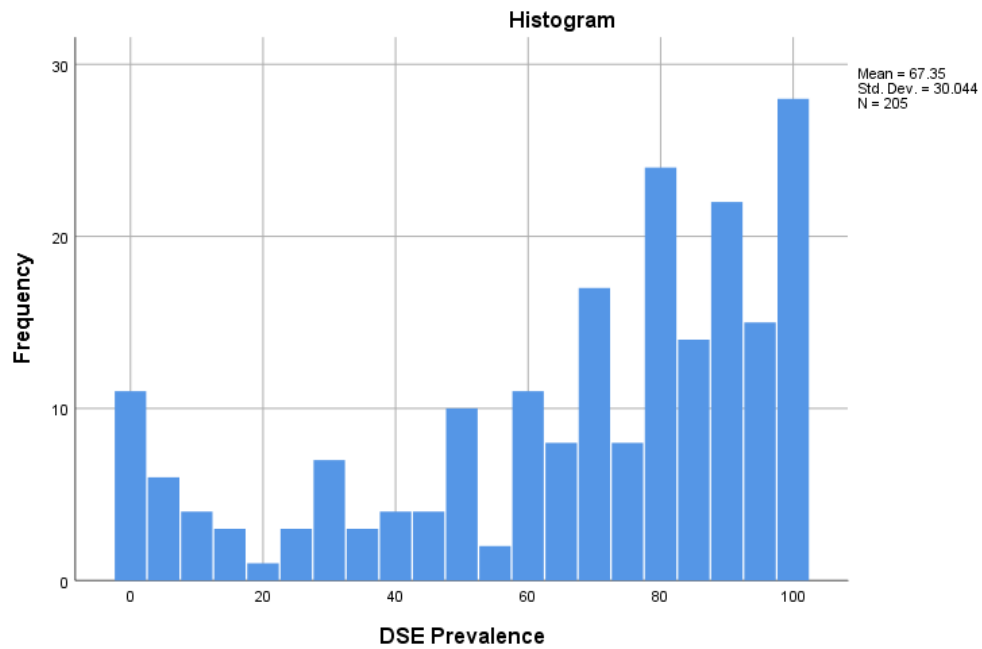
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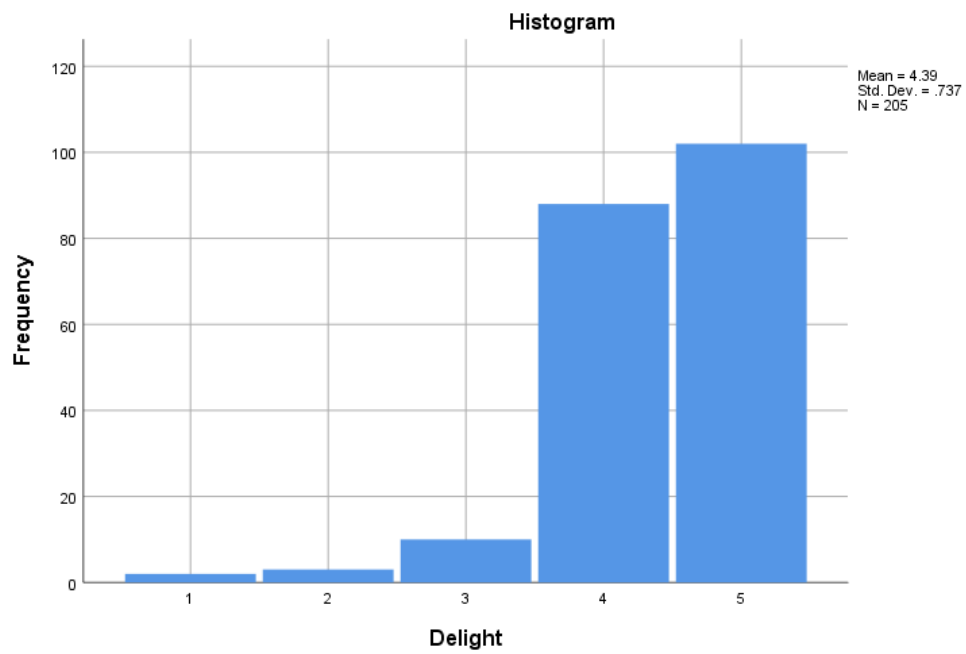
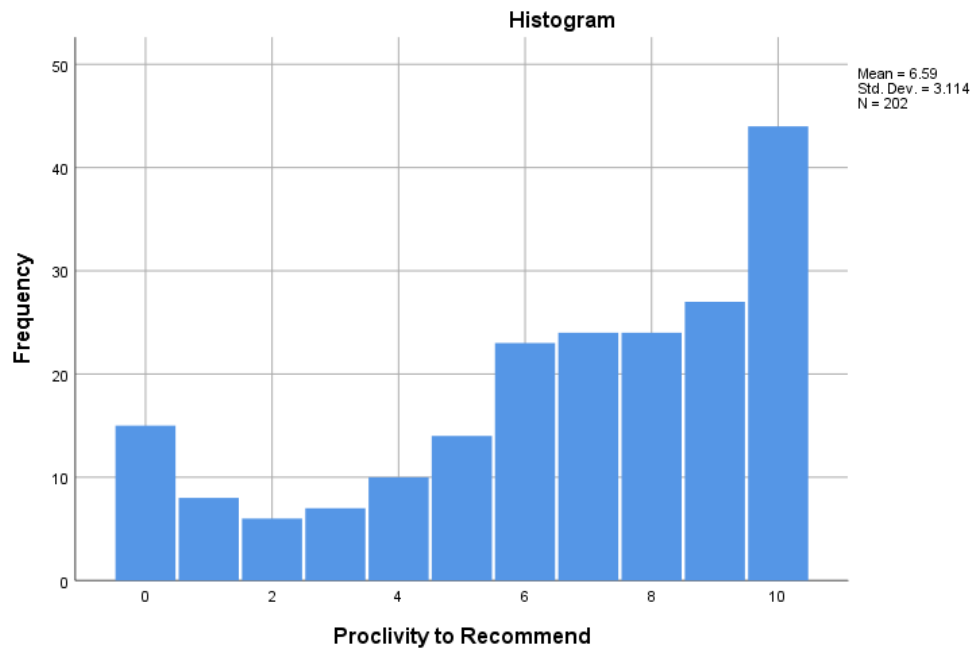


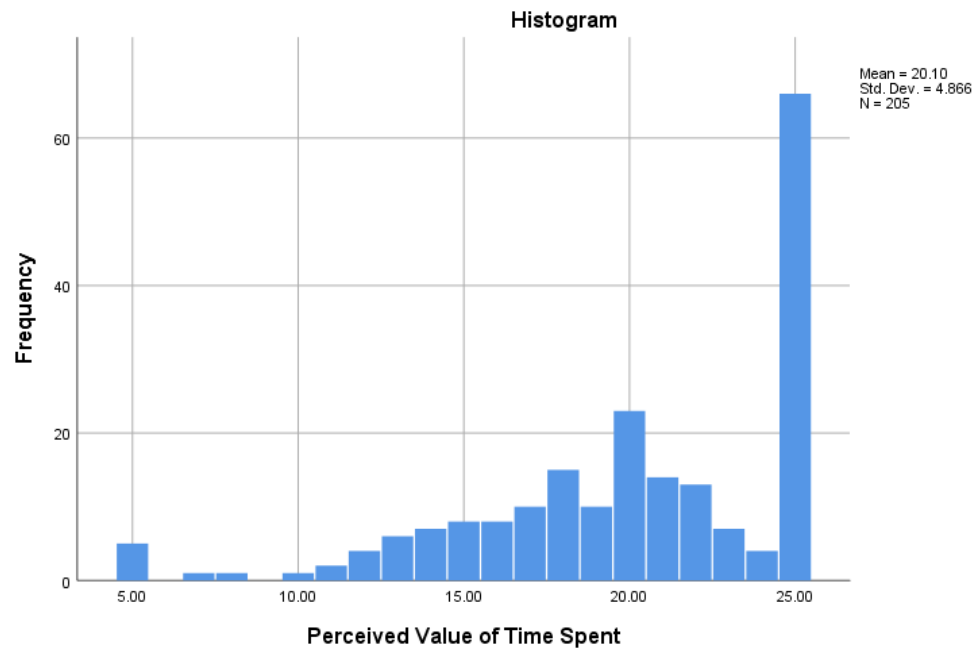
# APPENDIX A

## HISTOGRAMS STUDY 1



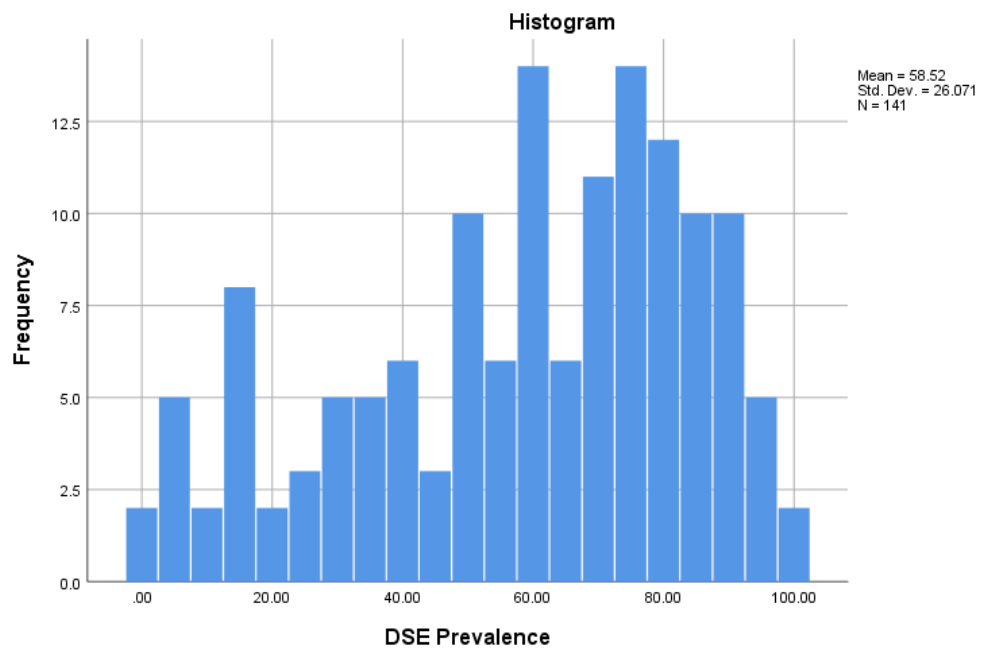
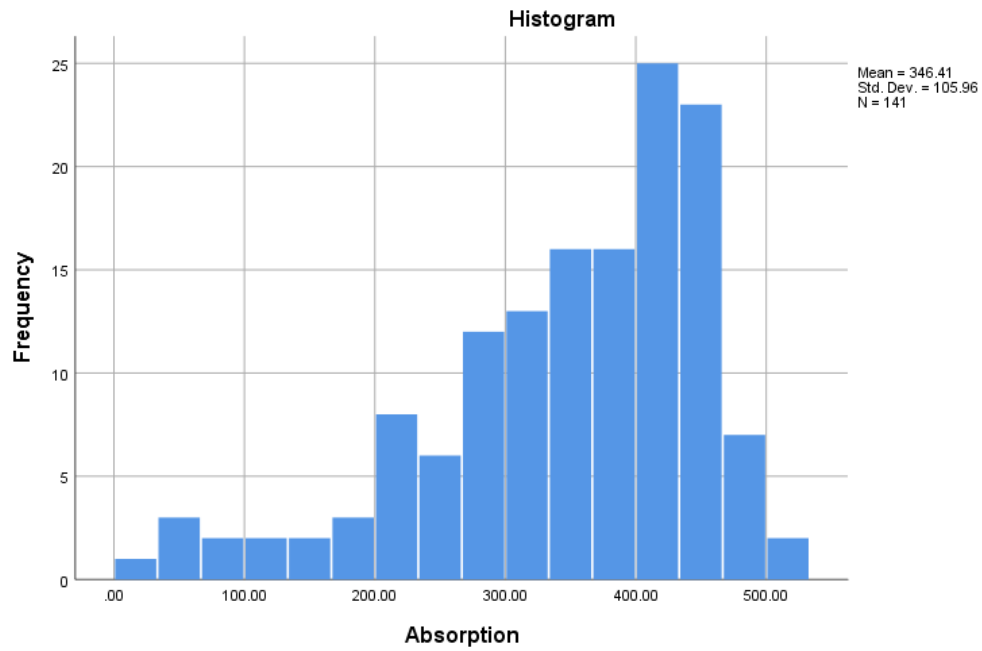


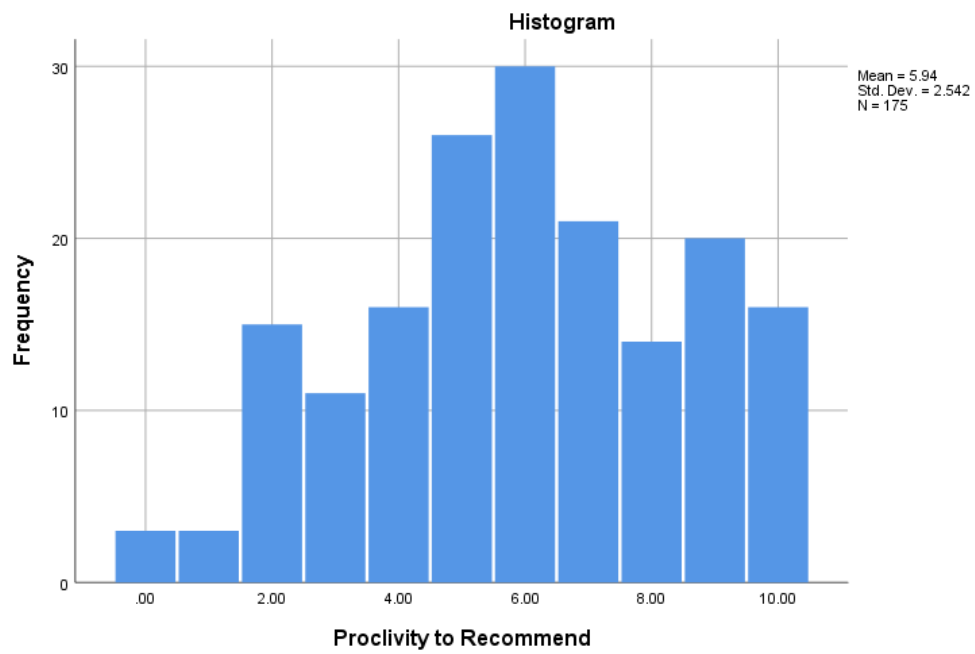
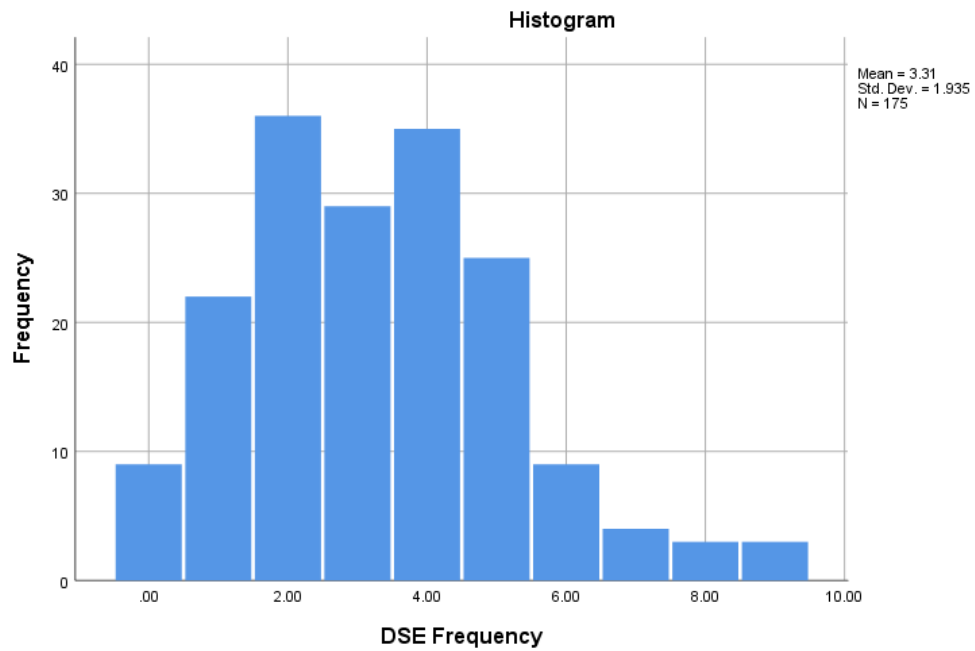


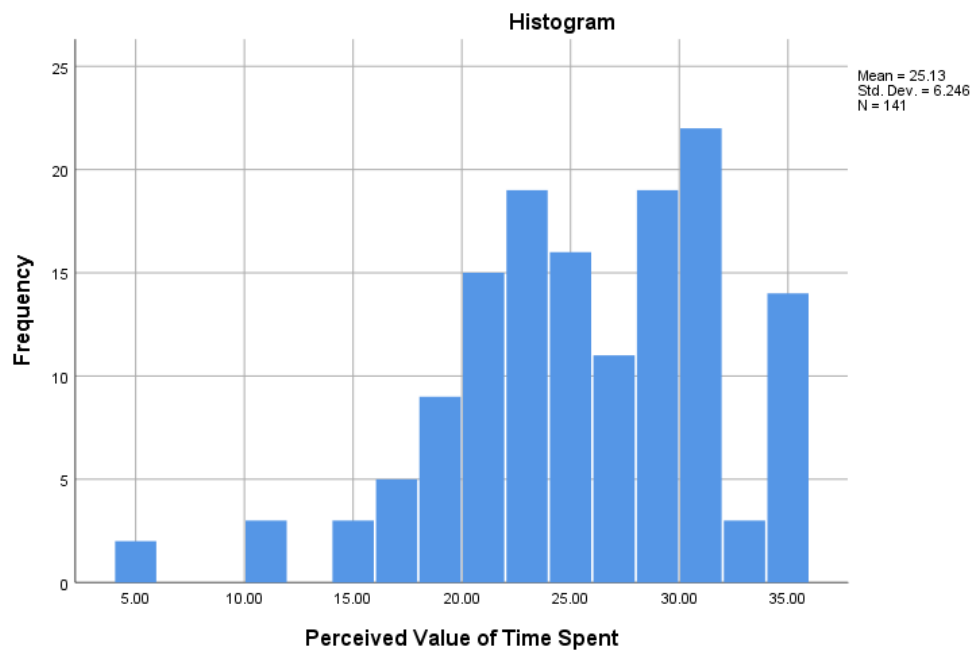
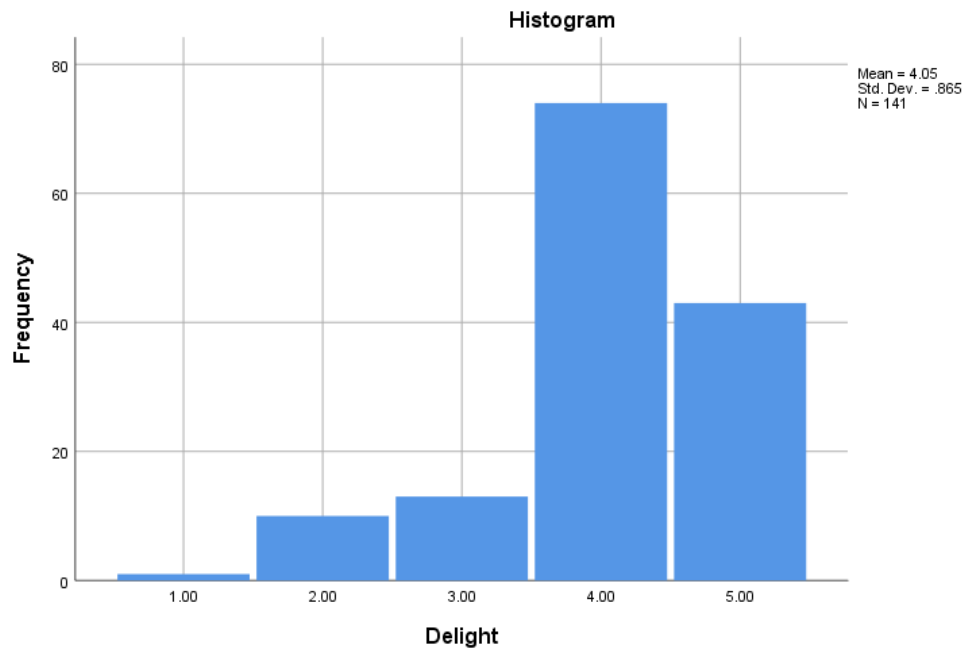


## APPENDIX B

### HISTOGRAMS STUDY 2

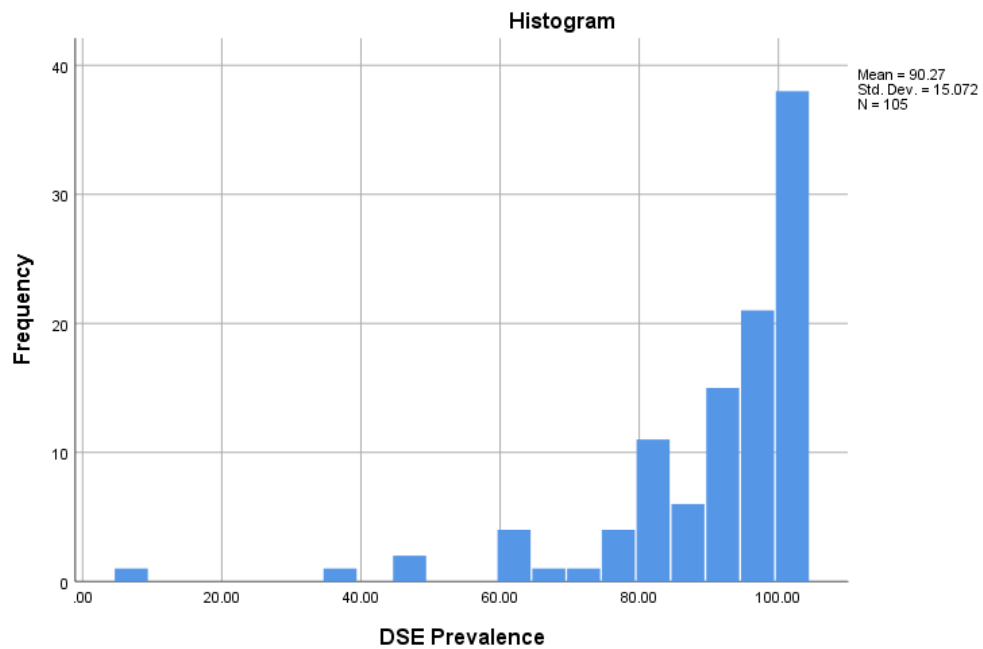
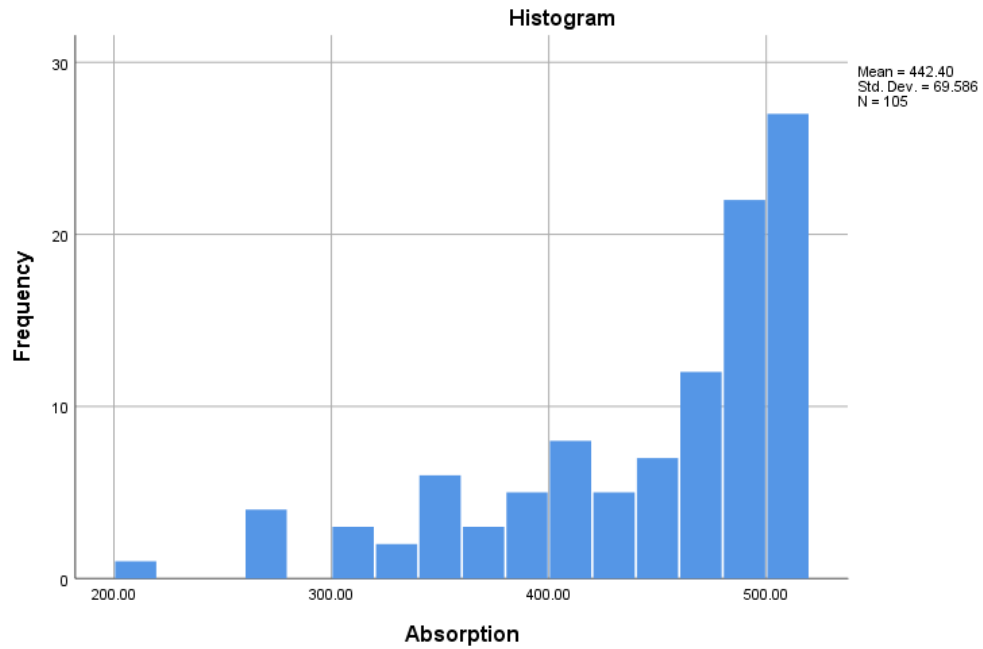




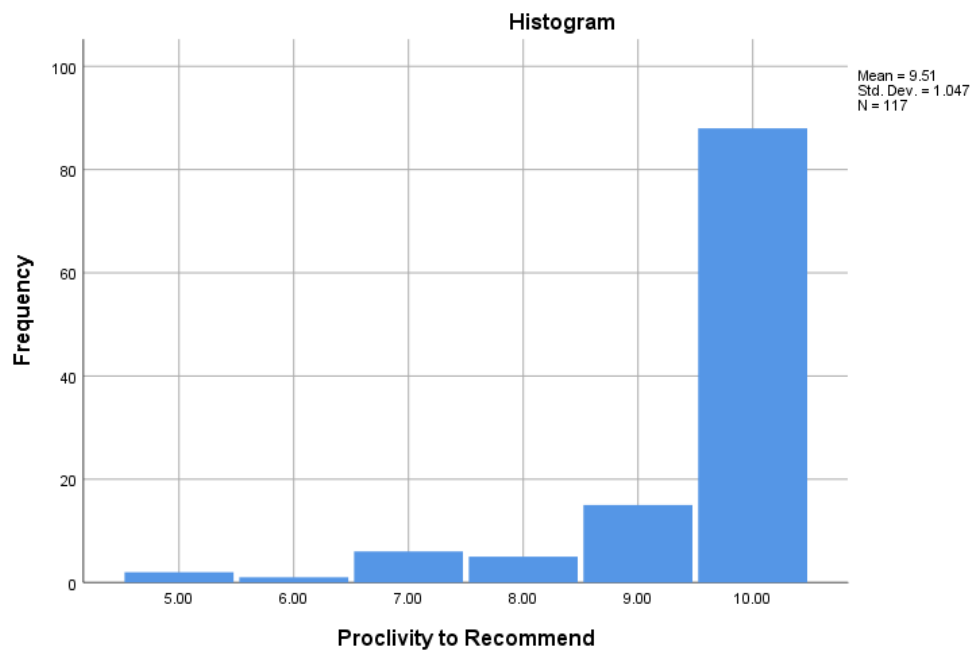
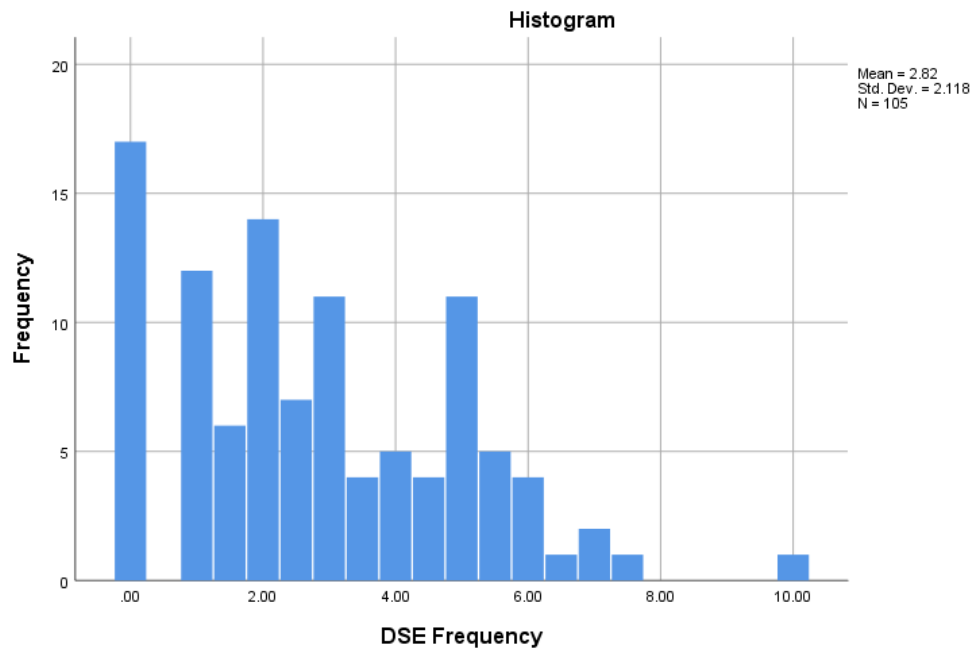


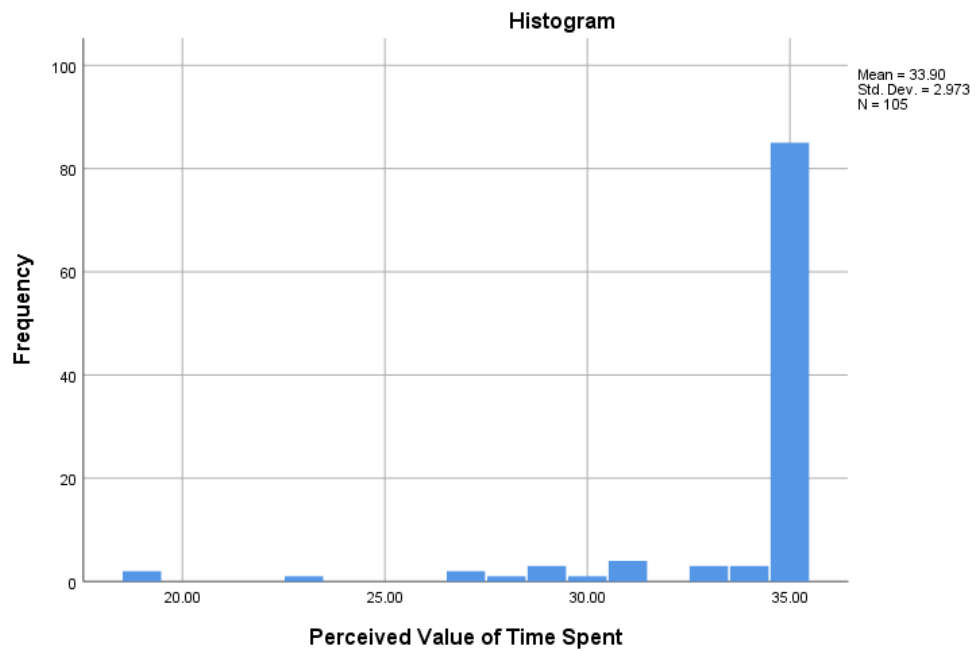
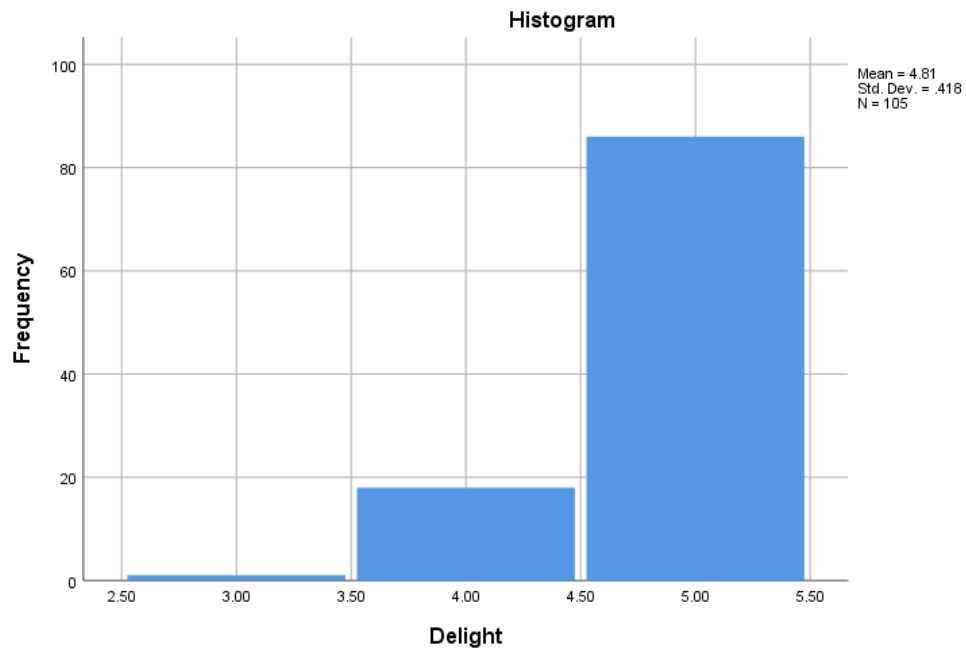
## APPENDIX C

### HISTOGRAMS STUDY 3







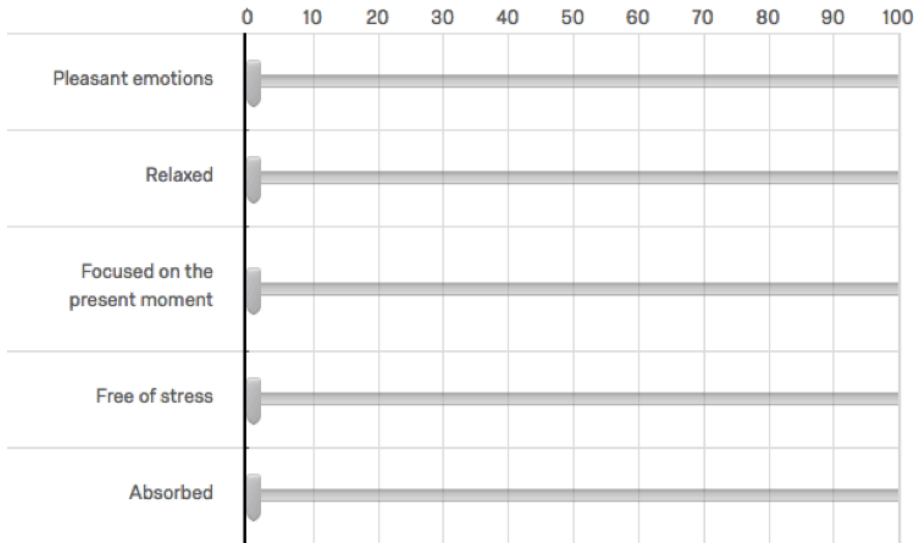


## APPENDIX D

### MEASUREMENT INSTRUMENTS

#### Absorption measure

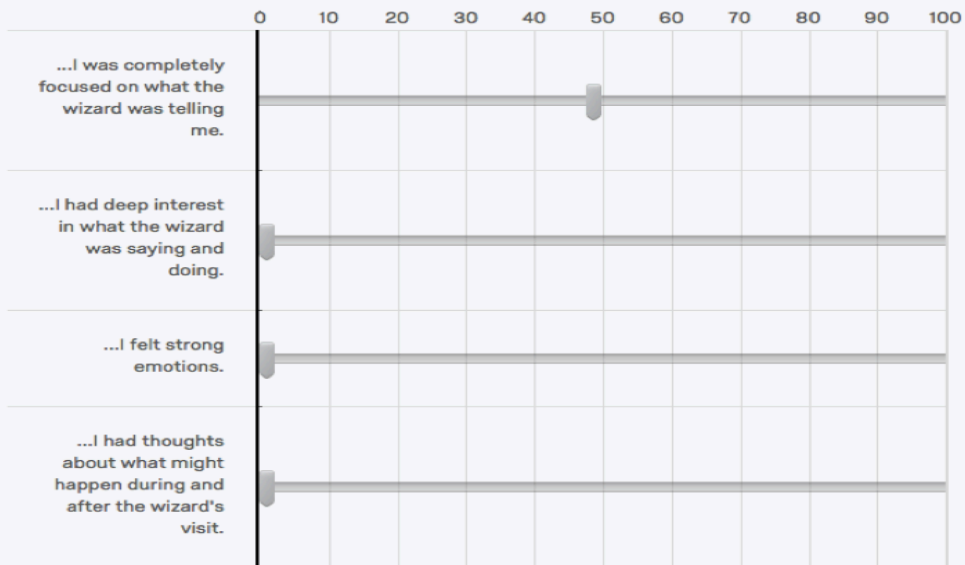
Approximately what **percent of the time** during the time the music and images were shown did you feel:



#### Engagement measure

We are very interested in learning your reaction to that Wizard.

Specifically, please estimate the **percent of the time during Zedalf the Wizard's visit** each of the following was present for you:



## Original deep structured experience measure

Charting Your Experience in this Activity

**Deep Experience:** *I was in a state of effortless concentration so deep that I lost a) my sense of time, b) my thoughts about myself, and c) my thoughts about my problems. I wanted very much to keep doing this activity.*

The figure below represents the beginning, middle and end of the activity you just completed. Draw a **straight line** (--) through the boxes that represent the times during that activity at which, to the best you remember, you were in a **deep experience**, as defined above. Lines you draw do not have to end at a dashed line, they can be any length.

For example, if you were **never** in **deep experience** during the activity, simply leave your chart blank, like this:

Examples

Beginning of your Experience  End of your Experience

Another example would be where you **cycled in and out** of **deep experience** throughout the activity:

Beginning of your Experience 







 End of your Experience

This is how your chart would look if you were in **deep experience** state for the **entire activity**:

Beginning of your Experience 

 End of your Experience

-----

Your Experience:

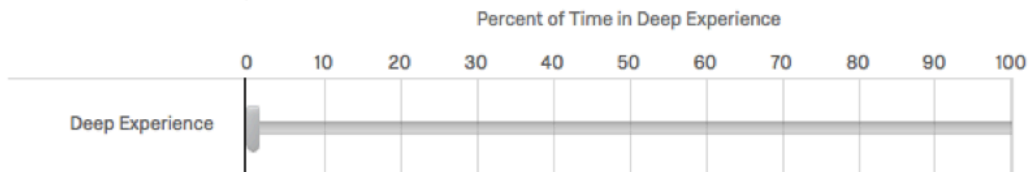
25% 50% 75% 100%

Beginning of your Experience  End of your Experience

## Deep structured experience prevalence

**Remember, A deep experience** is a state of effortless concentration so deep that you lose: a) your sense of time, b) your thoughts about yourself, and c) your thoughts about your problems. You want very much to keep doing the activity.

Please estimate the **percent of the time** while the music and images were presented did you feel that you were in a state of deep experience? Do not include the time the Wizard was visiting.



## Deep structure experience frequency

Approximately how many times did you cycle in and out of this state of deep experience during the video and photo reflection?

## Proclivity to recommend

How likely is it that you would recommend the experience of watching the full video you watched (i.e., the wizard and the music and images) to a friend or colleague?

Not at all likely										Extremely likely	
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## Perceived value of time spent

Please indicate the extent to which you disagree (1) or agree (5) with the following statements about your experience watching the full video (the wizard and the music and images).

	Very strongly disagree			Very strongly agree	
	1	2	3	4	5
I wish I had spent my time doing something else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am glad that I chose to do this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I chose wisely when I chose to do this activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This activity was an excellent use of my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This activity was worth what I invested in it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Delight

Please drag the bar to adjust the character's smile, showing how you feel right now about your full video experience.

