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UTJECAJ VIZUALNIH PODRAŽAJA NA EMOCIJE U KREIRANJU KULTURNO-TURISTIČKIH DOŽIVLJAJA

VISUAL STIMULI CUES WITH IMPACT ON EMOTIONS IN CULTURAL TOURISM EXPERIENCE DESIGN

SAŽETAK: Ovaj pregledni rad u potrazi je za odnosom između vizualnih podražaja i emocija u kontekstu kulturnog turizma. Svrha mu je otkriti utjecaj vizualnih podražaja na emocionalno uzbuđenje (kulturnih) turista, a što se može primijeniti u kreiranju doživljaja. Rad se fokusira na dva mehanizma izazivanja emocija: psihološke čimbenike i umjetničke vizualne podražaje. Na početku rada analiziraju se teorije različitih afektivnih stanja u kontekstu turizma. Zatim se ispituje povezanost umjetničkih vizualnih podražaja (boja, oblik, simetrija, apstrakcija, složenost itd.) i emocionalnog uzbuđenja kulturnih turista. Posebna je pozornost posvećena boji koja se analizira pregledom različitih studija primjenom transdisciplinarnog pristupa s ciljem sistematizacije postojećeg znanja. Iako istraživanje nije donijelo zaključke o jasno definiranim odnosima između vizualnih podražaja i specifičnih emocija, primjena općenitih nalaza može pružiti veće razumijevanje mehanizama izazivanja emocija vizualnim podražajima i potaknuti daljnja istraživanja. Osim turizma, nalazi su primjenjivi i u drugim područjima.

KLJUČNE RIJEČI: vizualni podražaji, kreiranje doživljaja, boja, emocije, kulturni turizam

ABSTRACT: This review paper is in the search for connections among visual stimuli and emotions in the context of cultural tourism. Its purpose is to detect the role of the vision-related cues in (cultural) tourists' emotional arousal which can further be applied in experience design. We focus on two mechanisms of emotion elicitation: psychological factors and artistic visual cues. First, theory of different affective states is analyzed and is put in the context of tourism. Artistic visual cues' correlation with emotional arousal of cultural tourism consumers (color, form, symmetry, abstraction, complexity, etc.) are further examined. Special focus is on color through the review of different studies taking a transdisciplinary approach. The goal is to systematize the existing knowledge. Even though the research is inconclusive of clear relationships between visual stimuli cues and specific emotions, application of the generic findings, though, may provide greater understanding of the nature of emotion elicitation by visual cues and stimulate further research. Besides tourism, findings may be applicable in other fields.

KEYWORDS: visual stimuli, experience design, color, emotion, cultural tourism

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1. UVOD

Današnji život često je karakteriziran površnim iskustvima ne ostavljajući vremena za dublji angažman u aktivnostima, što je vidljivo i u turizmu. Iako se na kulturni turizam općenito gleda kao na tržišnu nišu s ponudom za znalce, čest je slučaj da čak i kulturni turisti samo površno konzumiraju kulturne znamenitosti (npr. one koje su na UNESCO-ovom popisu), bilježeći atrakcije koje su posjetili u svoje putne dnevnike, a da ih zapravo dublje ne doživljavaju. To je u skladu s „ponašanjem u potrazi za senzacijama i izraženom netolerancijom za dosadu” (Pizam, Reichel i Uriely, 2001:18), što karakterizira današnja putovanja. „Iako se turizam ne može jednostavno ugasiti, budući da ljudi neprestano traže nove podražaje kako bi dali smisao svom životu i zbog toga traže iskustva izvan svog prebivališta” (Jelinčić, 2019), turistička putovanja moguće je obogatiti dubljim značenjima. Primjećuje se novi profil turista koji traže iskustva „usmjerena na opuštanje, otkrivanje, uživanje i znanje” (UNWTO, 2015:35) te se cijene mogućnosti učenja, novosti, uzbuđenja, stimulacije, avanture, pa čak i rizičnih aktivnosti. Iako ove osobine turističkog iskustva mogu imati biološku osnovu, one također proizlaze iz uniformnosti današnje turističke ponude. Turizam se općenito smatra aktivnošću koja nudi bijeg od svakodnevne rutine (Krippendorf, 1986) pa je mogućnost doživljavanja nečeg drugačijeg praktički preduvjet nove turističke potražnje.

Brojne studije fokusirale su se na temu doživljaja, slijedeći koncept ekonomije doživljaja koji su uglavnom popularizirali Pine i Gilmore (2011). Kreiranje doživljaja pokazalo se snažnim alatom za stvaranje značenja. Jedno od najvažnijih načela kreiranja doživljaja je stimulacija osjetila (Pine i Gilmore, 2011), budući da um interpretira osjetilne podražaje i na temelju njih stvara značenje. Na sličan način, potraga za iskustvima „mje-

1. INTRODUCTION

Today's life is often characterized by superficiality of experiences leaving no time for deeper engagement in activities. This is also seen in the tourism industry. Although cultural tourism is generally seen as a niche tourism with a meaningful offer, it is often the case that even cultural tourists simply consume cultural sites (e.g. UNESCO listed ones), marking their travel logs with the must-see attractions, without really experiencing them. It is in line with “sensation seeking behaviors and the expressed intolerance for boredom” (Pizam, Reichel and Uriely, 2001:18), which characterizes today's travel. “While tourism cannot simply be ‘undone’ since people are constantly seeking new stimuli to give meaning to their lives and thus searching for experiences outside their place of residence” (Jelinčić, 2019), it is possible to enrich tourism travel with deeper meanings. A new tourist profile is noticed seeking for experiences “focused on relaxation, discovery, enjoyment, and knowledge” (UNWTO, 2015:35). Education opportunities, novelty, arousal, stimulation, adventure and even risky activities are valued. Although these traits may have a biological basis, they also result from the uniformity of today's tourism offer. Tourism is generally an activity offering an escape from the daily routine (Krippendorf, 1986), so being able to experience something different is practically a prerequisite of the new tourist demand.

A number of studies zeroed in the topic of experiences, following the concept of experience economy largely popularized by Pine and Gilmore (2011). Experience design proves to be a powerful tool for the creation of meaning. One of the powerful experience design principles is the stimulation of the senses (Pine and Gilmore, 2011) since the mind interprets the stimuli obtained through the senses. In the same line, experience seeking “measures the desire to seek new sensations

ri želju za novim senzacijama putem uma i osjetila” (Pizam, Reichel i Uriely, 2001:18). Stimulacija osjetila kao i interpretacija podražaja mogu izazvati emocije. Ako podražaj izazove emocionalnu reakciju turista, to povećava vjerojatnost pamćenja, što onda može utjecati na odanost destinaciji.

Puno se pisalo o važnosti emocija u turizmu (Fortuna, 2013; Jelinčić i Senkić, 2017; Ma *et al.*, 2017; Picard, 2012) i različitim konceptima vezanima na emocije (npr. participativni turizam, socijalni turizam, volonterski turizam, turizam nade, transformativni turizam, itd.), pri čemu su emocije temeljni aspekt svakog značajnog turističkog putovanja.

Ovaj pregledni rad nastoji istražiti odnos između stimulacije osjetila i emocija u kreiranju doživljaja, a u svrhu razvoja kulturnog turizma. Fokus je na vizualnim podražajima s utjecajem na emocije i njihovoj ulozi u kreiranju doživljaja u kulturnom turizmu, a cilj je sintetizirati rezultate postojećih studija. Važnost ovog rada temelji se u postavljanju valjanih zaključaka na temelju teorijskog znanja kako bi se razvila osnovna načela kreiranja vizualnih doživljaja s posebnim fokusom na boju te njihova primjena u kulturnom turizmu.

Struktura rada je sljedeća: prvo se analizira teorija različitih afektivnih stanja i stavlja u kontekst turizma, a zatim se pregledavaju postojeće studije emocija u turizmu. Slijedi pregled odnosa između osjeta vida i vizualnih podražaja te njihov učinak na emocije, pri čemu se donose zaključci o osnovnim načelima kreiranja vizualnog doživljaja, usredotočujući se na boju kao glavni podražaj. Zaključci se iznose u obliku smjernica koje se mogu koristiti u kreiranju vizualnih doživljaja.

2. AFEKTIVNA STANJA, KULTURA I TURIZAM

Može se reći da kultura ima prirodni monopol na doživljaje; oni su gradivni elementi

through the mind and senses” (Pizam, Reichel and Uriely, 2001:18). Stimulation of the senses as well as the interpretation of the stimuli may elicit emotions. If a stimulus results in an emotional reaction by tourists, it increases the probability of memorability, which may further also have impact on destination loyalty.

A lot has been written about the importance of emotions in tourism (Fortuna, 2013; Jelinčić and Senkić, 2017; Ma *et al.*, 2017; Picard, 2012) and different concepts developed around it (e.g. PET - participatory experience tourism, socially conscious tourism, volunteer tourism, hopeful tourism, transformational tourism, etc.); emotions are the underlying concept of any meaningful tourism travel.

This paper is a review article seeking to address the connections between sensory stimulation and emotions in the experience design for cultural tourism development purposes. The focus is on the visual cues with impact on emotions and their role in designing cultural tourism experiences while aiming to synthesize the results of existing studies. Its importance is seen in drawing valid conclusions from the theoretical body of knowledge as to provide basic principles of visual experience design with the special attention on color and their application in cultural tourism.

The structure of the paper is as follows: first, theory of different affective states is analyzed and is put in the context of tourism. Then, existing tourism studies of emotions are examined. The relationship between the sense of sight, visual cues and their effect on emotions follows while trying to draw basic principles of visual experience design, focusing on color, as the main cue. Conclusions are put forward in the form of guidelines to be used in visual experience design.

2. AFFECTIVE STATES, CULTURE AND TOURISM

It can be stated that culture has a natural monopoly on experiences; they are the build-

glazbenih, kazališnih i filmskih predstava, kao i muzejskih izložbi. Turizam, a od nje ga to turisti i očekuju, s druge strane, nudi bijeg od svakodnevnice i novo okruženje, odnosno doživljaje koji su drugačiji od onoga što se čovjeku svakodnevno događa. Međutim, doživljaji se razlikuju po intenzitetu, a neki od njih imaju veću ili manju vjerojatnost izazivanja emocija. Prema Pineu i Gilmoreu, eskapistički doživljaji podrazumijevaju aktivno sudjelovanje i utonuće posjetitelja (2011) i smatra se da osiguravaju najveću privrženost od svih tipova doživljaja. Stoga se smatra da će upravo eskapistički doživljaji najvjerojatnije izazvati njihovu emocionalnu reakciju.

Iako distinkcija nije uvijek najjasnija, potrebno je razlikovati afekt, raspoloženje, osjećaje i emocije. *Afekt* je „općeniti pojam koji pokriva širok raspon osjećaja koje ljudi proživljavaju” (Barsade i Gibson, 2007, citirano u Robbins i Judge, 2013:98), odnosno obično se smatra općim pojmom koji pokriva sve vrste koncepata povezanih s osjećajima. *Osjećaj* je imenovana senzacija koja je provjerena u odnosu na prethodna iskustva; pojedinac je može prepoznati i imenovati jer ga podsjeća na senzaciju koju je nekada prije osjetio. Emocija je viša kategorija osjećaja koja potiče „specifične odgovore na ponašanja” (Cohen i Areni, 1991, citirano u Prayag *et al.*, 2017:42). Usporedimo li ovu definiciju s eskapističkim doživljajima Pinea i Gilmorea, jasno je da će eskapistički doživljaji vjerojatno potaknuti emocije jer ih karakterizira sudjelovanje posjetitelja, pružajući priliku upravo za specifične odgovore na ponašanja.

Za *raspoloženje* se smatra da je manjeg intenziteta i ne zahtijeva određeni (vanjski, *autorska napomena*) događaj kao poticaj (Weiss i Cropanzano, 1996, citirano u Robbins i Judge, 2013). Međutim, „iako su raspoloženja manje intenzivna od emocija, ona dulje traju” (Jelinčić i Senkić, 2019:44). Ako turističko putovanje smatramo cjelovitim proizvodom, raspoloženja mogu utjecati na

ing blocks of musical performances, theatre plays, film shows, museum exhibitions. Tourism, on the other hand, offers grounds for experiences since escape from the daily routine and the new environment impact tourist expectations; tourists actually expect experiences, which will offer them something different. Experiences, however, differ in intensity, some of them being more or less likely to provoke emotions. According to Pine and Gilmore, the escapist experiences entail active participation and immersion by the consumer (2011) and can be considered as providing the strongest attachment in the experience realm. This type of experiences is highly likely to evoke consumers' emotions.

It is first necessary to differentiate between affect, moods, feelings, and emotions. The distinction, however, is not always easily captured. *Affect* is “a generic term that covers a broad range of feelings people experience” (Barsade and Gibson, 2007, cited in Robbins and Judge, 2013:98) or is usually considered a general term covering all types of ‘emotion related’ concepts. A *feeling* is a labelled sensation since it has been checked against previous experiences; an individual can recognize it because it reminds her/him of a sensation that has been previously felt. *Emotion* is a higher category of a feeling; it instigates “specific response behaviors” (Cohen and Areni, 1991, cited in Prayag *et al.*, 2017:42). If we compare this definition with Pine and Gilmore's escapist experiences, it is clear that escapist experiences are likely to instigate emotions since they are characterized by consumer participation, providing an opportunity for response behaviors.

Mood is considered to be of a less intensity and does not require a specific (external, *author's addition*) event as a stimulus (Weiss and Cropanzano, 1996, cited in Robbins and Judge, 2013). However, “although moods are less intense than emotions, they last longer” (Jelinčić and Senkić, 2019:44). If we consider a tourism travel as a whole product, it is obvious then that moods can impact the traveler's

turistički doživljaj određene destinacije ili čak na iskustvo turista prije i nakon putovanja. Dakle, što je duže turist u raspoloženju pozitivnog eskapističkog doživljaja, afektivno stanje povezanosti s određenom destinacijom bit će izraženije.

Kad se uspoređuje intenzitet afekata, osjećaja, raspoloženja i emocija, „smatra se da su emocije najdublje ... budući da potiču specifične odgovore na ponašanja, stimulirajući posjetitelja na sudjelovanje” (Jelinčić i Senkić, 2019:44). Međutim, sva afektivna stanja svijesti mogu pobuditi različite emocije, bez obzira na to prepoznaje li ih pojedinac ili ne. Njihov intenzitet odredit će upija li pojedinac samo iskustvo ili je u njega potpuno uronjen, odnosno je li pasivni promatrač ili aktivni sudionik. Također, sva navedena afektivnih stanja svojstvena su kulturnim i turističkim doživljajima.

3. ISTRAŽIVANJA U TURIZMU I EMOCIJE

Turizam je izravno povezan s emocijama koje se mogu proučavati u različitim fazama putovanja. U fazi prije putovanja, odabir odredišta kao i ponašanje posjetitelja može ovisiti o afektivnom stanju turista (Moyle *et al.*, 2019). Brojna istraživanja planiranja i marketinga u turizmu bave se ovom temom (Morgan, Pritchard i Pride, 2004; Jelinčić i Vukić, 2015). Jednom stigavši na odredište, turist je istodobno izložen različitim emocijama vezanim uz lokaciju, ali i vlastita afektivna stanja. Faza nakon putovanja također može biti nabijena emocijama, često uvjetovanih korištenjem različitih suvenira povezanih s odredištem ili aktivnostima nakon putovanja, kao što je recenziranje iskustva.

Većina istraživanja koja se odnose na emocije u turizmu istražuje *zadovoljstvo* kao središnju emociju povezanu s određenim mjestom/odredištem ili pruženim uslugama (Alegre i Garau, 2010; Fuchs i Weiermair, 2003; Kozak, 2003). Uz podršku psihologi-

experience of a certain destination or even her/his pre-travel and post-travel experience. Thus, the longer (s)he is in the mood of the positive escapist experience, the probability of an affective state of connection to a certain destination will last.

When comparing the intensity of affects, feelings, moods and emotions, “it is thought that emotion is the deepest... since it instigates response behaviours, engaging the consumer participatively” (Jelinčić and Senkić, 2019:44). However, all the affective states of consciousness may evoke different emotions, regardless of their recognition by the individual. Their intensity will determine if the individual only absorbs the experience or is totally immersed in it, if (s)he is a passive observer or an active participant. All types of affective states are inherent to cultural and tourism experiences.

3. TOURISM STUDIES AND EMOTIONS

Tourism is directly linked with emotions, which may be studied in different travel phases. In the pre-travel phase, a choice of a destination may depend on the potential tourist affective state as well as the travel behavior (Moyle *et al.*, 2019). A number of tourism planning and marketing studies deal with this topic (Morgan, Pritchard and Pride, 2004; Jelinčić and Vukić, 2015). Once in the destination, a tourist is exposed to a different scale of place-based emotions sharing at the same time, one’s own affective states. Post-travel phase may also be charged with emotions, which reflects in different destination-linked memorabilia or post-travel activities, such as reviewing the travel.

The majority of emotion-related tourism studies research *satisfaction* as the central emotion linked to a certain place/destination or services provided (Alegre and Garau, 2010; Fuchs and Weiermair, 2003; Kozak, 2003). With the support of psychology, these

je te se studije dalje usredotočuju na istraživanje turističkih motivacija za putovanje u određeno mjesto/odredište (Šimkova i Holzner, 2014; Crompton, 1979; Van Vuuren i Slabbert, 2011) koje su ponekad povezane i s emocijama. Marketinške studije često koriste pristup temeljen na emocijama u turizmu (Hosany i Gilbert, 2010; Marciszewska, 2005; Dickinger i Lalicic, 2016). Primjerice, neke turističke studije istražuju emocije izazvane u samom odredištu (Lee i Kyle, 2013), dok druge istražuju emocije koje pokreću prisjećanje odredišta (Sthapit, Björk i Coudounaris, 2017). „Općenito, studije emocija u turizmu i ugostiteljstvu uglavnom se usredotočuju na dva aspekta: emocionalni odgovor na određeni podražaj, poput odredišta,...i ulogu emocija u turističkim stavovima i ponašanjima” (Liu, 2016:1). Veliki broj njih usredotočuje se na mogućnost mjerenja emocija, promatrajući ih kao kvantitativne jedinice, a neke stavljaju emocije u središte pozornosti obuhvaćajući njihove psihološke i psihoanalitičke aspekte (Fortuna, 2013; Nawijn i Biran, 2018; Servidio i Ruffolo, 2016).

Iako nisu izričito proučavane u tom kontekstu, emocije leže u pozadini brojnih oblika turizma posebnog interesa. Pritom naglašavamo odgovorni turizam (Goodwin i Francis, 2003), socijalni turizam (Minnaert, Maitland i Miller, 2011), volunturizam (Vrasti, 2013), turizam utjecaja (Sklad 05, 2014) itd. pri čemu „moralizacija turizma“ (Butcher, 2003) potiče „dobre” emocije. Ne tako često, međutim, studije emocija u turizmu bave se onim što prethodi ili određuje emociju. Broj takvih istraživanja emocija počeo je rasti usporedno s istraživanjem doživljaja. Stoga Pine i Gilmore, utemeljujući koncept suvremenih načela ekonomije doživljaja, izričito spominju uključenost svih pet osjetila (2011), s obzirom da uporaba osjetila, kao što je prethodno spomenuto, povećava mogućnost emocionalnog angažmana. Emocije izazvane stimulacijom osjetila, prethodnice su ponašanja u fazi nakon putovanja/doživ-

studies further focus on researching tourist motivations for travel to a certain place/destination (Šimkova and Holzner, 2014; Crompton, 1979; Van Vuuren and Slabbert, 2011), which sometimes also relate to emotions. Marketing studies abound with emotional approach to tourism (Hosany and Gilbert, 2010; Marciszewska, 2005; Dickinger and Lalicic, 2016). Some tourism studies research emotions elicited at the destination itself (Lee and Kyle, 2013) and other those that trigger memories of the destination (Sthapit, Björk and Coudounaris, 2017). “Generally, emotion studies in tourism and hospitality mainly focus on two aspects: emotional responses to a specific stimulus, like a destination, ..., and the role of emotions on tourist attitudes and behaviors” (Liu, 2016:1). A number of them focuses on the possibility to measure emotions, observing them in quantifiable terms. Some other studies put emotions center-stage encompassing their psychological and psychoanalytical aspects (Fortuna, 2013; Nawijn and Biran, 2018; Servidio and Ruffolo, 2016).

Although not explicitly studied, emotion lies in the background of a number of special interest tourism types. Thus, we note responsible tourism (Goodwin and Francis, 2003), social tourism (Minnaert, Maitland and Miller, 2011), voluntourism (Vrasti, 2013), impact tourism (Sklad 05, 2014) etc. whereas the “moralization of tourism” (Butcher, 2003) instigates greater good-linked emotions. Not so often, though, emotion studies in tourism deal with what precedes or determines an emotion. The wider academic body of emotions has been starting to grow alongside the research of experiences. Thus, Pine and Gilmore, while grounding the concept of contemporary experience economy design principles, explicitly mention the engagement of the five senses (2011) whereas the use of the senses, as previously mentioned, increases the possibility of a tourist emotional engagement. Emotions evoked by sensory stimu-

ljaja i utječu na namjeru preporučivanja, zadovoljstvo turista, odanost i pozitivno pamćenje iskustva (Guzel i Dortyol, 2016).

Turistički doživljaji stvaraju uspomene, poboljšavaju znanje o mjestu/odredištu i povećavaju potrošnju. Kulturni turizam, a posebno njegova podvrsta – kreativni turizam, mogu se smatrati suštinski sklonim kreiranju doživljaja. Uspješno kreiranje doživljaja često potiče emocije, a ako je doživljaj predstavljen tijekom godišnjeg odmora, može imati i veće učinke. Kreativni turizam pruža još veći angažman od kulturnog: participativne je prirode i uključuje turista u aktivnost koja je sama po sebi doživljaj. Istraživanja turizma široko raspravljaju o konceptima sudjelovanja i su-kreacije u stvaranju doživljaja (Binkhorst i den Dekker, 2009; Campos *et al.*, 2015; Pappalepore i Smith, 2016; Richards i Raymond, 2000) kao važnim alatima za upravljanje doživljajima, no ne rezultiraju nužno emocionalnim odgovorom.

Emocionalni okidači mogu biti bezbrojni i različiti za svakog pojedinca, ovisno o njegovim osobnim iskustvima (vezanim uz pamćenje), kulturnom porijeklu, raspoloženju i osobnosti (npr. razina empatije), ali mogu biti i vanjski koji proizlaze iz okoline. Već je spomenuto da je stimulacija osjetila važno načelo kreiranja doživljaja koji može dovesti do emocionalnog uzbuđenja. Međutim, istraživanja koja bi mogla pružiti indicacije o podražajima koji su izravno povezani ili izazivaju pojedinačne emocije su oskudna i prilično neuvjerljiva (npr. Cimbalo, Beck i Sendziak, 1978; Li *et al.* 2016; Sliburyte i Skeryte, 2014). Do sada je potvrđena važnost svih pet osjetila u kreiranju doživljaja (Guzel i Dortyol, 2016; Baumgartner, Esslen i Jäncke, 2006), ali za pružanje sustavnog znanja potrebno je istražiti pojedina osjetila u odnosu na emocije. Ovaj pregledni rad to čini usredotočujući se na podražaje povezane s osjetom vida, odnosno vizualne podražaje.

lation are antecedents of post-experience behavior and have impact on the intention to recommend, tourist satisfaction, loyalty and remembering the experience positively (Guzel and Dortyol, 2016).

Tourism experiences can provide memories, enhance knowledge about the place/destination or increase consumption. Cultural tourism, and especially its offspring creative tourism can be considered as inherently prone to experience design. A good performance often instigates emotions; if featured during the holiday period, it may even have greater effects. Creative tourism is even more engaging: it is of a participatory nature and engages the tourist into an activity, which *per se* represents an experience. Participation and co-creation of experiences have been widely discussed in tourism studies (Binkhorst and den Dekker, 2009; Campos *et al.*, 2015; Pappalepore and Smith, 2016; Richards and Raymond, 2000) and are important tools for experience design. However, they do not necessarily result with an emotional response.

Emotional triggers may be countless and different for each individual depending on their personal experiences (memory-related), cultural background, mood and personality (e.g., empathy level), but can also be external resulting from the environment. Stimulation of the senses has already been detected as an experience design principle likely to lead to an emotional arousal. However, studies which would provide indications on cues directly related to or evoking individual emotions are both scarce and rather inconclusive (e.g. Cimbalo, Beck and Sendziak, 1978; Li *et al.* 2016; Sliburyte and Skeryte, 2014). So far, the importance of all the senses in experience design has been demonstrated (Guzel and Dortyol, 2016; Baumgartner, Esslen, and Jäncke, 2006) but to provide systematized knowledge, it is necessary to research individual senses in relation to emotions. This review study does so by focusing on the cues related to the sense of sight.

4. VID, VIZUALNI PODRAŽAJI I NJIHOV UTJECAJ NA EMOCIJE

Važnost uključivanja osjetila u kreiranje doživljaja je u njihovom utjecaju na pamćenje (Pine i Gilmore, 2011) i emocionalno uzbuđenje, no istovremeno proučavanje svih pet osjetila u ovom pogledu predstavlja popriličan izazov. Vid je najučinkovitiji način stjecanja znanja o svijetu (Zeki, 1998), a većina ljudi osjetilo vida smatra svojim primarnim osjećajem (Jelinčić, 2019). Vid je ujedno i najčešće spominjana senzacija u objašnjavanju osjećaja i emocija (Guzel i Dortyol, 2016). Vizualni podražaji stoga mogu igrati značajnu ulogu u oblikovanju (kulturnog) turističkog iskustva. Zbog toga osjet vida i vizualni podražaji zaslužuju posebnu pozornost u istraživanju stvaranja emocionalnog doživljaja. S obzirom na to da su vizualni podražaji sastavni dio umjetničkih djela, čime se izravno utječe na iskustvo turista, kulturni turizam može uvelike profitirati od ovakvih saznanja. Pronalaženje vizualnih podražaja koji bi bili univerzalni, barem za većinu posjetitelja/turista, omogućilo bi relativno lako kreiranje doživljaja.

Polazeći od pretpostavke da je moguće kreirati umjetničke/kulturne doživljaje koji će utjecati na emocionalnu uzbuđenost, postavljena su sljedeća istraživačka pitanja koja su usmjeravala ovaj rad: O čemu ovisi emocionalno uzbuđenje posjetitelja/turista? i Koji su vizualni podražaji povezani s pojedinim emocijama? Na ova se pitanja ne može dati jednoznačan odgovor pa detaljno analiziramo vizualne podražaje kako bi se otkrila njihova uloga u emocionalnom uzbuđenju izazvanom kod kulturnih turista.

5. DOSADAŠNJA ISTRAŽIVANJA, NJIHOVA OGRANIČENJA I MOGUĆA ANALIZA

Kao što je već spomenuto, emocionalno uzbuđenje pojedinca ovisi o raznim čimbenicima. Dva su prevladavajuća modela kada se

4. SIGHT, VISUAL STIMULI AND THEIR EFFECT ON EMOTIONS

The importance of the application of the senses in the experience design is in its impact on memories (Pine and Gilmore, 2011) and emotional arousal. The study of all five senses in this respect poses quite a challenge. Vision is the most efficient way of acquisition of knowledge about the world (Zeki, 1998) and most people consider the sense of sight as their primary sense (Jelinčić, 2019). Sight is also the most frequently mentioned sensation in explaining emotions and feelings (Guzel and Dortyol, 2016). Visual stimuli, therefore, may play a significant role in (cultural) tourism experience design. This is why the sense of sight and visual stimuli deserve special attention in the research of emotional experience design. Cultural tourism can greatly profit from it since visual cues are an inherent part of artworks, thus directly influencing cultural tourists' experience. Finding visual cues which would be universal at least for the majority of cultural consumers/tourists would enable a relatively easy experience design.

Starting from the premise that it is possible to design artistic/cultural experiences, which will impact emotional engagement, the following questions were posed to guide the research on visual cues: What does the emotional arousal of a consumer/tourist depend on? and Which visual cues are related to individual emotions? While not a single answer can be given to these questions, the analysis of the vision-related cues is provided as to detect their role in the emotional arousal elicited in cultural tourists.

5. EXISTING RESEARCH, ITS LIMITATIONS AND POSSIBLE ANALYSIS

As mentioned before, emotional arousal of an individual depends on various factors. There are two prevalent models when dis-

raspravlja o emocijama izazvanim vizualnim podražajem: 1) teorije kognitivne procjene koje sugeriraju da su emocije rezultat procesa procjene koji se događaju u korteksu mozga i na koji utječu fiziološke, psihološke i socio-kulturne dimenzije (Moyle *et al.*, 2019); i 2) Berlyneova paradigma u kojoj su emocije automatski procesi izazvani umjetničkim vizualnim podražajima (Hagtvedt, Patrick i Hagtvedt, 2008). Kako dosadašnja istraživanja još nisu potvrdila da je bilo koji od ovih modela superiorniji kada se primjenjuje na kreiranje kulturnih doživljaja, ovaj se rad usredotočuje na oba mehanizma pomoću kojih vizualni podražaji izazivaju emocije, to jest na psihološke čimbenike (npr. percepciju i pažnju) i umjetničke vizualne podražaje (npr. boja i oblik).

Za početak, vizualni podražaji općenito su definirani kao predmeti ili događaji koji izazivaju odgovor stvaranjem vizualnog osjetilnog iskustva i dovode do promjene u okolini. Na primjer, vizualni podražaji poput jakih svjetala tjeraju čovjekove oči na škiljenje, odnosno na promjenu u normalnom načinu funkcioniranja. Vizualni podražaji koji su do sada istraženi uključuju skulpture (Di Dio *et al.*, 2007), lica (Roye *et al.*, 2008; Chatterjee *et al.*, 2009; Tsukiura i Cabeza, 2011; Zhang i Deng, 2012), teksture (Jacobs *et al.*, 2012), geometrijske oblike (Jacobsen i Höfel, 2001, 2003; Jacobsen *et al.*, 2006; Höfel i Jacobsen, 2007; de Tommaso *et al.*, 2008); i matematičke formule (Zeki *et al.*, 2014) (citirano u Cheung *et al.*, 2019:2).

Zaključci koji su proizašli iz prethodno navedenih studija ističu važnost psiholoških čimbenika poput percepcije, selektivne pažnje, empatije i uključenosti više osjetila u izazivanju emocija vizualnim podražajima.

Percepcija je kognitivni proces koji uključuje stjecanje, tumačenje, selekciju i organizaciju senzornih informacija (Hagtvedt, Hagtvedt i Patrick, 2008). Percepcija vizualnog podražaja svojstvena je teorijama kognitivne procjene koje sugeriraju da procjena (tj. per-

ceiving emotions elicited by a visual stimulus: 1) appraisal theories which suggest that emotions are a result of appraisal processes that occur in the cortex of the brain and are influenced by physiological, psychological, and socio-cultural dimensions (Moyle *et al.*, 2019); and 2) Berlyne tradition in which emotions are automatic processes elicited by artistic visual cues (Hagtvedt, Patrick and Hagtvedt, 2008). As the existing research studies have not yet confirmed any of these models to be superior when applied to cultural experience design, our paper will focus on both mechanisms by which visual cues have shown to elicit emotions, that is through psychological factors (e.g. perception and attention) and artistic visual cues (e.g. color and form).

To start, we can generally define visual stimuli as objects or events that elicit a response by producing a visual sensory experience and lead to a change in the environment. For example, visual stimuli such as bright lights make a person's eyes squint thus resulting in a change in the environment. Visual stimuli that have been researched include sculptures (Di Dio *et al.*, 2007), faces (Roye *et al.*, 2008; Chatterjee *et al.*, 2009; Tsukiura and Cabeza, 2011; Zhang and Deng, 2012), textures (Jacobs *et al.*, 2012), geometrical shapes (Jacobsen and Höfel, 2001, 2003; Jacobsen *et al.*, 2006; Höfel and Jacobsen, 2007; de Tommaso *et al.*, 2008); and mathematical formulae (Zeki *et al.*, 2014) (cited in Cheung *et al.*, 2019:2).

Important conclusions resulting from the previous studies stress the importance of psychological factors such as perception, selective attention, empathy, and engagement of multiple senses in eliciting emotions by way of visual stimuli.

Perception is a cognitive process that involves the acquisition, interpretation, selection, and organization of sensory information (Hagtvedt, Hagtvedt and Patrick, 2008). Perception of a visual cue is inherent to appraisal theories which suggest that appraisal (i.e.

cepcija) vizualnog podražaja određuje koje će emocije biti izazvane (Moors *et al.*, 2013). Ovaj se mehanizam temelji na subjektivnoj procjeni koja ovisi o prethodnim iskustvima i znanju, vrijednostima, emocionalnom stanju i željama (Ma *et al.*, 2017; Le *et al.*, 2019). Stoga je kognitivna procjena interaktivni proces između vizualnog podražaja i procjenitelja. Takvo interaktivno iskustvo, koje uključuje pojedinca u stvaranje značenja, a posljedično i osjećaja, motivira pojedince da budu kreativni, što na posljeticu takvo iskustvo čini privlačnim (Campos *et al.*, 2017). U kontekstu kreiranja kulturnih (turističkih) doživljaja, to nazivamo „izvedbeni zaokret” (*performance-turn*) - turisti prestaju biti pasivni promatrači iskustava i postaju aktivni sudionici koji žele biti angažirani i izazvani (Mansfeldt, Vestager i Iversen, 2008). Kao što je spomenuto, percepcija uključuje ne samo organizaciju i identifikaciju senzornih informacija prikupljenih iz okoline, već i njihovu interpretaciju (Schacter, Gilbert i Wegner, 2011). Ljudi prikupljaju informacije iz svog okruženja očima, koristeći se vidom; no, ne vidimo okom već korteksom mozga (Zeki, 1998). Dakle, kada mozak prikuplja podražaje iz okoline, on tumači stvarnost pokušavajući izdvojiti najbitnije informacije (podražaje). Oko, stoga, osjeća, a mozak tumači i na taj način stvara značenje.

Pažnja je još jedan kognitivni proces koji utječe na emocije i čini iskustvo nezaboravnim (Campos *et al.*, 2017). Konkretno, pažnja može dovesti do automatiziranog ponašanja i reakcija kada je usmjerena prema vanjskim podražajima kao što su objektivni vizualni podražaji (pažnja odozdo-prema-gore ili *bottom-up*) i/ili na nju mogu utjecati interesi, motivi i ciljevi osobe (pažnja-odozgo-prema-dolje ili *top-down*) (Campos, Pinto i Scott, 2020). Obje vrste pažnje dovode do preferencijalne obrade podražaja, a time i selektivne pažnje i boljeg pohranjivanja informacija (Pinto *et al.*, 2013). Emocije se obično izazivaju interakcijom *top-down* i *bottom-up* pažnje (Ochsner *et al.*, 2009). Povrh toga,

perception) of the visual stimulus determines which emotions will be elicited (Moors *et al.*, 2013). This appraisal is based on a subjective assessment which depends on one's previous experiences and knowledge, values, emotional state, and desires (Ma *et al.*, 2017; Le *et al.*, 2019). Therefore, the appraisal is an interactive process between the visual cue and the appraiser. Such an interactive experience, which involves the individual in the creation of the meaning and consequently also emotions, motivates individuals to use their creativity which makes the experience appealing (Campos *et al.*, 2017). In cultural (tourism) experience design, this has been termed as “performance turn” – tourists are no longer passive observers of experiences, but rather active participants who want to be engaged and challenged (Mansfeldt, Vestager, and Iversen, 2008). As mentioned, perception includes not only organization and identification of sensory information gathered from the environment, but also their interpretation (Schacter, Gilbert and Wegner, 2011). Humans gather information from their environments through eyes, using vision; still, we do not see with the eye but with the cerebral cortex (Zeki, 1998). This means that when the brain collects environmental stimuli, it *interprets* the reality by trying to narrow down information (stimuli) to the most essential one. The eye, therefore, senses and the brain interprets as to create meaning.

Attention is another cognitive process that influences emotions and makes the experience more memorable (Campos *et al.*, 2017). Specifically, attention can lead to automatized behavior and reactions when directed towards external stimuli such as objective visual cues (*bottom-up* attention) and/or it can be influenced by person's interests, motives and goals (*top-down* attention) (Campos, Pinto and Scott, 2020). Both of these types of attention lead to preferential stimulus processing, and thus selective attention and better memory storage (Pinto *et al.*, 2013). Typically, emotions are elicited through the interaction of

„... čini se da selektivno ignoriranje, za razliku od selektivnog usmjeravanja pažnje, utječe na emocionalnu procjenu” (Raymond, Fenske i Tavassoli, 2003:541). Ako osoba više puta ignorira vizualni podražaj, zbog prisutnosti drugih zadataka koji zahtijevaju pažnju, vizualni podražaj tumači se kao ometajući, što na kraju dovodi do smanjene emocionalne reakcije na taj podražaj. Stoga je, da bi se izbjeglo selektivno ignoriranje i izazvale pozitivne emocije, potrebno, ali ne i dovoljno, vizualne podražaje prezentirati na način da privlače potpunu pažnju posjetitelja i ne uključiti ih u druge zadatke koji oduzimaju pažnju (Raymond, Fenske i Tavassoli, 2003).

Sposobnost prepoznavanja emocionalnog sadržaja vizualnih podražaja (npr. lica, boja i apstraktnih dizajna) također je povezana s osobnošću, konkretno s empatijom. Osobe koje empatično reaguju na druge, vjerojatnije će prepoznati emocionalni sadržaj vizualnih podražaja (Mayer, DiPaolo i Salovey, 1990), nego osobe koje nemaju razvijenu empatiju. Iako je prepoznavanje izraza lica univerzalno te je na široko proučavano, emocionalna percepcija nije ograničena samo na lice, već se odnosi i na apstraktnije znakove kao što su boje i drugi vizualni podražaji (Mayer, DiPaolo i Salovey, 1990).

Što je veći broj osjetila stimuliran, to je i emocionalno uzbuđenje veće. Pri kreiranju doživljaja, kombiniranje više vrsta senzacija (npr. slušni i vizualni podražaji) dovodi do uzbuđenja i posljedično pojačanih emocionalnih reakcija (Baumgartner, Esslen i Jäncke, 2006). Samim time doživljaj postaje nezaboravan jer se doživljaji koji se ocjenjuju kao emocionalni obično bolje pamte (Margounakis i Politis, 2012). Slično tome, mogu se dogoditi sinestetička iskustva kada jedan osjećaj vodi drugom.

Suprotno teorijama kognitivne procjene, koje sugeriraju da su emocije izazvane percepcijom i interpretacijom vizualnih podražaja paradigma koju je razvio Daniel Berlyne (1960), zagovara da evocirane emocije utje-

bottom-up and top-down attentional processing (Ochsner *et al.*, 2009). On top of that, “...it is selective ignoring, as opposed to attending, that appears to exert influence on emotional evaluation”. (Raymond, Fenske and Tavassoli, 2003: 541). If a person ignores a visual stimulus multiple times, due to presence of other attention-demanding tasks, the visual stimulus becomes perceived as distracting which eventually leads to reduced emotional salience. Therefore, to avoid selective ignoring and evoke positive emotions, it is necessary, but not sufficient, to present visual stimuli in a way that draws the full attention of the viewers and does not engage them in other attention-demanding tasks (Raymond, Fenske and Tavassoli, 2003).

The ability to recognize the emotional content of visual stimuli (e.g. faces, colors, and abstract designs) is also related to personality, specifically to empathy. People who are able to react empathetically to others, are more likely to recognize the emotional content of visual stimuli (Mayer, DiPaolo and Salovey, 1990). While recognition of facial expressions appears to be universal and has been studied widely, emotional perception is not limited to it only but also applies to more abstract cues such as colors and novel graphics (Mayer, DiPaolo and Salovey, 1990).

The greater the number of the senses stimulated, the greater the emotional arousal. When creating an experience, combining multiple types of sensations (e.g. aural and visual stimuli) leads to arousal and consequently enhanced emotional feelings (Baumgartner, Esslen and Jäncke, 2006). This experience tends to be emotional and thus memorable because experiences that are appraised as emotional tend to be better remembered (Margounakis and Politis, 2012). Similarly, synesthetic experiences may occur when one sensation leads to another.

Contrary to the appraisal theories, which suggest that emotions are evoked by perception and interpretation of visual cues, the paradigm developed by Daniel Berlyne (1960)

ču na kognitivne procese. Drugim riječima, umjetnički vizualni podražaji, poput složenosti, novosti i asimetrije, dovode do uzbuđenja, što posljedično utječe na kogniciju. Ovo je stajalište potvrđeno neurofiziološkim studijama koje pokazuju da emocije prethode kogniciji (Damasio; LeDoux, citirano u Hagtvedt, Hagtvedt i Patrick, 2008:202). Međutim, dosadašnja istraživanja nisu donijela konačne zaključke i, premda nismo u mogućnosti s potpunom sigurnošću utvrditi što je prvo, emocije ili kognicija, možemo zaključiti da je interakcija između njih vrlo složena. U kreiranju doživljaja naša je sposobnost utjecaja na prošla iskustva, vrijednosti, empatiju i druge psihološke čimbenike pojedinca ograničena. No, moguće je utjecati na umjetničke vizualne podražaje, što bi, nadamo se, moglo dovesti do više ili manje univerzalnog emocionalnog iskustva. Iako nije vjerojatno da će svi promatrači podjednako percipirati određene vizualne podražaje, cilj kreiranja kulturno-turističkog doživljaja je detektirati podražaje koji većini posjetitelja mogu biti emocionalno privlačni. To bi posljedično imalo utjecaj i na upravljanje destinacijom, utječući ne samo na njen estetski izgled, već i na odanost posjetitelja.

Kultura je do sada pokazala da ima sposobnost izazivanja emocija. Kulturni artefakti uglavnom imaju značenje relevantno za posjetitelja te su često povezani s nekim povijesnim događajima ili zemljopisnim mjestima. Osim toga, načini na koje umjetnici kombiniraju podražaje pri stvaranju umjetničkih djela (npr. ritam, tempo, melodija ili sklad u glazbi ili boja, oblik, simetrija u vizualnim umjetnostima) mogu utjecati na njihovo značenje. Pojedinačni umjetnički alati su vanjski podražaji koje osjetila percipiraju odozdo-prema-gore, ali način na koji su predstavljeni i kombinirani (npr. upotreba ravnomjernog ritma i visokog tona u glazbi ili komplementarne boje u vizualnim umjetnostima) može potaknuti promatrača, u potrazi za značenjem, da se uključi u obradu odozgo-prema-dolje. S obzirom na to da je to relevantno za cilj pronala-

advocates that cognitive processes are to some extent influenced by the evoked emotions. In other words, artistic visual cues, such as complexity, novelty, and asymmetry lead to arousal which consequently influences cognition. This view has been confirmed with neurophysiological studies, showing that emotions precede cognition (Damasio; LeDoux, cited in Hagtvedt, Hagtvedt and Patrick, 2008:202). However, so far research studies have been inconclusive, and although we are not able to state with complete certainty which comes first, emotions or cognition, it is safe to conclude that the interaction between the two is complex. In the experience design, our ability to influence an individual's past experiences, values, empathy, and other psychological factors is limited but we can influence the artistic visual cues, that hopefully might lead to more or less universal emotional experience. While it is not likely that all beholders will perceive certain visual cues equally, the goal of cultural tourism experience design is to find cues which may be emotionally appealing to the majority. This would consequently have managerial impacts on the attraction impacting not only the attraction's aesthetic appearance but also visitors' loyalty.

Culture has so far demonstrated to have the tools for emotion elicitation. Cultural artifacts are generally associated with some viewer relevant meaning, often linked to some historic events or geographic locations. Besides, the ways in which artists combine the cues for the creation of artworks (e.g. rhythm, tempo, melody or harmony in music or color, form, symmetry in visual arts) may influence the meaning. Individual artistic cues are external bottom-up stimuli perceived by the senses but the way how they are represented and combined (e.g. use of steady rhythm and high pitch in music or complementary colors in visual arts) may stimulate beholder to engage in top-down processing in search for the meaning. This potentially leads to an emotional arousal as it is goal relevant. As this research focuses

ska značenja, to može dovesti i do emocionalnog uzbuđenja. Kako se ovo istraživanje fokusira na kulturni turizam, analizirane su postojeće studije umjetničkih podražaja. Koliko bi god emocionalna uzbuđenost koja proizlazi iz umjetničkog djela mogla biti ovisna o njegovom sadržaju, čime više ili manje otkriva značenje, praktički je nemoguće istražiti sadržaj, jer ga svaki pojedinac može vidjeti kroz perspektivu svog prošlog iskustva. U skladu s time, praktički je nemoguć zadatak kreirati doživljaj temeljen na istraživanju prošlih iskustava, preferencija i motivacija svakog pojedinog turista. Zbog toga moguća analiza izbjegava sadržaj kao reprezentativni podražaj i usredotočuje se na općenite i apstraktne vizualne podražaje (npr. boju, oblik, simetriju, lateralnost i složenost) koji su primarno povezani s obradom odozdo-prema-gore, a koja se obično obrađuje automatski na niskim razinama svijesti (Campos *et al.*, 2020). Stoga je za veće skupine posjetitelja prikladno proučavanje apstraktnih vizualnih podražaja koji utječu na njihov doživljaj atrakcije. Međutim, iako su pojedinačni vizualni podražaji primarno povezani s automatskom obradom odozdo-prema-gore, njihova uporaba u umjetničkom djelu također može potaknuti obradu odozgo-prema-dolje u mozgu promatrača, za što je potrebna kreativnost. Obrada odozgo-prema-dolje uključuje mentalne funkcije višeg reda (pažnja, slikovito razmišljanje, očekivanja, naučene vizualne asocijacije) koje mozak koristi kako bi razriješio nejasnoće i odredio značenje slike. Dakle, reduciranjem slika na oblik, liniju, boju ili svjetlost, apstraktna se umjetnost oslanja na obradu odozgo-prema-dolje, a time i na naše emocije, maštu i kreativnost (Kandel, 2016).

Međutim, kao što je rečeno, pojedinci neće uvijek imati iste interpretacije pojedinih podražaja, obično zbog procesa povezanih s pamćenjem, ali i zbog konteksta i vlastitog raspoloženja tijekom izloženosti umjetničkom djelu, što predstavlja veliki izazov za pronalaženje univerzalnih podražaja koji se mogu koristiti u kreiranju doživljaja. Jedno

on cultural tourism, the existing studies of artwork-related cues have been analyzed. As much as the emotional arousal resulting from an artwork may be extremely dependent on its content, thus more or less revealing the meaning, it is practically impossible to research it since each individual can see it through one's past experience lenses. Along the same line, it would be practically an impossible task to design an experience based on the research of each tourist's past experiences, preferences and motivations. This is why the possible analysis avoids the content, as a representational cue, and focuses on generic and abstract visual cues (e.g. color, form, symmetry, laterality, and complexity), which are primarily linked with bottom-up processing usually processed automatically, at low levels of awareness (Campos *et al.*, 2020). For larger groups of visitors, therefore, the study of abstract visual cues influencing their experience of an attraction is appropriate. However, although individual visual cues are primarily related to automatic bottom-up processing, their use in an artwork can also stimulate the top-down processing in the brains of beholders requiring creativity on their side. Top-down processing involves higher-order mental functions (attention, imagery, expectations, learned visual associations); the brain must resolve the remaining ambiguities and one must guess the meaning of the image. Thus, reducing images to form, line, color, or light, abstract art relies on top-down processing, and therefore on our emotions, imagination, and creativity (Kandel, 2016).

However, as said, individuals may not always have the same interpretations, usually due to their memory-related processes in the brain but also due to the context and their own mood while consuming an artwork. This poses a great challenge to finding universal cues to be used in experience design. One of the first studies in this respect was the one by Ramachandran and Hirstein who

od prvih istraživanja u tom pogledu proveli su Ramachandran i Hirstein te su predložili osam zakona umjetničkog doživljaja (1999) koji mogu utjecati na konzumente vizualne umjetnosti. Prvi zakon, vršni pomak (*the peak shift*), kaže da nadrealni podražaj dovodi do jače reakcije od normalnog podražaja. Prema ovom zakonu, neurone u mozgu optimalno uzbuđuje nešto drugačiji, pretjerani ili karikaturni podražaj (npr. nadrealni oblik, žensko/muško držanje, ton kože itd.) u usporedbi s normalnim podražajem. Iako Ramachandran i Hirstein ne navode razlog zašto dolazi do vršnog pomaka, taj zakon je u skladu sa studijom Campos *et al.* koja je otkrila rijetkost kao *bottom-up* faktor koji utječe na pažnju, jer je u suprotnosti s „ponavljajućim objektima i događajima ili se razlikuje od obrazaca normalnosti“ (2020:6).

Drugi zakon ukazuje da *izoliranje* jednog vizualnog podražaja pomaže konzumentu usmjeriti pažnju na jedan modalitet omogućavajući mu tako uživanje u vršnom pomaku. Na primjer, izoliranje jednog segmenta, kao što je „oblik“ ili „dubina“, usmjerava pozornost na ove informacije omogućujući prepoznavanje pretjeranosti, odnosno nadrealnosti, koju su umjetnici unijeli u taj određeni modalitet. Treći se zakon odnosi na *perceptivno grupiranje* i povezivanje koje ima izravnu važnost. Proces perceptivnog grupiranja povezuje korelirane značajke podražaja i stvara jedan objekt ili događaj pomažući tako u razlikovanju lika od pozadine. To se događa zbog „vizualnih područja mozga koja su se posebno razvijala da bi stvarala korelacije između različitih domena (npr. oblik, dubina, boja) i zbog otkrivanja te stvaranja višestrukih izravnih veza tih područja s limbičkim strukturama“ (Ramachandran i Hirstein, 1999:15).

Prema četvrtom zakonu, značajan je utjecaj *ekstrakcije kontrasta*. Kontrast se obično događa između različitih svojstava koja su fizički bliska, stvarajući tako granicu koja privlači pažnju, a koja se pokazala važnom za kamuflažu u životinjskom svijetu. Razlog tome nalazi se u činjenici da „stanice u

proposed the eight laws of artistic experience (1999), which may affect visual art consumers. The first law, *the peak shift*, states that a supernormal stimulus leads to a stronger reaction than a normal stimulus. According to this law, neurons in the consumer's brain get optimally excited by the somewhat different, exaggerated, or caricatured stimulus compared to the normal stimulus (e.g. in form, feminine/masculine posture, skin tone, etc.), but the authors are unaware of the reason. This is in line with the study of Campos *et al.* which detected rarity as a bottom-up factor influencing attention as it contrasts “with recurring objects and events, or is distinct from normality patterns” (2020:6).

The second law indicates that *isolating* a single visual clue helps the organism allocate attention to a single modality, thus allowing it to enjoy the peak shift. For example, isolating a single area such as ‘form’ or ‘depth’ allocates attention to this information, enabling recognition of enhancements introduced by the artists in that particular modality. The third law concerns *perceptual grouping* and binding which is directly reinforcing. The process of perceptual grouping “binds” correlated features and creates a single object or event, thus helping to distinguish between the figure and the background. This is due to “visual areas which may have evolved specifically to extract correlations in different domains (e.g. form, depth, colour), and discovering and linking multiple direct connections from these areas to limbic structures” (Ramachandran and Hirstein, 1999:15).

According to the fourth law, *contrast extraction* is reinforcing. Contrast usually occurs between different features that are physically close together, thus creating a boundary that grabs the attention, which has shown to be important in nature through the effect of camouflage. The reason for this is to be sought in the fact that “cells in the retina, lateral geniculate body... and in the visual cortex respond mainly to the edges... but not

mrežnici, lateralnom genikularnom tijelu ... i u vizualnom korteksu uglavnom reagiraju na rubove ... ali ne i na homogene boje površine” (Ramachandran i Hirstein, 1999:25).

Peti zakon navodi da je *perceptivno rješavanje problema* također značajno. Kada u umjetnosti postoji neki skriveni element, kada je poruka implicirana, a ne eksplicitna, vizualnom sustavu nije lako pronaći rješenje te je taj proces nagrađujući. Dakle, „model čiji su kukovi i grudi zamalo otkriveni provokativniji je od onoga koji je potpuno gol” (1999:33). Ovaj je zakon posebno zanimljiv jer zahtijeva kreativnost promatrača.

Šesti zakon potiče umjetnike da *ne koriste slučajnosti*, jer ljudski vizualni sustav ne voli jedinstvene perspektive nego favorizira generičke. S druge strane, prema sedmom zakonu, *metafore u umjetnosti izazivaju osjećaj ugođe* (npr. grane drveća koje oponašaju žensko tijelo i njezinu mladolikost) jer predmet nije otkriven odmah, već je potrebno malo truda. Samo otkriće metafore dovodi do limbičke aktivacije, budući da taj proces donosi nagradu (Ramachandran i Hirstein, 1999:31).

Konačno, osmi zakon naglašava estetsku privlačnost *simetrije*. Zbog svoje evolucijske važnosti, simetrija plijeni pažnju kako bi olakšala daljnju obradu predmeta. Iako ovih osam zakona neurološke teorije estetskog doživljaja tek treba eksperimentalno potvrditi, Ramachandran i Hirstein predstavili su ih kao „univerzalne umjetničke zakone” (1999:15) koji mogu poslužiti kao smjernice za izazivanje ugodnih emocija kod konzumenata vizualne umjetnosti. Prema teorijama kognitivne procjene emocija, ugodnost je jedna od glavnih varijabli koja razlikuje pozitivna i negativna turistička iskustva, što utječe na ponašanje turista. Procjena vizualnog podražaja kao ugodnog izaziva pozitivne emocije i privlačnost dok procjena podražaja kao neugodnog izaziva negativne emocije i izbjegavanje (Hosany, 2012). Umjetnički doživljaj ljepote može imati snažne emocionalne učinke, a ponekad može dovesti i do fizičkih simptoma poput pojačanog rada srca,

to homogeneous surface colors” (Ramachandran and Hirstein, 1999:25).

The fifth law states that *perceptual problem solving* is also reinforcing. When there is some hidden element in art, when the message is implied and not explicit, it is not easy for the visual system to find a solution and this process is reinforcing. Thus, “a model whose hips and breasts are about to be revealed is more provocative than the one who is completely naked” (1999:33). This law is particularly engaging as it requires creativity by the beholder.

The sixth law encourages artists *not to use coincidences*, as the human visual system abhors unique vantage points and favors a generic one. On the other hand, according to the seventh law, the *metaphors in the art are pleasing* (e.g., tree branches that mimic the female body and her youthfulness) as the object is not discovered instantaneously. The very discovery of the metaphor leads to a limbic activation since the process is rewarding (Ramachandran and Hirstein, 1999:31).

Finally, the eighth law emphasizes the aesthetic appeal of *symmetry*. Because of its evolutionary importance, symmetry grabs the attention to facilitate the further processing of the object. Although these eight laws of a neurological theory of aesthetic experience are yet to be experimentally confirmed, Ramachandran and Hirstein pitched them as “artistic universals” (1999:15) which may serve as guidelines to elicit pleasant emotions in the visual art consumers. According to appraisal theories of emotion, pleasantness is one of the main variables which differentiates positive and negative tourist experiences, hence affecting consumer behavior. Appraising a visual stimulus as pleasant evokes positive emotions and approach behavior while appraising a stimulus as unpleasant evokes negative emotions and avoidance (Hosany, 2012). The artistic experience of beauty can have strong emotional effects and can sometimes even lead to physical symptoms such as increased heartbeat, fainting, and chest

nesvjestice i bolova u prsima. Ovo se stanje naziva Stendhalov sindrom (Palacios- Sánchez *et al.*, 2018).

Nadalje, istraživanje Lindell i Mueller (2011) koje se bavilo prosuđivanjem vrijednosti umjetnosti, analiziralo je sedam indikatora: smislenost, oblik, složenost, simetriju, lateralnost i kretanje, prototipičnost i novost. Analizirajući smislenost koja se prenosi kroz oblik, istraživanje je otkrilo da konzumenti umjetnosti preferiraju reprezentativnu sliku nad apstraktnim umjetničkim djelima dok se veliki i zakrivljeni oblici doživljavaju estetski ljepšima nego mali i oštri oblici. Konzumenti također preferiraju vodoravne i okomite crte u usporedbi s kosim crtama, a umjereno složena djela vrednuju bolje od manje ili vrlo složenih djela. Iako složena djela dovode do većeg uzbuđenja, da bi umjetničko djelo bilo estetski vrijedno, mora se razumjeti, a razumijevanje ima snažnu korelaciju sa smislom. Također, složenost izaziva zanimanje, a ponekad i uživanje (Krupinski i Locher, 1988); potiče uzbuđenje i veće hedonističke ocjene. Drugo istraživanje (Silvia, 2005), međutim, nije potvrdilo povezanost složenosti s uživanjem.

„Što je podražaj simetričniji, to se smatra ljepšim” (Lindell i Mueller, 2011:459), što su također pokazali Jacobsen *et al.* (2006) koji smatraju da je simetrija „najvažnije svojstvo podražaja koje određuje estetske prosudbe sudionika” (Jacobsen *et al.*, 2006:279). To je također u skladu s univerzalnim umjetničkim zakonima Ramachandrana i Hirsteina koji tvrde da simetrija ima estetsku privlačnost.

Lateralnost i kategorija kretanja, koji se odnose na težište i ravnotežu, pokazali su se ovisnima o kulturi. U zapadnim kulturama „čitanje” slike je slijeva udesno, što utječe na sklonost slikama u kojima se radnja kreće u analognom smjeru. U arapskim kulturama estetska vrijednost lateralnosti i kretanja ocjenjuje se zdesna nalijevo, što utječe i na naslov umjetničkih djela. U zapadnim kulturama poželjnije je da se prva riječ u naslovu,

pains. This condition is called the Stendhal syndrome (Palacios- Sánchez *et al.*, 2018).

Further on, a study by Lindell and Mueller (2011) examining the art appreciation analyzed seven indicators: meaningfulness, form, complexity, symmetry, laterality and movement, prototypicality and novelty. When analyzing meaningfulness, which is conveyed through forms, the study found out that art consumers prefer representational over abstract artworks while large and curved forms are perceived more aesthetic than small and sharp ones. Preference for horizontal and vertical lines in comparison with oblique ones was detected. Moderately complex works are valued better than less or highly complex ones. Although complex works lead to greater arousal, in order to be valued aesthetically, one must understand the artwork, which shows a strong correlation with meaningfulness. Also, complexity is associated with interest and sometimes enjoyment (Krupinski and Locher, 1988); it stimulates arousal and higher hedonic ratings. Another study (Silvia, 2005), however, disapproved its correlation with enjoyment.

“The more symmetrical the stimulus, the more beautiful it is deemed” (Lindell and Mueller, 2011:459), as also demonstrated by Jacobsen *et al.* (2006) who found symmetry “to be the most important stimulus property determining participants’ aesthetic judgments” (Jacobsen *et al.*, 2006:279). It is also in line with Ramachandran and Hirstein’s universal artistic laws claiming that symmetry has the aesthetic appeal.

Laterality and movement category refer to weigh and balance, and showed to be culture dependent. In Western cultures, the “reading” of the painting is left to right which impacts preference for images in which the action moves in analogical direction. In Arabic cultures, the aesthetic value of the laterality and movement is judged right to left. This also has impact on titling the artworks; in Western cultures, it is preferred if the title in which the first word refers to content is

koja se odnosi na sadržaj, nalazi s lijeve strane. Pored toga, postoji preferencija za stavljanje težišta u gornji desni kvadrant.

Prototipske slike znak su ljepote i stoga su konzumentima draže, a to potvrđuje Ramachandranov i Hirsteinov umjetnički zakon koji potiče umjetnike da ne koriste slučajnosti jer ljudski vizualni sustav favorizira generičke perspektive. Iako novost pojačava uzbuđenje i zanimanje, nije nužno povezana s estetskom vrijednošću. Nekoliko je studija (Berlyne, 1971; Marshall i Thornhill, 1995) potvrdilo da su umjerene razine novosti „vjerojatno najugodnije” (Lindell i Mueller, 2011).

Iako su nalazi spomenutih studija izuzetno zanimljivi, njihova primjena u pružanju točnih smjernica za kreiranje doživljaja je ograničena; osim toga, još uvijek ne garantiraju emocionalno uzbuđenje jer emocionalna reakcija ovisi o brojnim unutarnjim (povezanih s *bottom-up* obradom) kao i vanjskim čimbenicima (npr. raspoloženju i kontekstu u kojem konzumiramo umjetnost). Ovi nalazi, međutim, mogu biti preduvjet za kreiranje emocionalnog doživljaja, ali s obzirom da nisu analizirali povezanost između proučavanih podražaja i konkretnih emocija (već su se bavili estetskom procjenom i stoga vjerojatno izazivanjem radosti), iz njih nije moguće izvesti jednostavne zaključke. Proučeni podražaji odnose se na automatsku obradu odozdo-prema-gore, zbog čega bi mogli imati barem djelomično univerzalni učinak na emocije. To, međutim, tek treba potvrditi. Sinteza zaključaka navedenih istraživanja

on the left side. Additionally, preference has been shown for weight to be put in the upper right-hand quadrant.

Prototypical images are a sign of beauty and are, therefore preferred. It confirms Ramachandran and Hirstein’s artistic law encouraging artists not to use coincidences due to the human visual system’s favoring generic images. While novelty enhances arousal and interest, it is not necessarily associated with aesthetic value. Several studies (Berlyne, 1971; Marshall and Thornhill, 1995) confirmed that moderate levels of novelty are “likely to be the most pleasing” (Lindell and Mueller, 2011).

While findings of the mentioned studies are extremely interesting, they have a limited application in providing exact directions for experience design; besides they still do not guarantee an emotional arousal since an emotional experience depends on a number of intrinsic (related to top-down processing) as well as extrinsic factors (e.g. mood and the context in which we consume art). They may be a prerequisite for emotional experience design, but as they did not analyze the correlation between the studied elements and concrete emotions (only aesthetic appraisal and therefore possibly eliciting joy), it is not possible to draw simple conclusions from them. The studied cues relate to automatic bottom-up processing, which is why they could possibly have at least partially universal effect on emotions. This is, however, yet to be confirmed. The synthesis of the findings is provided in Table 1.

nalazi se u Tablici 1.

Tablica 1: Analiza procjene umjetnosti prema sedam indikatora

preferencija	smislenost	oblik	složenost	simetrija	lateralnost i kretanje	prototipičnost i novost
+	reprezentativna umjetnost	veliko, zakrivljeno, vodoravno i okomito	srednja	simetrično	lijevo (zapadne kulture), desno (kulture arapskog govornog područja)	prototipično, srednja razina novosti
-	apstraktna umjetnost	malo, oštro, koso	manja ili veća	asimetrično	desno (zapadne kulture), lijevo (kulture arapskog govornog područja)	neprototipično, manja ili veća razina novosti

Izvor: Adaptirano iz nekoliko studija i prezentirano u radu Lindell i Mueller (2011)

Table 1: Analysis of art appreciation according to seven indicators

preference	meaningfulness	form	complexity	symmetry	laterality and movement	prototypicality and novelty
+	representational art	large, curved, horizontal and vertical	moderate	symmetrical	left (Western cultures), right (Arab speaking cultures)	prototypical, moderate novelty
-	abstract art	small, sharp, oblique	less or high	asymmetrical	right (Western cultures), left (Arab speaking cultures)	non-prototypical, less or highly novel

Source: adapted from several studies and presented by Lindell and Mueller (2011)

Boja

„Kada znamo da se 80% ljudskog iskustva filtrira očima, razumijemo da je izbor boje presudan.“

Institut za boju Pantone

Vjerojatno najproučavaniji element umjetničkog djela i njegovog odnosa prema

Color

“When 80% of human experience is filtered through the eyes, we understand that the choice of color is critical.”

Pantone Color Institute

Probably the most studied element of an artwork and its relation to emotions is the

emocijama je boja. Koliki god broj istraživača tvrdio da je naše „iskustvo boje iluzija” (Hyman, 2006:7), budući da je boja svojstvo mozga i ne odnosi se na predmete vanjskog svijeta (Zeki, 1983), ona se kontinuirano potvrđuje kao najvažniji vizualni podražaj: zamjećujemo je prije oblika, a oblik prije kretanja (Moutoussis i Zeki, 1997), a „prednost boje u odnosu na pokret je 60-100 ms” (Zeki, 1998:75). Ljudski mozak, dakle, interpretira boju prije oblika i pokreta, što može pružiti važnu smjernicu za kreiranje doživljaja. Boja, prema tome, ima veću važnost u interpretaciji okruženja te stoga na nju treba biti posebno usmjeren prilikom kreiranja doživljaja u kulturnom turizmu.

Brojne studije analizirale su utjecaj boje na emocije (Valdez i Mehrabian, 1994), ponašanje (Damhorst i Reed, 1986), percepciju (Rogers, 2015) i na preferenciju boja (Ou *et al.*, 2004). Osim u području psihologije, istraživačke studije o boji najčešće su u marketingu. Studije na temu boje u turizmu, međutim, izuzetno su rijetke (Yüksel, 2009), a ako se boja istražuje, takve studije opet imaju marketinški fokus, kao što je utjecaj boja na potrošačko ponašanje. Manjak znanja o utjecaju boja na emocije u kontekstu turizma tek predstoji popuniti.

Boje su često intuitivno povezane s određenim emocijama i mogu utjecati na to kako se osjećamo. Neke se boje često opisuju u semantičkim opozicijama, poput tamna-svijetla, topla-hladna, jaka-slaba itd., što se nadalje intuitivno povezuje s emocijama (npr. topla ljubav, hladna ravnodušnost, mračna mržnja, svijetli optimizam itd.). „Semantičke riječi koje opisuju karakteristike boja i čovjekove emocionalne reakcije na boje općenito se nazivaju emocijama boja” (Gao *et al.*, 2007:223) i često se koriste u istraživanjima boja. Rezultati većine studija, međutim, ne mogu se protumačiti na jednostavan način i s apsolutnom sigurnošću, a pogotovo ne na način koji bi jednu emociju pripisao jednoj boji. Umjesto toga, nalazi su općenitiji i na prilično opisan način prikazuju određene čimbe-

color. As much as a number of researchers claim that our “experience of color is an illusion” (Hyman, 2006:7), since color is a brain property and not pertaining to objects of the outside world (Zeki, 1983), it proves to be the most important visual cue: it is seen before form, and form is seen before motion (Moutoussis and Zeki, 1997), “the advantage of color over motion being of the order of 60-100 ms” (Zeki, 1998:75). Human brain, therefore, interprets color before form and motion, which may provide an essential tip for experience design. The color, thus, possibly has a greater relevance in interpretation of the environment and should be focused on while designing experiences.

A number of studies analyzed effects of color on emotions (Valdez and Mehrabian, 1994), on behavior (Damhorst and Reed, 1986), on perception (Rogers, 2015), or the color preference (Ou *et al.*, 2004). Except for the field of psychology, research studies on color are most common in marketing. The studies of color in tourism, however, are extremely rare (Yüksel, 2009); if so, they again have a marketing focus, such as the relationship of color on shopping behaviors. The void of the relationship of color and emotions in the context of tourism is yet to be filled.

Colors are intuitively often associated with certain emotions and can affect how we feel. Some colors are often described in semantic oppositions, such as dark-light, warm-cool, strong-weak, etc., which can further intuitively be associated with emotions (e.g. warm-love, cool-indifference, dark-hatred, light-optimism, etc.). “The semantic words describing the characteristics of colors and human’s emotional responses on colors are generally termed as color emotion” (Gao *et al.*, 2007:223) and are often used in color studies. Results of the majority of studies, however, cannot be interpreted in a simple way and with absolute certainty, and especially not in a way which would attribute single emotion to a single color. Rather, findings are more generic showing the deter-

nike temperature boje, aktivnosti, potencije itd. (tako se boje opisuju kao npr. vesele, poticajne, uznemirujuće) i ne pružaju visoku sigurnost točnih emocionalnih asocijacija. Zaključci izvedeni iz većine studija povezuju značenje boje s pojedinim odrednicama kao što su njezina *svjetlost* i *kroma* (Živost) (Gao *et al.*, 2007), a ponekad i *nijansa* (Dorsch, 2009), koje mogu imati utjecaj na emocije i iskustva. Dakle, Gao *et al.* (2007) su otkrili da su ljudski odgovori na emocionalne varijable indeksa aktivnosti boje (npr. pasivna, dinamična, nejasna) određeni kromom dok su njihovi odgovori na indeks potencije (npr. duboka, blijeda, mekana) uglavnom određeni svjetlinom. Odgovori na „prozirna - mutna” emocionalnu varijablu boje, pod utjecajem su krome i svjetlosti, dok su nijansa i kroma odredili ljudske reakcije na temperaturu boje (npr. topla, hladna). Značenje boje, prema navedenom istraživanju, uglavnom oblikuju njezina kroma i svjetlost dok nijansa ima manju ulogu.

Neke studije upustile su se u pokušaj otkrivanja emocija izravno izazvanih bojom (Cimbalo *et al.*, 1978; Sliburyte i Skeryte, 2014), ali s ograničenim brojem boja i s upitnom pouzdanošću nalaza zbog ograničene mogućnosti korištenja kvantitativne metodologije. Tablica 2 prikazuje sažete nalaze iz različitih studija o odnosu boja i emocija, značenja i percepcija stavljenih u međukulturnu perspektivu, s obzirom na to da kulturne razlike mogu ometati potragu za univerzalizacijama u tim procesima. Međukulturna perspektiva posebno je važna zbog njezine turističke primjene. Sve kulture ne vide iste boje ili njihove nijanse te, s obzirom na očite razlike u percepciji boja, dovodi se u pitanje univerzalnost percepcije i interpretacije, a posljedično i doživljaja.

minant factors of color temperature, activity, potency, etc. in a rather descriptive way (thus, colors are described as e.g. cheerful, stimulating, disturbing) and not providing high certainty of exact emotional associations. Conclusions drawn from the majority of studies link the meaning of a color with specific determinants such as its *lightness* and *chroma* (Gao *et al.*, 2007) and sometimes also its *hue* (Dorsch, 2009) and they may also have impact on emotions and experiences. Thus, Gao *et al.* (2007) found that human responses to emotional variables of color activity index (e.g. passive, dynamic, vague) were determined by chroma, while their responses to the potency index (e.g. deep, pale, soft) were mainly determined by lightness. Responses to the “transparent – turbid” emotional variable were influenced by both chroma and lightness, while hue and chroma determined human responses to color temperature (e.g. warm, cool). The meaning of color, according to this study, is mostly shaped by its chroma and lightness, and little by its hue.

Some studies have accepted the challenge of trying to detect a direct emotion caused by a color (Cimbalo *et al.*, 1978; Sliburyte and Skeryte, 2014) but with a limited number of colors and with questionable reliability of findings due to a limited and not always easily quantifiable research methodologies. Table 2. presents a summarized adaptation of findings from different studies on the relationship between colors and emotions, meanings and perceptions put in the cross-cultural perspective since the aforementioned cultural differences may hinder the quest for universals. Cross-cultural perspective is especially important for its tourism application. Differences are evident in the perception of colors since not all cultures see the same colors or their shades. This again introduces the issue of perception and interpretation, consequently questioning the universality of experiences.

Tablica 2: Percepcija boja, asocijacije na značenje/emocije i međukulturne razlike

	asocijacije boja s tonovima raspoloženja (Wexner, 1954)	koncepti boja i semantičko značenje (Adams i Osgood, 1973)	asocijacije između boja i emocija (Cimbalo <i>et al.</i> , 1978)	percepcija boja (asocijacije) (Sliburyte i Skeryte, 2014)	međukulturne usporedbe boja (Jacobs, Keown i Worthely, 1990)
Crvena	uzbudljiva, poticajna	snažna i aktivna	tužna	ljubav/opasnost, vatra/bijes, strah, tuga i gađenje	aktivna, vruća i živahna + oštra i emotivna u većini kultura
Plava	sigurna/ugodna, nježna/umirujuća	dobra	sretna	smirena/depresivna/ljutnja, strah, tuga i gađenje	mirna, nježna i smirujuća
Žuta	vesela/žovijalna/radosna	slaba i loša	sretna	pohlepa/pozitivne emocije (znatiželja, nada, radost)	
Zelena		dobra		ljubomora/pozitivne emocije (znatiželja, nada, radost)	mirna, nježna i smirujuća
Narančasta	uznemirujuća / potresna/uzrujavajuća		sretna		
Crna	moćna/jaka/zapovjednička	loša, snažna, neaktivna	tužna	depresija, zlo, smrt/ negativne emocije	tužna i ustajala
Bijela		dobra i slaba		hladna/pozitivne emocije (znatiželja, nada, radost)	mirna, nježna i smirujuća
Siva		loša, slaba i neaktivna			
Smeđa			tužna		tužna i ustajala

Izvor: Autori, adaptirano iz prethodno navedenih studija

Table 2: Perception of colors, associations with meanings/emotions, and cross-cultural differences

	color associations with mood-tones (Wexner, 1954)	color concepts and semantic meaning (Adams and Osgood, 1973)	associations between colors and emotions (Cimbalo et al., 1978)	consumers' color perception (associations) (Sliburyte and Skeryte, 2014)	cross-cultural color comparisons: (Jacobs, Keown and Worthely, 1990)
Red	exciting, stimulating	strong and active	sad	love / danger, fire / anger, fear, sadness and disgust	active, hot and vibrant + emotional and sharp in most cultures
Blue	secure / comfortable, tender / soothing	good	happy	calmness / depression / anger, fear, sadness and disgust	peaceful, gentle and calming
Yellow	cheerful / jovial / joyful	weak and bad	happy	greed / positive emotions (curiosity, hope, joy)	
Green		good		jealousy / positive emotions (curiosity, hope, joy)	peaceful, gentle and calming
Orange	disturbing / distressed / upset		happy		
Black	powerful / strong / masterful	bad, strong, and inactive	sad	depression, evil, death / negative emotions	sad and stale
White		good and weak		cold / positive emotions (curiosity, hope, joy)	peaceful, gentle and calming
Grey		bad, weak, and inactive			
Brown			sad		sad and stale

Source: Authors, adapted from the above mentioned studies

Analiza ovih devet boja izvučena je iz pet odabranih studija¹: crvena, plava, žuta, zelena, narančasta, crna, bijela, siva i smeđa. U tim studijama nisu doneseni zaključci o pojedinačnim bojama, niti su dobiveni rezultati u potpunosti konzistentni. Tako je crvena, na primjer, povezana s emocionalnom tugom (Cimbalo *et al.*, 1978), ali i s ljubavlju (Sliburyte i Skeryte, 2014), plava s emocionalnom srećom (Cimbalo *et al.*, 1978.), ali i ljutnjom, strahom, tugom i gađenjem (Sliburyte i Skeryte, 2014). U nastavku rada predstavljamo analizu svake od devet boja.

Crvena. Kroz sve odabrane studije i u većini kultura crvena se smatra snažnom, aktivnom, uzbudljivom, živahnom i poticajnom bojom. Kad je riječ o njenom emocionalnom značenju, vjerojatno je najdvosmislenija od svih boja: ponekad predstavlja ljubav, ali i strah ili bijes zbog povezanosti s opasnošću.

Plava. Većina nalaza potvrđuje da se plava smatra „dobrom” bojom; daje osjećaj sigurnosti, udobna je, milujuća, umirujuća, mirna, nježna i smirujuća, što odgovara emociji sreće. Međutim, jedno istraživanje (Sliburyte i Skeryte, 2014) povežalo je plavu boju s depresivnim emocijama: ljutnjom, strahom, tugom, čak i s gađenjem.

Žuta. Iako se žuta općenito smatra veselom, življavom i radosnom, što je povezano sa srećom, neki je smatraju slabom i lošom bojom koja ima značenje pohlepe.

Zelena. Općenito je poznata po svojim umirujućim karakteristikama; nježna je i

The analysis of nine colors is provided from five selected studies¹: red, blue, yellow, green, orange, black, white, grey and brown. Neither conclusions on individual colors have been reached in all the studies, nor the obtained results are entirely consistent. Thus, red, for example is linked with emotional sadness (Cimbalo *et al.*, 1978) but also with love (Sliburyte and Skeryte, 2014), blue with emotional happiness (Cimbalo *et al.*, 1978) but also anger, fear, sadness and disgust (Sliburyte and Skeryte, 2014). Analysis of each of the nine colors is further presented.

Red. Throughout all the selected studies and in most cultures, red is seen as a strong, active, exciting, vibrant and stimulating color. When it comes to its emotional relationship, it is probably the most ambiguous one: sometimes it represents love, but also fear or anger due to its association with danger.

Blue. The majority of findings confirm that blue is seen as a good color; it is secure, comfortable, tender, soothing, peaceful, gentle and calming which corresponds to the emotion of happiness. However, one study (Sliburyte and Skeryte, 2014) detected it at the same time with depressive feelings, anger, fear, sadness, even disgust.

Yellow. While yellow is seen as cheerful, jovial and joyful thus being associated with happiness, it is by some seen as a weak and bad color having the meaning of greed.

Green. It is generally known for its calming characteristics; it is gentle and peaceful

¹ Istraživačke studije odabrane su prema kriterijima njihovog istraživačkog fokusa na emocije, istovremeno pružajući podatke o različitim aspektima (boje i tonovi raspoloženja, boje i semantičko značenje, boje i emocije, percepcije i emocije boja i međukulturne razlike emocija boja). Sve odabrane studije pripadaju području psihologije/bihevioralnih znanosti kako bi njihovi nalazi bili lakše usporedivi. Osim toga, psihologija/bihevioralne studije preduvjet su razumijevanja ljudskog ponašanja i njegove primjene u kreiranju doživljaja.

¹ Research studies were selected following the criteria of their research focus on emotions, at the same time providing different research aspects (colors and mood tones, colors and semantic meaning, colors and emotions, color perceptions and emotions and cross-cultural differences of color emotions). The selected studies belong to the field of psychology/behavioral sciences for their findings to be more easily comparable. Besides, psychology/behavioral studies are pre-requisites for human behavior understanding and its application in experience design.

mirna te je označena kao „dobra“ boja. U rijetkim je slučajevima povezana s ljubomorom.

Narančasta. Iako je neke studije smatraju uznemirujućom, potresnom i uzrujavajućom bojom (Wexner, 1954.), druge je povezuju sa srećom (Sliburyte i Skeryte, 2014).

Crna i bijela. Te se dvije boje opažaju u očekivanim opozicijama: loše-dobro, jako-slabo, negativno-pozitivno, prva izražava tugu, a druga nadu.

Siva. Ovu boju je samo jedna od odabranih studija istražila te ju je označila kao „lošu“, slabu i neaktivnu (Adams i Osgood, 1973).

Smeđa. Smatra se ustajalom i povezuje se s tugom.

Nije lako sažeti ove nalaze zbog njihovih dvosmislenih značenja. Međutim, prema odabranim studijama, crna, bijela, siva, smeđa, zelena i plava imaju prilično stabilna značenja dok su značenja crvene, narančaste i žute boje prilično kontroverzna. Dva su razloga za ovu nedosljednost. Prvi je povezan s istraživačkim metodama koje su primjenjivane, a koje se oslanjaju na mjere samoprocjene usredotočene na asocijacije i percepciju. Prema Zeki (1998), percepcija uključuje osobnu interpretaciju i ne može biti vrlo pouzdana.

Daljnje nedosljednosti donekle se mogu odnositi na nijanse boja korištenih u istraživanju, s obzirom da podaci o njima nisu dostupni u svim odabranim studijama.

Prilikom kreiranja doživljaja, još jedan koristan način izazivanja emocionalnih reakcija je kombiniranje različitih boja, što je posebno učinkovito ako su boje skladne tj. harmonične. Takva kombinacija boja dovodi do ugodnih emocija koje se često grupno nazivaju „estetskim odgovorom“ (Edwards, 2004). Da bi se postigla harmonija među bojama, boje moraju biti: 1) komplementi iste vrijednosti i razine svjetlosti za svaku nijansu; 2) suprotne vrijednosti za svaku nijansu; 3) suprotni intenziteti za svaku nijansu. Na primjer, kreatori doživljaja mogu postići harmoniju boja kombinirajući svijetlo-žarku

being labelled as a good color. In rare cases, it is associated with jealousy.

Orange. While some studies see it as disturbing, distressed and upset (Wexner, 1954), the others link it with happiness (Sliburyte and Skeryte, 2014).

Black and white. These two colors are perceived in expected oppositions: bad-good, strong-weak, negative-positive, the first one expressing sadness, and the other one hope.

Grey. Only one of the selected studies researched it and labelled it as bad, weak and inactive (Adams and Osgood, 1973).

Brown. It is seen as stale and associated with sadness.

It is not easy to summarize these findings due to their ambiguous meanings. However, according to the selected studies, black, white, grey, brown, green and blue can be seen quite stable in their meanings while the meanings of red, orange and yellow are quite controversial. There are two reasons for this inconsistency. The first one is linked to the research methods they applied which rely on self-reporting measures focusing on *association* and *perception*. As noted by Zeki (1998), perception involves personal interpretation and cannot be very reliable.

Further inconsistencies may partially apply to the color hues used in the research. Since the data on this are not available in all the studies, hues may be questioned.

When designing an experience, another way to elicit emotional reactions is by combining different colors. This is especially effective if the colors are harmonious. Such an arrangement of colors leads to pleasing emotions often called an aesthetic response (Edwards, 2004). To achieve the harmony between colors, colors need to be: 1) complements of the same value and lightness level for each hue; 2) opposite values for each hue; 3) opposite intensities for each hue. For example, experience designers can achieve the color harmony by combining light bright

plavu, svijetlo-žarku narančastu, vrlo svijetlo-tupu plavu, tamno-žarku narančastu, vrlo tamno-tupu narančastu i vrlo tamno-tupu plavu boju (Edwards, 2004). Čini se da je svjetlost odlučujući čimbenik harmonije boja jer su sheme boja koje sadrže mnogo tamnih boja manje estetski privlačne od onih koje sadrže gradijente svijetlo-tamno ili tamno-svijetlo (Weingerl i Javoršek, 2018). Dosadašnja istraživanja, međutim, nisu pokazala koje specifične emocije izaziva harmonija boja, tako da je njena upotreba u kreiranju doživljaja ograničena.

6. ZAKLJUČAK I SMJERNICE ZA BUDUĆA ISTRAŽIVANJA

Budući da svako putovanje podrazumijeva promatranje i prikupljanje znakova (Simonicca, 1997), za očekivati je da se turizam opsežno bavi proučavanjem boja ili drugih vizualnih podražaja. Iako je osjećaj vida svojstven turističkim putovanjima i turističkoj geografiji koja proučava vizualnu kulturu (Burns, Palmer i Lester, 2010; Wang i Sparks, 2014), znanja o bojama u kulturnom turizmu još uvijek su nedostatna.

Iako nije moguće dati cjelovite i potpuno jasne odgovore na pitanja koja smo postavili na početku istraživanja, ovaj pregledni rad pokazao je da se emocionalno uzbuđenje posjetitelja/turista pod utjecajem vizualnog podražaja može promatrati iz dvije perspektive: psihološke (koja uključuje čimbenike kao što su percepcija, pažnja, emocionalni sustav, empatija i angažiranje više osjetila) i umjetničke (koja uključuje konkretne vizualne podražaje poput boje, oblika, složenosti, simetrije, lateralnosti i pokreta, prototipičnosti, novosti). Sadržaj je u izravnoj vezi sa značenjem, stoga vjerojatno ima najveći utjecaj na izazivanje emocija; međutim, predstavlja veliki izazov za turistička istraživanja zbog poteškoća u dizajniranju takvog istraživanja koje bi uvažilo sklonosti pojedinih turista prema različitom sadržaju. Psihološki mehanizmi koji utječu na emocionalno uzbuđenje

blue, light bright orange, very light dull blue, dark bright orange, very dark dull orange, and very dark dull blue (Edwards, 2004). Lightness seems to be the determinant factor of color harmony, as color schemes containing many dark colors are less aesthetically pleasing than those containing light-to-dark or dark-to-light gradients (Weingerl and Javoršek, 2018). However, until now, research has not shown which specific emotions are evoked by aesthetic response to color harmony so its use in experience design might be limited.

6. CONCLUSIONS AND FUTURE RESEARCH

Since each travel entails seeing and gathering signs (Simonicca, 1997), one would expect that tourism deals extensively with the study of colors or other visual stimuli. Although the sense of sight is inherent to tourism travel and tourism geography studied visual culture (Burns, Palmer and Lester, 2010; Wang and Sparks, 2014), there is a void in the study of colors in this field.

While it is not possible to offer a comprehensive and entirely clear answers to the questions we posed in this research, this review research has shown that the emotional arousal of a consumer/tourist after a visual stimulus can be regarded from two perspectives: psychological (involving factors such as perception, attention, emotional system, empathy, and engagement of multiple senses) and artistic one (involving concrete visual cues such as color, form, complexity, symmetry, laterality and movement, prototypicality, novelty). Content has a direct relation with the meaning, thus possibly also having the greatest impact on emotion elicitation; however, it poses a huge challenge in tourism-related studies due to difficulties in designing such a research which would account for individual tourists' content preferences. Psychological mechanisms influencing the consumer/tourist emotional arousal are

posjetitelja/turista su percepcija, selektivna pažnja, raspoloženje i empatija koja je često biološki uvjetovana te predstavlja izazov za primjenu u turizmu. Višestruka osjetilna stimulacija i sinestetička iskustva omogućuju lakšu interpretaciju podražaja te njihov utjecaj na emocije ima vrlo praktične implikacije na kreiranje turističkog sadržaja i može se smatrati konkretnom preporukom za kreiranje emocionalno nabijenog doživljaja. Stoga je odgovor na prvo istraživačko pitanje o mehanizmima putem kojih vizualni podražaji utječu na emocionalno uzbuđenje promatrača, povezan i s psihološkim čimbenicima (obrada odozgo-prema-dolje), ali i s vanjskim podražajima (obrada odozdo-prema-gore). Emocionalno uzbuđenje ovisi o percepciji vizualnog podražaja i oslanja se na subjektivnu procjenu promatrača na temelju njegovih/njezinih prethodnih iskustava i znanja. U skladu s tim, višestruka osjetilna stimulacija koja aktivira različita osjetila utječe na emocionalno uzbuđenje jer poboljšava procjenu i dovodi do lakšeg tumačenja značenja. Također, emocionalno uzbuđenje ovisi o selektivnoj pažnji jer ona utječe na odabir podražaja na koje se pojedinac usredotočuje na temelju njegovih/njezinih interesa, motiva i ciljeva (obrada odozgo-prema-dolje). Prepoznavanje emocionalnog sadržaja, nadalje, također je povezano s osobnošću promatrača i njegovom/njenom razinom empatije. Ti se zaključci oslanjaju na teorije kognitivne procjene.

Međutim, na kognitivne procese povezane s umjetničkim djelima mogu utjecati i emocije koje automatski pokreću vanjski podražaji, u ovom slučaju vizualni podražaji (npr. boja, oblik, simetrija itd.). Tako, na primjer, pojedinačne boje „vrše perceptivne i emocionalne učinke izazivajući asocijacije u mozgu promatrača povezane s bojom ... budući da mozak ima specijalizirana područja za obradu boje ... a senzorna zastupljenost ... u mozgu uglavnom je posredovana procesima odozdo-prema-gore koji nastaju u primitivnim vizualnim područjima” (Kan-

perception, selective attention, mood, and empathy of a beholder, which is often biologically conditioned thus posing another challenge for its application in tourism. The importance and impact of multiple sensory stimulation and synesthetic experiences on emotions engaging different senses enables the easier interpretation of a stimulus. It has a very practical implication in the tourism experience design and may be considered as a concrete recommendation for the emotionally charged experience design. Therefore, the answer to the first research question on mechanisms influencing an emotional arousal of a beholder presented with visual stimuli is both related to psychological factors (top-down processing) but also on external stimuli (bottom-up processing). Emotional arousal depends on the perception or appraisal of the visual stimulus and relies on beholder's subjective assessment based on his/her previous experiences and knowledge. In line with this, multiple sensory stimulation involving different senses impacts an emotional arousal since it enhances the appraisal and leads to an easier interpretation of the meaning. Also, emotional arousal depends on the selective attention as it influences the selection of the stimuli to be focused on based on one's interests, motives, and goals (top-down processing). Recognition of emotional content, further on, is also related to beholder's personality and his/her level of empathy. These conclusions rely on the appraisal theories.

However, cognitive processes related to artworks may also be influenced by the emotions automatically triggered by external stimuli, in this case visual cues (e.g. colors, forms, symmetry, etc.). Thus, individual colors, for example, “exert perceptual and emotional effects by eliciting associations in the beholder's brain that are related to color... since the brain has specialized regions to process color... and sensory representation ... in the brain is largely mediated by bottom-up processes arising in the early visual areas” (Kandel, 2016:114). This is in

del, 2016:114). To je u skladu s Berlyneovom paradigmatom o mehanizmima emocionalnog uzbuđenja. Snažan emocionalni odgovor na boju objašnjava se činjenicom da se taj proces događa u inferiornom temporalnom korteksu koji razmjenjuje informacije „s hipokampusom i amigdalom, koji orkestriraju emocije” (Kandel, 2016:57). Međutim, značenje izvučeno iz umjetničkih vizualnih podražaja i dalje se može znatno razlikovati među pojedincima jer na njega može utjecati međusobna interakcija procesa odozdo-prema-gore i kognitivne procjene. Oba mehanizma mogu utjecati na emocionalno uzbuđenje čak i bez prethodnog iskustva s (apstraktnom) umjetnošću.

Kada je riječ o vizualnim podražajima povezanim s određenim emocijama, kao odgovor na drugo istraživačko pitanje, analizirana istraživanja nisu dala zadovoljavajuće odgovore. Nisu pronađeni jasni zaključci o vezi između određenih vizualnih podražaja i specifičnih emocija. Iako su neke studije boja pronašle te veze, druge studije ih opovrgavaju. Dakle, studije o bojama predstavljene u ovom preglednom istraživanju pokazale su djelomičnu dosljednost u percepciji emocija s kojima su povezane pojedinačne boje (npr. tuga za crnu, nada za bijelu), no većina emocija boje je kontroverzna s obzirom na to da su neke boje povremeno povezane s potpuno različitim osjećajima (npr. sreća ili bijes, strah, tuga, čak i gađenje prema plavoj boji; sreća ili uznemirenost prema narančastoj). Razlog za takva odstupanja može se potražiti u percepciji emocija boje, što je povezano s individualnim i međukulturnim razlikama, ali i nedostatkom kvantitativnih mjerenja.

Kada su u pitanju međukulturne razlike, postoji određena univerzalnost percepcije boja u kulturama koja vjerojatno proizlazi iz povezanosti boja s prirodnim okolišem (plavo - more, voda, nebo; zeleno - trava, priroda, proljeće; crvena i narančasta - vatra; smeđa - uveli listovi) ili je kulturološki uvjetovana (bijela - mladenka, anđeli). Još uvijek je nejasno, iako intuitivno predvidljivo, kako se ove boje povezuju s emocijama. Predviđanja

line with the Berlyne tradition on mechanisms of emotional arousal. A strong emotional response to color is explained by the fact that it happens in the inferior temporal cortex exchanging the information “with the hippocampus and the amygdala, which orchestrates emotion” (Kandel, 2016:57). The meaning drawn from the artistic visual cues may still greatly differ between individuals since it is the interplay of bottom-up processing and appraisal, which may influence it. Both, mechanisms, however may affect an emotional arousal even without prior experience with (abstract) art.

When it comes to the visual cues which are related to specific emotions, as to answer the second research question, the analyzed research studies did not provide satisfactory answers. No clear conclusions on the link between certain visual cues and specific emotions has been found. Although some studies of colors found those relations, there are other studies which disapprove the findings. Thus, the studies on colors presented in this review research showed partial consistency in the perception of emotions individual colors are associated with (e.g. sadness for black, hope for white), most color emotions are controversial, some colors occasionally being associated with totally different emotions (e.g. happiness or anger, fear, sadness, even disgust for blue; happiness or disturbance for orange). The reason for such discrepancies is sought in the perception of color emotions, which is linked to individual differences, cross-cultural differences and hardly quantifiable measurements.

When it comes to cross-cultural differences, some universality of color perceptions exists throughout cultures and may stem from color association with the natural environment (blue - sea, water, sky; green - grass, nature, spring; red and orange - fire; brown - dead leaves) or is culturally conditioned (white - bride, angels). It is still unclear, although intuitively predictable, how these colors relate to emotions. The predictions might hypo-

bi hipotetički mogla povezati plavu i zelenu sa srećom, vedrinom i smirenošću (beskonačnost, novi život), crvenu i narančastu sa strahom i uzbuđenjem (opasnost), a smeđu s tugom (smrt), što predstavlja novi izazov ne samo za turistička istraživanja već i za značajnost općenito.

Što se tiče kvantitativnih mjerenja i odsutnosti istih, ograničenja analiziranih istraživanja vidljiva su u metodama koje su primijenjene pokazujući pritom da mjere samoprocjene nisu prikladne za ovu vrstu istraživanja. U budućim istraživanjima vezanim uz emocije boja prednost bi se trebala dati metodama snimanja mozga (npr. PET, EEG, MEG i fMRI) u kombinaciji sa samoprocjenama i psihofiziološkim mjerama (npr. elektrodermalna analiza, otkucaji srca, aktivnost mišića lica, kretanje očiju i vaskularna aktivnost). Metoda funkcionalne magnetske rezonance (fMRI) najviše obećava u tom pogledu jer „dopušta povezivanje određenog doživljaja s moždanim regijama koje su uključene u zadovoljstvo i emocije” (Motte, 2009:9). Stoga izazov ostaje u potrazi za izravnim i pouzdanim vezama između boja i točnih te lako prepoznatljivih emocija.

Međutim, to je možda nemoguće. Najvjerojatniji razlog za izostanak jasne veze između pojedinačnih boja i emocija u ovom istraživanju je u činjenici da ta povezanost ovisi o kontekstu u kojem vidimo određene boje i našem raspoloženju (Kandel, 2016:144). Naš mozak obrađuje „različite boje kao da imaju različite emocionalne karakteristike, ali naša reakcija na boje varira” (Kandel, 2016:144). Boje su vrlo otvorene za obradu odozgo-prema-dolje koja uključuje kreativnost i maštu u njihovoj interpretaciji, zbog čega ista boja ima različita značenja za različite ljude. Isto se događa sa značenjem ako se kontekst promijeni (Kandel, 2016). Redukcionizam u umjetnosti (ili jednostavno boje, oblici, crte, itd.) koristi se namjerno kako bi se izazvale emocije (između ostalog) i nije nužno povezan s predznanjem o umjetnosti. Čak i neiskusni promatrači imaju maštu i mogu biti

thetically link blue and green with happiness, serenity and calmness (infinity, new life), red and orange with fear and excitement (danger), and brown with sadness (death). This presents to be a new challenge not only for the tourism research but for science in general.

As for the quantifiable measurements, limitations of the analyzed studies are seen in the research methodologies they applied showing that self-reporting measures alone are not suitable for this type of research. Preference for brain imaging methods (e.g. PET, EEG, MEG and fMRI) in combination with self-reporting and psychophysiological measures (e.g. electro-dermal analysis, heart rate, facial muscle activity, eye movement, and vascular activity) for capturing tourists' emotions may be given in the future color emotion related research. Functional magnetic resonance imagery (fMRI) method seems to be most promising in that respect since it “permits matching a specific product experience to the regions involved in pleasure and emotions in the brain” (Motte, 2009:9). Thus, the challenge remains in the search for direct and reliable links among colors and exact, and easily recognizable emotions.

This, however, might not even be possible and the most likely answer for our inability to link individual color to individual emotion is sought in the fact that it depends on the context in which we see them and our mood (Kandel, 2016:144). Our brain does process “different colors as having distinct emotional characteristics, but our reaction to the colors varies” (Kandel, 2016:144). Colors are very open to top-down processing (and our creativity and imagination in their interpretation), which is why the same color has different meanings to different people. Pretty much the same as they have different meanings to the same person if a context has changed (Kandel, 2016). Reductionism in art (or simply colors, forms, lines, etc.) is done on purpose as to elicit emotions (among other) and is not necessarily related to prior knowledge on art. Even inexperienced beholders

kreativni u pronalaženju vlastite interpretacije umjetničkog djela. „Uklanjanje figurativnih elemenata sa slike ne uklanja sposobnost slike da regrutira asocijacije u umu promatrača” (Kandel, 2016:65). Bilo je slikara koji su namjerno reducirali figure na svoje najelementarnije oblike, poput Mondriana, u „potrazi za univerzalnim aspektima oblika” (Kandel, 2016:79), a ti „jednostavni geometrijski oblici imaju svoje značenje” (Kandel, 2016:80). Dakle, „u konstruiranju svoje percepcije suštine slike ... on omogućuje gledatelju da konstruira vlastitu percepciju slike” (Kandel, 2016:80).

Sve navedeno dovodi nas do zaključka da bi se buduća istraživanja trebala usredotočiti na međusobnu interakciju između teorija kognitivne procjene i teorija vanjskih podražaja u otkrivanju točnih mehanizama emocionalnog uzbuđenja. Spomenute razlike u nalazima studija emocija boje kao i nedostatak potpuno pouzdanih metoda istraživanja mogu biti frustrirajući, ali Kandelovo objašnjenje o važnosti raspoloženja i konteksta, pri stimuliranju bojom, pruža smjernicu za buduća istraživanja koja će potencijalno pokušati dublje istražiti te mehanizme. Jasniji odgovori mogli bi se naći i u daljnjem proučavanju interakcije osjetila vida s drugim osjetilima, kao i sinestetičkih iskustava koja imaju važan utjecaj na ljudske doživljaje (Wang *et al.*, 2012).

Iako je analiza dala ograničene zaključke o emocijama boje, neki od njih mogu se općenito primijeniti u kreiranju doživljaja kulturnog turizma. Smjernice u tom pogledu mogu se sažeti kako slijedi:

- Boje su najvažniji podražaji za kreiranje doživljaja jer ih mozak opaža prije ostalih podražaja, stoga bi kreatori doživljaja posebnu pozornost trebali obratiti na upotrebu boja.
- Točnije, trebali bi obratiti više pozornosti na svjetlost i kromu boje (nešto manje na nijansu) jer one utječu na značenje boje.

have imagination and can be creative in finding their own interpretation. “Removing figurative elements from a painting does not remove the painting’s ability to recruit associations in the mind of the beholder” (Kandel, 2016:65). There were painters who deliberately reduced figures to their most elemental forms, such as Mondrian, in “search for universal aspects of form” (Kandel, 2016:79) and these “simple geometric forms have a meaning of their own” (Kandel, 2016:80). Thus, “in constructing his perception of the essence of an image ... he enables the viewer to construct his or her own perception of the image” (Kandel, 2016:80).

This all leads to a conclusion that future studies may further focus on the interplay between the appraisal theories and external stimuli theories in detecting exact mechanisms of emotional arousal. The mentioned discrepancies in the findings of the color emotion studies as well as the lack of fully reliable research methods may be frustrating but Kandel’s explanation on the importance of the mood and context while being stimulated by the color may offer a clue for future studies, which may seek to investigate more deeply into it. Clearer answers might also be found in further studying of interaction of the sense of sight with other senses as well as synesthetic experiences since they have an important impact on human experiences (Wang *et al.*, 2012).

Although the present analysis provided limited conclusions on color emotions, some of them may generally be applied in the intentional cultural tourism experience design. Generic guidelines in that matter may be summarized as follows:

- Colors are the most important experience design cues since the brain perceives them before other cues. Experience designers should, therefore pay special attention to the use of colors.
- Specifically, they should pay more attention to color lightness and chroma (and little to hue), as these influence the meaning of color.

- Izbor emocija boje u kreiranju doživljaja, međutim, ne može se lako propisati. Općenito, crna je povezana s tugom, bijela s nadom, crvena s uzbuđenjem, plava sa smirenošću i srećom, zelena sa smirenošću, žuta sa srećom. Njihova uporaba u kreiranju doživljaja, međutim, uvelike ovisi o kontekstu i ciljnoj publici.
- Kada kombiniraju različite boje, kreatori doživljaja trebaju pokušati postići harmoniju boja jer ona dovodi do ugodnih emocija.
- Kreatori doživljaja trebali bi obratiti pozornost i na druge znakove za privlačenje vizualne pažnje: oblik, složenost, simetriju, lateralnost i kretanje, prototipičnost, novost i posebno sadržaj vizualnog podražaja jer je u izravnoj vezi sa značenjem.
- Na konzumente vizualne umjetnosti pozitivno utječe vršni pomak, izolacija jednog vizualnog znaka, perceptivno grupiranje i rješavanje problema, ekstrakcija kontrasta, uporaba generičkih perspektiva, umjetničkih metafora i simetrije.
- Što se tiče stvaranja ugodnih doživljaja, preferira se reprezentativna nad apstraktnom umjetnošću; velike, zakrivljene, vodoravne i okomite crte nad malim, oštrim i kosim crtama; umjereno složeni podražaji nad malo ili jako složenim podražajima; simetrični nad nesimetričnim podražajima; fokus podražaja s lijeve strane za zapadni svijet i s desne strane za arapski svijet; prototipske slike s umjerenom razinom novosti.
- Kombinacija više podražaja za vizualnu pažnju može proizvesti različite učinke, kao i stimulacija drugih osjetila uz vid, pružajući nezaboravna, čak i sinestetička iskustva.
- The choice of color emotions in experience design, however, cannot be easily prescribed. Generally, black is associated with sadness, white with hope, red with excitement, blue with calmness and happiness, green with calmness, yellow with happiness. Their use in experience design, however, greatly depends on the context and target audience.
- When combining different colors, experience designers should try to achieve a color harmony as this leads to pleasing emotions.
- Experience designers should also pay attention to other cues for visual attention: form, complexity, symmetry, laterality and movement, prototypicality, novelty and especially content of the visual stimulus since it is in a direct relation with the meaning.
- Visual art consumers are positively affected by the peak shift, isolation of a single visual cue, perceptual grouping and problem solving, contrast extraction, usage of generic vantage points, art metaphors, and symmetry.
- As to create pleasurable experiences, representational over abstract art is preferred; large, curved, horizontal and vertical lines rather than small, sharp and oblique; moderately complex stimuli rather than the ones high or low in complexity; symmetrical rather than non-symmetrical stimuli; focus of stimuli on the left for the Western world and on the right for the Arab world; prototypical images with moderate novelty.
- The combination of the cues for visual attention may produce different effects as can also the stimulation of other senses along to the sense of sight providing memorable, even synesthetic experiences.

U upravljanju i kreiranju doživljaja kulturnog turizma, u svrhu izazivanja emocija, kreatori ova saznanja mogu uskladiti sa svojom intuicijom i iskustvom. Dosadašnja djelomična znanstvena provjera ne bi trebala

As to achieve emotional effects on cultural tourists, the experience designers' decisions, however, will still match these findings with her/his intuition. So far only partial scientific verification should not discourage

obeshrabriti buduća istraživanja jer je traženje senzacija svojstveno današnjim (kulturno) turističkim iskustvima, a turizam je posebno povoljno područje za njihovo formiranje. S druge strane, ovaj rad i ova vrsta istraživanja nemaju nikakvu namjeru utjecati na umjetničku slobodu i oblikovati načine izražavanja umjetnika i time utjecati na iskustvo gledatelja. Naše smjernice u tom pogledu, međutim, mogle bi biti korisne za dizajniranje okruženja u kojem se umjetnička djela izlažu i na taj način obogatiti doživljaj.

future research since sensation seeking is inherent to today's (cultural) tourism experiences and tourism provides an especially favorable arena for their formation. On the other hand, this paper and this type of research by no means tries to influence the artistic freedom by trying to mold the ways of artists' expression as to influence beholders' experiences. Guidelines in this respect, however, could come in handy for designing the environment in which artworks are displayed and thus add to the experience.

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