

Role of travel photographs as self-discovery and self-expression

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Abstract

Most travelers take photographs when they encounter impressive scenes. One of the tourism areas that has recently been receiving a great amount of attention is “photogenic tourism.” Photogenic travelers find interesting travel photographs on Social Networking Services (SNS) and then decide to go traveling. They also take many photographs while traveling and post them on SNS. Photogenic travelers seem to have a desire to express themselves, confirm their identity, and become aware of new aspects of themselves through a series of photogenic behaviors. The purpose of this study was to assess to what extent university students engage in photogenic tourism. Additionally, this study aimed to verify the following hypotheses: [Hypothesis 1] Looking back at photographs taken during travel elicits a sense of identity and helps discover new aspects of oneself and [Hypothesis 2] Those who frequently look at travel photographs before traveling, take photographs during travel, and post them on SNS confirm their identity and become more aware of new aspects of themselves. The survey was conducted among 189 university students in May 2018. The results demonstrate that for about half the participants, interesting travel photographs on SNS helped them decide to travel. Photogenic tourism seems to be popular among younger generations. Hypothesis 1 and Hypothesis 2 were supported by the results of this study.

Keywords

photogenic travelers, SNS, travel photographs, self-discovery, self-expression

1. Introduction

1.1 Travel and photography: Emergence of photogenic tourism

Most travelers take photographs when they encounter impressive scenes. Boorstin [1964] pointed out that tourism has transformed from traveling to seek authentic experiences to a type of experience in which tourists reconfirm destination images introduced by the mass media. He called these phenomena “pseudo-events” in his book “The Image: A Guide to Pseudo-Events in America.” In this regard, travelers create destination images by reading guidebooks before traveling. For example, travelers who see photographs of the beautiful blue sea in guide books expect to encounter such scenes. Then, when they visit those particular places, they try to experience such scenes firsthand.

One of the tourism areas receiving great attention is “photogenic tourism.” “Photogenic” means “looking attractive in photographs” and is a word generally used to describe people. However, of late, in Japan, “photogenic” has commonly been used to describe scenery, food, and drinks as well. Photographs that get a lot of “Iine (likes)” on Social Networking Services (SNS) like Instagram and Facebook are described as “photogenic.” Table 1 shows the number of appearances of the word “photogenic” in Nikkei newspapers and Google Trends over the past five years.

One main reason for this sudden rise in the popularity of the word “photogenic” is the expansion of SNS, which makes the posting and sharing of photographs easy. The Ministry of Internal Affairs and Communications, Institute for Information

Table 1: Number of appearances of the word “photogenic” in Nikkei newspapers and Google Trends

Period	Number of appearances in Nikkei newspapers ¹	Highest point of popularity of the trend in Google Trends ²
2013	0 articles	11
2014	2 articles	16
2015	5 articles	11
2016	4 articles	24
2017	24 articles	100

Notes: ¹ Nikkei newspapers include The Nikkei (the morning and evening editions), Nikkei Business Daily, and Nikkei Marketing Journal. Data were corrected using Nikkei Telecom. ² The point of popularity of the trend refers to the relative value of search interests. The keyword that reaches 100 is the most often-searched word in a certain region during a certain period.

and Communications Policy [2018] conducted a survey of 1,500 Japanese men and women aged 13 to 69 in 2017. Figure 1 and Figure 2 show the usage rates of SNS in Japan.

Particularly, Instagram, a type of SNS that focuses on photograph posting, has experienced rapid expansion. Facebook Japan announced that the number of active monthly users of Instagram crossed 800 million around the world on September 26, 2017. In Japan, the utilization rate of Instagram was 14.3 % in 2015, 20.5 % in 2016, and 25.1 % in 2017 (Figure 1). The majority of Instagram users in Japan are in their 20s (Figure 2).

Also, according to the survey conducted by JTB Tourism Research and Consulting Co. [2017], the number of people who visit places because of SNS is increasing: 14.0 % in 2015, 15.3 % in 2016, and 18.3 % in 2017. These people, who decide to travel based on photographs and comments posted on SNS, are called “photogenic travelers.”

It is common for travelers to take photographs of the places

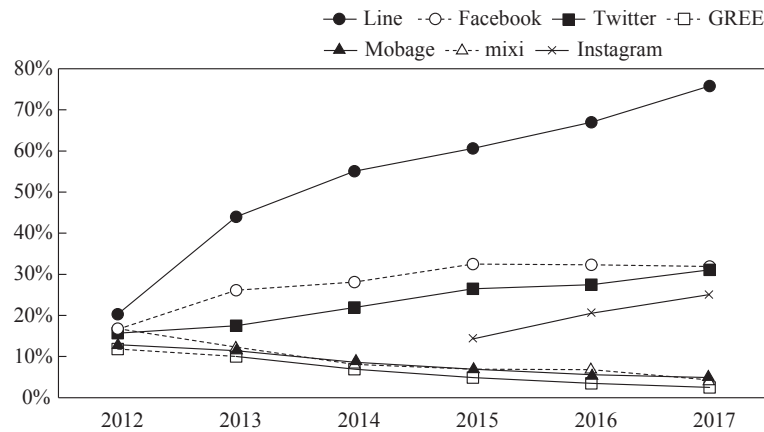


Figure 1: Changes in SNS utilization rates

Source: Survey Report about Information Communication Media and Utilization Time in 2017.

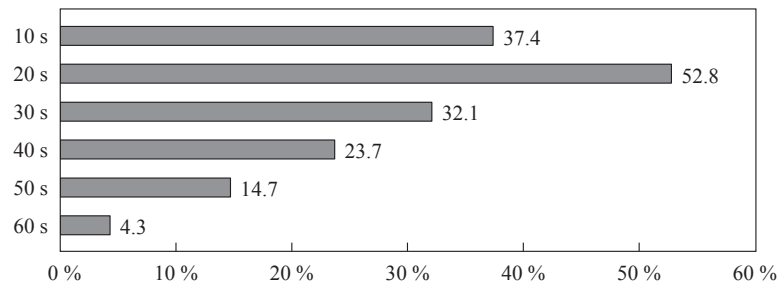


Figure 2: Utilization rates of Instagram by generation.

Source: Survey Report about Information Communication Media and Utilization Time in 2017.

they visit. Most of them do it for the sake of memories, whether personal or to share with people close to them. Traditionally, not too many people have been known to travel because they want to take “photogenic” photographs. However, recently, “photogenic travelers” have come to be interested in destinations they have seen photographs of on the Internet. Later, these individuals actively take photographs of the impressive scenery, delicious or attractive food, and people, including themselves, and post their favorite photographs to Instagram or Facebook. The appearance of this new type of travelers and tourism might change the relationships between travel photographs and travelers and provide an opportunity to reconsider this moth-eaten topic.

1.2 Purpose of the study

First, this study aims to clarify to what extent university students search for and look at travel photographs before traveling and take photographs during traveling. Later, this study examines the following two hypotheses:

- Hypothesis 1: Looking back at photographs taken during travel prompts a sense of identity and helps students discover new aspects of themselves.
- Hypothesis 2:

Students who frequently look at travel photographs before traveling, take photographs during traveling, and post them to SNS tend to confirm their identity and become more aware of new aspects of themselves.

1.3 Literature review

Several researchers have conducted studies about the impact of photography on people’s consciousness and behaviors. One branch of research has studied how a photograph affects the person viewing it. For example, enhancing a picture using luminance (RGB value) is related to its attractiveness [Lakens et al., 2013]. Shimada et al. [2016] examined if this effect occurred in the context of photographs posted by reviewers on restaurant websites. Participants viewed photographs downloaded from the review website and evaluated to what extent these made them want to eat at these places and how much they enjoyed the experience. Picture luminance was not related to both the evaluations. However, a high R value was positively related to both the evaluations while a high B value was negatively related to them.

Moreover, some research has focused on the memories of the photographer. Sometimes, memories come rushing back when people look back at photographs. For example, photographs taken in one’s childhood bring back memories from that time. Besides, people sometimes remember the scenes outside that

photograph; this is called boundary expression [Nishiyama and Yamaguchi, 2015].

However, smartphones are regarded as a kind of external storage. Taking photographs using a smartphone implies storing information on an external device, and the photographer no longer needs to retain that information in his/her long-term memory. Information that is not stored in the internal long-term memory is easily forgotten. Kobayashi and Kawaguchi [2016] revealed that the memory recall ratio of words to photographs is low and that proactive interference is inhibited by taking photographs [Kobayashi and Otake, 2017].

Looking back at photographs is useful for discovering new aspects of ourselves. The photo projective method, which asks a person to express his/her identity through photography, makes good use of this aspect. A psychotherapy approach based on the photo projective method, called photo therapy, aims to cultivate self-esteem and the will to live by activating patients' psychological self-healing capacity and the process of looking at themselves objectively through photography [Sakai, 2011]. In addition, Oishi [2010; 2013] and Tazawa [2010] have indicated that the photo projective method helps university students understand and express their identity while considering their career path.

Takeda and Ishida [2016] focused on self-expression and self-discovery that occurred when university students took photographs and reviewed them, conducting a study to understand it quantitatively. These university students were asked to take photographs of "attractive landscapes" for a week and later asked to select two photographs and review them. Afterward, they answered an evaluation scale regarding the self-understanding experience [Tsuchida et al., 2012]. This scale was composed of three factors: "facilitating self-understanding," "accelerating expression," and "confrontation/resistance." The results showed that reviewing photographs left students feeling satisfied that they were able to express their feelings or thoughts. Moreover, they confirmed their own interests or preferences or became aware of new aspects of themselves.

Considering the facts mentioned above, travel photography, including taking photographs during travel, viewing travel photographs on the Internet before traveling, looking back at photographs, and posting photographs on SNS after traveling, might help travelers confirm their own interests or preferences while becoming aware of new aspects of themselves. This study aims to examine these effects quantitatively.

After finding interesting travel photographs on SNS, photogenic travelers decide to go traveling. During their travel they take many photographs and post them on SNS. Photogenic travelers seem to have a desire to express themselves, confirm their identity, and become aware of new aspects of themselves through a series of photogenic behaviors. For example, photogenic travelers look at travel photographs posted by other travelers on the Internet, and they might verify what others evaluate as "nice" at that time. Photogenic travelers find what interests them and take photographs, probably confirming their own in-

terests and preferences at that time. Later, photogenic travelers post their photographs on SNS, receive feedback from others, and might also share their interests with people [Hanai, 2017].

2. Methods

2.1 Participants and research period

The survey was conducted with students from two universities in Tokyo from May 14 to 17, 2017. One of these educational institutions is a women's university. A total of 189 university students participated in this study: 89 men and 100 women.

2.2 Items

Participants were questioned about the following aspects:

- Travel experiences in the past year.
Participants answered if they had traveled during the last year. If they responded affirmatively, they were asked further questions, such as regarding the type of travel (day excursion, domestic travel, or international travel), traveling companions (alone, friends, romantic partner, family, or other), and number of visits (first time, second time, or more than three times). If they had traveled more than two times during the past year, they were asked to respond in the context of the most memorable journey.
- Behaviors related to travel photographs.
Participants who had traveled during the last year were asked about their behaviors related to travel photographs during travel, as shown in Table 2. Participants responded on a four-point Likert scale, and the number of photographs taken during travel (0, about 10, about 30, about 50, or more than 100) was registered. Participants who had not traveled during the past year were asked to answer the same items, but for general travel experiences.
- Effects of looking back at travel photographs.
We requested participants who had traveled during the past year to look back at travel photographs in an album on their smartphone, SNS, or blog. Later, we asked them how they felt when looking back at these travel photographs, and participants responded on a five-point Likert scale; items

Table 2: List of behaviors related to travel photographs

Item
(1) I referred to photographs posted on SNS or blogs to decide upon my travel destination. ("Referring")
(2) I looked for photographs of the destinations through SNS or blogs ("Searching").
(3) I took photographs during travel using a smartphone or camera ("Photography").
(4) I posted the photographs I took during travel to SNS or blogs ("SNS posting").
(5) I looked back at the photographs I took during travel ("Looking back").
(6) I got some feedback about the travel photographs I posted to SNS or blogs ("SNS feedback").

Table 3: List of the effects of looking back at travel photographs

Item
(1) I perceived a new aspect of myself.
(2) It gives me a lot of energy.
(3) I feel I express my emotions spontaneously.
(4) What I like and am interested in has become clear.
(5) I can look back on what I have done and observe myself objectively.
(6) I realized my positive aspects.
(7) I discovered new aspects of myself.
(8) I am certain of what I have in mind myself.
(9) I think photographs reflect my feelings at the time of taking them.
(10) I can express myself.

are shown in Table 3. This scale was composed of two factors—“facilitating self-understanding” and “accelerating self-expression”—taken from the scale developed by Tsuchida *et al.* [2012], and words were modified to reflect the experience of looking back at photographs using a smartphone.

- SNS usage.
Participants were asked about what kind of SNS they used.

3. Results

3.1 Travel Experiences in the Past Year and SNS usage

Table 4 shows the distribution of travel experience in the past year. About 90 % of participants had traveled in the past year. Domestic traveling accounted for the largest share, 59.8 %. Regarding companions, traveling with a friend accounted for the largest share (63.2 %); “other” included “traveling with club members” and “traveling as a tour guide.” Also, 59.9 % of

Table 4: Distribution of travel experiences in the past year

Item	<i>n</i>	%
Having traveled	172	91.0
Type of travel		
Day excursion	27	14.3
Domestic travel	113	59.8
International travel	32	16.9
Traveling companions		
Alone	18	10.5
Friends	108	63.2
Romantic partner	19	11.1
Family	23	13.5
Other	3	1.8
Number of visits		
First time	103	59.9
Second time	29	16.9
More than three times	40	23.3
Not having traveled	17	9.0

the travelers had visited the destination for the first time.

Figure 3 shows the usage ratio for each SNS. In comparison with the results of the survey conducted by the Ministry of Internal Affairs and Communications, Institute for Information and Communications Policy [2018], the usage ratio for Facebook was lower than that for Twitter and Instagram. Twitter, an SNS in which users post short sentences, and Instagram, in which users post photographs, are popular among the youth. “Other” SNS included “Tumblr” ($n = 1$), “WeChat” ($n = 5$), “Weibo” ($n = 1$), and “KakaoTalk” ($n = 2$).

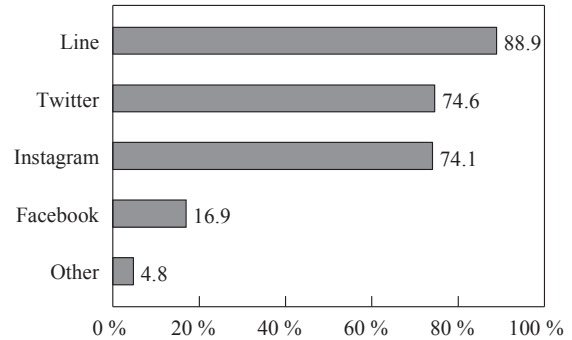


Figure 3: Usage ratio per SNS

3.2 Behaviors related to travel photographs among university students

To clarify to what extent university students search for and look at travel photographs before traveling and take photographs during traveling, basic statistical frequencies containing average and variance values were calculated (Figure 4). About half of the participants had referred to photographs posted on SNS or blogs to decide upon their destinations and looked at photographs of destinations through SNS or blogs. Students who had posted travel photographs to SNS or blogs accounted for 67.0 %, and those who had received feedback about them accounted for 48.1 %. In addition, more than 90 % of participants had taken photographs during travel using a smartphone or camera. Participants who had taken more than 100 photographs accounted for 15.0 % (Figure 5).

3.3 Effects of looking back at travel photographs

To verify Hypothesis 1, which stated that looking back at photographs taken during travel prompts a sense of identity and helps people discover new aspects of themselves, we requested participants to look back at travel photo albums on their smartphones, SNS, or blog. A total of 158 participants looked back at their travel photographs. Afterward, we asked them how they felt when looking back at these photographs. The frequency distribution for each item regarding the effects of looking back at travel photographs is shown in Figure 6. Those participants who perceived new aspects of themselves accounted for 59.0 %. However, participants who felt energized, thought about what they liked and what they were interested in became clearer, and could express themselves better are not so many.

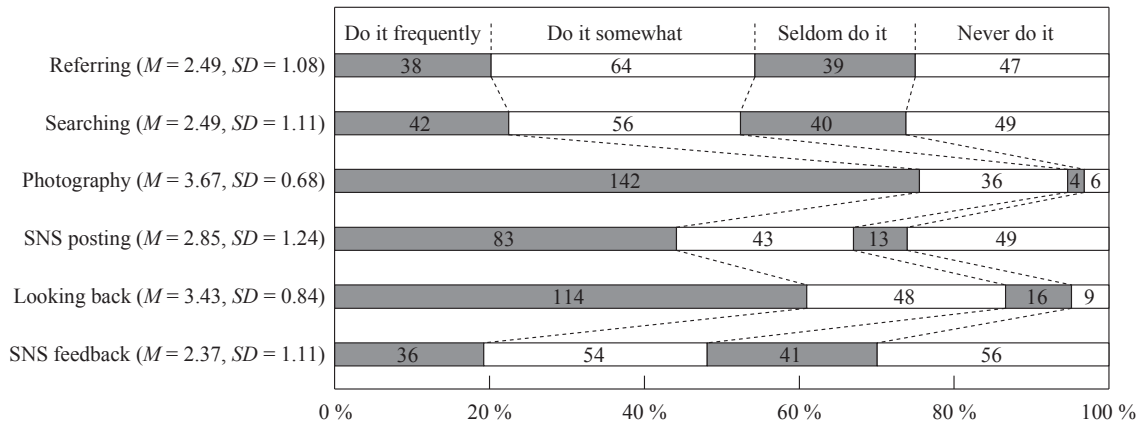


Figure 4: Basic statistical frequencies of behaviors related to travel photographs

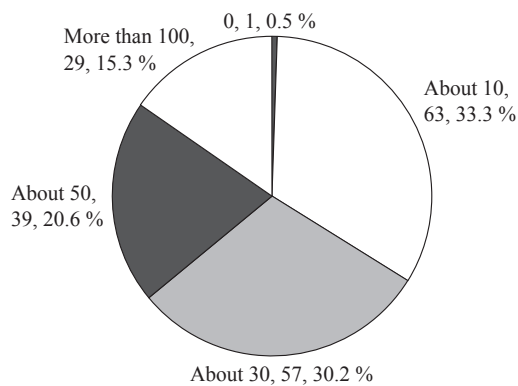


Figure 5: Distribution of number of photographs taken during travel

3.4 Behaviors related to travel photographs and effects of looking back at travel photographs

Table 5 shows the factor structure of items regarding the effects of looking back at travel photographs. Factor analysis (principal factor method and promax rotation) was conducted and two factors were extracted: “self-expression” (six items, $\alpha = .86$), and “self-discovery” (four items, $\alpha = .88$).

To test Hypothesis 2, which stated that those participants who frequently looked at travel photographs before traveling, took photographs during travel, and posted them to SNS tended to confirm their identity and become more aware of new aspects within themselves, ANOVAs were utilized and participants were grouped according to their response to each item of behaviors related to travel photographs. Participants who answered “Do it frequently” and “Do it somewhat” were categorized into the “Engage” group. Those who answered

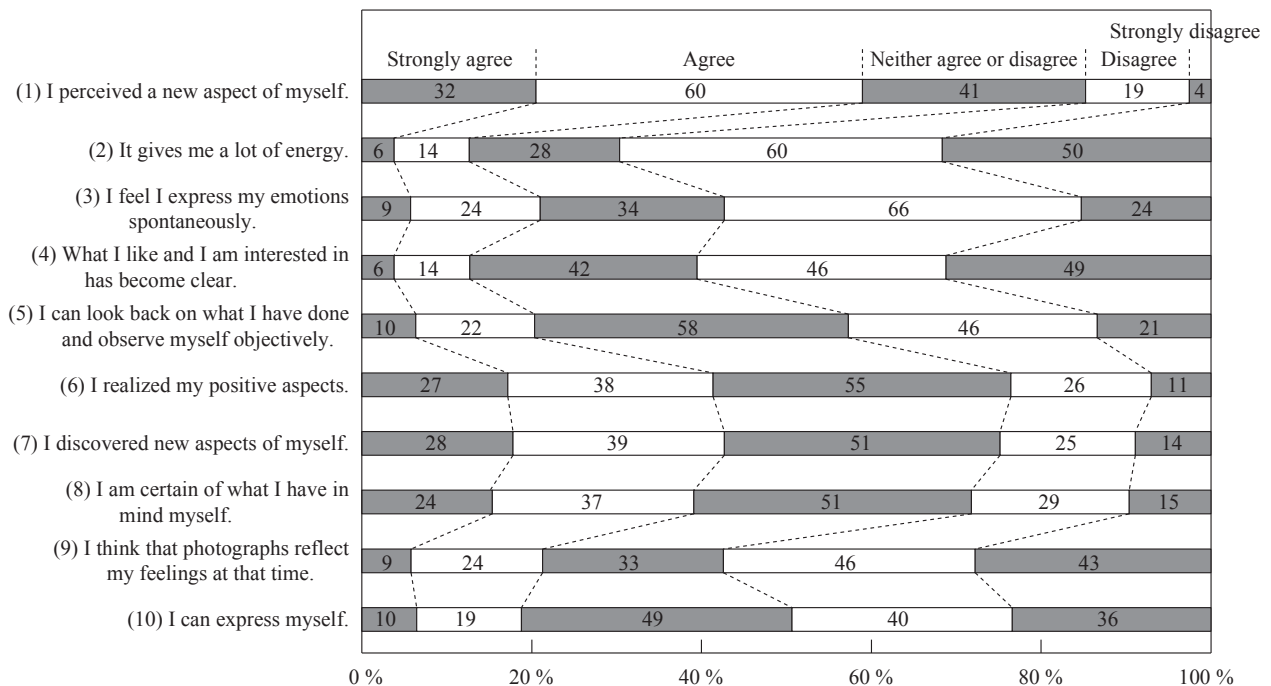


Figure 6: Distribution of items on the effects of looking back at travel photographs

Table 5: Factor structure of items on the effects of looking back at travel photographs

Item	Self-expression	Self-discovery	Communality	<i>M</i>	<i>SD</i>
(9) I think photographs reflect my feelings at the time.	.821	-.045	.63	3.58	1.21
(2) It gives me a lot of energy.	.779	-.112	.50	3.85	1.08
(3) I feel I express my emotions spontaneously.	.683	.076	.54	3.46	1.1
(10) I can express myself.	.679	.060	.52	3.47	1.17
(4) What I like and am interested in has become clear.	.569	.152	.46	3.75	1.11
(5) I can look back on what I have done and observe myself objectively.	.527	.188	.44	3.29	1.07
(7) I discovered new aspects of myself.	-.056	.916	.77	2.73	1.19
(6) I realized my positive aspects.	-.001	.844	.71	2.72	1.14
(1) I perceived a new aspect of myself.	.037	.718	.55	2.38	1.02
(8) I am certain of what I have in mind myself.	.097	.676	.55	2.83	1.19
Eigenvalue	4.22	4.09			
Cumulative contribution ratio	48.3 %	56.9 %			

“Seldom do it” or “Never do it” were categorized into the “Do not engage” group. As the sample sizes for the “Photography—Do not engage” group and “Looking back—Do not engage” group were so small, the “Photography” and “Looking back” groups were eliminated from this analysis.

ANOVAs were used to determine whether there were any significant differences in the scores of “self-expression” and “self-discovery” between these two groups (Table 6). Both “self-expression” and “self-discovery” scores were higher in the “Referring—Engage” group compared to the “Referring—Do not engage” group ($F(1, 155) = 6.54, p < .05$; $F(1, 155) = 9.40, p < .01$). In addition, both “self-expression” and “self-discovery” scores were higher in the “Searching—Engage” group compared to the “Searching—Do not engage” group ($F(1, 154) = 18.24, p < .001$; $F(1, 153) = 12.98, p < .001$). “Self-discovery” scores were marginally higher in the “SNS feedback—Engage” group compared to the “SNS feedback—Do not engage” group ($F(1, 154) = 3.31, p < .10$). However, there were no significant

differences between the “SNS posting—Engage” group and “SNS posting—Do not engage” group.

Afterward, ANOVAs were performed to determine whether there were any significant differences in the “self-expression” and “self-discovery” scores regarding the number of photographs taken during travel (Table 7). There were significant differences between “self-expression” and “self-discovery” scores. Tukey’s multiple comparisons revealed that “self-expression” scores were higher in the “About 50” and the “More than 100” categories as compared to the “About 10” category ($F(3, 154) = 5.81, p < .001$). In addition, “self-discovery” scores were higher in the “More than 100” as compared to the “About 10” category ($F(3, 153) = 3.29, p < .05$).

4. Discussion

About half of the university students who participated in this study had looked for interesting travel photographs on SNS, and these photographs had played a big role in their choice of

Table 6: ANOVAs for behaviors related to travel photographs

		Self-expression		Self-discovery
Referring	“Engage” group ($n = 87$)	3.73 (0.78)		2.88 (0.96)
	“Do not engage” group ($n = 70$)	3.38 (0.94)	$F(1, 155) = 6.54 *$	2.41 (0.95)
	Total ($N = 157$)	3.57 (0.87)		2.67 (0.98)
Searching	“Engage” group ($n = 83$)	3.84 (0.68)		2.93 (0.99)
	“Do not engage” group ($n = 72-73$)	3.29 (0.92)	$F(1, 154) = 18.24 ***$	2.39 (0.87)
	Total ($N = 155-156$)	3.58 (0.85)		2.68 (0.98)
SNS posting	“Engage” group ($n = 114$)	3.63 (0.85)		2.73 (1.00)
	“Do not engage” group ($n = 43$)	3.41 (0.90)	$F(1, 155) = 1.97$	2.50 (0.92)
	Total ($N = 157$)	3.57 (0.87)		2.67 (0.98)
SNS feedback	“Engage” group ($n = 83$)	3.67 (0.76)		2.80 (1.01)
	“Do not engage” group ($n = 73$)	3.46 (0.98)	$F(1, 154) = 2.24$	2.51 (0.94)
	Total ($N = 156$)	3.57 (0.87)		2.67 (0.98)

Notes: $p < .10$ †, $p < .05$ *, $p < .01$ **, $p < .001$ ***

Table 7: ANOVAs by number of photographs taken during travel

	Self-expression		Self-discovery	
About 10 ($n = 46-47$)	3.20 (0.94)a		2.37 (0.89)a	
About 30 ($n = 48$)	3.56 (0.79)ab		2.60 (0.87)ab	
About 50 ($n = 36$)	3.79 (0.79)b	$F(3, 154) = 5.81 ***$	2.87 (1.01)ab	$F(3, 153) = 3.29 *$
More than 100 ($n = 27$)	3.94 (0.73)b		3.02 (1.13)b	
Total ($N = 157-158$)	3.57 (0.87)		2.67 (0.98)	

Notes: $p < .05 *$, $p < .001 ***$

destinations to visit and what they would do there. According to a report prepared by JTB Tourism Research and Consulting Co. [2017], the number of SNS users who visit places discovered through SNS is increasing, while people whose decision to travel was motivated by what they saw on SNS accounted for 18.3 %. The results of this study indicated that about half of the participants had utilized SNS and looked at photographs posted on SNS before traveling. This suggests that people from the younger generations are more inclined toward photogenic tourism. Furthermore, most participants took photographs during travel, posted them to SNS, and looked back at them after travel. Travel photographs were an important element of traveling for these university students.

Hypothesis 1, which proposed that looking back at photographs taken during travel prompts a sense of identity and helps discover new aspects of oneself, was supported. Participants who perceived new aspects of themselves accounted for 59.0 %. In this regard, there were several participants who discovered a new aspect of themselves, realized their positive aspects, or became certain about what they had in mind. However, participants who could express themselves were few. People might feel that they express their identity when they are taking photographs or thinking about what photographs they will take. It might be necessary to consider how travelers feel about their identity before, during, and after travel in the context of the status of each time series.

Hypothesis 2, which proposed that participants who frequently look at travel photographs before travel, take photographs during travel, and post photographs to SNS, tend to confirm their identity and become more aware of new aspects within themselves, was partially supported. Participants who actively referred to and looked for photographs posted on SNS felt that looking back at photographs is a clue to discovering new aspects within oneself. Additionally, these participants experienced feelings of self-expression when looking back at photographs. The more seriously people look for and observe SNS posting, the better photographs they might take. This trend was observed in the number of photographs taken during travel. What kind of photographs, such as scenery, gourmet food, people, and travelers themselves, among others, might relate to this and, thus, further research might be required.

Finally, the definition of “photogenic tourism” in Japan is ambiguous and scholastically immature; this study was in-

spired simply by its popularity among SNS users. In general, the terms “photogenic tourism” and “photogenic traveler” are used in the context of the prevalence of SNS, especially Instagram, and curator sites. However, it is necessary to define and clarify what constitutes “photogenic” for travelers.

Acknowledgments

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References

- Boorstin, D. J. (1964). *The image: A guide to pseudo-events in America*. Harper & Row.
- Hanai, T. (2017). A research about individuality on tourist behaviors: Discovery from “Kodawari”. *Proceedings of the Japan Society for Interdisciplinary Tourism Studies in 2017*, 7-12. (in Japanese)
- JTB Tourism Research and Consulting Co. (2017). Survey about smartphone usage and tourist consumption in 2017. <https://www.tourism.jp/wp/wp-content/uploads/2017/12/smartphone-2017.pdf>. (Accessed August 29, 2018) (in Japanese)
- Kobayashi, M. and Kawaguchi, J. (2016). Photographing can enhance subsequent learning. *Proceedings of the Japanese Society for Cognitive Psychology in 2016*, 16. (in Japanese)
- Kobayashi, M. and Otake, K. (2017). Taking photos induce forgetting of emotional memories. *Proceedings of the Japanese Society for Cognitive Psychology in 2017*, 143. (in Japanese)
- Lakens, D., Fockenberg, D. A., Lemmens, K. P., Ham, J., and Midden, C. J. (2013). Brightness differences influence the evaluation of effective pictures. *Cognition & Emotion*, Vol. 27, No. 7, 1225-1246.
- Ministry of Internal Affairs and Communications, Institute for Information and Communications Policy (2018). Report of survey about information communication media and utilization time in 2017. https://www.soumu.go.jp/main_content/000492877.pdf. (Accessed August 29, 2018) (in Japanese)
- Nishiyama, M. and Kawaguchi, J. (2015). Boundary extension elicited by remembering pictures. *Proceedings of the Japanese Society for Cognitive Psychology in 2015*, 39. (in Japanese)
- Sakai, T. (2011). *Photo-therapy to renew the will to live*. Media

- Factory. (in Japanese)
- Shimada, S., Isaka, K., Takase, A., Nakamura, Y., and Kawahara, J. (2016). The effect of uploaded images on web-based evaluation of restaurants. *Proceedings of the Japanese Society for Cognitive Psychology in 2016*, 46. (in Japanese)
- Takeda, N. and Ishida, Y. (2016). Self-expression and self-discovery of university students by reviewing photographs taken. *Bulletin of Training and Research Center for Clinical Psychology*, Vol. 15, 56-71. (in Japanese)
- Tazawa, M. (2010). An attempt of career education using visitor employed photography: A research on the final-year students in welfare vocational school. *Bulletin of Research Center for Computing and Multimedia Studies*, Vol. 23, 119-126. (in Japanese)
- Tsuchida, K., Tanaka, K., Konno, H., Tan, A., and Akasaka, S. (2012). Study of validity and reliability of an evaluation scale for self-understanding experience after projective drawing technique. *Mejiro Journal of Psychology*, Vol. 8, 23-33. (in Japanese)
- Oishi, C. (2010). Photo projective method as a tool for expressing one's identity. *Bulletin of Tokyo Women's College of Physical Education and Tokyo Women's Junior College of Physical Education*, Vol. 45, 131-141. (in Japanese)
- Oishi, C. (2013). Photo projective method as a tool of self-discovery and self-expression for adolescence: The different expression of the multiphasic identities of participants on each theme. *Bulletin of Tokyo Women's College of Physical Education and Tokyo Women's Junior College of Physical Education*, Vol. 47, 13-25. (in Japanese)

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