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**Does method matter? Understanding experience data collected through different mobile techniques**

Knowledge on the influence of methods on research outcomes is scarce within experience studies. In this study, GPS devices were compared to smartphones to collect experience data in theme parks. Departing from the relevance of epistemology, it was assumed that the choice of method influences the results. We show that data collection modalities themselves influence empirical results when it comes to the number of reported experiences and their level of conveyed detail. The reported categories however are similar among the methods. We can also show that, and in which way, method choice influences the outcome of studies related to experiences.

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## **Introduction**

Tourism practitioners and researchers are increasingly interested in using spatial methods like geographic positioning systems (GPS) to track visitor experiences and mobility. GPS methods have shown to successfully collect data when it comes to questions regarding time and space (e.g. van Schaick & van der Speck, 2008; Nielsen & Stilling Blichfeldt, 2009; Shoval & Isaacson, 2010; Pettersson & Zillinger, 2011; Svensson, Pettersson, & Zakrisson, 2012; Zakrisson & Zillinger, 2012; Birenboim *et al.*, 2013). By use of GPS, tourism producers can enhance experience quality, and also reduce negative aspects such as heavy visitor flows. With the advent of advanced mobile phone technology, GPS data can be combined with additional information through mobile applications. With this, a whole new world opens both for practitioners and researchers.

However, while such methods exactly register where and when experiences take place, they say little about the individual meaning of the experiences. For knowledge on this, we still rely heavily on traditional methods, such as interviews or questionnaires. In addition, much data is collected after experiences take place. This means that the information has been processed from being a primary to becoming a secondary experience. The level of modification can grow, the longer the time frames between the experience and the report thereof. Modification can also grow, if the experience is described not by the individual herself, but by another person, e.g. a researcher (Reed, 1996; Snel, 2013). Therefore, we argue that it is important to a) collect experience data as soon as possible, and b) to let the respondents articulate their experiences themselves in their own words.

With today's smartphone technology, visitor movements can be logged and questions about their experiences can be posed in real time. There are few, however promising, studies on this (Christensen *et al.*, 2011). Such an approach comes very close to catching primary experiences. At the same time, it offers yet another possibility to collect

experience data. Given such method options, it becomes central to investigate differences and similarities between diverse modalities.

This study is about the use of different methods and the comparison of their concluding results. Tourism research frequently departs from the supposition that method choice can affect study results. Hence, our assumption for this article is not new. Our contribution, however, lies in the concrete study thereof. We do not only suppose that method matters, but aim to show in an empirical case that it actually does, and how this takes place. We have studied visitor experiences in a major Swedish theme park by two approaches: These are, firstly, using GPS devices combined with subsequent questions on the registered experiences, and secondly, using a smartphone application which includes spatial registrations and descriptions as well as the possibility to take photos of the experiences. The project was designed in close collaboration with the stakeholders of the park.

The aim of this pilot study is to investigate whether different modalities of data collection alter the qualities of reported experiences. In this manner, we put forward three assumptions: i) the number of registered experiences per person varies between the methods; ii) the categories of reported experiences differ between the methods; iii) the level of detail in which the experience is described differs between the methods. Our point of departure is that time and technique matter when it comes to the reporting of the experiences. Compared to smartphones, it is quicker to report experiences by pressing a button on the GPS device. This may also lead to reporting different kinds of experiences. In contrast to other techniques, as e.g. questionnaires or interviews, smartphones are used on a daily basis by many people (not only young). We also consider that the registration on a smartphone may shorten the comment, as the display is small and it may be difficult to write longer statements on the telephone. In formulating these assumptions, this article aims to contribute to research method with a discussion on epistemology. It also aims to assist tourism practitioners in the development of their supply with the empirical results thereof.

## Theory

Experience has become a popular research term ever since Pine and Gilmore published their *Experience Economy* in 1999, although the concept has been studied ever since the 1960s (Xu & Chan, 2010). Moreover, the experience concept has been used for decades by e.g. Goffman (1959) or Schulze (1992). Recent researchers who have dominated the discussion on experience in a Scandinavian research environment are, among many others, Mossberg (2008), Sundbo & Sørensen (2013), and Prebensen (as in Prebensen, Chen & Uyzal, 2014 and many more). Selstad (2007) has explicitly focused on questions related to methods and experiences in time and space. He explicitly requests tourists' own voices when it comes to their experiences. This means that researchers should be careful about not to intrude into the individual descriptions and interpretations that research participants are making - a matter that clearly justifies a study like ours. Ek *et al.* (2008) ask for the pooling between experiences and issues of time and space. Also Volo (2009) integrates the dimension of time and space to the concept of experience and thereby hints at the importance of immersion of these concepts.

Studying experiences is not an easy task. There are several attempts to classify experiences along a set of dimensions (Bowen & Clarke, 2009), mainly differing in the degree of agency of connectedness, such as dimensions of exploration and understanding (Kaplan & Kaplan, 1989) or level of excitement (Matzler & Sauerwein, 2002), depending on whether cognitive or affective approaches are chosen. Furthermore, experiences differ between individuals (Jennings, 2006; Larsen, 2007) and develop from several sources such as past experiences, expectations, as well as the specific time and situation when they take place.

Within an earlier stage of our research project, we have successfully been able to explore typologies of experience and mobility patterns, extracted through cluster analysis; these patterns have then been related to qualitative and quantitative expressions of visitors'

subjective experiences (Zakrisson & Zillinger, 2012). Results showed that these patterns differed both cognitively and emotionally, especially in relation to negative experiences. Furthermore, the same patterns were found to emerge in all four of the investigated cases, although the cases themselves differed as to the motives for the visit. One conclusion of this research is that it indeed is possible to systematize data from various sources when it comes to objective mobility data and subjective experiences on the one hand, and quantitative and qualitative data on the other. Systematizing data into comprehensive patterns can also be used for further analyses and hypothesis testing.

Departing from Snel (2013), an experience is something essentially personal and distinctive, which precludes the possibility for another individual to fully understand the personal meaning thereof. The reason for this is that individuals have their distinct knowledge and life horizon, based on what has been undergone beforehand. This may lead to an experience being interpreted in many different ways, even if it is the very same experience. Add to this the situation that a researcher has not been present in the mentioned setting which makes it impossible to truly share the experience together.

This situation leads to severe difficulties that are related to method. The researcher may ask questions, yielding the experiencer to tell about the experience in question. However, the presented narration can only be a secondary experience, as the information that is submitted is processed (Reed, 1996). The narrator has, consciously or unconsciously, modified what has been experienced, selected certain parts of it, and concentrated on this, thereby dismissing another. Hence, the experience has, in Sveiby's (1997) terms, been externalized. In addition, many aspects cannot easily be told or expressed at all. The level of modification will grow, the longer the time frame between the experience and the report thereof.

This project is combining a curiosity in visitor experience with an interest in method choice. It is related to epistemological questions in that it asks for what we can know about

experiences depending on our way of approach. Basically, epistemology is involved in the issue on whether, or how, we can know something about the reality surrounding us. In the end, this relates to the question of how the social world around us can be studied (Sumner 2006). While epistemology has historically been concerned with whether knowledge can be stated via empiricism or rationalism, today's discussion is primarily about the (im)possibility of mixing methods (May, 2013; Silverman, 2013).

Referring back to collecting data by means of GPS devices, a common conclusion by researchers is that such devices need to be combined with other forms of data collection in order to understand the individual underpinnings of experience and mobility (Arrowsmith, Zanon, & Chhetri, 2005; Clark & Doherty, 2010; Papinski, Scott, & Doherty, 2009; Pettersson & Zillinger, 2011). However, such an endeavor tends to be time and resource consuming. As GPS technique in itself generates a considerable amount of data, it takes a long time to collect and analyze it. Furthermore, such data is not easily entered into conventional statistical programs, which makes it difficult to reach beyond mere descriptive reports. Systematizing this seemingly idiosyncratic volume of data into a comprehensive pattern would be fruitful. In relating spatial data to relevant variables like content and meaning of experiences, this would benefit the opportunity to make advanced analyses.

## **Method**

The present pilot study is part of a project called *Ex-Track*. In close cooperation with the tourism industry, the project aims at results regarding visitor mobility and experiences that can be of use for practitioners. The pilot study consists of two parts, using GPS devices and smartphone applications, respectively. The data described here derives from a study in a major Swedish theme park in the summer of 2014. In collaboration with the management of the theme park it was decided that the GPS study should focus on families with children. For

the smartphone study it was decided to address the park's so called gold card owners. These are people who have an annual ticket to the park and who visit it several times a year.

### *Participants*

*GPS study:* Families were approached just inside the entrance of the park. Every family member above the age of 8 was allowed to carry a GPS device. A total of 161 people participated, distributed on approximately 50 families. There were 82 women and 75 men, 65 were children (ranging from 8 to 15 years old) and 85 were adults 18 to 61 years old). Data was collected during nine days in July and August.

*Smartphone study:* A random sample of 10% of the gold card owners was approached by e-mail, explaining the aim and procedure of the study, and asking them to participate. Once accepting, they were sent the instructions on how to download an application, and how to use it. Eight people followed through the whole procedure, five men and three women. Despite the expectation that gold card owners mainly constituted young people, our participants were made up by four adults (aged 26 to 52 years) and four teenagers (all 15 years old). Data was collected during two weeks in September.

### *Data collection procedures*

The GPS devices were equipped with two buttons; one green button for pleasant experiences, and one red button for unpleasant dittos. By connecting the device to the participants' e-mail address, a personal map with subsequent questions on their experiences was sent to them afterwards, for completion at their homes. In detail, the first page of the questionnaire comprised a map of the theme park, including their individual, registered pleasant and unpleasant experiences in green and red. This means that the personal map only consisted of experiences that the individuals had registered in the theme park themselves. The map was meant to serve as a memory trigger. This, however, cannot undo the time that has

passed, and the many experiences that have happened in between, possibly influencing the result. The participants were asked to click on these points of interest, and to describe them in their own words. On the remaining pages, the respondents were asked to describe their most pleasant and most unpleasant experience during their visit. They also answered questions on their gender and age. After completion of the questions, the participants were sent a gift voucher of the park.

The smartphone study was developed in a way quite similar to the GPS study. After downloading and starting the application to their telephones, participants encountered a page asking them for their gender and age. The next page showed a green and a red button, which they were instructed to press whenever they had an especially pleasant or unpleasant experience in the park. When one of these buttons was pressed, another page emerged on the display which asked the participants to describe the experience in question with their own words, to evaluate it on a three-step scale, and to take a picture thereof. By pressing a send button, the information was registered, and the screen offered the registration of a new experience. After completing the task, the participants were sent a gift voucher of the park.

In order to investigate possible concentrations of points of interests, the coordinates for longitude and latitude for all registrations across participants in the GPS study were subjected to a hierarchical cluster analysis (Ward's method), separately for pleasant and unpleasant registrations. Smartphone registrations are not used here, as they were too few to constitute an analysis of their own, and would totally be submerged if analyzed together with the GPS data. The aim of the hierarchical cluster analysis is to analyze similarities and differences between all combinations of data, yielding as few clusters as possible but at the same time as distinct from each other as possible. The resulting clusters are to be interpreted as concentrations of positive and negative registrations, labeled "hot spots". Thus, the clusters refer to geographical space, and not to people. These hot spots were then plotted on a map of the theme park by use of the mean values for longitude and latitude as the center of the spot.

## **Results**

Hierarchical cluster analysis of the registrations yielded five positive and four negative hot spots (see Figure 1). Sometimes, positive and negative hot spots were found in the same area, almost overlapping. One such area is dominated by modest ride attractions and gaming activities (number 1). The positive comments stress these attractions, while the negative comments focus on the gaming activities. Another area indicated as both being a positive and a negative hot spot is found among the more spectacular roller coasters (number 3 and 4). The positive comments stress the adrenalin filled experience that these attractions gave, as did the negative ones, but describing them as either too scary or as not being spectacular enough. A third area is found in the section of the park suited for younger children (number 4 and 5). The kinds of positive comments given at this spot often stresses service quality and pleasant encounter with staff. Comments also express comfort, having a good time, and especially enjoying the fun their children had. Negative comments also focused on service quality and unpleasant encounter with staff.

Cluster analysis also identified two positive and one negative hot spot that did not overlap. One of the positive ones is right in the center of the park (number 3) and there were mainly two types of comments given; the moderately adrenalin-filled ride attractions found around this place and gaming attractions requiring more skill than luck. In both cases, visitors stress their own mastery of the situation: that they met a challenge and succeeded. The last two hot spots (one positive and one negative) are also situated quite close to the center of the park. The comments on those are of various kinds and thus difficult to interpret. In the rest of the result chapter, the three assumptions posed in the introduction will be discussed.

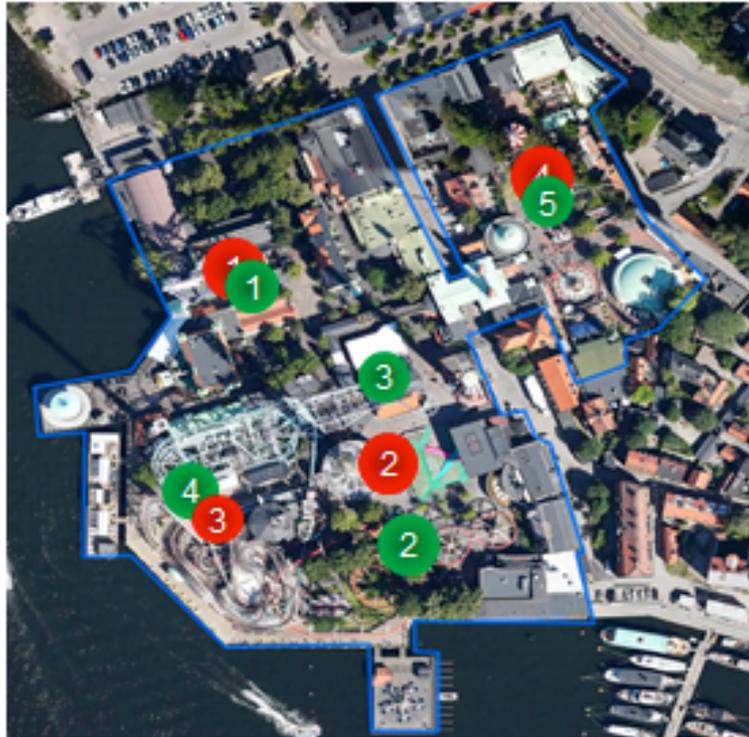


Figure 1. Pleasant (green) and unpleasant (red) "hot spots" in the theme park.

*Assumption 1: Number of registered experiences*

The number of reported experiences differs between the modalities (see Table 1). The GPS devices provide most registrations, but very few respondents commented upon them on their personalized maps. Almost all participants reported one pleasant and one unpleasant experience when asked in the questionnaire. Very few experiences were generated by smartphones, but there were almost as many comments as registrations. Comparing the number of registered experiences between these two methods, we receive a clear result: 7.6 experiences per person were registered with GPS devices, 3.6 with smartphones. Regardless of modality, there were more pleasant than unpleasant experiences reported.

Table 1. Overview of registrations of pleasant and unpleasant experiences through different modalities.

	GPS/questionnaire			Smartphone	
	Registrations on GPS device	Comments on personal map	Questionnaire	Registrations on phone	Comments on phone
Pleasant	691	141	99	22	19
Unpleasant	215	37	92	5	5
Total	906	178	191	27	24
N participants	161	32	102	8	7

*Assumption 2: Experience categories and qualities*

Although different in numbers, the experience categories did not differ very much between the modalities. The main categories were related to attractions, service, and people, both for pleasant and unpleasant experiences. In the GPS study, some comments simply stated the name of the attraction, like the rides “Jetline” or “Blue Train”. This means that participants rather commented on *what* triggered the experience, than saying what the actual experience was. However, both smartphones and personalized map comments often related to how these attractions were perceived, like “very funny” or “too scary”. It seems that the use of smartphone results in more personalized explanations of the experiences than conventional questionnaire items do.

Apart from the above portrayed formal description of the experience trigger, many comments were about an experience being something that you do together with other people. Many of these comments were focused on how participants’ children experienced the activity or attraction in question, or how they were treated by staff (either positively or negatively), which was true regardless of modality.

Contrary to our expectations, there were both positive and negative comments regarding service quality, which usually appear in relation to negative experiences: being conceptualized as a hygiene factor, it is then noticed only when it fails. However, there were often comments such as “no queues to the toilets”, or “nice food”, as if the opposite was expected.

Smartphone participants had the opportunity to take pictures of their experiences. Altogether, six photos were taken, all of them by one person. While the comment could be “This is always so funny”, the photo shows a picture of two girls together having a good time. Our tentative conclusion for this is that togetherness in writing (as in questionnaires) is replaced by togetherness in a picture, which may be way more significant.

### *Assumption 3: Level of detail in registered experiences*

Contrary to our third assumption, smartphone comments were not shorter than the ones taken via questionnaires. Although the number of registrations was lower than with GPS devices (which may be due to a more complex set-up procedure with consecutive steps) they most often commented on it. In fact, comments made via smartphones were more often more detailed, and often anecdotal in character, almost telling a little story. Not only were comments more detailed, they also seemed to be more personalized, like status updates on social media.

These comments also display a certain immediacy, catching the experience when it happens, like this quotation expresses: “*quite enough people, quite enough queues to the attractions, and an exciting concert awaiting*”. The comments on the personalized maps, although these comments were made after the visit, also show some immediacy. It seems that graphically displayed GPS registrations triggered a more vivid recall of the experiences in question, making it easier to relate to not only what constituted the experiences, but also what was felt and what it meant to them.

We want to conclude this section by stating that we cannot *know*, if differences between the method choices really exist for a whole population of visitors. The results are based on a pilot study which is, at least in terms of the smartphone study, rather small with regard to participants. What is displayed here rests on some major, some minor distinctions. However, we want to point out that we found distinct empirical differences between the methods. Still, we need to be careful with our statements, usually speaking in terms of indications and tentative results. We have been able to show that differences do exist between the modalities chosen, and how they come about. Therefore, we are able to answer the principle question with: yes, method matters. Admittedly, our pilot study is small, but it indicates that differences do exist and that it is worthwhile conducting more research on this issue.

## **Conclusions**

This study has demonstrated that it is possible to simultaneously mirror visitor experiences in spatial, temporal and individual dimensions. Both smartphones and GPS devices are suitable modalities to pinpoint primary experiences in ways that conventional methods cannot deliver. Summarizing, data generated from GPS and smartphone techniques have proven to be rich in their descriptions of experiences in time and space.

We have shown that each method is in itself fruitful when it comes to the collection of experience and mobility data. Method matters when it comes to collecting experience data. Assumption 1 is verified, as we could clearly establish that more experiences are reported by GPS devices. These devices rendered many spontaneous indications of experiences. But as these were difficult for the participants to recognize later on, there were only few descriptions of them on their personalized maps. The technique thus lends itself to *overexperiences*, as it is easy to press a button whenever something feels worthwhile to be noticed. The smartphone study, in contrast, generated much fewer indications of experiences, but there were descriptions of almost all of them. Our conclusion therefore is, that the first method gave

quantitatively much of qualitatively little, and the second method gave quantitatively little, but qualitatively rich data.

Assumption 2 on experience categories is rejected: the most popular experiences belong to the same categories in both sub-studies. They were both focused on attractions, service, other people, etc. Also assumption 3 is rejected: the smartphone comments on experiences are not shorter than the ones on the questionnaire that belongs to the GPS study. On the contrary, the comments were even longer. This is a result that was not anticipated, as we did not expect smartphone comments to be so personal and detailed. We think that this may rest on the typing experience that most people (not only young ones) do have with their smartphones today. Typing messages and comments on small screens does not seem to be an obstacle, but rather a common way of conveying one's opinions.

It is easy to be thrilled by the possibilities that the techniques presented render, especially the rich and interesting experiences that can be collected, and the easy accessibility of this data. However, before getting too enthusiastic, we need to realize that this kind of approach has its ethical issues. Even when people have voluntarily accepted participation, it is not always possible for them to understand all consequences of their decision. This, too, is a question of method, relating us back to the title of this article: Does method matter? Our answer is that it clearly does. This may seem trivial, but in this pilot study, we have empirically shown in which ways the kinds of results that we get may depend on the way we approach them. This epistemological approach is an important one; it is based on how we deal with data collection and analysis. Changes here will result in different kinds of knowledge which may have consequences for the decisions taken by the tourism industry.

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