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Examining gender differences of social media use for activity planning and travel choices

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Abstract

Background: The explosive growth of social media has rendered them powerful communication channels. User generated content is an important source of inspiration and influence among web friends, it generates new activities and consequently affects mobility decisions. Whether to visit a place, or how to get to a place of interest are decisions that can be triggered through people's interactions on social media.

Objective: The main objective of this paper is to investigate the influence of social media use on activity planning and travel arrangements for women and men.

Methods: An online survey was conducted to examine the social media use and the impact of the shared content for women and men, on the phase before any activity in an urban environment. Inferential statistics were applied to detect gender differences in a sample size comprised of 804 respondents.

Result: The significant results showed that the variables gender and social media use for activity planning and travel arrangements are associated with each other. Results have also indicated that the influence of reviews and ratings, photos/ videos and proposed transport mode on activity planning is gender dependent. Photos/ videos influence more often both women ($m=3.47$) and men ($m=3.00$) than reviews and ratings ($m=3.21$ for women and 2.94 for men). Both these contents influence more than proposed transport mode ($m=2.62$ and 2.37 for women and men).

Conclusion: The analysis of the results indicated that before an activity, both women and men tend to use majorly social media for activity planning and travel arrangements, while photos/videos influence women's decisions more often than men. Travel arrangements of the majority of respondents would be influenced by a post of a designated account related to transport. Finally, social media use affects travel arrangements of both women and men more before performing an activity rather than during.

Keywords: Gender, Travel behavior, Activity planning, Social media, User generated content

1 Introduction

Social media are considered as a major communications channel for information exchange, opinion statement, social network enabling, decisions influencing and business promotion. Social networking affects the users' perceptions and choices regarding their activity planning.

The shared content is a valuable source of inspiration and often affects the initial decision of activity planning [1, 2]. A mutual trust on choices is developed during peoples' interactions on social media, resulting in a trigger for new activities [3]. Moreover, profiles of social media users offer useful socio-economic and demographic information, creating potential for investigating relationships between activity patterns and the characteristics of the users [4–6].

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The increasing time being spent on social media and the interactions with web friends and followers, have changed dramatically the way that users perceive social relationships. Social networking plays an important role not only in broadening social connections but also affecting users' decisions [7]. Social media are used in ways that shape the users' travelling, entertainment and shopping preferences, creating the need for them to participate in activities shared by their web friends or by people they follow. Despite the fact that social media allow a communication in which the physical presence is not necessary, reviews, photos, and videos shared via them motivate users to visit a place, attend an event or buy a product. The instantaneous and real-time access to relevant tips and guides, travelling instructions, specific offers and discounts or inspirational photos/videos has ultimately changed the way users plan an activity [8, 9].

According to literature, gender may affect the way that people share information on social media and the way they use it to make decisions [10–12]. However, an extended literature review in this study, revealed that there are no published studies that have examined the gender differences of social media use for activities and travel choices. To address this gap, this study aims at explaining gender differences in social media use for activity planning and travel arrangements, before an activity. As Dwityas and Briandana [13] stated in their research, before an activity, social media content such as photos, videos or text, influence the user by creating the need to perform a shared activity. Furthermore, the user collects information regarding the activity, such as activity type, destination, instructions to reach the destination, public transport timetable, reviews and ratings, looks for information about activities performed by others and visits the appropriate social media accounts to get precise data as a basis for right decision-making.

Acknowledging the amount of shared information on social media platforms today and the current growth rate of social media users, the present work focuses on the phase before any activity in an urban environment, examining the social media use and the impact of the shared content for women and men. The work is structured as follows. Section 2 presents a summary of previous studies that have focused on the relationships among social media platforms, travel behavior and activity planning, focusing on studies that reports differences between women and men. Section 3 describes the survey design and communication, while indicates the analyses methods adopted. Section 4 reports the results. Finally, section 5 discusses the findings and concludes the study.

2 Literature review

The shared content on social media and the interaction with other users has intensified changes in users'

mobility decisions by setting a new framework for travel behavior. Xiang and Gretzel [14] were among the first that reported the importance of social media in seeking travel information. The goal of their study was to investigate the extent to which social media appear in search engine results in the context of travel-related engines. The analysis showed that social media constitute a substantial part of the search results, indicating that search engines direct travelers to social media sites. Yoo and Gretzel [15] in their study, identified social media as an important source of information for travelers, the majority of whom trust their content. The results of their survey indicated that travelers' personality influences perceived barriers to content creation and engagement in generated content creation. Gao, Tang, and Liu [16] explored the role of social association in users' check-ins in order to improve the accuracy of activity's location prediction. A social-historical model was used to integrate social ties and historical ties. The results showed that users who sustain a level of friendship tend to go to similar locations. A year later, Ayeh, Au, and Law [17] investigated the factors that affect the intention to use social media for specific purposes of travel planning. Through an online survey, they proved that among individuals with Internet access who take often vacation trips, mostly young people use social media to plan their trips. In this direction, Schroeder and Pennington-Gray [18] used linear regression to explore the relationships of variables with the likelihood of social media use to seek information in the event of a crisis during travel. Results showed that those who travel frequently use social media to get information in the event of a crisis during their trip more often than those who travel less. More recent studies as of Varghese and Jana [19] focused on exploring the potential of information and communication technologies (ICT) to improve access to opportunities. The data showcased the differences in household socio-economic characteristics, individual personal characteristics, ICT use patterns, activity participation, and time allocation patterns, drawing conclusions about the interrelationships between ICT, social disadvantage, and activity participation. Lee and Circella [20] attempted to understand the relationships of ICT use and travel outcomes among millennials, by clustering them in intense users, moderate users, and light users, however, no conclusions were drawn about how the use of ICT affect their travel choices. Finally, Jamal and Habib [21] explored the covariates that affect the use of smartphones for trip planning as well as the covariates of perceived impact of smartphone use on travel outcomes. One of their main outcomes was that millennials are more likely to use smartphones for trip planning as well as perceive increase in travel outcomes due to smartphone use.

As per differences between women and men in online activities and use of information technology, Park and Lee [22] conducted an online survey to investigate gender differences in smartphone application use. Results revealed that women found more useful the smartphone text communications to keep strong their personal relationships as compared to men. Idemudia, Raisinghani, Adeola, and Achebo [23] used confirmatory factor analysis and structural equation modeling to analyze 290 datasets from college students. Their results indicated that women had stronger perception of ease of use, compatibility, relative advantage, and risk when using social media when compared to men. More recent studies, as the one of Lin and Wang [12] aimed at explaining the gender differences in information-sharing behavior on social networking sites. To achieve this, a comparative theoretical model of information sharing between genders was developed. In line with previous studies, results showed that privacy risk, social ties, and commitment are more important for women than men, as attitude towards information sharing, affects people’s intention to share information more strongly for women than it does for men. Another recent study by Twenge and Martin [24] attempted to investigate gender differences in the use of social media by examining 13- to 18-year-old adolescents in the U.S. and UK. Results showed that adolescent girls spent more time on smartphones, social media, texting, general computer use as compared to boys, however, no further investigation was made about how much of this time was spent to plan an activity.

3 Methodology

3.1 Survey design

An online survey in the English language was hosted on Survey Monkey to investigate the influence of social media use in activity planning and travel arrangements. In the context of the survey, the term “activity planning” is used to describe the preparatory actions and set of conditions in order to perform an activity, such as going to a restaurant, visiting a museum, participating in an outdoor yoga class, visiting a doctor or going to a shopping mall. Such preparatory actions include decisions about which activity to do next, who to do the activity with, always based on information concerning reviews and ratings, photos and videos of alternative destinations, as shared by previous visitors on social media. The term “travel arrangements” refers to decisions on how to reach the selected destination, and specifically departure time, mode of travel, route, ticket purchasing and other. In particular, this survey focused on the influence of information or advices for using a specific transport mode to reach the destination, as most social media accounts of businesses, events etc. include in their description the proposed transport mode to reach the location. In addition, social media friends share or propose a transport mode to reach a destination of an activity either based on their own experience or knowledge.

The questionnaire consisted of four parts. The first part recorded the socio-economic characteristics of the respondents, by collecting personal information such as gender, age, education level, employment status, etc. The second part referred to the use of social media, in

Table 1 List of tested variables before an activity

Variables	Type	Description
Reasons for social media use before an activity:		
• activity planning	Categorical	Yes/No
• travel arrangements	Categorical	Yes/No
Influence of ... on activity planning:		
• reviews and ratings	Categorical	Yes/No
• photos/ videos	Categorical	Yes/No
• proposed transport mode	Categorical	Yes/No
Influence of ... on activity planning:		
• reviews and ratings	Ordinal	1–5 ^a
• photos/ videos	Ordinal	1–5 ^a
• proposed transport mode	Ordinal	1–5 ^a
Post type that would mostly affect users’ travel arrangement:		
• a post by a famous person/ account that you follow	Categorical	Multiple Choice
• a sponsored post		
• a post by a designated account related to transport		
• other		

^a1: never, 2: seldom, 3: sometimes, 4: often, 5: always

Table 2 List of tested variables about changes to travel arrangements' before and during an activity

Variables	Type	Description
Changes to travel arrangements after social media use before an activity	Ordinal	1–5 ^a
Changes to travel arrangements after social media use during an activity	Ordinal	1–5 ^a

^a1: never, 2: seldom, 3: sometimes, 4: often, 5: always

which collected data regarded the most preferable social media platform, the time, frequency and duration of social media use. The third and fourth parts constitute the main core of the survey, highlighting the influence of social media as stated by the respondents. In particular, the third part examined whether reviews and ratings, photos/videos and proposed transport mode affect “activity planning” and “travel arrangements” (categorical variables), and the degree of such influence (ordinal variables) (Table 1). It also investigated the post type that would mostly affect decisions, such as a post by a famous person, a sponsored post or a post by a designated account related to transport. Furthermore, the fourth part collected the impact of social media use, in terms of frequency of travel arrangements changes before and during an activity (Table 2).

3.2 Survey communication

The online survey was targeted to social media users across the world. Social media users were reached through email and posting on first author’s Instagram and Facebook accounts. As a first step, emails were sent to 3436 contacts of Traffic, Transportation and Logistics (TTLog) laboratory of University of Thessaly contact list comprised of research institutions, ministries, municipalities, associations, groups, companies, actions, projects and postgraduate students around the world. The emails were sent from the email account of TTLog laboratory. As a second step, the questionnaire link was shared on first author’s personal social media accounts. The link of the questionnaire was active from January 2018 and remained opened till January 2019. Along with the invitation to participate, information about the purpose and the design of the survey were sent. The participants were chosen by chance without any specific screening process during the recruitment period. The final sample size comprised 888 users, who fully completed the questionnaire. However, as the aim of the study dictates, the analysis was made based on the 91% of the respondents, who use social media.

3.3 Sample characteristics and social media use

Descriptive statistics were used to demonstrate socio-demographic and general characteristics of the 804 respondents. Table 3 summarizes the socio-demographic and general characteristics of the respondents. Analytically, 61% of them are women and the rest 39% are men. Most of the respondents belong to the age groups of

18–25 years old (38% of the respondents) and 26–35 years old (36% of the respondents). In addition, 38% of the survey respondents are students and 51% have a full-time job. Most of them hold a driver’s license (76%), whereas they use public transport from seldom to often (74%).

In a multiple choices question about which social media is used, Facebook and Instagram are the mostly used platforms for both women (57% use Facebook and 53% use Instagram) and men (33% use Facebook and 21% Instagram). Twenty percent of men are also interested in job-related social media such as LinkedIn, while 25% of women are more interested in inspirational image-based platforms such as Pinterest. The

Table 3 Sample characteristics

Variables	Level	%
Age	< 18	1
	18–25	38
	26–35	36
	36–45	14
	> 45	11
Gender	Female	61
	Male	39
Occupation	Student	38
	Full-time job	51
	Part-time job	6
	Unemployed	4
Country	Other	1
	Greece	70
	Germany	5
	USA	3
	UK	2
	France	2
	Italy	2
	Other	13
Driver’s License	Yes	76
	No	24
Use of public transport	Always	8
	Often	22
	Sometimes	21
	Seldom	31
	Never	18

participants were also asked about the time of the day that they most frequently use social media. The majority of users (66% split in 41% women and 25% men) use social media between 17:00–00:00.

3.4 Data analysis

The analysis of the data was done through descriptive and inferential statistics. In the first case, sample characteristics, such as age, gender and occupation were addressed by estimating the frequency distribution per characteristic (paragraph 3.3). Furthermore, the mean values and standard deviations, and medians were calculated. In the second case, the statistical analysis of the responses was carried out using non-parametric tests which are regarded as particularly powerful for analyzing data collected through questionnaire surveys [25, 26]. Specifically, chi-square test for homogeneity (χ^2 test) was used to test differences in characteristics measured by categorical variables. In total, two variables that refer to social media use for activity planning and travel arrangements (Table 2), three variables that are related to the influence of social media content on activity planning, and the responses of variable “type of post that would mostly affect users’ travel arrangements” were compared through chi-square (χ^2) tests in order to detect any differences between the two genders. Furthermore, the Mann-Whitney two-sample U-test was performed to assess differences between the two genders of ordinal variables measured on the 5-point scale (1: never, 2: seldom, 3: sometimes, 4: often, 5: always). This scale was used as it increases the variance in the measurements and allows a greater differentiation in the results [27].

3.5 Research limitations

This study may entail limitations related to the sample used. Due to authors’ nationality, the majority of the respondents (70%) are from Greece. In addition, 74% of the respondents belong to young age groups (18–35 years old), as they are more familiar with technology and social media use. After a thorough research on global related figures, the authors concluded that this does not affect the present research’s validity. Both sample’s age distribution and social media usage are in line with the global population age distribution, initially documented in US Census Bureau [28] and in Martin, Hamilton,

Osterman, Driscoll, and Births [29] for US, and supported worldwide by Ferrer [30] and world social media users per age group [31, 32]. Also, all participating countries share similar social media usage [33]. In any case, only gender related comparisons were included in this analysis.

Another possible limitation of the study could be the abstract understanding of the term “social media use” by the respondents. However, this particular study investigated social media use only related to information searching, which was explicitly stated in the respective questions of the questionnaire and not for any other reason that social media could be used and could confuse respondents.

4 Results

The following sections discuss the gender differences in social media use for planning an activity and for making travel arrangements, the degree of influence depending on the social media means and content.

4.1 Reasons for social media use before an activity

The frequency of social media use for activity planning and travel arrangements were examined. Table 4 shows the proportion of Women’s (W) and Men’s (M) positive responses applied to social media use for activity planning and travel arrangements. Both genders indicate interest in receiving information from social media, more when planning an activity (94.5% for women and 87% for men) as compared to making travel arrangements (76.4% for women and 53.4% for men). Moreover, the responses were compared through chi-square (χ^2) tests in order to detect any effect of the gender on social media use. The fifth column of the table contains the test *p*-values that indicate the strength of the respective evidence. In this case, the *p*-values are smaller than 0.05, thus, the null hypothesis that asserts the two variables are independent of each other is rejected. The significant results show that the variables gender and social media use for activity planning and travel arrangements are associated with each other. Results showed that the percentages of positive responses of women are higher than men for both examined variables and the differences were statistically significant (*p*-value < 0.05). This finding indicates that women are keener than men on reaching

Table 4 Summary of test results for comparisons between women and men regarding social media use

Variables	Proportion of positive responses (p)		<i>p</i> -value W vs M	Test parameters relation
	W	M		
Use of social media:				
• for activity planning	$\chi(1) = 14.048$	94.5%	87%	< 0.05* $P_W > P_M$
• for travel arrangements	$\chi(1) = 45.006$	76.4%	53.4%	< 0.05* $P_W > P_M$

*statistically significant (*p*-value < 0.05)

Table 5 Summary of test results for comparisons between women and men regarding influence of social media on activity planning

Variables	Proportion of positive responses		p-value W vs M	Test parameters relation
	W	M		
Influence of ... on activity planning:				
• reviews and ratings	$\chi(1) = 10.464$	92.2%	84.9%	< 0.05* $P_W > P_M$
• photos/ videos	$\chi(1) = 10.750$	92.8%	85.6%	< 0.05* $P_W > P_M$
• proposed transport mode	$\chi(1) = 12.234$	85.5%	75.7%	< 0.05* $P_W > P_M$

*statistically significant (p -value < 0.05)

out for information provided by social media. In the variable “Use of social media for travel arrangements”, the large chi-square statistic (45.006) and its small significance level ($p < 0.05$) indicate that it is very likely that these variables are dependent of each other. Thus, it is concluded that there is a relationship between gender and use of social media for travel arrangements.

4.2 Influence of social media content on activity planning

The gender effect on the influence of social media content on activity planning was examined through three chi-square (χ^2) tests; one related to reviews and ratings, the second, to photos/videos and the last, to a proposed transport mode. The proportion of positive responses applied to the examined variables, by Women (W) and Men (M), are shown in Table 5. In all examined cases of social media content, respondents indicated influence on activity planning. Photos/videos seem to be slightly more influential (92.8% of women and 85.6% of men) than reviews and ratings (92.2% of women and 84.9% of men). Proposed transport mode by social media influences less than the previous contents, however, still in high proportions in both women (85.5%) and men (75.7%). The fifth column of Table 5 contains the test p - values that indicate the strength of the evidence of the effect of gender on social media content. Results showed that statistically significant differences were observed in all three variables. The significant results indicate that the influence of reviews and ratings, photos/ videos and proposed transport mode on activity planning are associated with gender. This finding is reasonable and supports the previous results, according to which

women are more receptive to the information provided by social media.

For the same variables, the participants were asked to rate on a 1–5 scale (1: never, 2: seldom, 3: sometimes, 4: often, 5: always) the frequency that social media use affects activity planning. Table 6 presents an overview of the average values (m), medians (mdn) and standard deviations (sd) of the three variables and the test results of the gender effect on the attributed ratings. Results are described through Mann-Whitney U statistic and p -value, indicating the strength of the respective evidence. Statistically significant differences between women and men were reported in all the examined variables. Table 6 shows that women rate higher than men all three contents (p -value < 0.05). Photos/ videos influence more often both women ($m = 3.47$) and men ($m = 3.00$) than reviews and ratings ($m = 3.21$ for women and 2.94 for men). Both these contents influence more than proposed transport mode ($m = 2.62$ and 2.37 for women and men). It is concluded that social media content is more influential when providing visual information or feedback based on experience and less when the information is more formal, as in the case of a proposed transport mode.

4.3 Influence of social media post on travel arrangements

This section includes the analysis of the responses that focused on the investigation of the influence of social media post on travel arrangements, as an engaging content affects peoples’ mobility decisions. Specifically, participants were asked what would mostly affect their travel arrangements, see Table 7. The p -value (0.051) is larger than 0.05 and consequently there is not enough

Table 6 Influence of social media content on women’s and men’s decisions

Variables	Groups						Test parameters relation	W vs. M	
	Women			Men				U	p-value
	m	mdn	sd	m	mdn	sd			
• reviews and ratings	3.21	3	1.217	2.94	3	1.440	$r_W > r_M$	51,934	0.047*
• photos/ videos	3.47	4	1.253	3.00	3	1.453	$r_W > r_M$	45,831	0.000*
• proposed transport mode	2.62	3	1.225	2.37	3	1.365	$r_W > r_M$	51,599	0.037*

m: average rating, sd: standard deviation, mdn: median, r: rating median.

*statistically significant (p -value < 0.05)

Table 7 Summary of test results on preferable social media type about traveling possibilities

Variables <i>Categorical</i>	Proportion of positive responses		<i>p</i> -value W vs M	Test parameters relation
	W	M		
Type of content that would mostly affect users' travel arrangements:	X(3) = 7.777		0.051	
• a post by a famous person/ account that you follow	15.6%	6.5%		$P_W > P_M$
• a sponsored post	7.0%	4.6%		$P_W < P_M$
• a post by a designated account related to transport	40.4%	20.6%		$P_W > P_M$
• other	2.6%	2.7%		$P_W < P_M$

evidence to conclude that the gender and type of post that would affect travel arrangements are associated. The majority of the participants answered that a post by a designated account related to transport would affect the most their arrangements. The potential of social media as means for sharing transport information has been already indicated in research [34]. Respondents pointed out that the account behind social media post plays an important role on final decision regarding travel arrangements and is independent of gender. In general, social media users hardly trust information if they don't know where it comes from. A sponsored post is harder to affect travel arrangements, since social media users are more skeptical about the transparency and credibility of such content. Hence, it is a challenge to discern if the information is reliable or simply an advertisement [35]. Results of a previous study showed that women are more inclined to trust the content on social media, perceiving information from others as more trustworthy than men [36].

Furthermore, the participants were asked to select up to three most appealing approaches of this transport related post, from a given list of approaches, see Fig. 1. Results showed that an informative or a humorous post would be more appealing for both genders compared to an emotional, encouraging, confronting or hard socking/fear post. These findings are in line with previous literature in which the shortcomings of a fear-based messages

[37] and the adverse results of other negative appealing messages such as shame or guilt [38] have been pointed out.

4.4 Comparison of social media use before and during an activity

Based on the Travel Decision Making Model [39], and its adaptation by Dwityas and Briandana [13], users could be affected both before and during an activity. Social media content can cause changes to users' travel arrangements before and during the activity occurrence. Table 8 presents an overview of the average rating and standard deviation of the two variables and the test results of the comparisons between men and women. Results are described through U and *p*-value. Social media use affects the travel arrangements of both genders before and during an activity with almost the same frequency (before: $m = 3.48$ for women, $m = 3.5$ for men, during: $m = 2.86$ for women, $m = 2.84$ for men). Changes to travel arrangements after social media use before an activity can occur more often for both women ($m = 3.48$) and men ($m = 3.50$) than during an activity ($m = 2.86$ and $m = 2.84$ for women and men). Changes to travel arrangements during the activity occurrence may happen due to changes in public transport timetable, unpredictable events, or changes of next activity's plans, hence, it is not so probable compared to changes before an activity, when someone seeks the information to make his/

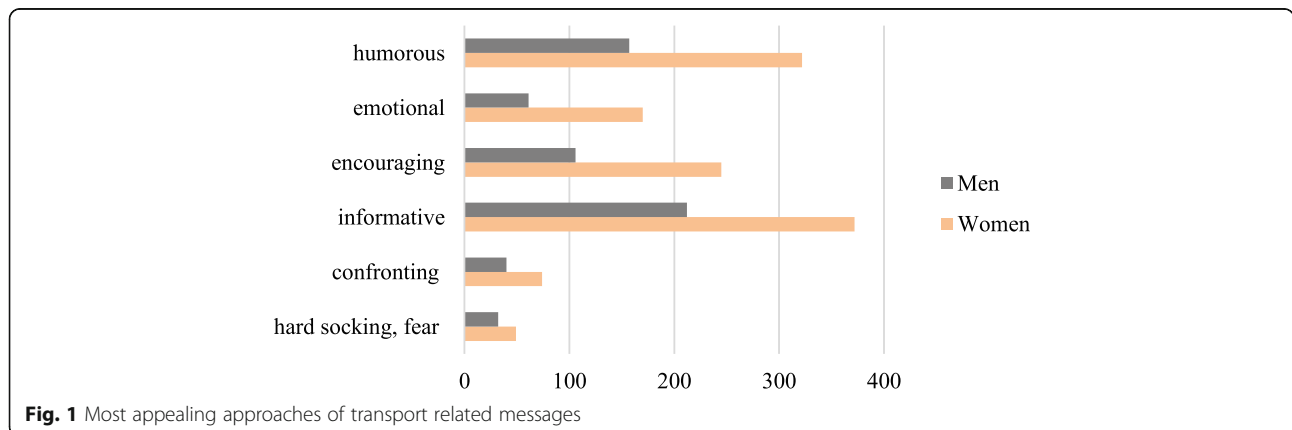


Fig. 1 Most appealing approaches of transport related messages

Table 8 Summary of test results for comparisons between social media use before and during an activity

Parameters	Groups						Test parameters relation	W vs. M	
	Women			Men				U	p-value
	m	sd	mdn	m	sd	mdn			
1. Changes to travel arrangements after social media use before an activity	3.48	0.669	4	3.50	0.619	4	$r_W < r_M$	21,090	0.983
2. Changes to travel arrangements after social media use during an activity	2.86	0.690	3	2.84	0.647	3	$r_W > r_M$	22,592	0.926

m: average rating, sd: standard deviation, mdn: median, r: rating median.

*statistically significant (p -value < 0.05)

her final decision. As Dwityas and Briandana [13] stated in their research, before an activity the user collects plenty of information regarding the activity and gets a precise set of data as a basis for right decision-making.

5 Concluding discussion

During the last years there has been an increased usage of social media platforms when planning an activity which denotes the high intrusion rates of such platforms in our social lives. Decisions of almost nine out of ten individuals who use social media are affected on “what to do” (activity plans), while almost 75% of women and 50% of men are affected on “how to do it” (travel arrangements of the activity). Moreover, the significant results showed that the variables gender and social media use for activity planning and travel arrangements are associated with each other. Results have also indicated that the influence of reviews and ratings, photos/ videos and proposed transport mode on activity planning is gender dependent. Consistent with previous studies, women are affected at a higher degree than men and are more receptive to the information provided by social media. Specifically, women reported that social media content such as reviews and ratings, often affect their activity planning decisions.

Travel arrangements of the majority of respondents would be influenced by a post of a designated account related to transport. This finding is in line with previous studies, which showed that users trust in social media content is strongly related to who shares it and they are willing to share this information to others if it comes from an account they trust. Another useful conclusion stemming from this research, was that social media users selected informative transport related messages over other appealing approaches, when they are asked about the type of content that would mostly affect their travel choices. Although shocking related content is believed to have greater impact on getting our attention, informative messages seem to establish a high-quality level of information shared on social media platforms, which could help transport authorities and decisions makers to adopt effective policies and promote awareness campaigns towards sustainable mobility.

Finally, social media use affects travel arrangements of both women and men more before performing an

activity rather than during. However, this is believed to change shortly, as usage rates of smart phones coupled with rich applications and mobile data services are increasing, allowing us staying more connected.

Future work should investigate how the impact of social media on mobility decisions is affected by other factors such as the trip purpose and the commuter type. A recommended framework to set up a campaign or to share transport related information on social media towards sustainable urban mobility is of great importance. Focus should be given on a strategic approach for social media use in producing a reliable network of communication with users about their daily trips. A challenge of using social media as a supporting tool is the constant development of them, which requires staying abreast of every new change. Privacy concerns continue to be a threat to social media use, and it is still unknown to what extend and how these security issues will affect the way that people use social media. Moreover, a clear understanding of gender differences on users’ information-sharing behavior could contribute in promoting travel services more efficiently.

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Authors’ contributions

The authors confirm contribution to the paper as follows: study conception and design: MK, EN; data collection: MK; analysis and interpretation of results: MK, EN; draft manuscript preparation: MK, EN. All authors reviewed the results and approved the final version of the manuscript.

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Availability of data and materials

The datasets analyzed during the current study are not publicly available due to individual privacy issues but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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