Researching individual satisfaction with group decisions in tourism: experimental evidence

Delic, Amra; Neidhardt, Julia; Rook, Laurens; Werthner, Hannes; Zanker, Markus

DOI
10.1007/978-3-319-51168-9_6

Publication date
2017

Document Version
Final published version

Published in
Proceedings of the Information and Communication Technologies in Tourism conference 2017

Researching Individual Satisfaction with Group Decisions in Tourism: Experimental Evidence

Amra Delic, Julia Neidhardt, Laurens Rook, Hannes Werthner and Markus Zanker

Abstract The goal of the present study was to investigate how satisfied individuals are with the final outcome of a group decision-making process on a joint travel destination. Using an experimental paradigm (N_{total} = 200, N_{groups} = 55) it was obvious to hypothesize that individuals would especially be satisfied with the final group decision when it matched their own initial travel preference and that they would be dissatisfied in case it mismatched their initial preference. However, in addition the influence of personality and group dynamics differences (Thomas-Kilmann Conflict Mode Instrument, Five Factor Model) as well as travel types of the individual decision maker on the satisfaction level with the group decision outcome as the dependent variable were further researched. The paper concludes with implications for e-tourism, especially with regards to the development of interactive tools for group travel.

Keywords Group decision making · Recommending to groups · Personality · Traveller types

A. Delic (✉) · J. Neidhardt · H. Werthner
Faculty of Informatics/E-Commerce Group, TU Wien, Austria
e-mail: amra.delic@tuwien.ac.at

J. Neidhardt
e-mail: julia.neidhardt@tuwien.ac.at

H. Werthner
e-mail: hannes.werthner@tuwien.ac.at

L. Rook
Faculty of Technology, Policy and Management, Delft University of Technology, Delft, Netherlands
e-mail: l.rook@tudelft.nl

M. Zanker
Faculty of Computer Science, Free University of Bozen-Bolzano, Bolzano, Italy
e-mail: mzanker@unibz.it

R. Schegg and B. Stangl (eds.), *Information and Communication Technologies in Tourism 2017*, DOI 10.1007/978-3-319-51168-9_6

1 Introduction

What is it that determines the level of satisfaction of an individual group member with the final group decision about a joint travel destination? In the present research, it is claimed that the answer to this question lies in the extent to which the final group verdict matches (or mismatches) the individual's initial travel preferences. Inspired by behavioural research on group decision-making involving preferences (De Dreu & Weinhart, 2003; Kerr & Tindale, 2004), four theoretical outcomes of tourism-related group decision-making are explored:

First, it would make sense for a group member to experience sensation of winning, if someone's favourite—or second favourite—destination from a larger list of potential destinations made it as the final group choice. This would render that group member a '*satisfied winner*'—i.e., pleased with the travel destination that was mutually agreed upon and happened to match the own initial preference. Contrasting this, the group member would probably experience sensation of losing, if the rest of the group collectively rejected his or her favourite travel destination, and, instead, opted for some other travel destination. This could turn that group member into a '*dissatisfied loser*', not pleased with the mismatch between private and group preference. Less straightforward, someone may have the same preference as most of the group, but not derive satisfaction out of it. This group member would be a '*dissatisfied winner*'—dispassionate with the, perhaps boring, travel destination. Finally, it makes sense to also consider the possibility of a '*satisfied loser*'—someone, who failed to convince the other members of the group of his/her favourite destination (or did not even bother), but is nevertheless happy with the end result—perhaps, because each destination was equally (un)attractive or (ir) relevant, and only triggered 'choice deferral' (White et al., 2011).

In addition, we hypothesized that the likelihood of a person being satisfied after the tourism-related decision making process also depends on trait-specific characteristics. It is specifically explored that the satisfaction level of the individual group member with the final group decision is under the influence of personality differences (Five Factor Model), the individual's general inclination towards competitive-collaborative interaction with other people (Thomas-Kilmann Conflict Mode Instrument), and the individual's higher or lower general interest in particular tourism-related activities (i.e., travel types).

The remainder of this paper will discuss the theoretical underpinnings of group decision-making, as well as the personality, group dynamics-related characteristics and travel-related attitudes (i.e., travel types)—respective determinants of satisfaction with group decisions in tourism—in greater detail (Sect. 2), introduce the experimental design conducted (Sect. 3), as well as report and discuss the results related to e-tourism (Sects. 4, 5 and 6).

2 Background

Behavioural research on group decision-making maintains that individuals often arrive at group decisions that are satisfactory for most group members (Gorman, 2014; see DeChurch & Mesmer-Magnus, 2010, for a review). Often observed in that respect is a process, in which the individual preferences within a decision-making group lead to consensus via social 'sharedness'—that is, the option that is most commonly shared within the group will become the final group decision. This situation is often referred to as a majority/plurality-wins model, which nicely captures why many group members are typically satisfied with decisions made in a group setting (Kerr & Tindale, 2004). The shared consensus choice is the response option that matches most of the individual group members' personal preference, causing high satisfaction levels within the group.

On the other hand, members of a group decision-making can also fall victim to dissatisfaction (see De Dreu & Weinhart, 2003, for a review). Well-documented in that respect is the dissatisfaction that the most extreme participants in group decision-making experience, when their private preference does not make it as the final group decision. The least central member within the group, indeed, often loses out against the majority/plurality, and is forced to comply with a mismatching decision, which leads to feelings of dissatisfaction (Kerr & Tinale, 2004). Anecdotal evidence exists even for the so-called 'Abilene paradox', an extreme situation, in which group members collectively arrive at a joint decision that is dissatisfactory to most (if not all) individuals within the group (Harvey, 1988; see also Forsyth, 2014).

It makes sense to assume that the likelihood that the person will experience (dis)satisfaction with the outcome of the decision-making process also depends on trait-specific characteristics of the individual group member. In the next section, the five-factor model of personality, the Thomas-Kilmann Conflict Mode Instrument and the captured travel types will be discussed.

2.1 Determinants of Satisfaction with Group Decisions

The Big Five. One of the most widely used personality theories is the five-factor model of personality, also known as the Big Five (McCrae & Costa, 1987). This model assumes that personality can be broken down into five dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The Openness dimension measures the extent to which someone is more or less inclined towards experiencing new and unusual things (or is rather into conventional and conservative things). Conscientiousness taps into the extent to which someone is precise, careful and reliable (or rather sloppy, careless, and undependable). Extraversion measures the extent to which people are outgoing, cheerful, warm (or rather quiet, timid, and withdrawn). Agreeableness refers to the extent to which

someone is altruistic, caring, and emotionally supportive (or rather indifferent, self-centred or hostile). Neuroticism, finally, measures the extent to which someone experiences distress (or rather is calm and even-tempered; cf., McCrae & John, 1992). The five-factor model of personality has been converted in many bigger and smaller measures (Donnellan et al., 2006), and is used in a wide range of application domains, including tourism (Wood & Bell, 2008).

Thomas-Kilmann Conflict Mode Instrument. When individuals engage in decision-making in group setting, conflict is bound to arise (Forsyth, 2014). Even though conflict in smaller portions can positively contribute to team functioning (De Dreu & Van de Vliert, 1997), much research exists showing that conflict typically ruins performance and satisfaction levels in teams (De Dreu & Weingart, 2003). The Thomas-Kilmann Conflict Mode Instrument was developed to address the potential conflict resolution styles group members adopt when necessary. By distinguishing between high and low cooperation and high and low assertion, 'competing', 'collaborating', 'avoiding' and 'accommodating & compromising' were identified as possible conflict resolution styles (Thomas & Kilmann, 2010). Prior studies have connected these four styles with the five-factor model of personality (Wood & Bell, 2008).

Travel types. There is an important line of research in the tourism domain that is concerned with the relationship between individual characteristics, psychological needs and personal expectations on the one hand, and travel-related attitudes on the other. A well-established classification of tourist preferences is constituted by the framework introduced in (Gibson & Yiannakis, 2002), which distinguishes, as authors named them, 17 Tourist Roles. Even though these Tourist Roles represent short-term behaviour relative to the long-term Big Five preferences, evidence exists for associations between these two constructs (Delic et al., 2016). Factor analyses on the 17 Tourist Roles and the Big Five yielded seven basic travel types, i.e., Sun and Chill-out, Knowledge and Travel, Independence and History, Culture and Indulgence, Social and Sport, Action and Fun and Nature and Recreation (Neidhardt et al., 2014).

3 Method

3.1 Research Objective

The general objective of this research was to examine the satisfaction levels of groups of individuals in a travel-related group-decision making task. Understanding the dynamics underlying such processes is highly relevant for the design and the development of e-tourism recommender systems (Werthner et al., 2015). A detailed description of the motivation, experimental design, the implementations and the collected data of this research project is presented in Delic et al. (2016a). The results of an initial analysis of a subset of the data showed that conflicting initial

preferences of individual group members do not substantially affect the satisfaction of a participant with the group decision outcome. The results of this first analysis are presented in Delic et al. (2016b). The work presented here is now based on *additional experiments* conducted since the writing of Delic et al. (2016b). Thus, the effects that personality differences (the Five Factor Model or Big Five), inclinations towards dealing with group dynamics (Thomas-Kilmann Conflict Mode Instrument), as well as travel types exert on the satisfaction levels of the individual participants with the group decision outcome will be further explored. In this section the experimental study will be described in more detail and the measures used will be introduced.

3.2 Participants and Design

The sample for this research consisted of 200 participants, who decided on a joint travel destination in 55 groups (7 groups with 2 members; 14 groups with 3 members, 26 groups with 4 members; 8 groups with 5 members). The study was initiated within the International Federation for Information Technologies in Travel and Tourism (IFITT) by 11 universities worldwide. The first implementations of the study took place at the TU Delft and University of Leiden (in the Netherlands), and at the Alpen-Adria-Universitaet Klagenfurt and TU Wien (in Austria) from November 2015 to April 2016.

3.3 Procedure

This research was executed in three stages. In the first stage, participants were invited to fill out an online (pre)questionnaire that tapped into individual characteristics (the Big Five), travel preferences (the 17 Tourist Roles) and basic demographics. Furthermore, the participants were asked to rank the attractiveness of ten predefined travel destinations on a five point Likert-scale. The destinations were: Amsterdam (for Austrian participants only), Berlin, Copenhagen, Helsinki, Lisbon, London, Paris, Rome, Stockholm, and Vienna (for Dutch participants only). In the second phase, the *actual group meetings* took place. In class, the participants were divided into groups of two, three, four or five, and physically seated on a desk as such. Each group received the task to choose two travel destinations (i.e., the first and the second choice) out of the ten previously and individually rated destinations that they would like to visit together as a group. That is, participants had to reach agreement, which two of the ten European cities would make it as the commonly agreed travel destinations for the group. After this face-to-face group decision-making exercise, the participants filled out an online (post)questionnaire, where they had to indicate the first and second group travel destination choice, as well as their satisfaction with the actual group decision. This final questionnaire

also assessed the individual identification participants experienced with the group, and the perceived difficulty of the group decision-making process. Furthermore, the task in general had to be assessed. For most of the questions, a five point Likert-scale was used.

3.4 Measures

High and Low Choice Satisfaction. In the online (post)questionnaire, the individual group member's level of satisfaction with the final group decision was assessed on a five point Likert-scale. A participant was considered to be highly satisfied with this group decision, if his or her answer was higher than or equal to the median and was considered to be unsatisfied with the group decision, if the answer was lower than the median (see Table 1).

Winners and Losers. To assess whether the individual group member was a winner or a loser in the group decision-making process, the actual match or mismatch between the favourite travel destination(s) as submitted by the individual prior to the group meeting, and the travel destination that was submitted by the group after that group meeting was considered. That is, a participant's private ranking of the ten destinations in the (pre)questionnaire was compared with the first and second group choice as reported in the (post)questionnaire. The strength of this match/mismatch between individual and group preference was measured with the help of Kendall tau distance—i.e., a distance function for ranking lists with the property that more similar rankings have a smaller distance. A group member with a distance lower than the median Kendall tau distance was considered a winner, or a loser otherwise (see Table 2).

The Big Five. As described in Sect. 2, many bigger and smaller measures have been developed to measure the five-factor model of personality. For the present study, the 20 questions from the International Personality Item Pool—Five Factor Measures that were validated in (Donnellan et al., 2006) were administered. These so-called Mini-IPIP Scales provided us with psychometrically approved measures for the respective Openness, Conscientiousness, Extraversion, Agreeableness as well as Neuroticism profiles of each participant in the study.

Thomas-Kilmann Conflict Mode Instrument. Following the literature (Wood & Bell, 2008), it was possible to derive the participants' individual conflict resolution

Table 1 Descriptive statistics of reported satisfaction

Satisfaction statistics	# of high satisfied	# of low satisfied
Min: 1 Median: 10 Average: 10.24 Max: 14	124 (# of = median: 33)	76

Table 2 Descriptive statistics of the calculated Kendall tau distance

Kendall tau distance statistics	# of winners	# of losers
Min: 0 Median: 5 Average: 5.35 Max: 16	99	101

styles from their Big Five scores. According to Wood and Bell's procedure, someone with a high score on Agreeableness (i.e., higher than the median Agreeableness score (3.75) in the sample) and with a high score on Extraversion (i.e., higher than the median Extraversion score (3.50) in the sample) can be considered as Collaborating ($N = 45$); a person with a low score on Agreeableness and a low score on Extraversion can be called Avoiding ($N = 72$); a person with a high score on Agreeableness and a low score on Extraversion can be regarded as Accommodating ($N = 48$); and, finally, a person with a low score on Agreeableness, but a high score on Extraversion can be considered as Competing ($N = 35$).

Travel Types. The (pre)questionnaire assessed the participants' individual Tourist Roles as defined by (Gibson & Yiannakis, 2002). Together with his or her Big Five scores, the Tourist Roles of each of the participants were used to infer their individual scores for each of the seven basic travel types (see Sect. 2).

4 Results

To answer the research question what determines the satisfaction-levels of individual group members on a joint travel destination, the association between reported satisfaction of an individual group member, and the match or mismatch between the initial travel preference of this individual and the final group decision as operationalized in the Kendall tau distance (described in the previous section) were explored first. Analysis revealed that the choice satisfaction of the individual was significantly and negatively correlated with the Kendall tau distance (−0.35, p-value < 0.001). This indicated that the individual group member's satisfaction with the final group decision was lower when the initial preferences more strongly deviated from the group choice. This finding was in line with our prediction.

Next, the differences between highly satisfied versus unsatisfied participants in relation with individual group member's characteristics (i.e., Big Five Factors and seven travel types; for details see methodological Sect. 3) were analysed. A t-test revealed that highly satisfied participants were more precise/reliable, agreeable and less neurotic than unsatisfied participants. Also, they scored higher on *Social & Sport* and *Action & Fun* travel types. These results were expected, as both travel

Table 3 Significant differences between high and low satisfied participants

Variable	Low satisfied (76)	High satisfied (124)	*p*-value
Conscientiousness	3.651	3.836	0.027
Agreeableness	3.628	3.844	0.013
Neuroticism	2.743	2.423	0.001
Social & sport	2.698	2.973	0.018
Action & fun	2.038	2.318	0.033
Kendall tau distance	6.578	4.596	0.000
Thomas-Kilmann Mode	2.684	2.362	0.026

types were strongly related with the ten European city destinations that could be chosen. This might explain, moreover, why participants who already liked that type of destinations were more satisfied in general. Furthermore, the *social* of the *Social & Sport* travel type fit in the context of group travel. The Thomas-Kilmann Conflict Mode Instrument indicated that participants with a more collaborative personality were generally more satisfied with the group decision (i.e., lower value of the Thomas-Kilmann Mode variable indicates more collaborative behaviour). Finally, highly satisfied participants perceived the group decision process as easier, the group similarity as higher, and their identification with the rest of the group as stronger (see Table 3).

Next, and given that the correlation coefficient between satisfaction and Kendall tau distance was moderate in magnitude, the losers of the group tourism interaction were studied to explore the differences between satisfied and unsatisfied losers (for details see methodological Sect. 3). Among those participants that lost negotiations with their group members, and thus had to accept a mismatching travel destination, conscientiousness (the extent to which someone is precise/reliable) no longer had a significant impact. Only participants high on positive Big Five factors (thus those being inclined towards experiencing unusual things, being social, outgoing, and altruistic) or low on neuroticism still derived satisfaction from their interaction with the group—but only because of their socially inclined dispositions. With regard to travel types, the losers did not appreciate *Action & Fun* anymore, as before, but only *Social & Sport* (see Table 4). This finding was consistent with the direction suggested in the Big Five factors, in the sense that it suggested that only those losing participants with a stronger social orientation were capable of maintaining a sense of satisfaction with the final group decision despite their loss. These outcomes are consistent with general theorizing on the five-factor model of personality and tourist roles (Donnellan et al., 2006; McCrae & Costa, 1987; McCrae & John, 1992; Wood & Bell, 2008).

Finally, it was explored in what way individual differences in conflict resolution style impacted the satisfaction-levels of the respective winners and losers in the group meetings. Previous research suggested that conflict resolution styles not only are related to the self-reported satisfaction of the individual member of a group, but, as such, also exert an influence on the actual outcome (i.e., the final choice) of the decision-making process in a group (Forsyth, 2014). To explore this possibility, the

Table 4 Significant differences between high satisfied and low satisfied losers

Variable	Low satisfied (48)	High satisfied (53)	*p*-value
Openness	3.73	3.971	0.013
Extroversion	3.197	3.566	0.014
Agreeableness	3.651	3.882	0.048
Neuroticism	2.651	2.325	0.011
Social & sport	2.616	3.119	0.001

Table 5 Contingency table: Thomas-Kilmann conflict resolution styles and outcome

Thomas-Kilmann mode/outcome	Collaborating	Accommodating	Avoiding	Competing	Sum
High sat. winners	20	17	22	12	71
High sat. losers	14	15	15	9	53
Low sat. winners	6	5	11	6	28
Low sat. losers	5	11	24	8	48
Sum	45	48	72	35	200

individual "winners versus losers" in the group decision-making process, and their potential "high versus low satisfaction level" were juxtaposed with the final outcome to arrive at: (1) high satisfied winners, (2) high satisfied losers, (3) low satisfied winners, and (4) low satisfied losers. Next a contingency table was created to understand the relations between the four respective Thomas-Kilmann conflict resolution styles and our four possible outcomes (see Table 5).

Table 5 nicely shows that those individuals who actively dealt with the potential conflict arising from different preferences within the group regarding the final travel destination in a cooperative fashion (i.e., by engaging in a collaborative or accommodating resolution style) often became highly satisfied winners. Given their active cooperation with the other members of the group (which can be understood in terms of "teamwork"; Forsyth, 2014), they also often were highly satisfied when they lost in the end. Obviously, the latter pattern was not observed for individuals with a competing conflict resolution style, who only were satisfied when they won —that is, if they managed to do so in the first place.

From Table 5, it also becomes evident that matters were more complicated for so-called avoiders—i.e., those participants who took a more passive role in the group negotiations. On the one hand, their avoiding conflict resolution style paid off in terms of satisfaction levels when they were among the winners. On the other hand, however, they fell particularly hard into low satisfaction when they lost. Clearly, the share of low satisfied losers exceeded the expected value based on the overall distribution—an effect that is even more pronounced when aggregated for all categories (Chi-square = 5.373, $df = 1$, $p = 0.02$; see Table 6).

This seems to suggest that individual group members who play an active role in group negotiations in terms of conflict resolution style are less likely to be dissatisfied losers as opposed to those qualified as avoiders according to the

Table 6 Contingency table: Aggregated Thomas-Kilmann styles and outcome

Thomas-Kilmann/outcome	Avoiding	Not avoiding	Sum
Other outcome categories	48	104	152
Low sat. losers	24	24	48
Sum	72	128	200

Thomas-Kilmann Conflict Mode Instrument. The implications for e-tourism, especially in regard of the development of interactive tools for group travel, will be discussed in the next section, in conjunction with the other findings of this study.

5 Discussion and Implications

The present study was set up to explore the satisfaction levels of individual group members with the final group decision about a joint travel destination. The obvious assumption was confirmed, i.e., individual group members were highly satisfied with the outcome of group negotiations when the final group decision matched their own initial preferences. The theoretical perspective of the five-factor model of personality (The Big Five) and travel types was taken to explore differences in satisfaction levels, and two contributions stand out.

First, the results showed that highly satisfied participants overall were more precise/reliable, agreeable and less neurotic than unsatisfied participants. An important additional insight was that group members, when they lost their position to a different group travel decision, nevertheless maintained a sense of satisfaction when they were blessed with a positive personality profile (i.e., more open towards unusual experiences and in favour of cooperation). This finding is consistent with theorizing on the five-factor model of personality (Donnellan et al., 2006; McCrae & Costa, 1987; McCrae & John, 1992), but especially also confirms a large portion of behavioural research into social dilemmas that emphasizes the distinct responses of individuals with a more cooperative (prosocial rather than competitive) orientation towards group members in face of disagreement (Van Lange, 1999; Van Lange, Balliet, Parks, & Van Vugt, 2014). A similar response pattern was found for travel types that in general reflected the type of travel destination (i.e., European cities) participants were provided with. But more interestingly, the travel type that was rendered most salient in face of disagreement and potential loss was *Social & Sport* —a role that taps into cooperation with other tourists (Gibson & Yiannakis, 2002; Wood & Bell, 2008). In other words, the personality and attitudinal effects that were observed in the present study on satisfaction levels consistently emphasize the need to account for a prosocial value orientation in individual group members engaged in the collective task to decide on a joint travel destination for tourism.

Second, the results showed a major difference in experienced satisfaction with the final travel destination submitted by the group for individuals as a function of their

active (not avoiding) or passive (avoiding) position during the group negotiations. Passive players were highly satisfied with the final travel destination when it matched their own initial preference, but were extremely dissatisfied with the collectively chosen travel destination in case of a mismatch with their initially disclosed preferences. Furthermore, with exploratory analysis it turned out that 17 of 22 (highly satisfied winners) avoiders were in highly homogeneous groups with respect to their destination preferences, while 19 of 24 (low satisfied losers) avoiders were in highly heterogeneous groups with respect to their destination preferences.

The analysis presented in the paper was ultimately motivated by the goal of building more effective e-tourism group recommender systems. Recommender systems, in general, help users to find content of interest and in the e-tourism domain a recommender system can suggest, for instance, destinations, hotels, POIs, tours, etc. (Felfernig et al., 2007). A group recommender system deals with a group of people instead with individual users and this problem is very often related to the tourism recommender systems (Masthoff, 2015; Felfernig et al., 2007). Therefore, the system should better recommend which items the group is interested in, and ensure a certain level of satisfaction for each group member.

Recommender systems require the design of ranking functions to emphasize the items of higher presumed relevance for a particular user. In group recommender systems, these ranking functions rely upon aggregation functions (i.e., group preferences are a result of aggregated individual preferences). Due to Arrow's theorem and current findings of the group recommender systems research (Masthoff, 2015) a single best aggregation strategy does not exist. The results of the present study can be used to personalize the aggregation functions to the contextual conditions of groups. For example, our results indicate that the personality and travel attitude of group members influence their satisfaction with the final group decision; it follows that in a next step one could assign importance weights of group members depending on their individual characteristics captured by the user model. Specifically, a picture-based recommender system (Neidhardt et al., 2014, 2015) leans upon the same set of dimensions as the (pre)questionnaire of the study (i.e., Big Five Factors and 17 Tourist Roles). Moreover, each user is modelled as a mixture of the seven basic travel types that are used in the study analysis. The obtained insights, in other words, allow generalization of the picture-based approach to a group recommender system (Delic, 2016). A second concrete case that can benefit from the current findings is a mobile system named STSGroup (Nguyen & Ricci, 2016)—a group recommender system that allows group members to engage in discussion with each other, and to propose and give feedback on items proposed by the other members of the group. The system monitors interactions and discussions so as to navigate the group, and produce further recommendations. Based on the present work, it stands to reason special care should be taken in such a system to engage also the group members with avoiding personality types.

Finally, no study is without limitations. In the case of our research, even though the data was gathered from many participants working on a group tourism assignment in a real-time setting with face-to-face decision-making groups, it should be acknowledged that the presented results remain on the individual level.

Admittedly, this is a weakness of many studies that use personality measurements, but it would make sense to also explore the impact of the personality and attitudinal measures discussed in the present study on an aggregated group level. Thus, in our future work, a multilevel analysis (Kozlowski & Klein, 2000) will be conducted. Arguably, the individual group members were highly influenced by each other, and it follows that the satisfaction levels for each of the individual participants should also to some extent have been under the influence of group dynamics. Moreover, the participants did not have an actual travel experience. Even though a real world scenario was presented to the participants, the absence of the actual travel experience might have affected the behavioural style of the participants.

6 Conclusions

The present study aimed to answer how satisfied individuals are with the final outcome of a group decision-making process on a joint travel destination. Using an experimental paradigm with group members interacting with each other in real-time and in a face-to-face manner, it was found that group members were particularly satisfied with the outcome of group negotiations when the final group decision matched their own initial preferences. Satisfaction levels of group members were generally influenced by their respective Big Five characteristics and travel types in ways that were consistent with extant theorizing. However, our study also made clear that a big difference in experienced satisfaction existed when the individual had taken an active (not avoiding) or passive (avoiding) position during the group negotiations. Especially passive players experienced dissatisfaction with the travel destination that was collectively chosen. This finding has major repercussions for the development of interactive tools for group travel, because it highlights the importance of actively engaging users in such tools aiming at supporting the decision-making process—even if the natural disposition of such users is to avoid group discussion. If such tools are successful in engaging these types of users, chances are that they, too, will become highly satisfied users of e-tourism products for group travel.

References

DeChurch, L. A., & Mesmer-Magnus, J. R. (2010). The cognitive underpinnings of effective teamwork: A meta-analysis. *Journal of Applied Psychology, 95*(1), 32–53.

Delic, A. (2016). Picture-based approach to group recommender systems in e-tourism domain. In *Conference Proceedings of the 24th Conference on User Modeling, Adaptation, and Personalization (UMAP 2016), Halifax, Canada*.

Delic, A., Neidhardt, J., Nguyen, T.N., & Ricci, F. (2016a). Research methods for group recommender systems. In *Proceedings of RecTour 2016*.

Delic, A., Neidhardt, J., Nguyen, T.N., Ricci, F., Rook, L., Werthner, H., & Zanker, M. (2016b). Observing group decision making processes. In *Proceedings of the 10th ACM Conference on Recommender systems (RecSys 2016), Boston, MA, USA, ACM*.

De Dreu, C. K. W., & Van de Vliert, E. (1997). *Using conflict in organizations*. London: Sage.
De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*(4), 741–749.
Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment, 18*(2), 192–203.
Felfernig, A., Gordea, S., Jannach, D., Teppan, E., & Zanker, M. (2007). A short survey of recommendation technologies in travel and tourism. *OEGAI Journal, 25*(7), 17–22.
Forsyth, D. R. (2014). *Group dynamics*. Belmont, CA: Wadsworth Cengage Learning.
Gibson, H., & Yiannakis, A. (2002). Tourist roles, needs and the lifecourse. *Annals of Tourism Research, 29*(2), 358–383.
Gorman, J. C. (2014). Team coordination and dynamics: Two central issues. *Current Directions in Psychological Science, 23*(5), 355–360.
Harvey, J. B. (1988). *The Abilene paradox: The management of agreement* (pp. 17–43). Summer: Organizational Dynamics.
Kerr, N. L., & Tindale, R. S. (2004). Group performance and decision making. *Annual Review of Psychology, 55*, 22.1–22.32.
Kozlowski, S. W., & Klein, K. J. (2000). *Multilevel theory, research and methods in organizations*. San Francisco, CA: Jossey-Bass.
Masthoff, J. (2015). Group recommender systems: Aggregation, satisfaction and group attributes. In F. Ricci, L. Rokach, & B. Shapira (Eds.), *Recommender Systems Handbook* (pp. 743–776). Springer.
McCrae, R. R., & Costa, P. T. (1987). Validation of the Five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*(1), 81–90.
McCrae, R. R., & John, O. P. (1992). An introduction to the Five-factor model and its applications. *Journal of Personality, 60*(2), 175–215.
Neidhardt, J., Schuster, R., Seyfang, L., & Werthner, H. (2014). Eliciting the users' unknown preferences. In *Proceedings of the 8th ACM Conference on Recommender systems (RecSys 2014)* (pp. 309–312). ACM.
Neidhardt, J., Seyfang, L., Schuster, R., & Werthner, H. (2015). A picture-based approach to recommender systems. *Information Technology & Tourism, 15*(1), 49–69.
Nguyen, T. N., & Ricci, F. (2016). Supporting group decision making with recommendations and explanations. In *Posters, Demos, Late-breaking Results and Workshop Proceedings of the 24th Conference on User Modeling, Adaptation, and Personalization (UMAP 2016). Halifax, Canada*.
Thomas, K. W., & Kilmann, R. H. (2010). *Thomas-Kilmann conflict mode instrument profile and interpretative report*. Sunnyvale, CA: CPP Inc.
Van Lange, P. A. M. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology, 77*(2), 337–349.
Van Lange, P. A. M., Balliet, D., Parks, C. D., & Van Vugt, M. (2014). *Social dilemmas: The psychology of human cooperation*. Oxford: University Press.
Werthner, H., Alzua-Sorzabal, A., Cantoni, L., Dickinger, A., Gretzel, U., Jannach, D., et al. (2015). Future research issues in it and tourism. *Information Technology & Tourism, 15*(1), 1–15.
White, C. M., Hafenbraedl, S., Hoffrage, U., Reisen, N., & Woike, J. K. (2011). Are groups more likely to defer choice than their members? *Judgment and Decision Making, 6*(3), 239–251.
Wood, V. F., & Bell, P. A. (2008). Predicting interpersonal conflict resolution styles from personality characteristics. *Personality and Individual Differences, 45*(2), 126–131.