Media framing of Copenhagen tourism:
A new approach to public opinion about tourists

By

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Abstract
This study provides the first analysis of how relationships between tourist-related frames appear in the media. Media framing plays an important role in the public perception of tourism issues. Focusing on the Lonely Planet appointment of Copenhagen as the top city to visit in 2019, this study examines how Danish newspapers framed Copenhagen tourism from 2017 to 2019. Through a new quantitative approach to content analysis that includes optimal scaling and path analysis, we investigate 225 newspaper stories and find several relationships between frame contents and frame implications. The findings suggest that particular frames trigger demands for specific actions (e.g., restricting tourism) and therefore are highly relevant for tourism managers and policymakers aiming to develop, position, and communicate tourism-related issues.

Keywords: Tourism; Framing; Media; Over-tourism; Quantitative content analysis; Copenhagen.

1. INTRODUCTION
The travel guide publisher Lonely Planet appointed Copenhagen as the top city to travel to in 2019, which attracted wide attention in the Danish media. Similar to many other European cities (Hospers,
Copenhagen has witnessed a remarkable surge in the number of tourist nights in the past decade, rising from 4.7 million in 2010 to 7.5 million in 2018 (Danish Statistical Bureau, 2020), which is expected to almost double by 2030 (Horesta, 2018). At its worst, tourism can evolve into over-tourism, a situation in which locals feel that there are too many visitors and that tourists are negatively affecting their quality of life (Goodwin, 2017; Richardson, 2017). Feelings of over-tourism may, in turn, lead to anti-tourism movements (Seraphin et al., 2018). At its best, tourism may develop into responsible tourism, contributing to make places better to visit and live (Goodwin, 2017).

The media is one of the main actors shaping the public’s perception of issues of public life (Geschke, Sassenberg, Ruhrmann, & Sommer, 2010). Media dependency theory proposes that dependency on media information resources is a ubiquitous condition in modern society and that an important form of dependency develops from the need to understand the social world (Shirley, Liao, & Rosenthal, 2015). According to media dependency theory, the role of the media is particularly significant in areas such as tourism, which not everyone necessarily faces in daily life (Dirikx & Gelders, 2010). For example, media is likely to play an important role in the public’s perception of tourism by generalizing tourism issues and framing them in specific ways (Dirikx & Gelders, 2010; McComas & Shanahan, 1999). Frames are “conceptual tools which media and individuals rely on to convey, interpret and evaluate information” (Neuman, Just, & Crigler, 1992, p. 60). In this sense, frames implicitly or explicitly encompass selected attributes of complex issues, helping to facilitate how people determine why an issue is important and what the implications might be (Dirikx & Gelders, 2010; McCombs, Shaw, & Weaver, 1997). Therefore, a distinction should be made between frame contents and frame implications. Frame contents represent a selection of some aspects of perceived reality to enhance their salience, whereas frame implications are the particular treatment recommendations promoted (Entman, 1993). More specifically, frame contents are central ideas or story lines that organize reality and provide meaning to complex issues, such as tourism (Gamson & Modigliani, 1989; Scheufele, 1999). Frame implications emphasize actionable aspects of complex issues, making it possible for the public to determine their consequences (McCombs et al., 1997).

To date, the literature has identified several often-debated tourist-related frame contents, including social conflict frame (e.g., Clavé, 2019; Croes, Rivera, Semrad, & Khalizadeh, 2017), environment/climate frame (e.g., Seraphin et al., 2018; Yazdi & Khanalizadeh, 2017), and commercial/economic frame (e.g., Estol & Font, 2016). Frame implications may include restrictions on the number of tourists (e.g., European Parliament, 2018), efforts to attract more tourists (e.g., Kamburugamuwa, 2014; Oh & Zhong, 2016), and efforts to educate tourists (e.g., Lee, Jan, & Yang, 2013; Paige, 2009; Pennington-Gray, Reisinger, Kim, & Thapa, 2005).

Although previous research suggests a range of both frame contents and frame implications, little, if any, research has provided an analysis on how relationships between tourist-related frames and frame implications may appear in the media. This is surprising because improved insights into such relationships may contribute to the understanding of how public opinion about tourists develops. The framing of a media story (its selection of content and organization) may give rise to particular thoughts that may have profound effects on how people perceive issues and problems and how best to deal with them (Price, Tewksbury, & Powers, 1997; Semetko & Valkenburg, 2000). Thus, the purpose of this study is to investigate how Danish newspapers framed tourism in Copenhagen during 2017–2019. In a quantitative content analysis of 225 newspaper stories, we examine potential relationships between frame contents and frame implications and explore whether the Lonely Planet 2019 appointment may have led to differences between these relationships than in 2017–2018.
Newspaper stories are part of a complex relationship among communication, language, and the social world (Gee, 1999). As such, written text constitutes one of the mechanisms human beings use to create and renegotiate shared beliefs and opinions on various topics (Titscher, Meyer, Wodak, & Vetter, 2002). Multiple factors may lead the media to frame topics in a particular way. According to Paveglio, Norton, and Carroll (2011), citizen action and existing public discourse surrounding a given topic may influence the way article authors and editors choose to construct and frame their stories. Other potential influencing factors include reporter bias (e.g., the aims, motivations, and intentions of article authors), source or quote selection, sponsors, and special interest groups (Entman, 2004; Paveglio et al., 2011; Scheufele, 1999).

While most newspaper stories are written by journalists or editors, a substantial number of pieces are posts from readers (e.g., letters to the editor or online user-generated content in comment sections). In this sense, both journalists/editors and readers serve as social actors who contribute to the framing of media. Letters to the editor are often reflexive and subjective; referring to discussions that have previously appeared in newspaper stories (da Silva, 2012). As such, they define the salience of issues for readers and do not necessarily represent a full spectrum of positions (Hessing, 2003). In addition, da Silva (2012) notes that readers who write letters to the editor are most likely heavy readers who may maintain rather fixed beliefs while aiming to guide public opinion. Conversely, journalists and editors often claim to describe issues and events in an objectively and unbiased way (Geschke et al., 2010). As evidenced in prior research (e.g., Reinhart, 2007), such differences can create variations in frame contents and implications between types of authorship. Building on such reasoning and because posts from readers may play an important role in the public’s perception of tourism, we also investigate whether article authorship (i.e., professional journalist/editors vs. post from reader) influences relationships between frame contents and frame implications.

The findings of this study should be highly important for tourism managers, tourism policymakers, and others aiming to better understand and even influence the public’s perception of and opinion about tourism issues.

2. THE FRAMING OF TOURISM

The premise of framing theory is that an issue can be viewed from different perspectives and construed as having multiple implications (Chong & Druckman, 2007). In contemporary society, people often form perceptions of and opinions about public issues surrounded by messages that may present opposing views about aspects of the issues and their potential implications (Aklin & Urpelainen, 2013; Dixon & Clarke, 2013). In this sense, frames can help readers “locate, perceive, identify, and label the flow of information around them (Goffman, 1974, p. 21). Framing may have a profound impact on public opinion. For example, when asked their opinions about a hate group holding a political rally, 45% of respondents were in favor when the question was prefaced with the phrase “given the risk of violence”, whereas 85% answered in favor when the question was prefaced with the phrase “given the importance of free speech” (Sniderman & Theriault, 2004). Politicians also often adopt communication frames used by the media or other politicians when attempting to influence public opinion (e.g., Chong & Druckman, 2007; Druckman, Jacobs, & Ostermeier, 2004). Moreover, frames in the media may reflect public perception and opinion. Newspapers are forums for debate, and readers often contribute to newspapers with posts or comments (Weber, 2014). In addition, most newspapers are commercial companies, which may target specific segments in the population, as some newspaper readers may identify with the ideological identity of the newspaper (Bulunmaz, 2012).

In the digital age, most citizens use a mix of traditional (e.g., newspapers, magazines, radio, television) and social (e.g., Twitter, Facebook) media to understand and form opinions about
Various topics. As traditional media have been complemented with social media, a gain in power and a sense of community among citizens have developed (Shaw, Mousa, Vargo, Minooie, & Cole, 2016). Also, the lines between traditional and digital media have become increasingly blurred in the current and emerging media landscape. Traditional media now also offer digital environments for audience connection, engagement, and consumption (Souleles, 2018). Thus, as Shaw et al. (2016) note, newspapers, television, radio, and other traditional media still perform a vital role in developed societies. Blevins and Ragozzino (2018) even argue that the rise of social media may in some cases strengthen the impact of traditional media. This is because some people may be overwhelmed by the ‘noise’ of social media and find refuge in a ‘clearer portrayal’ of traditional media.

Frames may highly differ across various topics and therefore should be considered in relation to a specific issue, event, or actor (Entman, 2004). Prior research has conducted a number of studies on framing and tourism. For example, Huang, Cheng, Chuang, and Kuo (2016) explore tourists’ environmental behavior intentions in terms of the way environmental action is framed during traveling. They find that tourists with lower environmental concerns behave more environmentally conservatively with a pro-environmental framing message than with no framing message. By combining critical discourse analysis with stakeholder interviews, White, Morgan, Pritchard, and Heimtun (2019) scrutinize an influential television travel documentary as an instrument of cultural pedagogy that recycles, re-creates, and re-enacts the tourism imagery. They show the multiple means through which travel journalism enthralls tourists through imagined portrayals of people and place. In a study of the holiday system reform process in China, Wu, Xue, Morrison, and Leung (2012) identify six frames based on online news stories from 2005 to 2009. They find that welfare and rights and economic issues were the two foremost frames in China’s tourism policymaking process.

While prior research has strongly emphasized the importance of tourist-related frames in understanding the public’s beliefs and behavior, the current study is the first to provide an analysis on (a) how relationships between tourist-related frames and frame implications may appear in the media and (b) how media reporting around a certain event may affect how tourism is framed. Analyzing relationships between frame contents and implications offers greater insight into how public opinion about tourism develops and thus may assist tourist managers, politicians, and public authorities in better developing, positioning, and communicating issues related to tourism.

We took a deductive approach to develop the frame contents and frame implications used in this study (Dirikx & Gelders, 2010; Semetko & Valkenburg, 2000). First, an extensive review of both the research literature and popular press related to viewpoints on tourism suggests multiple frame contents and implications (Table 1). Second, a pilot study involving 50 randomly selected newspaper articles (2017–2019) on tourism in Copenhagen confirmed the media presence of both frame contents and frame implications as suggested by prior research. The pilot study did not indicate any frame contents/implications that were not also suggested in the literature review. In the pilot study, we coded the newspaper articles according to the same procedure as in the main study (see Methodology section).

Insert Table 1 about here

Specifically, we investigated seven content frames and six implication frames, all of which came from tourism-related studies, reports, and articles (see Table 1). We developed three research questions. As the first aim of this study is to investigate possible relationships between frame contents and frame implications, we explore the following:
RQ1. What are the relationships between frame contents and frame implications?

While relationships between frame contents and implications may be affected by editorial criteria such as perceived relevance and importance, they may also be influenced by external ‘events’ such as the appointment of Copenhagen as the top city to visit in 2019, an appointment that attracted wide attention in the Danish media. External events or appointments may lead to feelings of ‘proudness’ or ‘greatness’ and a desire to showcase the city to the world (Knott, Fyall, & Jones, 2015), which in turn may influence perceptions of tourism issues and spark related discussions. While other events also took place in Copenhagen in 2019, no other major events in or around Copenhagen received nearly the same amount of media coverage as the Lonely Planet appointment. In 2019, the Lonely Planet appointment had 590 stories in Danish media, whereas other major tourist-related events such as Tomorrow’s Urban Travel 2019 (tourism conference), the introduction of the Copenhagen Card (experience card), and the appointment of Wonderful Copenhagen as the world’s first Green Tourism Organization (Wonderful Copenhagen, 2020) had from 5 to 85 media stories (Infomedia, 2020). Thus, we also aim to answer the following:

RQ2: To what extent does the publication date (between 2017–2018 versus after 2019) moderate the relationships between frame contents and implications?

Our choice of segmentation (i.e., 2017–2018 vs. 2019) reflects our wish to explore whether the Lonely Planet 2019 appointment led to differences in relationships between frame contents and implications. However, this segmentation is also notable from a conceptual and tourism debate perspective. While many studies have contributed to the classic debate about the impact of tourism, some have challenged the tourism growth premise with the introduction of terms such as ‘over-tourism’, ‘tourismphobia’, and ‘tourism overcrowding’ (Dredge, 2017; Goodwin, 2017; Milano, Novelli, & Cheer, 2019). Thus, while some scholars argue that there is no over-tourism, only badly managed tourism (e.g., Buhalis, 2020), over-tourism and the quality of life and well-being of local residents have in the last years become increasingly central in the tourism debate (Milano et al., 2019; Seraphin et al., 2018).

Different communities or groups of people may react differently to the same news or issues (Balasubramanyan, Cohen, Pierce, & Redlawsk, 2012), and as such, newspaper articles are supposed to be accurate and unbiased; journalists often claim to describe issues and events in such a way, though the media has also been accused of being biased by stereotypes, among other criticisms (Geschke et al., 2010). Despite the scarce research, evidence indicates that posts from readers tend to be focused on just a few issues and emotionally laden (AIU, 2020), which may potentially influence relationships between frame contents and implications. For example, Reinhart (2007) finds that while both risks and benefits are commonly reported, letters to the editors are more likely to offer radical framing implications and to express subjectivist solutions to perceived problems than editorials. Thus, letters to the editor are subjected to a selection, editing, and framing process and therefore may be shaped by journalistic/professional routines (da Silva, 2012). Overall, posts from readers are an indispensable form of public debate (Richardson & Franklin, 2004), enabling the exchange of beliefs and opinions between different groups of people (da Silva, 2012), which may contribute to shape public perception of tourist. Therefore, we aim to answer the following:

RQ3: To what extent does whether the articles are authored by journalists/editors versus readers moderate the relationships between frame contents and frame implications?

3. METHODOLOGY
3.1 Frame measures
We identified 279 unique newspaper stories using the Danish database Infomedia. Infomedia is a news media company that monitors nearly all Danish national, regional, and local newspapers, as well as other sources such as magazines and popular journals. The search terms were ‘tourists’ and ‘Copenhagen’, and the search period was 2017–2019. Of the 279 unique stories, 54 stories were excluded from further analysis because these stories were mainly statistical summaries of tourist numbers, hotel nights, and the like. Of the final sample (225), 108 stories related to 2017–2018 and 117 to 2019. In addition, 150 stories were written by journalists/editors, and 75 stories were posts (i.e., letters to the editor) from readers. The average word count of the stories was 599 words, ranging from 80 to 2739 words. Newspaper articles are good sources of communication on ‘tourists’ because they usually give more elaborate information than other media outlets (Dirikx & Gelders, 2010; Sparks, 1992). To measure the extent to which certain frames appear in stories that mention ‘tourists’ and ‘Copenhagen’, we developed a series of 38 questions [to which the coders answered yes (1) or no (0)] in line with previous research (e.g., Dirikx & Gelders, 2010; Kline, Karel, & Chatterjee, 2006; Semetko & Valkenburg, 2000) (see Appendix). Each question was designed to contribute to the measurement of one of the seven frame contents (responsibility, social conflict, social enrichment, environment/climate, human interest factors, commercial economic, and destination branding) or one of the six frame implications (spreading tourists, educate tourists, restriction on number of tourists, attract more tourists, behavioral restrictions, and fewer tourist activities). Sample questions were ‘Does the story suggest that an individual (or group of people in society) is responsible for identified issues-problems?’ (responsibility), ‘Does the story suggest that interactions between locals and tourists may create positive experiences?’ (social enrichment), ‘Does the story suggest that restrictions should be put on the number of tourists?’ (restrictions on number of tourists), and ‘Does the story suggest that more tourists should be attracted’ (attract more tourists). Two coders (one tourism research expert who was the main coder and one non-expert skilled in societal issues) content-analyzed the articles. The intercoder reliability was 91%, and the reliability on two sub-samples of 40 randomly chosen articles was 90% and 93%, respectively, indicating satisfactory robustness of the codings. The results are based on the main coder’s content analysis.

3.2 Grouping procedures
We wanted to estimate whether the frame questions would group together in such a way as to reflect the underlying frame dimensions. However, as the study variables are categorical, standard factor analysis techniques such as principal component analysis (PCA), least-squares estimation, and principal axis factoring are less suitable for estimating underlying dimensions. This is because these methods are most often based on the analysis of the matrix of Pearson product–moment correlations, which can be considered critical when dealing with binary items because their bivariate relationship may give rise to spurious factors (Debelak & Tran, 2013). Instead, we assessed the dimensionality of the binary data using two alternative methods: PCA with smoothed tetrachoric correlations and categorical PCA (CATPCA), respectively. Use of the two methods gives an indication of the robustness of the estimated dimensions.

**PCA with smoothed tetrachoric correlations.** Tetrachoric correlations are specifically intended for binary variables (Lorenzo-Seva & Ferrando, 2012; Pearson, 1900). Estimation of tetrachoric correlations assumes that the two dichotomies are actually obtained by dichotomizing truly continuous variables that are not observed, which naturally excludes some variables (e.g., gender) from inclusion in the analysis. Thus, the tetrachoric correlation estimates the product–moment correlation that would have been obtained with the underlying continuous variables if its joint distribution was bivariate normal (Lorenzo-Seva & Ferrando, 2012). However, tetrachoric
correlation matrices can be indefinite (Lord, 1980), which makes the application of PCA impossible (Tran & Formann, 2009). Thus, to apply factor analytical methods with tetrachoric correlations, research suggests several smoothing procedures, including Higham’s (2002) algorithm, which searches for the symmetric positive semidefinite matrix $X$ with unit diagonal that is nearest to a given matrix $A$, and the procedure suggested by Knol and Berge (1989), which allows defining rows and columns of the correlation matrix that should not be altered by the smoothing algorithm. Prior research indicates that smoothing procedures provide viable results. Indeed, simulation studies conducted by Debelak and Tran (2013) suggest that applying PCA analysis to tetrachoric correlations “seems to assess the dimensionality of a multidimensional item set correctly if the correlations between the dimensions are low to medium and when a smoothing procedure is applied” (p. 74). In this study, we developed the tetrachoric correlation matrix using the FACTOR freeware program developed by the Rovira i Virgili University (Lorenzo-Seva & Ferrando, 2019; version 10.10.01). Also using FACTOR, we applied the PCA procedure based on the tetrachoric correlation matrix with associated ‘sweet smoothing’, which is a non-linear smoothing algorithm that focuses only on the problematic variables while maintaining as much variance as possible in the process (Lorenzo-Seva & Ferrando, 2019).

**CATPCA.** CATPCA uses optimal scaling to generalize PCA so that it can accommodate binary variables, among other variable types. The procedure does not assume that the relationships between variables are linear (Meulman & Heiser, 2001). As in standard PCA, the CATPCA algorithm allows the definition of new composite and standardized variables (i.e., dimensions), which maximizes the association between input variables while simultaneously reducing the multi-dimensionality of the initial data matrix (Aragão e Pina, Passos, Carvalho, & Travis Maynard, 2019; Popescu, Nicolae, State, Pavel, & Dinu, 2017; Saukani & Ismail, 2019). CATPCA is still not widely used in behavioral and economics studies, though some studies have applied this method to data grouping (e.g., Aragão e Pina et al., 2019; Comim & Amaral, 2013; Sabatini, Modena, & Tortia, 2012; Saukani & Ismail, 2019). In this study, we applied the SPSS 26 CATPCA procedure.

### 3.3 Path analysis

The dimensions developed from the grouping procedure were used to estimate possible relationships between frame contents and frame implications. Use of the developed dimensions in subsequent analyses relies on the fulfilled assumption that these adequately represent the pre-described frames, see further below. We used SPSS AMOS 25 and path analysis to estimate relationships between frame contents and frame implications.

### 4. RESULTS

#### 4.1 CATPCA

A comparison of the dimensions produced by PCA with smoothed tetrachoric correlations and CATPCA with optimal scaling showed practically identical results with an equal number of viable dimensions and an equal distribution of main loadings across dimensions. Therefore, in the following we report the results from the CATPCA, as this procedure may be more easily specified and handled by future research.

Using the eigenvalue $>1$ criterion complemented by scree tests, we developed and rotated a 13-dimension solution using the non-orthogonal rotation method Oblimim (with Kaiser normalization, to prevent relatively large loadings from dominating the rotation). Only items with factor loadings higher than 0.50 were assigned to the interpretation of the frame dimensions, a threshold commonly used by researchers (Pedhazur & Pedhazur-Schmelkin, 1991; Semetko & Valkenburg, 2000) (Table 2). The 13-dimension factor solution accounts for 77.7% of the variance,
which is above the recommended 60% threshold (e.g., Hair, Black, Babin, & Anderson, 2014). In addition, all items meet the 0.50 threshold, and no items load at 0.50 on more than one dimension. An inspection of the matrix shown in Table 2 indicates that the 38 coding items adequately represent the 13 frames when assigned to the CATPCA procedure.

4.2 Path analyses
The correlation matrix of the CATPCA dimensions (Table 3) suggests a substantial number of significant correlations between frame contents and frame implications, which indicates that estimating path relationships between these dimensions is a viable approach. The use of CATPCA dimensions renders nonnormality, which violates the distributional assumptions of the standard maximum likelihood (ML) estimator and can lead to under-estimation of standard errors (Kaplan, 2009). Thus, we initially estimated the path model estimations using the bootstrapping resampling procedure (5000 samples; Efron & Tibshirani 1993) to produce distributionally appropriate standard errors and chi-square statistics. Next, we re-estimated the models using ML. A comparison of the parameter estimates produced by bootstrapping and ML showed similar significance levels for all estimated structural equation modeling paths. In the following, we report the results based on ML estimates (Table 4).

4.3 Results pertaining to RQ1
The path model provides a good fit to the data ($\chi^2=12.85$ (df=15, $p=0.61$); NFI=0.94; AGFI=0.95; RMSEA=0.024). Several significant relationships between frame contents and frame implications were identified (Table 4). The frame content ‘responsibility’ was positively related to the implication ‘fewer tourist activities’ ($\beta=0.23$, $p<0.01$) and (marginally) positively related to ‘behavioral restrictions’ ($\beta=0.12$, $p=0.08$); conversely, the frames ‘social conflict’ ($\beta=-0.20$, $p<0.01$) and ‘environment/climate’ ($\beta=-0.17$, $p=0.01$) were both negatively related to ‘attract more tourists’. The frames ‘social conflict’ ($\beta=0.13$, $p=0.05$) and ‘human interest factors’ ($\beta=0.24$, $p<0.01$) were both positively related to ‘restrictions on tourist numbers’, and the frame ‘commercial/economic’ ($\beta=0.30$, $p<0.01$) was positively related to ‘attract more tourists’. In addition, ‘social conflict’ was (marginally) positively related to ‘behavioral restrictions’ ($\beta=0.12$, $p=0.08$).

The results suggest that two frames (‘social conflict’ and ‘human interest factors’) were both positively related to ‘restrictions on tourist numbers’. To test the difference between coefficients, we estimated their corresponding 95% confidence intervals (CI). If the confidence intervals overlap with less than 50%, the coefficients can be considered significantly different from each other ($p<0.05$) (Cumming, 2009). This criterion suggests that the relationship between ‘human interest factors’ and ‘restrictions on tourist numbers’ (95% CI [0.11, 0.38]) was not significantly different from the relationship between ‘social conflict’ and ‘restrictions on tourists numbers’ (95% CI [0.01, 0.26]). In addition, the frames ‘social conflict’ and ‘environment/climate’ were both negatively related to ‘attract more tourists’. Calculations of CI show that their corresponding coefficients were not significantly different (social conflict: 95% CI [−0.33, −0.07]; environment/climate: 95% CI [−0.30, −0.04]).

4.4 Results pertaining to RQ2 and RQ3
We investigated the moderating effects pertaining to year (2017–2018 vs. 2019) and authorship (journalist vs. reader) using multiple-group path analysis with chi-square difference tests (Table 4). Several significant moderating effects were detected.

**Year (2017–2018 vs. 2019).** The relationship between ‘responsibility’ and ‘restrictions on tourists’ was positive for 2017–2018 (β=0.26, p<0.01) and non-significant for 2019 (β=−0.08, p=0.39). A chi-square difference test showed that the difference between coefficients was significant (Δχ²=5.39, Δdf=1, p=0.02). For the 2017–2018 period, the results indicated a negative relationship between ‘responsibility’ and ‘attract more tourists’ (β=−0.19, p=0.02), while this relationship was non-significant for 2019 (β=−0.06, p=0.53; Δχ²=5.82, Δdf=1, p=0.02).

Moreover, the frame ‘social conflict’ was differently related to several implications across year (i.e., 2017–2018 vs. 2019). The relationship between ‘social conflict’ and ‘spreading tourists’ was positive for 2019 (β=0.31, p<0.01) and non-significant for 2017–2018 (β=−0.04, p=0.68; Δχ²=4.34, Δdf=1, p=0.04). The results also showed that the relationship between ‘social conflict’ and ‘educate tourists’ was positive for 2017–2018 (β=0.25, p=0.01) and non-significant for 2019 (β=−0.06, p=0.68) and that the difference between coefficients was significant (Δχ²=4.34, Δdf=1, p=0.04). Finally, the results indicate that ‘social conflict’ was negatively related to ‘attract more tourists’ for 2017–2018 (β=−0.37, p<0.01) and non-significant for 2019 (β=−0.07, p=0.50; Δχ²=11.51, Δdf=1, p<0.01).

The relationship between ‘environment/climate’ and ‘attract more tourists’ was negative for 2017–2018 (β=−0.27, p<0.01) and non-significant for 2019 (β=−0.08, p=0.39; Δχ²=3.95, Δdf=1, p=0.05). The results also showed a positive relationship between ‘environment/climate’ and ‘fewer tourist activities’ for 2017–2018 (β=0.28, p<0.01), while this relationship was non-significant for 2019 (β=−0.08, p=0.39; Δχ²=6.90, Δdf=1, p<0.01).

The frame ‘human interest factors’ was differently related to both ‘spreading tourists’ and ‘educate tourists’ for 2017–2018 versus 2019. The relationship between ‘human interest factors’ and ‘spreading tourists’ was positive for 2017–2018 (β=0.22, p=0.02) and (marginally) negative for 2019 (β=−0.15, p=0.10; Δχ²=4.49, Δdf=1, p=0.03). In addition, the results showed a positive relationship between ‘human interest factors’ and ‘educate tourists’ for 2017–2018 (β=0.26, p<0.01), while this relationship was non-significant for 2019 (β=−0.13, p=0.20; Δχ²=9.89, Δdf=1, p<0.01).

The relationship between ‘commercial/economic’ and ‘attract more tourists’ was positive for 2017–2018 (β=0.35, p<0.01) and non-significant for 2019 (β=0.14, p=0.13; Δχ²=9.35, Δdf=1, p<0.01). The results showed no significant moderating effects between the frames ‘social enrichment’ and ‘destination branding’ or any of the implications.

**Article authorship (journalist vs. reader).** The frame ‘responsibility’ was differently related to ‘fewer tourist activities’ for articles written by journalists versus readers. The relationship was positive for ‘journalist’ (β=0.34, p<0.01) and non-significant for ‘reader’ (β=−0.02, p=0.85; Δχ²=5.52, Δdf=1, p=0.02). The results also showed a positive relationship between ‘social conflicts’ and ‘behavioral restrictions’ for ‘journalist’ (β=0.23, p<0.01), while this relationship was non-significant for ‘reader’ (β=−0.08, p=0.49; Δχ²=3.88 Δdf=1, p=0.05). The relationship between ‘environment/climate’ and ‘fewer tourist activities’ was non-significant for ‘journalist’ (β=−0.01, p=0.87) and positive for ‘reader’ (β=0.31, p=0.01; Δχ²=4.14, Δdf=1, p=0.04), while the relationship between ‘human interest factors’ and ‘fewer tourist activities’ was negative for ‘journalist’ (β=−0.22, p=0.01) and non-significant for ‘reader’ (β=0.12, p=0.29; Δχ²=4.09, Δdf=1, p=0.04). Finally, the results showed that ‘destination branding’ was positively related to ‘attract more tourists’ for ‘reader’ (β=0.28, p<0.01) and negative for ‘journalist’ (β=−0.15, p=0.05; Δχ²=24.35, Δdf=1, p<0.01).
4.5 Results summary
The results suggest that the frame content ‘responsibility’ was positively related to the implication ‘fewer tourist activities’. This relationship was moderated by ‘article authorship’, as the relationship was significant only for articles written by journalists. Furthermore, ‘responsibility’ was positively related to ‘restrictions on tourist numbers’ and negatively related to ‘attract more tourists’ for 2017–2018, while these effects were non-significant for 2019. The frames ‘social conflict’ and ‘human interest factors’ were both positively related to ‘restrictions on tourist numbers’. In addition, the frames ‘social conflict’ and ‘environment/climate’ were both negatively related to ‘attract more tourists’. These relationships were moderated by ‘article appearance’, as the relationships were negative for 2017–2018 and non-significant for 2019.

Several other moderating effects occurred. The relationship between ‘human interest factors’ and ‘spreading tourists’ was positive for 2017–2018 and (marginally) negative for 2019, and the relationship between ‘human interest factors’ and ‘educate tourists’ was positive for 2017–2018 but non-significant for 2019. The frame ‘commercial/economic’ was positively related to ‘attract more tourists’. This effect was moderated by article appearance, as the relationship was positive for 2017–2018 but was non-significant for 2019. We found a significant, positive relationship between ‘environment/climate’ and ‘fewer tourist activities’ for articles written by readers, but this relationship was non-significant for articles written by journalists.

5. DISCUSSION
Prior research suggests that varying how a problem or an issue is presented or framed can induce people to change their perceptions and focus on different implications (Majer, Trötschel, Galinsky, & Loschelder, 2019). Consistent with this suggestion, the purpose of this research was to investigate how frame contents are related to frame implications. Specifically, we analyzed the possible relationships between seven frame contents and six frame implications across 225 Danish newspaper stories published from 2017 to 2019. Retrieval of the 13 frames through PCA with smoothed tetrachoric correlations and CATPCA led to practically identical results. Frame contents most often reflected in the articles were ‘social conflict’ and ‘commercial/economic’, while ‘attract more tourists’ and ‘spreading tourists’ were most often reflected in frame implications (Table 3). Analyzing relationships between frame contents and implications helps increase understanding of how public opinion about tourism develops and may also assists tourist managers, politicians, and public authorities wanting to develop, position, and communicate issues related to tourism. The results uncover several significant relationships between frame contents and implications. In addition, they show that ‘article appearance’ or ‘article authorship’ moderate some of the relationships and that some moderating effects occur even when the corresponding pooled sample relationship is non-significant.

Protection motivation theory (Rogers, 1983) suggests that when people are confronted with threatening but potentially treatable issues, they are motivated to change their behavior and/or require behavioral change from others. We found that when a third party is assigned ‘responsibility’, this may be accompanied by a demand for action, such as reducing the number of tourist activities. This relationship was further defined by ‘article authorship’, as the relationship was significant only for articles written by journalists. Furthermore, the relationship between ‘responsibility’ and ‘restrictions on tourist numbers’ was positive for 2017–2018 but non-significant for 2019, while the relationship between ‘responsibility’ and ‘attract more tourists’ was negative for 2017–2018 but non-significant for 2019. When taken together, these results imply that the Lonely Planet appointment of Copenhagen as the top city to visit in 2019 might have reduced the demand
for action implications from those considered responsible for the city’s tourist situation. This is in line with prior research, which suggests that events may affect not only the brand of nations or cities (Knott et al., 2015) but also the political dialogue between local governments and residents (Eshuis, Klijn, & Braun, 2014). The results further suggest that articles written by journalists are more likely to demand action (i.e., ‘fewer tourist activities’) from those responsible than articles written by readers. A possible explanation is that journalists’ often regard their roles as critical to authorities, which in turn may lead to a greater demand for action from these authorities.

People who are emotionally involved may care more about their near surroundings and try to protect them from perceived external threats (Pace et al., 2014; Pandye et al., 2011). This notion is reflected in our results. When tourism is more emotionally/personally framed (i.e., ‘social conflict’ and ‘human interest factors’) or framed as a potential threat to locals’ daily lives (i.e., ‘environment/climate’), the preferred implications are ‘restrictions on tourist numbers’ or a desire not to ‘attract more tourists’. However, both ‘article appearance’ and ‘article authorship’ moderate these relationships. Framing tourism as ‘social conflict’ is negatively related to ‘attract more tourists’ for 2017–2018, while this relationship is non-significant for 2019, suggesting that after the Lonely Planet appointment, social conflicts were no longer proposed to be solved by attracting fewer tourists; instead, the solution was to spread tourists across the city. The Lonely Planet appointment may also have reduced the focus on tourism as a source of income, as the framing content ‘commercial/economic’ was related to ‘attract more tourists’ for 2017–2018 but was non-significant for 2019.

The results also indicate that readers who are proud of the city (destination branding) are more inclined than journalists to propose that more tourists should be attracted. By contrast, readers seem more concerned than journalists about the local implications of tourists’ influence on the environment/climate. Indeed, articles written by readers show a significant, positive relationship between ‘environment/climate’ and ‘fewer tourist activities’, while this relationship is non-significant in articles written by journalists.

The results of this research offer several implications to tourist managers, public authorities, and politicians. Tourism is a multifaceted issue. Depending on its framing contents, it may have different implications for the public. This insight is of pivotal importance to tourism managers and authorities, because communication of tourism issues may bring about unintended responses from citizens if it is based on counterproductive framing contents. For example, this study finds that external events (e.g., Lonely Planet recommendation) and article authorship (i.e., journalists vs. newspaper readers) may influence relationships between framing contents and framing implications. Thus, tourist managers and authorities might want to increase focus on positive tourist-related events, as this may reduce demand for fewer tourist activities and likely also feelings of over-tourism. This implication also ties in with the ongoing debate on over-tourism. For example, Buhalis (2020) argues that over-tourism is a simplistic term that media uses to describe overcrowding. Instead, he suggests that strategic tourism management and planning and smart methodologies should develop comprehensive strategies for co-creating value for tourists, residents, and companies. Moreover, the results encourage an increased focus on ‘green tourism’, as ‘environment/climate’ was negatively related to ‘attract more tourists’. Furthermore, tourist managers and authorities should try to reduce social conflicts between citizens and tourists, as such efforts may lead to more positive attitudes toward tourists.

As with any research, this study has limitations that may guide and inspire further research. First, although the quantitative approach taken herein showed important results, a mixed methodology that also includes qualitative content analyses may shed further light on framing in relation to tourism issues and may elicit even more nuances in the background data. Second, our analysis focused on written content in the form of newspaper articles. Future research could also
include television news and social media, which are also relevant for the framing and outcomes of tourism issues and may provide even more insights into this area. Third, among other aspects, this study compared two periods (2017–2018 vs. 2019) to understand the potential influence of the Lonely Planet appointment. While we cannot entirely disregard the possibility that other events or incidents may have influenced the framing of tourism issues during the two periods, no other tourist events seemed to receive the same degree of attention in the periods. In addition, the use of identical coding items for the two periods rules out the possibility that differences in the results are attributed to measurement variations between samples. Fourth, this study concentrated on analyzing newspaper articles from one society/culture. Although the investigated framing contents and implications are relevant for most societies and tourist destinations, the results may suffer from a lack of generalizability to other countries/cultures (Sebri & Zaccour, 2017).

6. CONCLUSIONS
The travel guide publisher Lonely Planet appointed Copenhagen as the top city to travel to in 2019, which attracted wide attention in the Danish media. This study analyzed the possible relationships between seven frame contents and six frame implications across 225 Danish newspaper stories published from 2017 to 2019. The framing of media stories may give rise to particular thoughts that have profound effects on how people perceive issues and problems and how best to deal with them. Taking a new quantitative approach to content analysis, which includes a combination of binary coding, optimal scaling, and path analysis, we provided the first analysis of relationships between frame contents and implications in tourism. Our results uncover several significant relationships between frame contents and implications and also suggest that ‘article appearance’ and ‘article authorship’ moderate some of the relationships. Among other implications, the results contribute to the ongoing debate about over-tourism (e.g., Goodwin, 2017; Buhalis, 2020; Milano, et al., 2019; Goodwin, 2017; Richardson, 2017; Seraphin et al., 2018) by showing how positive tourist-related events may reduce demand for fewer tourists and tourist activities. Overall, the findings of the content analysis may be highly useful to those interested in public opinion about tourism issues. Consequently, further research on tourism could proceed along this avenue by using various forms of data, such as newspaper, social media, and/or television.
APPENDIX

Frame contents

- Responsibility
  - R1. Does the story suggest that some level of government has the ability to alleviate identified issues/problems?
  - R2. Does the story suggest that some level of the government is responsible for identified issues/problems?
  - R3. Does the story suggest that an individual (or group of people in society) is responsible for identified issues/problems?
  - R4. Does the story suggest an issue that requires urgent action by someone?

- Social conflict
  - Conflict1. Does the story provide an example of a social conflict?
  - Conflict2. Does the story suggest that interactions between locals and tourists may create tension?
  - Conflict3. Does the story mention any complaints/dissatisfaction regarding tourists’ behavior?
  - Conflict4. Does the story offer specific social prescriptions about how to avoid conflicts?

- Social enrichment
  - SE1. Does the story provide an example of a social enrichment?
  - SE2. Does the story suggest that interactions between locals and tourists may create positive experiences?
  - SE3. Does the story mention any satisfaction or pleasantness with tourists’ behavior?
  - SE4. Does the story offer specific social prescriptions about how to welcome tourists or make them feel at home?

- Environment /climate
  - EM1. Does the story contain any environmental message?
  - EM2. Does the story make reference to climate issues?
  - EM3. Does the story offer specific prescriptions about how to behave in an environmentally friendly way?
  - EM4. Does the story provide examples of environmental issues/problems?

- Human interest factors
  - HI1. Does the story provide a human example or ‘human face’ on the issue?
  - HI2. Does the story employ adjectives or personal vignettes that generate feelings of outrage, empathy/caring, sympathy, or compassion?
  - HI3. Does the story emphasize how individuals and groups are affected by the issue/problem?
  - HI4. Does the story go into the private or personal lives of the actors?

- Commercial/economic
  - COM1. Is there a mention of financial gains now or in the future?
COM2. Is there a mention of the degree of income involved?  
COM3. Is there a reference to economic consequences of welcoming/not welcoming tourists?

- Destination branding
  - PB1. Does the story make reference to city-branding issues?  
  - PB2. Is there a mention of local city/culture?  
  - PB3. Does the story emphasize that locals should be delighted, proud, or encouraged to showcase their city?

Frame implications

- Spreading tourists  
  - ST1. Does the story suggest that tourists should be urged to visit other areas of Copenhagen than the city center?  
  - ST2. Does the story suggest that tourists should be urged to visit other areas of Denmark?

- Educate tourists  
  - ET1. Does the story suggest that tourists should be ‘educated’ on how to behave?  
  - ET2. Does the story suggest that tourists need to be better informed about local traditions, culture, and/or behavioral ‘rules’?

- Restrictions on the number of tourists  
  - RT1. Does the story suggest that restrictions should be put on the number of tourists?  
  - RT2. Does the story suggest that there is no room for more tourists?

- Attract more tourists  
  - AM1. Does the story suggest that more tourists should be attracted?  
  - AM2. Does the story suggest that there is still room for more tourists?

- Behavioral restrictions  
  - BR1. Does the story suggest that behavioral restrictions should be imposed (e.g., music in public places, beer-bikes, eating in public places, Airbnb restrictions, among others)?  
  - BR2. Does the story suggest the creation of ‘silent areas’ or the like?

- Fewer tourist activities  
  - FTA1. Does the story suggest a reduction in the number of tourist activities (e.g., sightseeing buses, sight-seeing boats, exhibitions, etc.)?  
  - FTA2. Does the story suggest that some holidaymakers should be banned?  
  - FTA3. Does the story suggest that the establishment of new bars, restaurants, hotels, or the like, should be prohibited or reduced?

Moderators

- M1. Article appearance: before (i.e., 2017–2018) vs. during 2019  
- M2. Journalist vs. reader written article
REFERENCES


