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TESIS DOCTORAL

TOURISTS' **PERCEPTIONS, BEHAVIOURS** AND **PREFERENCES** IN **HEALTH** AND **WELLNESS TOURISM**

Antonio Ángel Moreno González - Marzo 2021 - Las Palmas de Gran Canaria

UNIVERSIDAD DE LAS PALMAS
DE GRAN CANARIA

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RESUMEN

Esta tesis tiene como objetivo principal el estudio de la imagen de destino relacionada con la salud y el análisis del comportamiento y las preferencias de los turistas en el turismo termal. Para ello se presentan tres capítulos. El primero estudia la influencia en la imagen de destino de los atributos asociados con la salud y el bienestar. El segundo capítulo analiza las creencias de salud y la autoeficacia percibida en salud como factores que explican la adherencia de comportamiento (*spillover*) entre origen y destino en relación a actividades ligadas al turismo de salud (spa termales). El tercer capítulo estudia aquellas variables relacionadas con el destino, con la elección de productos de turismo de salud y con aspectos personales que condicionan la variabilidad de las preferencias de los turistas del nivel de distancia interpersonal en el turismo termal, un factor esencial en salud pública y en la gestión de los servicios turísticos. Este trabajo aborda estos objetivos de investigación desde un marco multidisciplinar, integrando aspectos propios de la investigación en salud y en turismo. Además, el enfoque metodológico es variado, empleándose técnicas cuantitativas (modelo de ecuaciones estructurales, regresión logística múltiple y experimento de elección discreta) y metodología mixta (integrando las ecuaciones estructurales y el análisis cualitativo de focus groups). Con esta investigación se llega a una mejor comprensión de las interrelaciones entre atributos de los destinos, factores personales de salud, variables de comportamiento y preferencias por la distancia interpersonal y diferentes experiencias de turismo de salud. Los resultados de este estudio son de utilidad tanto para las empresas y las *destination management organizations* (DMO) de los destinos turísticos, como para las agencias de salud pública y promoción de la salud en origen y en destino. Además, el tercer capítulo contribuye a la metodología de la investigación en turismo aportando evidencias empíricas sobre la conveniencia del uso de varios modelos en los experimentos de elección discreta para depurar los datos e interpretar mejor la heterogeneidad de las elecciones del turista.

Introducción

En 2019 el turismo experimentó un crecimiento anual del 3,5%, sobrepasando en cerca de un punto el crecimiento global de la economía por noveno año consecutivo. Desde 2014 uno de cada cuatro empleos nuevos han sido creados por el sector. En 2019 uno de cada diez empleos en el mundo fueron debidos al turismo y el 10,3% del PIB global fue consecuencia directa de la actividad turística (*WTTC*, 2020, b). El turismo contribuye de manera importante a la creación de riqueza y empleo; sin embargo, existen investigadores que sugieren que el impacto del sector en la sostenibilidad económica y social (y por lo tanto, sanitaria) de los destinos debe ser reconsiderado (Nepal et al., 2019).

En enero de 2020 la Organización Mundial de Turismo pronosticó un crecimiento del 3% al 4% en llegadas de turismo internacional en el año 2020, a pesar de los factores de incertidumbre derivados del Brexit, las tensiones internacionales y el descenso global de la economía (UNWTO, 2020, b).

Sin embargo, la pandemia de Covid-19 ha significado que el periodo de enero a octubre de 2020 se traduzca en una pérdida de 730 mil millones de dólares en ingresos por exportaciones debido al turismo internacional, lo que significa más de 8 veces la pérdida debida a la crisis económica global del 2009. De no mejorar las condiciones actuales, se prevé que las llegada de turistas internacionales a nivel global disminuya un 73%, siendo la caída del turismo doméstico de un 45%, lo que significaría una disminución del PIB debido a viajes y turismo en un 53% (WTTC, 2020, a). Si la evolución de la crisis de salud global es favorable, la mayoría de los expertos del panel de la Organización Mundial del Turismo opinan que para llegar a los niveles pre-pandemia de 2019 habría que esperar hasta el 2023 (UNWTO, 2020, a).

La pandemia de Covid-19 ha mostrado, por un lado, la importancia del turismo en la economía mundial y, por otro, la relevancia de la relación entre los factores asociados a la salud y al turismo, así como la importancia de la salud pública y los hábitos de salud de las personas en origen y en destino. Una de las principales estrategias que aplicarían los destinos para recuperar la actividad turística en el periodo de pandemia y postpandemia se basan en protocolos y campañas relacionadas directamente con la salud pública: certificados que aseguran las medidas necesarias de higiene, control de los factores de riesgo para la salud, corredores seguros entre países y protección de la población local (UNWTO, 2020, a).

Estas medidas tienen como propósito recuperar los niveles de confianza del turista (Fong et al., 2020). En este sentido, se asume que los patrones de comportamiento del turista se van a ver afectados por las apreciaciones de riesgo de salud y psicológicos que harán necesario que los destinos, agencias de salud y empresas adapten productos y normas, dándose mayor importancia a las medidas de salud pública y a las cuestiones epidemiológicas (Li et al., 2020). Algunos investigadores sugieren que la crisis llevará a una reconsideración crítica del modelo de crecimiento del turismo y de los modos de viaje, tomando como base los principios de los Objetivos de Desarrollo Sostenible (Gössling et al., 2020). Además de aspectos puramente medioambientales, se deberán tener en cuenta otros factores socioeconómicos relacionados con la salud pública de los destinos que afectan a habitantes y a turistas.

La crisis sanitaria global debida al SARS-CoV-2 ha evidenciado la importancia de la relación entre la salud pública, los sistemas de salud y el turismo. Como se comentó en el preámbulo, uno de los objetivos de esta tesis es aportar al conocimiento de la influencia en la imagen de destino de aquellos factores de los lugares asociados con la salud pública y con el bienestar, y

que además puedan influenciar en las expectativas de salud asociadas a los destinos por los turistas. La revisión de la literatura científica de salud sugirió que existen factores directamente relacionados con los atributos de los lugares que influencian la salud y bienestar, y que podrían explicar la imagen percibida de un destino en relación a la salud. También era evidente que existía sobre este tema un gap de investigación. La pandemia de la Covid-19 ha contribuido a reforzar la pertinencia de abordar los temas que se plantean en este trabajo.

Otro aspecto que motivó esta tesis era el estudiar otro gap de la investigación en turismo: la relación del turismo de salud con los factores antes reseñados y con algunas variables de comportamiento basadas en teorías de promoción de la salud, de la salud pública y el estado percibido de salud. Además, debido a las importantes implicaciones en la gestión turística y en las medidas de salud pública, existía también una necesidad de cubrir el vacío de investigación existente en el análisis de las variables relacionadas con la salud que pueden condicionar la aceptación de la aglomeración por parte de los turistas, tomando como estudio de caso el diseño de experiencias turísticas relacionadas con el turismo termal y la elección de los servicios ofrecidos en estas instalaciones

Aunque las diferentes definiciones de turismo de salud pueden variar ligeramente con algunos matices (Mueller & Kaufmann, 2001; Garcia-Altes, 2005; Erfurt-Cooper & Cooper, 2009; Heung et al., 2010; Voigt et al., 2011; Connell, 2013; Hall, 2013; Smith & Puczkó, 2014; Loh, 2015; Han et al., 2018; Dryglas & Salamaga, 2018; Gabor & Oltean, 2019), todas coinciden en que el turismo de salud es aquel que contribuye a la salud física, mental y espiritual del turista, que en sus vacaciones acude a destinos, empresas y centros específicos para tal fin, pudiendo ser esta la motivación primaria o secundaria para viajar. El término turismo de salud es un paraguas conceptual que engloba al turismo wellness y al turismo médico. El turismo médico implica desplazarse fuera de la residencia habitual para el uso de servicios de salud basados en la evidencia médica, en los que se incluyen diagnóstico, tratamiento, cura, prevención y rehabilitación. Por otro lado, el turismo wellness se refiere a aquellas actividades turísticas relacionadas con las actitudes preventivas proactivas de mejora de la salud mediante el estilo de vida, tales como dieta sana, relajación, cuidados y tratamientos alternativos considerados saludables (World Tourism Organization & European Travel Commission, 2018). En algunos servicios o experiencias turísticas ambos subtipos de turismo de salud se solapan, siendo el turismo termal de los spa de aguas medicinales, o balnearios, uno de los ejemplos más paradigmáticos de esta unión entre turismo médico y wellness (Speier, 2011; Smith & Puczkó, 2016)

La literatura académica y empresarial coincide en afirmar que el turismo de salud es un sector del turismo con alto crecimiento (Radovcic & Nola, 2018). Los informes de marketing estiman

que el turismo de salud es un sector en expansión, mostrando un crecimiento mayor que el turismo general (Mainil et al., 2017). Este incremento es máximo en el subsector del turismo wellness, en donde se estima que el gasto alcanzó la cifra de 639,4 mil millones de dólares en 2017, con un crecimiento anual de más del doble que el crecimiento bruto del turismo general. Por otro lado, el sector del turismo termal ha estado creciendo un 5% anual desde 2015-2017 (Global Wellness Institute, 2018). Los ingresos por turismo de salud en 2014 llegaron a 34,2 mil millones de euros en la Unión Europea (Mainil et al., 2017). Esta cifra es importante si tenemos en cuenta que, por ejemplo, el turismo náutico generó en la Unión 28 mil millones de euros en 2017 (European Comission, 2017).

La literatura científica achaca este boom del turismo de salud a varios condicionantes. El envejecimiento de la población, el cambio en el paradigma en la salud, la internacionalización de los servicios médicos, los controles de calidad de servicios de salud internacionales y las listas de espera en los países de origen son algunos de los factores que explicarían esta tendencia ascendente (Carrera & Bridges, 2006; Smith & Puczkó, 2016; Sandberg, 2017). Algunos subsectores del turismo de salud contribuyen a la sostenibilidad natural y socio-económica del destino (Illario et al., 2019), siendo este el caso del turismo termal (Serbulea & Payyappallimana, 2012; Shortall & Kharrazi, 2017; Valjarević et al., 2017). Además, algunas investigaciones indican que algunos servicios turísticos de salud son vistos como favorables por la población del destino ya que influencian en su bienestar (Suess et al., 2018), y que se podrían crear sinergias entre el turismo de salud y los servicios de salud pública y asistencia sanitaria del destino, favoreciendo así la salud de turistas y habitantes (Hartwell et al., 2012). Sin embargo, el turismo de salud tiene también potenciales efectos negativos, tales como la influencia perniciosa del turismo médico en los sistemas de salud del destino al exigir mano de obra cualificada que se retrae de los servicios destinados a los habitantes (Ruggeri et al., 2018), la aculturación y desvirtuación de algunos servicios de turismo wellness tradicionales (Nuttavuthisit, 2007; Kogiso, 2012), la falta de evidencia científica en terapias alternativas o pretendidamente novedosas que se ofrecen en algunos destinos (Zarzeczny & Caulfield, 2010), o el riesgo de contraer infecciones transfronterizas y la importación de patógenos resistentes del destino a los lugares de origen (Pavli & Maltezou, 2020).

En definitiva, en base a la revisión de la literatura y a las hipótesis derivadas, esta tesis pretende abordar dos enfoques complementarios en los que no existe mucha investigación. Por un lado, estudiar cómo la relación entre salud y turismo influye en la imagen que el turista tiene de un destino saludable y cómo esta percepción modela sus expectativas; y por otro, el estudio del comportamiento de la demanda del turismo de salud en relación a variables

personales de salud y salud pública, tomando el turismo termal como caso de estudio. De este modo se intenta llevar a cabo un enfoque interdisciplinar de la relación entre atributos del destino, salud pública, salud personal percibida y otros aspectos de salud que condicionan el comportamiento de elección de experiencias turísticas de salud, temas relevantes en turismo y sanidad que han recibido escasa atención a pesar de su importancia.

Justificación

Esta tesis se centra en profundizar en aquella parte del vacío de investigación interdisciplinar que existe entre turismo y salud, que tiene que ver con las percepciones, el comportamiento y las elecciones de los turistas. La pandemia de la COVID-19 ha hecho que la integración de la investigación entre las ciencias de la salud y del turismo adquiera protagonismo y que esté ahora presente en las agendas de organizaciones y ámbitos académicos. Analizar de manera integrada los factores asociados a la salud y al turismo desde la óptica de las ciencias de la salud ayuda a entender, de manera más especializada, los patrones de comportamiento y elección de los turistas. Es más, el uso de métodos y marcos teóricos que han demostrado su validez en el campo de la salud aumentan la fiabilidad de los resultados y dan consistencia al fundamento teórico de la investigación en turismo y viceversa (Okumus et al., 2018). Esta tesis se apoya en métodos y teorías que se han utilizado en promoción de la salud, en salud pública y psicología ambiental, disciplinas de las ciencias de la salud con un marcado carácter interdisciplinar (Orme et al., 2007), lo que facilita su interacción con el turismo.

Por otro lado, el abordar la investigación también desde la óptica de las ciencias del turismo permite que la investigación en salud se adapte a los marcos del turismo de una manera sólida, facilitando la adaptación de los resultados a los campos específicos de, por ejemplo, el marketing turístico o la imagen de destino.

Como se comentó anteriormente, los resultados de esta investigación tienen aplicación en el turismo y en la salud pública. El abordaje interdisciplinar de este trabajo puede favorecer la mejor comprensión y la adopción de las estrategias y políticas por parte de los agentes involucrados de ambos campos, ya que en el desarrollo de la investigación se ha tenido en cuenta esta ambivalencia en cada uno de los pasos de la tesis.

Para alcanzar los objetivos de la investigación y lograr una adecuada interdisciplinariedad, esta tesis se estructura en tres capítulos. En el primer capítulo se analiza la imagen de destino de salud y las expectativas de salud del turista en relación a esta imagen. En los otros dos capítulos se profundiza en aquellos factores que explican el comportamiento y las elecciones del turista en el turismo termal.

Para ello se abordan los siguientes temas:

1) Análisis de las características percibidas de los destinos que influyen en la imagen de destino de salud y en la expectativa percibida de mejora de salud si se acudiera al destino, identificando aquellos atributos percibidos del destino relacionados con la salud (por ejemplo, salud pública y servicios de salud), y aquellas situaciones y escenarios percibidos del destino relacionados con el bienestar.

2) Estudio de la relación y la adherencia (*spillover*) entre las actividades de spa termales llevadas a cabo en la vida rutinaria del turista en origen y las elegidas en el destino, aplicando el Modelo de Creencias de Salud y la autoeficacia en salud, el estado de salud percibido y el beneficio percibido para la salud de los balnearios.

3) Análisis de la heterogeneidad de la disposición a pagar del turista por la distancia interpersonal en los spas termales, investigando además la influencia del estado percibido de salud, valores de salud, características del destino, variables sociodemográficas y el perfil del turista en relación al consumo de productos de turismo de salud.

Estos temas plantean tópicos relevantes y de actualidad en los campos del turismo y de la salud. El objetivo final de esta tesis es el de contribuir a la comprensión de las percepciones, del comportamiento y de la elección del turista en relación a los destinos, a las experiencias turísticas y a las variables personales de salud, empleando un enfoque interdisciplinar en donde se adaptan conceptos y métodos propios de la investigación de ambas disciplinas: turismo y salud.

Objetivos y resumen de cada capítulo

El primer capítulo, *"Health destination image: The influence of public health management and well-being conditions"*, estudia la representación mental de los destinos creada a partir de un set de atributos relacionados con la salud y el bienestar. Los estudios de imagen de destino forman un parte importante del corpus de la investigación científica en turismo (Galvagno & Giaccone, 2019). No obstante, existe un vacío de investigación de la relación de la imagen con los atributos percibidos del destino vinculados a la salud y el bienestar. Además, el análisis del turismo de salud en relación con los destinos es un *hot topic* de investigación en turismo (Ávila-Robinson & Wakabayashi, 2018). Por otro lado, la imagen de destino tiene influencia sobre las expectativas del turista en relación a los resultados preconcebidos que este tiene antes de viajar al lugar. No existe evidencia empírica de cómo la imagen de destino relacionada con la salud puede influir en las expectativas que los turistas tienen acerca de la influencia percibida del destino sobre su salud, siendo este conocimiento importante porque las

expectativas afectan la evaluación del turista, su nivel de satisfacción con el destino y su comportamiento futuro (Wang et al., 2016).

Este capítulo estudia estos fenómenos, estableciendo un marco hipotético basado en teorías y estudios de las disciplinas del turismo y de la salud, y demostrando estas hipótesis de manera empírica utilizando métodos mixtos de investigación. La aportación de la disciplina del turismo al marco conceptual del artículo se basa en el corpus de investigación de la imagen de los destinos turísticos (Beerli & Martín, 2004). En particular en la explicación de la imagen turística apoyada en los atributos cognitivos y afectivos de los destinos que conforman la imagen mental percibida del lugar de vacaciones, y cómo a su vez estos factores influencian las expectativas de los turistas con respecto al destino. En base a una profunda revisión bibliográfica se extractaron aquellos atributos cognitivos del destino usados en la bibliografía científica de imagen de destino.

Por otro lado, para seleccionar, adaptar y validar los ítems provenientes de la investigación turística de imagen de destino al tema de investigación se utilizaron marcos teóricos y empíricos de las ciencias de la salud (psicología ambiental y salud pública) relacionados con la salud percibida de un lugar. A este respecto las teorías *Attention RestorationTheory (*Kaplan, 1995) y *Therapeutic Landscape* (Gesler, 1992) explican los efectos beneficiosos percibidos que ciertos ambientes y condiciones de los lugares tiene sobre la salud y el bienestar. Este marco conceptual sirvió para sustentar la adaptación de los atributos cognitivos de imagen de destino generales en el análisis de la imagen de un destino saludable, y su influencia en las expectativas de salud percibidas sobre un destino en particular. Esta concepción integrada de los factores cognitivos relacionados con la salud se refuerza además con el marco teórico y conceptual del Modelo Socio-ecológico de Salud (Stokols et al., 1996), que establece que los factores medioambientales y sociales de una situación o emplazamiento pueden ser caracterizados en aquellas percepciones de los sujetos que evalúan a los lugares como saludables, y que están influenciados a su vez por aspectos tales como la calidad medioambiental, la seguridad o la gestión de la salud pública (Stokols, 2018). Se establecieron de esta manera una serie de hipótesis que explicarían la imagen de un destino saludable en los turistas, así como su expectativa de salud si se acudiera al mismo. Para comprobar empíricamente estas hipótesis se llevó a cabo un estudio en turistas internacionales de tres países europeos, aplicando una metodología mixta de diseño *menos dominante-dominante*. La parte cualitativa del trabajo consistió en focus groups con turistas de vacaciones en la isla de La Palma (Islas Canarias), mientras que en la parte cuantitativa se utilizó un cuestionario en una muestra en origen (España, Reino Unido y Alemania), usando modelos de ecuaciones estructurales para el análisis de los datos. La combinación de métodos cuantitativos y

cualitativos proporcionan un mejor soporte para los resultados, aumentando la calidad y la validez del estudio (San Martín & Rodríguez del Bosque, 2008). Además, la metodología mixta ha sido propuesta en la literatura científica para reflejar mejor la complejidad de la imagen de destino (Baloglu & Mangaloglu, 2001; Choi et al., 1999; Echtner & Ritchie, 1993).
Los resultados obtenidos en este capítulo confirman la influencia de la dimensión de la imagen que agrupa los factores cognitivos del destino relacionados con atributos de la salud y la salud pública, sobre la dimensión que engloba las percepciones relacionadas con el bienestar en el destino, y como a su vez estas dos dimensiones condicionan la imagen afectiva de un destino saludable y las expectativas de salud al acudir al lugar de vacaciones.

Una vez estudiada la imagen de destino de salud y las expectativas de la salud de un destino de una manera genérica, la tesis aborda el análisis del comportamiento de la demanda turística en las experiencias del turismo de salud. Para ello se estudian variables personales de salud, medidas de salud pública y las percepciones que tienen los turistas del sistema sanitario y la gestión de la salud pública de los destinos, tomando el turismo termal como eje principal.
En el turismo termal (spas de aguas termales, también llamados balnearios) se dan una serie de circunstancias que lo hacen un elemento interesante para el estudio integrado de la relación del turismo y la salud. Por un lado, son instalaciones en donde el elemento principal es el agua termal, pero que pueden ofrecer una gran variedad de servicios que abarcan casi todo el rango de las experiencias características del turismo de salud, que se asientan en el continuo *wellness-illness* o salud-enfermedad (Fyall et al., 2013). En el spa termal se pueden encontrar tratamientos médicos y revisiones médicas, pasando por servicios wellness (yoga, meditación, masajes, etc) o dietas especiales, pero también servicios de belleza y relax (Smith & Puczkó, 2016). Además, los spa termales tienen un importante componente de turismo sostenible al utilizar fuentes geotermales, encontrarse en lugares de alto interés natural y cultural, y estar asociados muchas veces a proyectos de desarrollo local de turismo sostenible (Lebe, 2006; Neto de Carvalho, 2014; Borović & Marković, 2015; Chaminé & Gómez-Gesteira, 2019; Smith & Wallace, 2019; Diekmann et al., 2020). El turismo asociado a las fuentes termales está relacionado con los orígenes del turismo (Weisz, 2011) y es aún hoy en día uno de los fundamentos sobre los que se sustenta una parte importante del desarrollo turístico de muchos destinos (Deng, 2007; Garín-Muñoz, 2009; Lee & King, 2010; Huijbens, 2011; Dubois & Barbosa, 2018; Kurata & Ohe, 2020). Por otro lado, la evidencia en el campo de la salud sugiere que el uso de baños geotermales contribuye al bienestar de los usuarios y a la salud general de la comunidad local y visitante, a través de algunos efectos directos sobre la salud y a la promoción de hábitos saludables (Rapolienė et al., 2015). Los spas termales son lugares

idóneos para combinar educación sanitaria, chequeos médicos, tratamientos y ocio, aumentando la salud de la población de manera holística e integradora (Clark-Kennedy & Cohen, 2017).

A este respecto, el segundo capítulo, "*Home-destination spillover effects in health behavior in tourism: health self-efficacy and perceived therapeutic benefits"* tiene como objetivo principal el analizar hasta qué punto los turistas que cuidan su salud usando baños termales en su lugar de residencia hacen lo mismo en el destino, y qué variables de salud personal y creencias de salud pueden explicar este fenómeno de difusión (*spillover*) del comportamiento del hogar hacia las vacaciones (Sthapit & Björk, 2017). La investigación en turismo evidencia que una de las principales motivaciones del turista para viajar a un destino es escapar de la rutina diaria y experimentar nuevas experiencias (Iso-Ahola, 1982). Sin embargo, algunos investigadores han encontrado que en ocasiones hay una correlación positiva entre las actividades y el comportamiento llevado a cabo en el hogar y en vacaciones (Lee et al., 2014). Existe muy poca investigación empírica en el análisis de este fenómeno en general y un vacío de investigación en el estudio de este hecho en turismo de salud en particular. Para contribuir a llenar este vacío, esta tesis analiza el *spillover* hogar-destino en turismo termal y su relación con el modelo Creencias de Salud (Rosenstock et al., 1988), la Teoría Social Cognitiva y la autoeficacia (Bandura, 2001), y la salud auto-percibida. Existe amplia evidencia científica en el campo de la salud sobre el papel jugado por los beneficios percibidos de ciertas terapias o comportamientos y por la autoeficacia en salud en la adherencia de los sujetos a los planes de tratamientos y a los hábitos saludables. En consecuencia, en este capítulo se plantea la hipótesis de que existe un efecto *spillover* entre las actividades de baños termales en origen y en vacaciones y que este fenómeno se puede explicar en parte por las percepciones que los turistas tienen sobre su competencia de manejar efectivamente su salud, su estado de salud percibida y las percepciones de que los baños termales son beneficiosos para su salud.

El conocimiento de estos factores es importante tanto desde el punto de vista del marketing turístico como desde la óptica de la salud pública y la promoción de la salud. En el marketing de servicios la autoeficacia incrementa la percepción del valor del servicio (McKee et al., 2006), aumenta la participación en la co-creación del mismo (Xie et al., 2008) y permite que a su vez el servicio sea promocionado como un medio para aumentar la autoeficacia del usuario (*'You can do it, we can help'*) (Park & John, 2014, p 245). Por otro lado, en el campo de la salud el modelo de creencias de salud y la autoeficacia en salud han mostrado ser predictores consistentes del mantenimiento de comportamientos saludables y la adherencia a los tratamientos, siendo además cruciales en la superación de las barreras que puedan interferir en

estos comportamientos y en el seguimiento de las recomendaciones sobre salud (Holmes et al., 2014). Además, tanto las creencias de salud como la autoeficacia son factores motivacionales que puede mejorarse mediante técnicas de marketing, intervenciones o programas (Yim et al., 2012; Young et al., 2020; Warner & French, 2020). El segundo artículo de la tesis contribuye a estos aspectos de salud pública y de comportamiento en turismo, demostrando empíricamente que existe el *spillover* hogar-destino en las actividades de turismo termal y que el modelo de Creencias de Salud y la autoeficacia percibida en salud ayudan a entender este fenómeno.

Una vez demostrado el *spillover* de comportamiento entre el hogar y el destino en turismo termal y la influencia de las variables personales de salud y las creencias de salud, se planteó en el desarrollo de la investigación la conveniencia de estudiar la variabilidad de preferencias de elección de los turistas por la distancia interpersonal en el spa termal. El tercer capítulo de la tesis, "*Heterogeneity of tourists´ preferences for interpersonal distance in thermal spas"*, aborda este objetivo analizando la heterogeneidad de la disposición a pagar por la elección del nivel de aglomeración (*crowding*) en instalaciones termales por parte de los turistas internacionales, así como la relación de estas preferencias con atributos del destino, percepciones personales de salud, la valoración de la salud, factores socioeconómicos y el perfil de turista de salud.

La distancia interpersonal se define como la distancia física que los individuos eligen mantener entre ellos mismos y otras personas mientras interactúan (American Psychological Association, 2020). El análisis de la distancia interpersonal y su relación con los servicios que se ofertan en un spa termal es de gran importancia. Por un lado, desde la óptica de la gestión en turismo, el factor del *crowding* es relevante ya que influye en la experiencia turística (Jin & Pearce, 2011), siendo los spas unos servicios turísticos en los que la distancia interpersonal es especialmente importante en la valoración de esta experiencia (Lagrosen & Lagrosen, 2016). Además, es un determinante esencial para mantener el balance entre el número de turistas en un espacio determinado y el beneficio económico (Cohen & Bodeker, 2009). Por otro lado, como la situación derivada de la pandemia de Covid-19 ha mostrado de nuevo, la alta densidad de individuos es un factor primordial en la diseminación de enfermedades infecciosas. Mantener la separación entre individuos es una medida de salud pública que pertenece a las intervenciones personales voluntarias no farmacéuticas (Bell et al., 2006), aplicada por la OMS en otras epidemias y pandemias que también afectaron al turismo - aunque a menor escala - antes de la Covid-19 (Kuo et al., 2008; SteelFisher et al., 2012). Además, el spa es un lugar en donde el riesgo de transmisión de enfermedades infecciosas se incrementa debido a la unión de la transmisión aérea y la transmisión por el agua (Bonadonna & La Rosa, 2019). Por ello, el

análisis de los factores que condicionan la elección de la distancia interpersonal de los turistas en el spa termal es crucial para comprender el delicado equilibrio que existe entre beneficio económico, la satisfacción de los turistas y el control de las enfermedades infecciosas en el ámbito del turismo de salud.

Para contribuir a llenar el vacío de investigación existente en este tema, este capítulo estudia la disposición a pagar por los turistas por el aumento de la distancia interpersonal, relacionando estas preferencias con las elecciones que hacen los turistas de determinados servicios de turismo de salud, así como con variables personales de salud y percepción de los destinos. Además, otros objetivos de la investigación son conocer la heterogeneidad de las preferencias de los turistas por el aumento de la distancia interpersonal y aportar a la literatura científica sobre metodología de la investigación de los experimentos de elección discreta en turismo.

Para conseguir estos objetivos, en este capítulo se lleva a cabo un experimento de elección discreta (Louviere et al., 2000), en donde se usan simulaciones de situaciones de elección realistas. Se presentan a los encuestados diferentes situaciones con alternativas de un paquete de experiencias turísticas en un spa termal, en las que varían los niveles de los atributos objetos de la investigación (distancia interpersonal, tiempo, otros servicios, destino y precio), y en donde el encuestado elige una sola de estas alternativas posibles en cada escenario de elección. Para mejorar de manera significativa el análisis de los datos y los resultados (Lancsar et al., 2017), se utilizaron dos modelos de elección: una variante del Generalized Multinomial Logit Model (G-MNL-II) (Fiebig et al., 2010) y el Mixed-Mixed Multinomial Model (MM-MNL) (Keane & Wasi, 2013). Los resultados de este capítulo indican que existe heterogeneidad en la disposición a pagar por el aumento de la distancia interpersonal de los turistas en el spa termal, que varía dependiendo de los metros de la separación y según los segmentos de turistas definidos por el tipo de turista de salud, variables sociodemográficas y de salud, y percepciones del destino. En general, se demuestra que los turistas wellness tienen una alta disposición a pagar por mayores niveles de distancia interpersonal, con muy poca heterogeneidad en el nivel más bajo de incremento de la distancia social. Existe un segmento de turistas de salud “médicos” que sólo están dispuestos a pagar una cantidad mayor y muestran más intensas preferencias en el caso de que exista la mayor distancia interpersonal ofrecida. Además, este capítulo de la tesis aporta evidencia empírica a la metodología de la investigación en turismo, demostrando que el uso de modelos de elección discreta alternativos que reflejen la heterogeneidad de los individuos mejora significativamente la interpretación de los datos.

En la última sección de la tesis se incluyen las conclusiones principales, así como las contribuciones e implicaciones. Finalmente se sugieren algunas limitaciones y futuras líneas de investigaciones

Conclusiones

En esta tesis ha evidenciado que los turistas tienen percepciones y expectativas en relación a la imagen de un destino saludable, así como diferentes patrones de difusión de comportamiento entre el destino y lugar de residencia y elecciones heterogéneas de la distancia interpersonal en turismo termal.

Las principales conclusiones del primer capítulo son:

1. La imagen de un destino saludable y las expectativas percibidas por los turistas sobre la mejora de la salud en el destino están influenciadas por dos dimensiones: i) factores percibidos naturales y sociales relacionados con la salud y ii) situaciones y escenarios percibidos relacionados con el bienestar.
2. La dimensión de bienestar (ii) incluye aquellas experiencias asociadas con el destino por las que el turista anticipa ideas de un destino saludable en su mente, como son la oferta de actividades en la naturaleza, gastronomía y culturas locales, paisajes con capacidades terapéuticas y la amabilidad de los residentes.
3. A su vez, la percepción de esta dimensión de bienestar está influenciada por la dimensión (i) que agrupa los factores del entorno natural y social que están relacionados con la salud, tales como el sistema de salud para turistas y residentes, la posibilidad de contraer enfermedades infecciosas, la gestión del medioambiente y la accesibilidad.

Los turistas perciben como saludables aquellos destinos en donde los sistemas de salud están integrados con los servicios turísticos. Por ello, para proyectar una imagen de destino saludable completa debe existir colaboración estrecha entre los agentes del destino involucrados de los campos de la salud y el turismo, ya que el turista integra de manera holística los atributos que forman la imagen de destino saludable, más allá de la experiencia turística específica. Esto tiene importantes implicaciones para el desarrollo de las estrategias de marketing del destino, y para inducir a la participación de los agentes del turismo en políticas de salud de los destinos que beneficien a visitantes y habitantes.

Las principales conclusiones del segundo capítulo son:

1. Los turistas que usan los servicios de spa termal en origen tienen una gran probabilidad de realizar la misma actividad en el destino, lo que demuestra el efecto *spillover* hogar-destino en el turismo termal.
2. La probabilidad de tomar baños termales en el destino aumenta con la eficacia percibida sobre la mejora de la salud debida a los baños termales.
3. La probabilidad de tomar baños termales en el destino aumenta también con una mayor competencia de salud percibida (autoeficacia en salud).
4. El nivel de *spillover* de la actividad de spas termales entre hogar-destino aumenta con el incremento de la competencia en salud percibida (autoeficacia en salud) y con la creencia de que los baños termales son eficaces para mejorar la salud.

Estas conclusiones tienen importantes aplicaciones prácticas en marketing turístico y en la promoción de la salud individual y de las medidas de salud pública. Se pueden crear sinergias que beneficien tanto a las empresas turísticas y habitantes del destino, como a los servicios y la promoción de la salud en origen. La competencia percibida en salud y los beneficios percibidos de los baños termales son creencias que pueden ser modificadas con programas específicos dirigidos a los turistas en origen y destino. Con esto se aumenta el *spillover* del uso de estos servicios entre origen y destino, además de lograr que aumente la co-producción de los mismos por parte de los turistas y su satisfacción final. Además, el aumento de la autoeficacia en salud hace que los individuos lleven a cabo más eficientemente las acciones relacionadas con la salud y con el control de la pandemia de la Covid-19 en turismo - que se requieren en origen y destino - sin disminuir significativamente su bienestar y su satisfacción.

Las principales conclusiones del tercer capítulo son:

1. En general, los turistas tienen preferencias positivas por los atributos de spa termales en los destinos turísticos, incluidos aquellos relacionados con el aumento de la distancia interpersonal.
2. Existen varios segmentos o clases de turistas con diferentes preferencias. El segmento de turistas wellness, de mayor tamaño, valora los atributos de los termal spa en los destinos turísticos, existiendo poca heterogeneidad en las preferencias por un aumento de la distancia social de nivel medio, en relación a un mayor aumento de distancia, en donde la variabilidad de la disposición a pagar es mayor y más heterogénea. El segmento de turistas médicos no está tan interesado en viajar a los destinos turísticos para disfrutar de los beneficios que resultan de los spa termales. Además, dado que la

investigación se dirigió a una muestra de población general, se encontró otro pequeño segmento de individuos sin preferencias por el turismo de salud y bienestar.

3. Los resultados demuestran que existe un margen fundamentado para aumentar los precios de los servicios de los spa termales con el fin de atraer aquellos turistas que tienen tanto una mayor disposición a pagar como mayores preferencias por el aumento de la distancia interpersonal, reduciendo así los riesgos de enfermedades infectocontagiosas y aumentando la satisfacción del turista en la experiencia wellness.

Desde una perspectiva de la gestión turística, estos hallazgos tienen implicaciones para evaluar los intercambios potenciales entre el espacio de las instalaciones, los beneficios económicos y la satisfacción del turista en el spa termal. Además, desde la óptica de la gestión de la salud, los resultados son relevantes para la aplicación de políticas de salud pública dirigidas a contener pandemias como la COVID-19 y reducir los riesgos de brotes infecciosos. El presente trabajo también contribuye a la metodología de la investigación de la variabilidad de las preferencias en el turismo de salud y wellness, mediante la utilización de métodos indirectos que van más allá del uso tradicional de las escalas Likert. Además, contribuye a la literatura científica disponible sobre la importancia de utilizar enfoques flexibles y más avanzados de modelos de análisis de las elecciones discretas, que permiten considerar las respuestas lexicográficas y la elección de exclusión voluntaria (opt-out) o status quo, que no se pueden detectar en los modelos estándar.

Finalmente, se presentan algunas limitaciones de esta tesis y futuras líneas de investigación.

La investigación está basada en un estudio transversale a una muestra de turistas internacionales de tres países europeos. Por ello, sería necesario realizar estudios longitudinales que ampliaran la muestra a turistas de otros países. Un estudio longitudinal ayudaría a explicar mejor la relación entre las dimensiones de la imagen de destino saludable, y el aumento de la muestra mejoraría la validez de los resultados. Por otro lado, en el estudio del *spillover*, sería conveniente realizar estudios combinados de comportamientos de consumo con seguimiento real en destino y en origen, para entender mejor los patrones de la adherencia y diferenciar el comportamiento de aquellos turistas que solo acuden al spa termal en vacaciones. Además, se debería profundizar en la investigación de otros productos de turismo de salud, sobre todo en el turismo médico, extendiendo la investigación más allá de los chequeos médicos preventivos. Sería necesario mejorar el diseño del experimento de elección, para poder diferenciar las elecciones de las alternativas debidas a cuestiones lexicográficas, y

ajustar mejor la medición del bienestar y la satisfacción del turista mediante la disposición a pagar.

Se proponen las siguientes líneas de investigación futuras:

1. Realizar estudios longitudinales y prospectivos sobre imagen de destino saludable, en origen y en destino, aumentando el alcance de la muestra.
2. Profundizar en la investigación longitudinal de los temas de la tesis en relación a variables de salud específicas, tales como mediciones validadas de calidad de vida asociada a la salud y su relación con el análisis empírico y validado del bienestar.
3. Estudiar la relación entre el turismo estándar y de salud con respecto a la mejora de la salud en colectivos especiales, tanto de turistas como de población local, (personas con discapacidad, población anciana, enfermos crónicos, etc.), así como la relación del turismo de salud con el turismo social.
4. Investigar los modos de sinergia, cooperación y gobernanza entre las organizaciones turísticas del destino y las organizaciones sanitarias de destino y origen.
5. Aplicar metodologías tales como experimentos de elección discreta con ecuaciones estructurales o el análisis de redes, para integrar mejor las variables asociadas al destino en relación al turismo y la salud
6. Expandir la investigación de la autoeficacia en salud y el turismo, desarrollando y validando una escala específica.

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INTRODUCTION

The main objective of this thesis is to study the destination image related to health, as well as tourists' behaviour and preferences in thermal tourism. In order to achieve these objectives, three chapters are presented. The first chapter studies the influence on the destination image of the attributes associated with health and well-being. The second chapter analyses health beliefs and perceived health self-efficacy as factors that explain the adherence of behaviour (spillover) between home and destination in relation to activities linked to health tourism (thermal spas). The third chapter studies variables related to the destination, the choice of health tourism products and personal aspects that have influence on the variability of tourists' preferences for the level of interpersonal distance in thermal tourism, an essential factor in public health and in the management of tourism services. This work addresses these research objectives from a multidisciplinary framework, integrating aspects of both health and tourism research. In addition, the methodological approach is diverse, employing quantitative techniques (structural equation model –SEM-, multiple logistic regression and discrete choice experiments) and mixed methodology (integrating SEM with qualitative analysis of focus groups). With this research, a better understanding of the interrelationships between attributes of destinations, personal health factors, behavioural variables and preferences for interpersonal distances and different experiences of health tourism is reached. The results of this study are useful for companies and destination management organizations (DMO) in tourism destinations, as well as for public health and health promotion agencies, both at tourists' places of residence and at destinations. In addition, the third chapter contributes to the methodology of tourism research by providing empirical evidence of the convenience of using various models in choice experiments, in order to refine the data and better interpret tourist's choices heterogeneity.

Introduction

In 2019, tourism experienced an annual growth of 3.5%, surpassing the global growth of the economy by about one point for the ninth consecutive year. Since 2014, one in four new jobs has been created by the sector. In 2019 one in 10 jobs in the world was due to tourism and 10.3% of global GDP was a direct consequence of tourism activity (WTTC, 2020, b). Tourism contributes significantly to the creation of wealth and employment; however, there are researchers who suggest that the impact of the sector on the economic

and social (and therefore, health) sustainability of destinations should be reconsidered (Nepal et al., 2019).

In January 2020, the World Tourism Organization forecasted a growth of 3% to 4% in international tourism arrivals in 2020, despite the uncertainty factors derived from Brexit, international tensions and the global decline in the economy (UNWTO, 2020, b).

However, the Covid-19 pandemic has meant that the period from January to October 2020 translates into a loss of 730 billion dollars in export earnings due to international tourism, which means more than 8 times the loss due to the global economic crisis of 2009. If current conditions do not improve, the arrival of international tourists at a global level is expected to decrease by 73%, with a 45% drop in domestic tourism, which would mean a decrease in GDP due to travel and tourism by 53% (WTTC, 2020, a). If the evolution of the global health crisis is favourable, most of the experts on the UNWTO panel believe that to reach the pre-pandemic levels of 2019, it would be necessary to wait until 2023 (UNWTO, 2020, a).

The Covid-19 pandemic has shown, on the one hand, the importance of tourism in world's economy and, on the other hand, the relevance of the relationship between factors associated with health and tourism, as well as the importance of public health and people's health habits at places of residence and at destinations. One of the main strategies that destinations would apply to recover tourist activity in the pandemic and post-pandemic periods are based on protocols and campaigns directly related to public health: certificates that ensure the necessary hygiene measures, control of health risk factors , safe corridors between countries and protection of the local population (UNWTO, 2020, a).

These measures are intended to recover tourists' levels of confidence (Fong et al., 2020). In this sense, it is assumed that tourist's behaviour patterns are going to be affected by appreciations of health and psychological risks that will make it necessary for DMOs, companies and health agencies to adapt products and standards, giving greater importance to public health measures and epidemiological issues (Li et al., 2020). Some researchers suggest that the crisis will lead to a critical reconsideration of the growth model of tourism and modes of travel, based on the principles of the Sustainable Development Goals (SDGs) (Gössling et al., 2020). In addition to aspects purely environmental, other socioeconomic factors related to the public health of the destinations that affect residents and tourists should be taken into account.

The global health crisis due to SARS-CoV-2 has highlighted the importance of the relationship between public health, health systems and tourism. As commented before, one of the objectives of this thesis is to contribute to the knowledge of the influence on the destination image of those factors of the places associated with public health and well-being, and that can also influence tourists' health expectations associated with destinations.
The review of the scientific health literature suggested that there were factors directly related to the attributes of the places that influenced health and well-being, and that could explain the perceived image of a destination in relation to health. It was also evident that there was a research gap on this topic. The Covid-19 pandemic has contributed to reinforcing the relevance of addressing the issues raised in this work.
Another aspect that motivated this thesis was to study another gap in tourism research: the relationship of health tourism with the factors mentioned above and with some behavioural variables based on theories of health promotion, public health and the perceived health status. In addition, due to the important implications in tourism management and public health, there was also a need to fill the existing research gap in the analysis of how health-related variables can condition the acceptance of crowding by tourists, taking as a case study the design of tourist experiences related to thermal tourism and the choice of services offered in these facilities.
Although the different definitions of health tourism may vary slightly with some nuances (Mueller & Kaufmann, 2001; Garcia-Altes, 2005; Erfurt-Cooper & Cooper, 2009; Heung et al., 2010; Voigt et al., 2011; Connell , 2013; Hall, 2013; Smith & Puczkó, 2014; Loh, 2015; Han et al., 2018; Dryglas & Salamaga, 2018; Gabor & Oltean, 2019), all agree that health tourism is one that contributes to tourists' physical, mental and spiritual health, who for their holidays go to specific destinations, companies and centres for this purpose, this being the primary or secondary motivation for travelling. The term health tourism is a conceptual umbrella that encompasses wellness tourism and medical tourism. Medical tourism involves travelling outside the habitual residence for the use of health services based on medical evidence, which include diagnosis, treatment, cure, prevention and rehabilitation. On the other hand, wellness tourism refers to those tourist activities related to proactive preventive attitudes to improve health through lifestyle, such as healthy diet, relaxation, care and alternative treatments considered healthy (World Tourism Organization & European Travel Commission, 2018). In some tourist services both subtypes of health tourism overlap, being thermal tourism in mineral water spas, or mineral

springs spas, one of the most paradigmatic examples of this intersection between medical and wellness tourism (Speier, 2011; Smith & Puczkó, 2016).

The academic and business literature agrees on stating that health tourism is a sector with high growth (Radovcic & Nola, 2018). Marketing reports estimate that health tourism is an expanding sector, showing greater growth than general tourism (Mainil et al., 2017). This increase is highest in the wellness tourism subsector, where it is estimated that spending reached 639.4 billion dollars in 2017, with an annual growth of more than double the gross growth of general tourism. On the other hand, the thermal tourism sector has been growing by 5% annually from 2015-2017 (Global Wellness Institute, 2018). Income from health tourism in 2014 reached 34.2 billion Euros in the European Union (Mainil et al., 2017). This figure is important if we take into account that, for example, nautical tourism generated 28 billion Euros in the Union in 2017 (European Commission, 2017).

The scientific literature attributes this boom of health tourism to several facts. The aging of the population, the change in the health paradigm, the internationalization of medical services, the quality controls of international health services and the waiting lists in the countries of origin are some of the factors that would explain this upward trend (Carrera & Bridges, 2006; Smith & Puczkó, 2016; Sandberg, 2017). Some subsectors of health tourism contribute to the natural and socio-economic sustainability of the destination (Illario et al., 2019), this being the case of thermal tourism (Serbulea & Payyappallimana, 2012; Shortall & Kharrazi, 2017; Valjarević et al., 2017). In addition, some research indicates that some health tourism services are seen as favourable by the destination population as they influence their well-being (Suess et al., 2018), and that synergies could be created between health tourism and health services and public health systems of destinations, thus favouring tourists and residents' health (Hartwell et al., 2012). However, health tourism has also potential negative effects, such as the pernicious influence of medical tourism on destination's health systems, by requiring skilled labour that is withdrawn from services intended for the inhabitants (Ruggeri et al. , 2018), the acculturation and distortion of some traditional wellness tourism services (Nuttavuthisit, 2007; Kogiso, 2012), the lack of scientific evidence on alternative or allegedly novel therapies offered in some destinations (Zarzeczny & Caulfield, 2010), or the risk of contracting cross-border infections and the importation of resistant pathogens from destination to places of origin (Pavli & Maltezou, 2020).

In summary, based on the literature review and the derived hypotheses, this thesis aims to address two complementary approaches in which there is not much research. On the one hand, to study how the relationship between health and tourism influences the image that tourists have of a healthy destination and how this perception models their expectations; and on the other, the study of the behaviour of health tourism demand in relation to personal health and public health variables, taking thermal tourism as a case study. Thus, this work intends to carry out an interdisciplinary approach to the relationship between destination attributes, public health, perceived personal health status and other health aspects that condition the behaviour of choosing health tourism experiences, relevant topics in tourism and health that have received little attention despite its importance.

Justification

This thesis focuses on delving into that part of the interdisciplinary research gap that exists between tourism and health, which has to do with tourists' perceptions, behaviour and choices. The COVID-19 pandemic has made the integration of research between health and tourism sciences play a central role and it is now high on the agenda of organizations and academia. Analysing the factors associated with health and tourism from the perspective of health sciences helps to understand, in a more specialised way, the patterns of tourists' behaviour and choices. Furthermore, the use of methods and theoretical frameworks that have proven their validity in the health field increase the reliability of the results and give consistency to the theoretical foundation of tourism research and vice versa (Okumus et al., 2018). This thesis is supported by methods and theories that have been used in health promotion, public health and environmental psychology, disciplines of the health sciences with a marked interdisciplinary character (Orme et al., 2007), what facilitates their interaction with tourism.

On the other hand, approaching the research also from the perspective of tourism sciences allows health research to adapt to tourism frameworks in a solid way, facilitating the adaptation of the results to the specific fields of, for example, tourism marketing or destination image.

As previously mentioned, the results of this research have application in tourism and public health. The interdisciplinary approach of this work may favour a better understanding and adoption of the strategies and policies by the agents involved in both fields, since this

ambivalence has been taken into account in the development of this work in each of the steps of the thesis.

To achieve the objectives of the research and follow an adequate interdisciplinarity, this thesis is structured in three chapters. The first chapter analyses the image of a health destination and tourist's health expectations in relation to this image. The other two chapters delve into those factors that explain tourists' behaviour and choices in thermal tourism.

For this, the following topics are addressed:

1) Analysis of the perceived characteristics of the destinations that influence the health destination image and the perceived expectation of health improvement if the destination is visited, identifying those perceived health-related attributes of the destination (for example, public health and health services), and those perceived situations and scenarios of the destination related to well-being.

2) Study of the relationship and adherence (spillover) between the thermal spa activities carried out in the routine life of the tourist at origin and those chosen at the destination, applying the Health Belief Model and health self-efficacy, the perceived health status and the perceived health benefit of thermal spas.

3) Analysis of the heterogeneity of tourist's willingness to pay for interpersonal distance in thermal spas, also researching the influence of the perceived health status, health values, destination characteristics, sociodemographic variables and tourist's profile in relation to the consumption of health tourism products.

These issues raise relevant and current topics in the fields of tourism and health. The final objective of this thesis is to contribute to the understanding of tourist's perceptions, behaviour and choices in relation to destinations, tourism experiences and personal health variables; using an interdisciplinary approach where concepts and research methods from both disciplines - tourism and health - are adapted.

Objectives and summary of each chapter

The first chapter, *"Health destination image: The influence of public health management and well-being conditions",* studies the mental representation of destinations created from a set of attributes related to health and well-being. Destination image studies form an important part of the corpus of scientific research in tourism (Galvagno & Giaccone, 2019). However, there is a research gap in the relationship of the image with the perceived

attributes of the destination related to health and well-being. Furthermore, the analysis of health tourism in relation to destinations is a hot topic of research in tourism (Ávila-Robinson & Wakabayashi, 2018). On the other hand, the destination image has an influence on tourists' expectations in relation to the preconceived results that they have before travelling to the place. There is no empirical evidence of how the destination image related to health can influence the expectations that tourists have about the perceived influence of the destination on their health. This knowledge is important because expectations affect tourists' evaluation, their level of satisfaction with the destination and their future behaviour (Wang et al., 2016).

This chapter studies these phenomena, establishing a hypothetical framework based on theories and studies from tourism and health disciplines, and empirically demonstrating these hypotheses using mixed research methods. The contribution of tourism to the conceptual framework of the chapter is based on the research corpus of tourism destination image (Beerli & Martín, 2004). In particular, the explanation of tourism image based on the cognitive and affective attributes of destinations that make up the perceived mental image of the holiday spot, and how in turn these factors influence tourists' expectation regarding the destination. Based on a thorough literature review, those cognitive attributes of the destination used in the scientific bibliography of destination image were extracted.

On the other hand, theoretical frameworks and empirical findings of health sciences (environmental psychology and public health) pertaining perceived health of places were used to select, adapt and validate the items of tourism destination image to the research topic. In this regard, the theories Attention Restoration Theory (Kaplan, 1995) and Therapeutic Landscape (Gesler, 1992) explain the perceived beneficial effects that certain environments and conditions of places have on health and well-being. This conceptual framework served to support the adaptation of general destination image cognitive attributes in the analysis of the image of a healthy destination, and their influence on perceived health expectations about a particular destination. This integrated conception of cognitive factors related to health is further reinforced by the theoretical and conceptual framework of the Socio-ecological Health Model (Stokols et al., 1996), which establishes that the environmental and social factors of a setting or situation can be characterized in those perceptions of the subjects who evaluate the places as healthy, and who are in turn influenced by aspects such as environmental quality, safety or public health management (Stokols, 2018). In this way, a series of hypotheses were established in order to explain tourists' image of a healthy destination, as well as their health expectation if they travel to

the destination. To empirically test these hypotheses, a study was conducted with international tourists from three European countries, applying a mixed methodology of less dominant-dominant design. The qualitative part of the work consisted of focus groups with tourists who were on holidays on the island of La Palma (Canary Islands). The quantitative part consisted of a questionnaire applied to a sample of international tourists in their countries of origin (Spain, United Kingdom and Germany), using models of structural equations for data analysis. The combination of quantitative and qualitative methods provides better support for the results, increasing the quality and validity of the study (San Martín & Rodríguez del Bosque, 2008). Furthermore, the mixed methodology has been proposed in the scientific literature to better reflect the complexity of destination image (Baloglu & Mangaloglu, 2001; Choi et al., 1999; Echtner & Ritchie, 1993).

The results obtained in this chapter confirm the influence of the dimension that groups the cognitive factors of the destination related to attributes of health and public health, on the dimension that encompasses the perceptions related to attributes of well-being, and how in turn, these two dimensions condition both the affective image of a healthy destination and the expectations of health when going to a holiday spot.

Once the health destination image and the health expectations have been studied in a generic way, the thesis addresses the analysis of tourism demand behaviour in health tourism experiences. For this, personal health variables, public health measures and tourists' perceptions of the health system and the management of public health at destinations are studied, taking thermal tourism as a case study.

In thermal tourism (thermal water spas, also called spas) there are some circumstances that make it an interesting element for an integrated study of the relationship between tourism and health. On the one hand, they are facilities where the main element is thermal water, but which can offer a wide variety of services that cover almost the entire range of experiences characteristic of health tourism, which are placed on the wellness-illness or health-disease continuum (Fyall et al., 2013). At the thermal spa, tourists can find medical treatments and medical check-ups, wellness services (yoga, meditation, massages, etc.) and special diets, but also beauty and relaxation services (Smith & Puczkó, 2016). In addition, thermal spas have an important component of sustainable tourism by using geothermal sources, being in places of high natural and cultural interest, and often being associated with local development projects where sustainability and tourism are involved (Lebe, 2006; Neto de Carvalho, 2014 ; Borović & Marković, 2015; Chaminé & Gómez-Gesteira,

2019; Smith & Wallace, 2019; Diekmann et al., 2020). Tourism associated with hot springs is linked to the origins of tourism (Weisz, 2011) and is still today one of the foundations on which an important part of the tourism development of many destinations is based (Deng, 2007; Garín- Muñoz, 2009; Lee & King, 2010; Huijbens, 2011; Dubois & Barbosa, 2018; Kurata & Ohe, 2020). On the other hand, the evidence suggests that the use of geothermal baths contributes to users' well-being and local and visiting communities' general health, through some direct effects on health and the promotion of healthy habits (Rapolienė et al., 2015). Thermal spas are ideal places to combine health education, medical check-ups, treatments and leisure, increasing the health of the population in a holistic and integrative way (Clark-Kennedy & Cohen, 2017).

In this regard, the second chapter, *"Home-destination spillover effects in health behaviour in tourism: health self-efficacy and perceived therapeutic benefits"* has as main objective to analyse to what extent tourists who take care of their health using thermal baths at home do the same at the destination, and what variables of personal health and health beliefs can explain this phenomenon of diffusion (spillover) of the behaviour from home to places of holiday (Sthapit & Björk, 2017).

Tourism research shows that one of the main tourists' motivations for travelling to a destination is to escape from the daily routine and experience new experiences (Iso-Ahola, 1982). However, some researchers have found that there is sometimes a positive correlation between activities and behaviour carried out at home and on holiday (Lee et al., 2014). There is very little empirical research about the analysis of this phenomenon in general and a research gap in the study of this fact in health tourism in particular. To help fill this gap, this thesis analyses the home-destination spillover in thermal tourism and its relationship with the Health Beliefs model (Rosenstock et al., 1988), the Cognitive Social Theory and self-efficacy (Bandura, 2001), and self-perceived health status. There is ample scientific evidence on the role played by the perceived benefits of certain therapies or behaviours and by the perceived health self-efficacy in subjects' adherence to treatment plans and healthy habits. Consequently, in this chapter it is hypothesized that there is a spillover effect between the activities of thermal baths at home and on holiday, and that this phenomenon can be explained in part by the perceptions that tourists have about their competence to effectively manage their health, their perceived health status and the perceptions that thermal baths are beneficial to health.

Knowledge of these factors is important from the point of view of both tourism marketing and public health and health promotion. In service marketing, perceived self-efficacy increases the perception of the value of the service (McKee et al., 2006), encourages individuals' participation in its co-creation (Xie et al., 2008) and allows the service to be promoted as a means to increase user's self-efficacy (*'You can do it, we can help'*) (Park & John, 2014, p 245). On the other hand, in the field of health, the health belief model and health self-efficacy have been shown to be consistent predictors of the maintenance of healthy behaviours and adherence to treatments, being also crucial in overcoming barriers that may interfere in these behaviours and in following health recommendations (Holmes et al., 2014). In addition, both health beliefs and self-efficacy are motivational factors that can be improved through marketing techniques, interventions, or programs (Yim et al., 2012; Young et al., 2020; Warner & French, 2020). The second article of the thesis contributes to these aspects of public health and behaviour in tourism, demonstrating empirically that there is home-destination spillover in thermal tourism activities and that Health Beliefs model and perceived health self-efficacy help to understand this phenomenon.

Once the behavioural spillover between home and destination and the influence of personal health variables and health beliefs were demonstrated, the development of the research showed the convenience of studying the variability of tourists' choice preferences on interpersonal distance in thermal spas. The third chapter of the thesis, *"Heterogeneity of tourists´ preferences for interpersonal distance in thermal spas"*, addresses this objective by analysing tourists' heterogeneity of the willingness to pay for the level of crowding in thermal facilities, as well as the relationship of these preferences with attributes of the destination, personal perceptions of health, perceived health status, socioeconomic factors and health tourists' profile.

Interpersonal distance is defined as the physical distance that individuals choose to maintain between themselves and other people while interacting (American Psychological Association, 2020). The analysis of interpersonal distance and its relationship with the services offered in a thermal spa is of great importance. On the one hand, from the perspective of tourism management, crowding is relevant since it influences tourist's experience (Jin & Pearce, 2011), spas being tourism services in which interpersonal distance is especially important in the assessment of this experience (Lagrosen & Lagrosen, 2016). In addition, it is an essential factor to maintain the balance between the number of tourists in a given space and the economic benefit (Cohen & Bodeker, 2009).

On the other hand, as the situation derived from the Covid-19 pandemic has shown again, the high density of individuals is a primary factor for the spread of infectious diseases. Maintaining the separation between individuals is a public health measure that belongs to non-pharmaceutical voluntary personal interventions (Bell et al., 2006), applied by WHO in other epidemics and pandemics that also affected tourism - although on a smaller scale - before Covid-19 (Kuo et al., 2008; SteelFisher et al., 2012). In addition, the spa is a place where the risk of transmission of infectious diseases increases due to the union of airborne and waterborne transmission (Bonadonna & La Rosa, 2019). For this reason, the analysis of the factors that determine tourists' choices of the interpersonal distance in the thermal spa is crucial to understand the delicate trade-off between economic benefit, tourists' satisfaction and the control of infectious diseases.

To help fill the existing research gap on this topic, this chapter studies tourists' willingness to pay (WTP) for the increase in interpersonal distance, relating these preferences to the choices that tourists make of certain health tourism services, thus as with personal variables of health and perception of destinations. In addition, other objectives of the research are to know the heterogeneity of tourists' preferences for the increase in interpersonal distance and to contribute to the scientific literature on discrete choice experiments methodology in tourism.

To achieve these objectives, a discrete choice experiment is conducted in this chapter (Louviere et al., 2000), using simulations of realistic choice situations. Respondents are presented with different situations with alternatives of a package of tourist experiences in a thermal spa, in which the levels of the attributes object of the investigation vary (interpersonal distance, time, other services, destination, and price) and where the respondent chooses only one of these possible alternatives in each choice scenario. To significantly improve the analysis of data and results (Lancsar et al., 2017), two models of choice were used: a variant of the Generalized Multinomial Logit Model (G-MNL-II) (Fiebig et al., 2010) and Mixed-Mixed Multinomial Model (MM-MNL) (Keane & Wasi, 2013). The results of this chapter indicate that there is heterogeneity in the willingness to pay for the increase in the interpersonal distance in the thermal spa, which varies depending on the meters of separation and according to the segments defined by the profile of health tourist, sociodemographic and health variables, and perceptions of the destination. In general, it is shown that wellness tourists have a high WTP for higher levels of interpersonal distance, with very little WTP heterogeneity at the lowest level of social distance increase. There is a segment of “medical” health tourists who are only willing to

pay a higher amount and show more intense preferences in the case that there is the greatest interpersonal distance offered. Furthermore, this chapter of the thesis provides empirical evidence for tourism research methodology, showing that the use of alternative discrete choice models that reflect individuals' heterogeneity significantly improves data interpretation.

The last section of the thesis includes the main conclusions, as well as the contributions and implications. Finally, some limitations and future lines of research are suggested.

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CHAPTER 1

HEALTH DESTINATION IMAGE: THE INFLUENCE OF PUBLIC HEALTH MANAGEMENT AND WELL-BEING CONDITIONS

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CHAPTER 1

HEALTH DESTINATION IMAGE: THE INFLUENCE OF PUBLIC HEALTH MANAGEMENT AND WELL-BEING CONDITIONS

Abstract

This study proposes and tests a model that explains the formation of health-related destination image and its influence on tourists' expectations for improving their health when going to a destination. The model incorporates grounded theories related to environmental psychology, public health, sociology and health geography. The data was obtained from international tourists from the United Kingdom, Germany and Spain, surveyed in their source countries and by evaluating two alternative tourism destinations. The results show that two cognitive dimensions influence the healthy destination affective image: i) health-related environmental factors and ii) well-being resources and experiences. In addition, both cognitive factors and the affective destination image on health have a significant effect on the health improvement expectation of tourists planning to visit the destination. The results have implications for the management and positioning of those destinations focusing on health tourism.

Keywords: Health and Well-being; Public Health; Accessibility; Destination Image; Expectations; Social-ecological model

1. Introduction

The image of a tourism destination is defined as the mental representation of a destination created from a set of attributes. This image has great significance in tourism because it affects tourists' behaviour along their consumption process (Beerli & Martín, 2004a). It also precedes tourists' expectations 'because it moulds the expectations that the individual forms before the visit' (Bigné, Sánchez & Sánchez, 2001, p.609). Tourists' expectations are conceptualised as the preconceived perceptions of travel outcomes (Wang et al., 2016). Both destination image and expectations have an important influence on tourists' satisfaction, since this depends on the comparison of expectations with the actual experiences (Bigné et al., 2001).

There is a growing interest in the relationship between tourism and health (Filep, 2014), well-being (Hartwell et al., 2018; Smith & Diekmann, 2017) and quality of life (Dolnicar, Yanamandram & Cliff, 2012). It has been widely recognised that tourism can have a positive influence on human general health in several ways (Chen & Petrick, 2013; Strauss-Blasche et al., 2005). In certain groups and with specific activities, it even seems to improve physical health (Chang, 2014) and it is an important contributor to the perceived improvement of health in some social groups (Ferrer, Sanz, Ferrandis, McCabe, & García, 2016; McCabe, 2009). In addition, the expansion of the niche of health and wellness tourism is considered one of the megatrends of tourism (Smith & Puczko, 2014). In Europe, travelling for the purpose of wellness, spa or health treatments has become one of the main motivations for going on holiday for 13% of tourists, matching in importance the interest for activities related to sports (European Commission, 2015).

Health tourism is commonly divided in two subtypes of tourism, i.e. medical and wellness tourism. However, the different tourism products are commonly placed on a continuum following the proactive-reactive, prevention-treatment paradigms (Fyall, Hartwell & Hemingway, 2013). This paper focuses on the well-being (proactive) perceptions of health on destinations from a general tourist point of view, and not only from a health tourist perspective (World Tourism Organization and European Travel Commission, 2018). In addition, the study analyses the influence of the perceived public health and health care systems on the tourist image of a health destination.

Several studies have highlighted the importance of good sanitary conditions and well-preserved natural environments for the competitiveness of tourism destinations (Becken,

Jin, Zhang & Gao, 2017). Voigt & Pforr (2013) show that tourists usually relate certain characteristics and specific services of a destination (e.g. landscape and outdoor activities) with their experienced health and well-being. In most cases, these findings have been based on the assessment of tourism experts (e.g. Heung & Kucukusta, 2013; Page et al, 2017), and on studies of health and wellness tourists while visiting destinations (e.g. Medina-Muñoz & Medina-Muñoz, 2014).

Furthermore, the perceptions that people have of the therapeutic and restorative properties of places in which they live and/or might visit have been explained by several sociological and public health theories. For instance, the concept of therapeutic landscape refers to those landscapes where the physical and social environments are combined with human perceptions to create an atmosphere that may help healing in humans (Gesler, 2005). Similarly, Attention Restoration Theory (ART) (Kaplan, 1995) postulates that the recovery of attention capacity can be achieved by experiencing certain restorative qualities of places and environments. Lehto, Kirillova, Li & Wu (2017) conducted ART research on the restorative qualities of holiday destinations as perceived by a sample of Chinese university students.

Following the classification of destination image studies by Bigné et al. (2009) this paper focuses on the health image evaluation of tourism destinations and its influence on tourists' expectations about health. Despite their academic and practical relevance, and as far as the present authors are aware, there are no studies that analyse in an integrated way the attributes that create the image of a health destination in the tourist's mind. The empirical application compares the image perception and its influence on tourists' expectations for two alternative destinations specialising in health tourism. Therefore, this paper contributes to the conceptualisation of a health destination image and provides evidence on its crucial role in forming tourists' expectations about overall health when going to destinations. The comparative evaluation of two alternative health destinations also provides further insights on the site-specific effects of image formation and tourists' expectations (Pike, 2002).

2. Literature review

2.1. Perceived image and tourists' expectations

Tourists' perceptions of a destination are conceptualised in tourism through the construct of destination image, which is defined in literature as the subjective interpretations made by tourists of the characteristics of a particular destination (Bigné et al., 2009). There is a holistic and integrated perception of a destination in the tourist's mind (Choi, Chan & Wu, 1999; Chi & Qu, 2008), and there is no need to visit a destination in order to form an image about it (Cherifi, Smith, Maitland, & Stevenson, 2014). Researchers agree that perceived cognitive attributes influence the affective perceptions that tourists have of destinations, and that both of these integrate the destination image (Baloglu & Mangaloglu, 2001; Kock, Josiassen & Assaf, 2016). Affective and cognitive images have also an effect on the expectations that tourists have before the visit (Del Bosque & Martín, 2008) and on the preconceived perceptions of the travel outcomes (Wang et al., 2016). Thus, the concept of destination image has a relative nature, which is both subjective - since it is based on subjects' perceptions - and comparative - because the perceptions of an object are formed with respect to others (Gallarza, Saura, & García, 2002).

2.2. Manageable public health and health-related environmental factors in tourism destinations

Public health conditions of destinations have been shown to be important for a successful tourism development in many destinations around the world (Dwyer, Edwards, Mistilis, Roman & Scott, 2009). Thus, there can be relevant implications of public health for tourists' choices and destination image. From a global perspective (WHO, 2019), public health involves aspects such as health care services and emergencies, health promotion, the control of the risk of contracting infectious diseases, the elimination of barriers for the participation of all in tourist experiences and some aspects of the management of the natural environment (e.g. pollution, water or soil with chemical agents, agricultural methods, human-made ecosystem change or behaviour related to natural environment factors, such as physical activity fostered through natural parks) (Prüss-Ustün et al., 2016). All these can be considered human-made environmental factors that can be managed or modified at the destination (Bettcher, Sapirie & Goon, 1998).

Health services are defined by the World Health Organization (WHO) as all services dealing with diagnosis and treatment of disease, or the promotion, maintenance and restoration of health (WHO, 2017). The quality of health care services is one of the public infrastructures commonly included in cognitive destination image studies (Carter, 1998; Beerli & Martín, 2004a; Fakeye & Crompton, 1991). In addition, poor sanitary conditions and health services at a destination can negatively affect the tourist experience (Kim, 2014).

On the other hand, the risk of contracting a disease is one of the factors perceived by tourists as important when travelling to a destination (Lepp & Gibson, 2003). This risk has been growing because of the increase in international travel (Baker, 2015) while tourists have become more aware of the potential risks posing certain destinations (Rosselló, Santana & Awan, 2017; Wolff & Larsen, 2016). Further, the higher risk of infection observed in some destinations has caused a decrease in tourism demand (Blake, Sinclair & Sugiyarto, 2003; Cohen, 1988; Cossens & Gin, 1994; Donohoe, Pennington & Omodior, 2015; Rittichainuwat & Chakraborty, 2009). Therefore, the possibility of contracting an infectious disease is one of the perceived risks associated with the trip that has more influence on the process of choosing a destination (Dolnicar, 2005).

Tourism image studies have considered the environmental quality as another cognitive element of the overall image of destinations (Baloglu & Mangaloglu, 2001; Beerli & Martín, 2004b). The attributes related to the destination environment are often associated in these studies with aspects such as hygiene, safety, cleanliness, pollution and local infrastructures. For example, 'safe and secure environment, clean and tidy environment' (Chi & Qu, 2008), 'cleanliness and hygiene' (Bigné et al., 2009), 'unpolluted and unspoiled environment, standard hygiene and cleanliness' (Baloglu & Mangaloglu, 2001) or 'local Infrastructure, cleanliness and hygiene' (Echtner & Ritchie, 1993). Kim (2014) finds that the lack of cleanliness, safety and hygiene at a destination all generate negative memorable experiences.

Natural environment degradation matters to tourists because they consider it affects both residents and visitors' health. For instance, Becken et al. (2017), in a study of air pollution in China and its influence on destination image, find that air quality and hygiene were perceived as a risk and pollution affects the decision to visit the country because of the associated health hazard. In addition, Mihalič (2000) argues that perceived environmental quality of a destination influences the decision to travel, especially when there are perceptions of health risks due to air and water pollution.

The World Tourism Organization (WHO, 2011) emphasises that tourism destinations must be accessible to all, so that people with disabilities and special needs are also able to enjoy tourist experiences. In addition, accessibility contributes to the well-being of people with different needs, because they do not feel excluded from participation in the social phenomenon of tourism (Eichhorn, Miller & Tribe, 2013). The 'tourist destination for all' must comply with those aspects related to equity and equal access and opportunities, which are related to the social concept of disability (Buhalis & Darcy, 2011). The importance of accessibility in tourism is enhanced by the fact that it is estimated that 15% of the world population currently lives with some form of disability (Guralnik, Fried & Salive, 1996) and there are prospects of increasing disability across potential tourists, since according to WHO (2011) almost everyone will be temporarily or permanently impaired at some point in life.

2.3. Well-being settings and situations and destination management

Tourist destinations should enhance the well-being of tourists through the appropriate policies managing collective assets capable of providing services and satisfaction to tourists (Jamal & Getz, 1995). There are objective conditions of destinations that may provide perceived well-being to tourists. In this regard, research in health sciences shows that there are conditions in which subjects perceive an improvement in their well-being and overall health. For instance, Kaplan (1995) proposes the Attention Restoration Theory (ART) to explain the beneficial effects that certain environments may have on health. The directed attention fatigue has consequences on health, producing alteration of the ability to solve problems, affective and reflection disorders, impulsivity or irritability. Lehto et al. (2013; 2017) applied ART to analyse the perceived tourist destination restorative properties to improve well-being and health. Letho (2013) shows that the discord factor (i.e. confusion and chaos that a destination can create for tourists) may affect the restorative capacity properties of destinations. On the other hand, destination image studies have incorporated some aspects of restorative capacities as explanatory cognitive factors, such as 'everything is different & fascinating', 'restful and relaxing places' (Choi et al., 1999), 'relaxation' (Echtner & Ritchie, 1993) and 'exotic' (Beerli et al., 2004b). In ART research, natural environments have been the most studied scenarios regarding their ability to improve human well-being and health (Bowler, Buyung-Ali, Knight & Pullin, 2010).

There is evidence that activities in nature - e.g. 'entering the landscape rather than viewing it' (Frumkin, 2001, p.237) - can effectively influence health, and therefore are perceived by individuals as a way of improving the same (Brink et al., 2016; Grinde & Patil, 2009; Russell et al., 2013).

ART not only contributes to the explanation of the relationships between human health and nature (Hartig, Mitchell, de Vries & Frumkin, 2014), but also allows researchers to understand perceived restorative experiences in other settings (Pearson & Craig, 2014). For instance, it has been applied to the study of the perceived restorative properties of museums and gardens (Packer, 2014), monasteries and houses of worship (Herzog, Ouellette, Rolens & Koenigs, 2009), and shopping centres (Rosenbaum, Otalora & Ramírez, 2016). In tourism environments, it has been found that cultural landscapes and local culture enable tourists to appreciate the uniqueness and perceived authenticity of destinations (Kirillova, Fu, Lehto, & Cai, 2014), thereby enhancing the restorative capacities of the travel experience (Lehto et al., 2017). In this regard, the local gastronomy experience can be considered one of the elements of a destination's culture (Mak, Lumbers, Eves, & Chang, 2016) and of its tangible and intangible heritages (Rabbiosi, 2016). Therefore, it becomes an important component of tourists' perceived destination authenticity (Robinson & Clifford, 2012). That is, local food can be one of the stimuli that attracts tourists' attention, facilitating positive experiences that enhance tourists' perceived well-being and the perceived restorative capabilities of destinations (Chen, Scott & Benckendorff, 2017).

On the other hand, social dimension has been suggested as another key component of the restorative capacity of spaces and places (Scopelliti & Giuliani, 2004). The importance of the social context as a factor related to restorative settings seems to be more evident in urban areas (Staats & Hartig, 2004). In tourism research, residents' hospitality and kindness have been utilized as cognitive attributes in destination image studies (Gallarza et al, 2002), and a sound interaction between tourists and residents is considered an important factor for successful tourist destinations (Woosnam, 2010).

ART is not well known in the general health literature although provides an interesting concept for human health improvement (Berto, 2014). However, there have been environmental health literature reviews that have provide reliable evidence of perceptions in terms of reductions in self-reported anger, fatigue, anxiety and sadness, and an increase in feelings of energy (Hartig et al, 2014). Nonetheless, other health reviews have found

that there are few studies with the desired design features and it is unclear which aspects of attention may be affected by exposure to natural environments (Ohly Het al, 2016).

Another theory that explains the capacity of environmental settings to produce physical and mental well-being in humans follows from the concept of Therapeutic Landscape (Gesler, 2005). This theory has been applied to analyse the healing properties of places (e.g. spa, healing areas, natural landscapes, coasts, etc) in studies related to geography, health sociology and public health (Bell, Phoenix, Lovell & Wheeler, 2015; Williams, 2010). The conceptual framework of Therapeutic Landscapes is based on the healing elements found not only in nature but also in constructed and cultural environments. The theory is an extension of the application of the concept of cultural landscape in geography, as well as of the social construction of ideas and institutionalised practices (Gesler, 1992).

In the field of tourism, the landscape is included as a cognitive attribute in most studies of perceived destination image (Baloglu & McCleary, 1999, Chi & Qu, 2008, Gallarza et al., 2002). As is the case of ART, in the Therapeutic Landscape Theory the cultural and environmental components are inseparable (Menatti & Casado, 2016). The concept has been applied to the relationship between settings associated with culture and improvements in mental health, for example in libraries (Brewster, 2014). Both ART and Therapeutic Landscape postulate that there are spatial settings that promote human health and well-being, where social, affective and material resources are involved (Duff, 2011). In the literature related to health and well-being in tourism, aspects such as the landscape, local resources and activities in nature, are considered essential for the development of health and wellness destinations (Voigt & Pforr, 2013).

The socio-ecological model of health assumes that well-being and health are influenced by people's interaction with their physical and socio-cultural surroundings (Stokols, 1992). Thus, it can be a useful approach to study healthy activities at specific sites. Social and physical environmental factors of settings and situations can be characterised in terms of subjective human perceptions that are utilised to evaluate healthy places (Sallis et al. 2006). The application of the socio-ecological model has shown evidence that perceived environmental factors influence the motivations to undertake physical activities related to health and well-being (Booth, Owen, Bauman, Clavisi & Leslie, 2000; Parra et al.,2011) or the consumption of fruit and vegetable (Caldwell, Kobayashi, DuBow & Wytinck, 2009). Thus, the perceived health-related environment factors may influence tourists' perception of the well-being settings and situations of tourism destinations.

3. Hypotheses and proposed model

Based on the preceding discussion and on the theoretical, conceptual and empirical perspectives found in the literature review, the following hypotheses are proposed:

The well-being settings and situations are influenced by the environmental factors associated with health (health-related environmental factors) (H1).

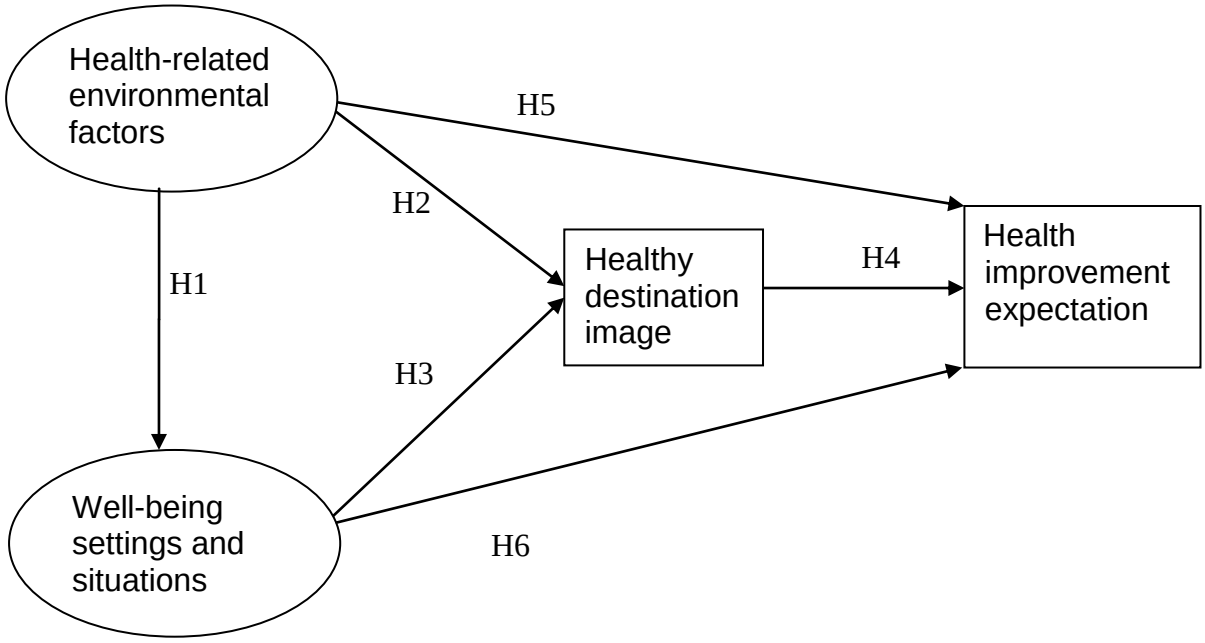
The affective destination image on health (healthy destination image) is influenced by the cognitive constructs: health-related environmental factors (H2) and well-being settings and situations (H3).

The preconceived perception of the health outcome if travelling to the destination (health improvement expectation) is influenced by healthy destination image (H4).

The health improvement expectation is influenced by the health-related environmental factors (H5) and the well-being settings and situations (H6).

These hypotheses and the proposed model are represented in Figure 1. The constructs 'health-related environmental factors' and 'well-being settings and situations' are cognitive dimensions of the destination image because they appraise the beliefs of individuals on specific attributes that characterize a destination (Beerli & Martín, 2004a), while 'healthy destination image' is an affective dimension of the destination image because it shows the feelings of tourists related to health at the destination (Baloglu & Brinberg, 1997).

Figure 1. Hypotheses



4. Methods

This study was carried out in two stages, following a mixed methods design. The combination of qualitative and quantitative methods provides better support for the findings and increases the quality, accuracy, validity and reliability of the study (San Martín & Del Bosque, 2008). Moreover, the need to combine both methodologies to capture the complexity of destination image has been suggested by several authors (Baloglu & Mangaloglu, 2001; Choi et al., 1999; Echtner & Ritchie, 1993). In order to explain the link of the two stages of the study approach, the contribution, sequencing and stages in the research process were delimited (Ritchie, Spencer & O´Connor, 2013). The data was collected in two sequential stages, following a *less dominant-dominant* design (Molina-Azorín & Font, 2016), where the emphasis was placed on stage 2 (quantitative). This design had two purposes: development (Molina-Azorín & Font, 2016) and confirm and discover (Bryman, 2006). The qualitative part helped to explore tourists' interpretation of the subject, facilitated the development of some hypotheses and allowed to improve the questionnaire used in the quantitative part of the research.

4.1. Stage 1: Qualitative study: Focus groups

In health and marketing research, focus groups have proved useful for obtaining primary qualitative data. Focus groups discussions are considered an effective method to elicit those subjects' attitudes and perceptions that become less accessible without the interaction that is created within a group (Sharpley & Jepson, 2011). Focus group sessions were carried out *in situ* in a destination different from those for which the quantitative study was conducted. The sessions were conducted with the participation of a randomly selected group of tourists ($n_1 = 8$, $n_2 = 6$, $n_3 = 6$), belonging to the three countries of origin analysed in this work (United Kingdom, Spain and Germany) and recruited in their place of stay by tourism professionals who were not involved in this research. Participants were not health and wellness tourists and they did not know in advance the subject of the discussions.

Focus groups were conducted in a tourism destination in the south of Spain. Focus group prompts were validated by experts in the fields of tourism and health sciences and tested before the sessions with subjects from other fields and interests. One of the authors is an experienced moderator and thus leaded the sessions. The other two authors took notes of all different aspects of the sessions (such as order of speakers or emerging key issues) and attended practical matters. All discussions were audio recorded after asking for participants' consent. Sessions followed the usual stages (opening and introductory questions, key questions and ending questions) and moderator's intervention was focused on ensuring interaction between the group members and to cover the relevant issues (Gibson & Brown, 2009).

4.1.1. Qualitative data analysis

All the audio-recordings were transcribed verbatim. The analysis of the qualitative data was carried out using an inductive approach, adding aspects based on the attributes most highlighted by the participants and the conceptual grouping of the elements that emerged spontaneously during the meetings (Puchta & Potter, 2004). Following the analysis matrix framework methodology (Ritchie, Spencer & O´Connor, 2013), thematic charts were created by assigning data to the different subjects or emergent categories, identifying recurring themes or ideas and constructing an index based on descriptive categories that remained close to the raw data without abstract classifications. Themes were analysed considering the order of emergence and applying content analysis in that part of the free-

ranging discussion where the respondents led the debate, after the moderator introduced the subject and asked open questions. Content analysis was conducted for the elicited opinions that arose due to direct moderator's interventions and the questionnaire evaluation. During the data analysis, researchers kept research questions in mind and practiced reflexivity constantly (Gibson & Brown, 2009). In order to improve validity, each of the authors created thematic charts and their relationships separately. To ensure similar interpretation of data, these analyses were put in common and debated by the authors.

4.2. Stage 2: Quantitative study

4.2.1. Scale and measurement instrument

After its validation and improvement in focus groups, the definitive questionnaire was translated to Spanish, English and German, using the double translation method (Brislin, 1986). In the destination image literature, there is no unanimity about the attributes of a destination that should be used in the measurement scale (Byon & Zhang, 2010). Therefore, for the assessment of the destination image, those attributes used both in previous destination image studies and health studies that could explain the hypotheses and the relationships of the constructs were selected. In order to develop the specific scales used in this study, these attributes were adapted based on the literature review and on the results of the qualitative study.

The measurement instrument for the cognitive image was a structured questionnaire with questions based on a 1 to 7-response Likert scale, reflecting the degree of agreement with the cognitive characteristics of a destination in which to enjoy health and well-being holidays. For the measurement of the affective destination image on health (healthy destination image), a single-overall answer was used in relation to the degree of agreement with the attribute healthy as a characteristic of each of the destinations. The preconceived perception of overall health improvement expectation if travelling to a destination was measured with a one-dimensional global question, which reads as follows: To what extent going to the following destinations would improve your health? Please, answer on a scale of 1 to 7, where 1 would mean that it 'wouldn't improve my health at all' and 7 that it 'would totally improve my health'.

4.2.2. Sample and data collection

The objective population of the quantitative study was formed by subjects of 18 years or more, who had travelled outside their country, and who resided in Germany, Spain and the United Kingdom. The survey work was carried out on-line in the countries of origin by a highly experienced professional company specialising in market research studies (n = 823). Respondents assessed the image perceptions of two destinations: Phuket (Thailand) and Pamukkale (Turkey), which are well recognised health destinations (Kogiso, 2012; Noree, Hanefeld, & Smith, 2016; Yuksel, Bramwell & Yuksel, 1999; Whittaker & Chee, 2015).

4.2.3. Quantitative data analysis

To test the hypotheses of the model, a structural SEM path model (Amos 24) was analysed following a commonly utilised two-step technique (Kline, 2011). In a first step, an exploratory factor analysis (EFA) was undertaken (method of the main component with varimax rotation). Despite the fact that there is important empirical and theoretical basis on destination image that would obviate the EFA (Bollen & Noble, 2011; Byon & Zhang, 2010), it was incorporated to explore the specific dimensions of health destination image (Deng & Li, 2014). In this step, those variables with a factorial load less than 0.50 and those that shared cross-loads with more than one factor were eliminated (Chen & Phou, 2013). A new EFA was then performed to confirm the stability of the factors. In addition, a confirmatory factor analysis was carried out to test the behaviour of the variables of the model and to check the discriminant capacity of the constructs (Weston & Gore, 2006). Finally, a structural path model analysis was conducted to check the formulated hypotheses.

5. Results

5.1. Qualitative study

Focus group sessions allowed the evaluation and improvement of the quantitative questionnaire, adapting the attributes of the destination image questionnaire to health and improving wording and sentences. Moreover, together with the theory of the socio-ecological model of health and the literature on perceived environment influence on

healthy activities (Duncan et al., 2005), focus group discussions helped to develop the hypothesis which states that well-being settings and situations are influenced by health-related environmental factors (H1). Representative statements included the following:

> (The destination) itself is a health and wellness service if you like, as an island. After one week, you will feel fresher... (but) basic healthcare is important, I'd be worried about going somewhere where there isn't health care, here there are pharmacies, health centres everywhere, this is Europe, we have some level of healthcare, we hope.

> Walking at (the destination) is therapeutic, it's good for the mind and the body...walking in interesting places, routes for walking and so on, health improves with all of this...but we need to know the paths are safe, these are health issues, rockslides and something like that.

Destination health-related factors influence participants' perceptions of the capacity of specific health tourism experiences to improve well-being and health. Characteristic assertions included the following:

> You have to be careful of meningitis when using them [thermal waters]. We've been to thermal parks in New Zealand, and they have signs: do not put your head under the water, the thermal water can cause meningitis...

> ...and test (the water) regularly, because in Bath, the Roman's built spa, one of the problems was the purity of the water. It was contaminated. It was a health issue.

> [Services related to health] have to be homegrown in (the destination), all very natural, this would appeal to the people just because is part of the island. The fact this is homegrown and the whole volcanic island…people would be expecting something like that…it is certainly something that could be easily developed.

> I suspect you would get coaches load of people …this place in Turkey (Pamukkale)…is busy every day…you have coaches load of people…if you

> advertise it all over the world and you build, for example, a spa here, I'll probably avoid it like a plague. [Services related to health and overcrowding].

Besides, this relation between perceived destinations health-related factors and well-being experiences is suggested when participants discuss about other types of standard tourism experiences and products:

> There are parts of the island with biological grown, pesticide free vegetables. If I knew that some of the restaurants and cafes are using organic products, or as organic as can be ... organic and locally sourced…I have a very healthy diet at home and I find almost impossible to have the same healthy diet when I am on holiday. If you're vegetarian - we are - and if you go out to eat over here, it really is pizza, tortilla and salad drowning in dressing. It seems that everywhere they think 'don't give the vegetarian vegetables, give something like pasta with some nice tomato sauce'.

> Quietness, scenery, mountains, greenery…the island is different, that is the whole wellness…and the culture too, festivals, history. Relaxation, slow pace of life, exercise, walk- spas, yoga, it does not appeal me at all -, but the opportunity to walk, incredible scenery...yes.

The excerpted statements indicate that participants in the focus groups are concerned about the potential influence of destinations health-related environmental factors on well-being settings and situations. Both constructs emerge from the open discussions about the role of health issues on tourists' experiences. Health related environmental factors were naturally invoked as major determinants of the perceptions tourists have about well-being settings and experiences on the destination, without intervention of the moderator in the open discussions. Therefore, this qualitative evidence suggests that hypothesis H1 is relevant and should be quantitatively investigated.

5.2. Quantitative study

5.2.1. Measurement model

Exploratory factor analysis (EFA) was carried out separately on the cognitive variables of the scales to confirm the dimensionality of the constructs utilized in the model. After the first EFA, which resulted in the expected factors, the variables 'exotic destination', 'living conditions' and 'slow way of life' were discarded. Then, another EFA was performed, which again resulted in the expected factors (Eigenvalues >1, total variance explained >70%, Bartlett test was significant and the KMO score >0.6).

To assess the validity of the measurement model, a confirmatory factor analysis (CFA) of the constructs of the model was carried out (Anderson & Gerbing, 1988). The first CFA, even giving acceptable fits, did not allow for considering the measurement model as good. As the climate variable can be considered both a health environment factor associated with health and a well-being resource, and it is not a local human-made factor, this variable was removed from the CFA. With this action, the values of goodness of fit were improved (Nunkoo, Ramkissoon & Gursoy, 2013).The analysis of reliability was satisfactory in both multi-variable constructs (Cronbach's alpha >0.7). The resulting measurement model has a good discriminant validity (composite reliability >0.7, average variance extracted >0.5), and the squared correlation between both constructs, and between the constructs and the observed variables, was less than the value of the average variance extracted of each construct (Fornell & Larcker, 1981). All this process was carried out in the two evaluated destinations. The results of the CFAs are shown in Table 1.

Table 1
Confirmatory factor analysis of the measurement model

	Phuket				Pamukkale			
Latent constructs and items	β	CR	AVE	α	β	CR	AVE	α
Health-related environmental factors		0.93	0.76	0.95		0.94	0.78	0.94
Health services for visitors with European quality standards.	0.87*				0.89*			
Health services for residents with European quality standards.	0.91*				0.92*			
Local health authorities promote residents' health and well-being.	0.88*				0.91*			
Safety, security and emergency plans for residents, tourists and the natural environment.	0.89*				0.90*			
Probabilities of getting diseases transmitted by humans.	0.92*				0.91*			
Probabilities of getting diseases caused by ingesting contaminated food or water.	0.82*				0.82*			
Probabilities of getting diseases transmitted by animals and insects.	0.91*				0.92*			
Contamination (atmospheric, acoustic, etc.).	0.95*				0.93*			
Tourist overcrowding.	0.77*				0.80*			
Accessible for all visitors who experience access difficulties or have special needs due to disability, long-standing health problems, age-related conditions or other temporary or permanent personal conditions.	0.84*				0.83*			
Well-being settings and situations		0.89	0.77	0.93		0.88	0.75	0.92
Landscapes that can enhance my physical, mental and spiritual state.	0.91*				0.90*			
Nature based activities.	0.88*				0.90*			
Local gastronomy.	0.87*				0.80*			
Authentic local culture.	0.90*				0.85*			
Revitalising destination.	0.93*				0.94*			
Residents are kind and hospitable	0.77*				0.75*			
Squared correlations between both constructs			0.26				0.37	
Squared correlations between constructs and observed variables								
Healthy destination image								
Healthy destination <-> Health improvement expectation			0.23				0.30	
Healthy destination <->Health-related environmental factors			0.29				0.37	
Healthy destination <->Well-being settings and situations			0.30				0.38	
Health improvement expectation								
Health improvement expectation <-> Health-related environmental factors			0.18				0.25	
Health improvement expectation <-> Well-being settings and situations			0.19				0.26	
Measures of fit	$\chi2$=296.401 df=99 GFI=0.98 REMSA=0.049				$\chi2$=323.96 df=98 GFI=0.98 REMSA=0.05			

Note: * p <0.05 (t-Values > 1.96); β =Std.factor loading; CR= Composite reliability; AVE= Average variance extracted; α = Cronbach's alpha

5.2.2. Structural path model

The relationships established in the theoretical model between the cognitive constructs (health-related environmental factors and well-being settings and situations), healthy destination image and health improvement expectations were studied with a structural path analysis. The fit indices indicate that the path model fits the data well (Hair et al., 2010). The relationships between the different dimensions of the model are significant in all the paths and the results provide support to the hypothesised relationships (Table 2).The quantitative results allow us to identify the destination attributes related to services and resources that form the perception of a health destination (Table 1). For both destinations, the model has a good fit and the same pattern of factorial loads are repeated (Table 1). As found in the qualitative phase of this study, these results confirm that health-related environment at the destinations influences well-being experiences. The healthy destination image influences the expectation of health improvement when going to the destination by a larger amount (almost double) than the health cognitive factors. However, both cognitive factors have approximately the same influence on the healthy destination image

Mediation tests were carried out to check the mediation effect of the healthy destination image in both destinations. After confirming the significance of the direct effects between the variables of the model without the mediation variable, this was introduced in the model and bootstrapping mediation tests were run (Cheung & Lau, 2008; Preacher & Hayes, 2004). As hypothesised in this study, the tests confirm that the healthy destination image partially mediates the effect of health-related environment and well-being settings and situations on health improvement expectations in both destinations (Table 2)

Table 2 Path Structural Model

Hypotheses testing for the main effects			Result
	Phuket	Pamukkale	
	St. Estimates	St. Estimates	
H1:Health-related environment -> Well-being settings and situations	0.54*	0.67*	Supported
H2:Health-related environment -> Healthy destination image	0.37*	0.31*	Supported
H3:Well-being settings and situations -> Healthy destination image	0.38*	0.43*	Supported
H4:Healthy destination image -> Health improvement expectation	0.31*	0.34*	Supported
H5:Health-related environment -> Health improvement expectation	0.17*	0.17*	Supported
H6:Well-being settings and situations -> Health improvement expectation	0.19*	0.17*	Supported
Mediation test			
Mediator: Healthy destination image			
	Indirect effect 95% BCI(+)	Indirect effect 95% BCI(+)	
Health-related environment -> Health improvement expectation	0.36 [0.30, 0.43]	0.40 [0.32,0.48]	Significant&
Well-being settings and situations -> Health improvement expectation	0.15 [0.10, 0.20]	0.18 [0.13,0.24]	Significant&
Models Fits			
	$\chi2$=278.773 df=97 $\chi2$/df=2.8 GFI=0.987 REMSA=0.048 AIC14513.652	$\chi2$=275.696 df=94 $\chi2$/df=2.9 GFI=0.988 REMSA=0.048 AIC15162.817	

Note: * p <0.05 (t-Values > 1.96). (+)Bias corrected 95% confidence interval for the estimate (2000 bootstraps). &p=0.001. Direct effects are also significant, hence there is partial mediation of healthy destination image

6. Discussion

The results of this study confirm the hypotheses of the proposed theoretical model, where the affective destination image (healthy destination) is influenced by two cognitive factors: i) health-related environment (human-made services and conditions associated with health in the destination), and ii) well-being and restorative resources and experiences. In line with theory, the results show that the expectations of health improvement if going to the destination are influenced by these two factors, and to a greater extent by the affective healthy destination image.

These results are in accordance with studies that find that the perception of health risk in tourism is conditioned by the quality of health services, the risk of contagious diseases and the environmental factors associated with health (Jonas, Mansfeld, Paz & Potasman, 2011). The risk perception and its influence on destination image is a recent trend in tourism research (Becken et al., 2017). Our evidence contributes to this line of research by demonstrating that the perceived health risk factors not only influence the image of health destinations, but also condition the overall health expectations in the destinations. The quality of health services available for tourists is one of the non-negotiable attributes when considering the competitiveness of tourist destinations (Crouch, 2011; Heath, 2002), and it influences the tourist attractiveness of a country (Lee, 2016). This study shows that the health services for visitors are determining factors of health-related destination image formation.

In order to benefit from those characteristics of a destination that are good for health, it is necessary to become immerse in the place (Grinde & Patil, 2009). Therefore, health and environmental conditions are essentially related in tourist destinations (Dwyer et al., 2009) enforcing synergetic effects. In addition, environmental issues are commonly a cause of major concerns for tourists, especially if they affect the perceptions of key destination conditions (e.g. health) (Dolnicar, 2005). The results of the current study suggest that tourists holistically integrate in their perceptions of destinations this combination of environmental factors that can affect their health on holidays. Furthermore, the overcrowding of the destination is perceived as yet another aspect that negatively affects tourists' well-being experiences at the destination. The latter is consistent with earlier findings on the effects of crowding on tourists' experiences (Jin, Hu, & Kavan, 2016; Jin & Pearce, 2011; León, de León, Araña & González, 2015).

The quality of health care services for residents together with the promotion of their health and well-being are other factors that are related to the perception of a health destination in this study. In some sense, this follows results from other studies of destination image, where residents' quality of life is included in a social environmental factor (Beerli et al, 2004b). In the present study, the perceptions that tourists have of the available health systems for residents influence the healthy destination image and the expectation of health improvement. This suggests that tourists value the social responsibility of the destination in terms of health, similarly to results from studies of social responsibility of the destination in relation to environmental issues (Su & Swanson, 2017) and responsible tourism (Lee, Bonn, Reid & Kim, 2017).

On the other hand, our research also provides evidence of the importance of accessibility to all for the construction of the health image of destinations. That is, the perceived barriers for the participation of people with special needs in tourism influence the health destination image. This evidence becomes more relevant if we consider that the population studied in this work involved general tourists and not specific health tourists. This indicates that destinations' accessibility matter to all kind of tourists. However, the tourism industry has generally lagged behind in tackling the barriers that affect the participation of everyone in tourism activities, both for people with disabilities (Pagán, 2012) and for people with special dietary needs (e.g. Towers & Pratten, 2003). This means a 'subtle discrimination' (Pearce, 2012, p.16) on important groups of people that together can amount to 27% of the European population (World Tourism Organization, 2016).

Furthermore, this study highlights another dimension that influences the image of a healthy destination and health improvement expectation, i.e. the perceived well-being experiences that can be lived at a destination. In this respect, the landscape with therapeutic capabilities plays an essential role. This result is in line with some theories and empirical research in the field of health and environmental psychology, which suggest that some landscapes may improve or promote health (Learmonth & Curtis, 2013; Velarde, Fry, & Tveit, 2007). Frumkin (2001) argues that human beings find that certain natural landscapes produce a 'soothing, restorative, and even a healing sense' (p. 234). The natural landscape is also one of the most valued attributes in destination image studies (e.g. Carballo, Araña, León & Moreno-Gil, 2015). Hence, our results show that the image of a healthy destination is closely related to the positive perception that an immersion in nature could produce significant improvements in health. Some studies have reported the influence of nature on higher levels of tourists' happiness and well-being (Bimonte & Faralla, 2014), stress reduction and physical improvements (Chang, 2014) and on a better sleep quality (Rantala & Valtonen, 2014), while others have emphasised the strong relationships between nature, the rural environments and tourists' well-being (Agapito, Valle & Mendes, 2014).

The results of the present study indicate that the perception of a healthy destination is associated with two well-being local situations: i) authentic local culture and ii) local gastronomy. This preference for local products is a characteristic observed in the segments of health tourists (Smith & Puczko, 2014) and slow-food tourists (Lee, Scott & Packer, 2014). The Attention Restorative Theory (ART) and the concept of Therapeutic Landscape give support to the restorative capacity of cultural landscapes, where experiences related to local culture are linked to the components of ART, i.e. 'fascination' (to be effortlessly

immersed in the destination), 'the sense of awayness' (Lehto, 2013) and 'novelty and scape' (Pals, Steg, Siero & Van der Zee, 2009).

In relation to the link between local gastronomy, well-being and healthy destination image, it should be noted that there can be a dichotomy with respect to the perceived impact of local food on health and well-being. From the nutrient and taste point of view, local food does not always imply better perceptions of well-being and often involves the opposite of good health (Brown, Edwards & Hartwell, 2010). However, the present study shows that there are public health issues such as food safety, the offer of special diet products and the possibility of consuming organic and locally sourced healthy food, which influence how tourists perceive well-being experiences associated with the gastronomy at the destination. That is, the results proved that the perceived well-being and the gastronomy experience of the destination (Björk & Kauppinen-Räisänen, 2017) are determined by the perception of a sound public health management. Murray, Hartwell, Feldmann & Mahadevan (2015) argue that the importance of this issue has not been sufficiently considered in hospitality and tourism management.

Lastly, this study supports that residents' attitudes of kindness and hospitality are elements that influence tourists' perceived health and well-being experiences of a destination. There is strong evidence that social relationships are positive for health (Cohen, 2004). According to Pearce (2012), the positive social support that tourists receive from residents - among which are kindness and hospitality - contributes to tourists' well-being and health. Positive social relationships 'have the great potential to improve our mood and the resulting positive emotions of assisting our health' (Pearce, 2012, p.22). In the field of positive psychology, Filep et al. (2017) explore the value of social interaction in tourism, arguing that acts of kindness and gratitude are an important component of tourists' well-being, integrating the concept of temporary social capital into this model (Filep, Macnaughton & Glover, 2017).

7. Conclusions

Many destinations around the world are trying to focus on generating successful health and well-being tourist experiences as part of their strategies of tourist product development. However, any health tourism strategy should take into account the importance of the promotion of an authentic health destination capable of offering tourists a complete and

integral health experience. This study has focused on the relationships between health destination image and health improvement expectations on the behalf of tourists when deciding upon a health and well-being tourist experience. To this end, the affective and cognitive health destination image and tourists' health expectations were analysed with a sample of general tourists from three source countries, who evaluated the profile of two alternative international tourist destinations from an overall health perspective. The conceptual framework of the empirical study is based on the theoretical and empirical foundations of destination image and tourist expectation, health environmental psychology, therapeutic landscapes and the social ecological model of health.

One of the main contributions of this paper is that the healthy destination image and tourists' perceived expectations of health improvement if going to a destination, are influenced by two cognitive dimensions: 1) human-made perceived environment factors associated with health, and 2) well-being settings and situations in the destination. The well-being settings and situations dimension includes those factors related to the experiences associated with the destinations that tourists perceive as restorative and health improvers. In line with theoretical foundations, tourists anticipate the ideas of a healthy destination in their minds based on perceptions of activities in nature, local gastronomy, culture, landscapes with therapeutic capabilities and residents' kindness and hospitality. The perceptions of these destinations' well-being properties are influenced by the perceived human-made health environment dimension, which includes the health systems, the management of the natural environment and the accessibility of the destination.

Health destination image depends on the absence of significant barriers to participation in tourism for people with special needs. Thus, accessibility is a determining factor of the health destination imagine for all tourists, and not only for those with special needs. The perceived quality of health care services for residents and the perceived promotion of their health and well-being by health authorities are other factors that are found to be strongly related to the perception of a healthy destination image. On the other hand, the perceived residents’ kindness is an attribute that forms part of the experiences that condition the health destination image.

In addition, the destination’s environmental factors associated with health influence both the healthy destination image and the overall health improvement expectation. The enjoyment of a tourist experience necessarily involves the presence of the individual at a holiday destination. For this immersion to be healthy there must be a perceived environment that enhances and protects health, in balance with other resources facilitating

tourists' well-being at destinations. This relationship can be explained within the conceptual framework of the Attention Restoration Theory (ART) adapted to tourism (see Lehto 2013, Lehto et al., 2017). One of the components of this theoretical model is 'compatibility', i.e. a tourist destination should be a place that 'stays true to itself' and is 'in harmony with its natural and cultural surroundings' (Lehto, 2013, p.335).

Furthermore, the theoretical conceptualisation supported by the empirical results of this study demonstrates the relevance that tourists give to factors related to public health in the formation of a healthy destination image and health improvement expectation. These factors are related to aspects such as the quality of health and emergency services, the control of contagious diseases, food safety, the offer of special diets products, the possibility of consuming healthy food, residents' health and well-being promotion, the natural environment of destinations and the absence of the barriers to participation in tourism. Tourists perceive that health destinations are actually those places where health systems are integrated with tourism services.

Hartwell, Hemingway, Fyall, Filimonau, & Wall (2012) propose a conceptual model to explain the fusion between the philosophy of public health and tourism. According to these authors 'both public health and tourism strategy can focus on promoting sustainability and reducing inequalities' where 'tourism policies, destination marketing and the adoption of public health participatory approaches can enhance and promote physical and mental health for both locals and tourists' (p. 1073). In a successive research, Fyall, Hartwell & Hemingway (2013) proposed the need to stimulate a more holistic healthy destination culture in tourist destinations, through collaborative work and the integration of public health and tourism strategies, developing brand strategies to attract attention in the marketplace. In a stakeholder research, Pyke, Hartwell, Blake & Hemingway (2016) analyse the barriers that can be found to foster alliances between public health objectives and tourism strategy and policy when using well-being as a tourism asset. Along this line, Page, Hartwell, Johns, Fyall, Ladkin & Hemingway (2017) empirically analyse the practical possibilities of public engagement of tourist stakeholders and public health authorities in a UK coastal resort. Our study contributes to these research lines by demonstrating that the tourism image of a healthy destination depends on tourists' perceived relationships between public health, well-being and tourist experiences that benefit both visitors and residents. This has important implications for developing marketing and branding strategies, and for inducing the participation of tourism stakeholders in health policies at destinations.

In line with the conclusions raised by Martín, Beerli & Nazzareno (2017) on general destination image, the present work demonstrates that in order to project a complete health destination image, there would be need for collaboration between all health and tourism stakeholders involved. A health-related destination image and health expectations about the destination are perceptions that the individual creates incorporating attributes of the destination in a holistic way, i.e. beyond the mere 'tourism-specific experience' (Martín et al 2017, p.22).

The generalisation of the results of this paper presents some caveats and limitations that may serve as a basis for reflection and further research. These limitations follow from attempting to evaluate and analyse complex and multifactorial concepts such as a destination image (Gallarza et al., 2002) and health expectations (Jambroes et al., 2014). A first handicap follows from the difficulty of establishing causal relationships between the different dimensions of the theoretical model, since its empirical support is based on a cross-sectional sample and not on a longitudinal study. On the other hand, the image of a health destination - and even more the expectation of perceived health improvement at a destination - may be also explained by a multitude of psychological and motivational factors that go beyond the common attributes of destination image. It would be necessary to perform randomised and longitudinal studies to control for these and other confounding factors. Finally, in order to provide stronger support for the theoretical hypotheses about the interrelationships between a healthy destination image, health expectations and perceived public health conditions, there would be need for further evidence of other source regions and tourism destinations.

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CHAPTER 2

HOME-DESTINATION SPILLOVER EFFECTS IN HEALTH BEHAVIOUR IN TOURISM: HEALTH SELF-EFFICACY AND PERCEIVED THERAPEUTIC BENEFITS

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CHAPTER 2

HOME-DESTINATION SPILLOVER EFFECTS IN HEALTH BEHAVIOUR IN TOURISM: HEALTH SELF-EFFICACY AND PERCEIVED THERAPEUTIC BENEFITS

Abstract

Spillover effects of tourists' health behaviour from home to destinations are relevant to understand market preferences and to design targeted promotion actions intended to improve the wellbeing of tourists. Health tourism is an increasingly important market segment offering a wide array of services aimed at enhancing the health experience of destinations. This paper addresses the question to what extent tourists who take care of their health utilizing thermal baths at home do carry on to conduct the same behaviour at destinations. The theoretical framework considers two behavioural concepts that provide explanations to this relationship: the health belief model and health self-efficacy. The results show that those tourists with higher perceived health self-efficacy and with higher perceptions of the therapeutic benefits of the health offer of the destination do have larger spillover effects, thereby realizing higher thermal bath both at home and at the destination. The managerial implications for health tourism destination management and promotion, as well as for the management of the COVID-19 crisis, are discussed.

Keywords: Spillover effect, Self-efficacy, Health Belief Model, Health Tourism, Covid-19

1. Introduction

What kind of behaviours do tourists undertake at destinations? Are they different from those pursued at home or in the home environment? What are the factors that influence the decision to carry on home activities and behaviours to the destination? The answers to these questions are relevant not only for targeting market segments at origin regions but also for anticipating tourists' expectations and enhancing their experiences at destinations (Moscardo et al, 1996). It is commonly accepted that the majority of tourists go on holidays to get away from everyday life and to enjoy new and unusual experiences (Iso-Ahola, 1982).This means that tourists at destinations are generally fond of new experiences which are different from those practiced in their day to day life. However, to some extent some researchers have found that there is also a positive correlation between the behaviour carried out at home and on holidays (Lee, Scott & Packer, 2014).

Although there is scarce research evidence shedding light on the key motivators for the differences of tourists' behaviour at home and on holidays, various useful approaches have been proposed. Some authors utilize secondary data to provide inference on the relationships between home and destination behaviour (e.g Brey & Letho, 2007), while others have conducted qualitative research on specific groups (Lee et al., 2014). An alternative approach proposes to apply the spillover theory to explain this phenomena, in fields such as the home-holiday consistency of environmental behaviour (Verfuerth & Gregory-Smith, 2018), or the nature of the leisure activities undertaken at home and on holidays (Sthapit & Björk, 2017).

An increasingly important area of tourist behaviour is concerned with the objective to obtain health benefits from staying at the destination. That is, tourists may experience health services such as visiting spas or enjoying thermal waters. This paper seeks to provide evidence and further explain the question as to what extent the health behaviours undertaken by tourists at their home are carried out to the tourist destination, in what can be considered as a spillover effect in the case of health tourism. The recent COVID-19 worldwide pandemic has raised the challenge of investigating what are the factors influencing consistent tourist behaviours at home and at the destination when it comes to health related decisions. Beyond the classical public health studies showing evidence on tourists' engagement in riskier unhealthy behaviours when on holidays (Berdychevsky,

2017), there is no much research on the potential differences in behaviour at home and at the destination when it comes to health tourism.

Among the various types of health tourism behaviours, the experience of thermal baths is relevant not only for the specific sector of health tourism, but also since it stands out as an important attractor in the health positioning of many destinations (Smith & Puczko, 2014). Thus, this paper focuses on the investigation of the relationships between tourists' decisions to undertake the health related behaviour of experiencing thermal baths both at home and on holidays. The COVID-19 crisis has highlighted the importance of considering the relationships between health behaviour at home and at the destination for the tourism industry to evolve towards a new normality of operations that avoids new and potentially devastating outbreaks of the virus.

Based on social cognitive theory and health beliefs modelling, the methodology involves the roles played by both i) tourists' perceived benefits about the quality of the health tourism offer at the destination and ii)tourists´ perceived health self-efficacy (Perceived Health Competence). That is, the spillover effects from the experience of thermal baths at home to the tourist destination can be explained by the perceptions tourists have about their competence of effectively managing their health outcomes (Smith, Wallston, & Smith,1995), together with the perceptions of the health tourism facilities quality at the destination. These are factors that have not been earlier considered in explaining health spillover effects in tourism behaviour, and that lead to new areas of research for understanding the feedback relationships between tourists' decision making at the destination and the day to day behaviour carried out at home.

2. Literature review and hypotheses

2.1. Behaviour at home and on holidays

One of the mainstream accepted hypotheses in tourism research is that tourists are motivated to go to a destination in order to escape from day to day routine and therefore search for novelty in what has been conceptualized as the escapism theory (Crompton, 1979). However, some authors highlight that there is, in general, a correlation between the behaviour that people do at home and the one carried out on holidays, although this correlation has not been addressed in many studies and there is little empirical evidence of this relationship (Lee et al., 2014).

Following the studies of Kyle, Graefe, Manning & Bacon (2004) on the predictors of loyalty on hiking activities, Brey & Lehto (2007) proposed that the loyalty to an activity can be measured with behavioural variables, one of which is the frequency of consumption. They showed that the more tourists engage in an activity at home, the higher the propensity to do the same activity at the destination. However, they also found that not all tourist activities shared the same level of engagement, and that there are multiple factors that can mediate this engagement.

Similarly, Smith, Pitts, & Litvin, (2012) extend Brey and Lehto's study linking destination decision-making and leisure-activity theories, confirming the association of the choice of home and holiday activities. They also suggest that the novelty component of tourism (i.e. scapism) is normally obtained by tourists when choosing different and varied destinations, but once they are at a destination, people usually tend to do the same activities that they usually do at home. In a qualitative study, Lee et al (2014) explore the 'ways in which slow food tourist's destination activities are associated with their lifestyles' (p. 210). The authors suggest that individuals' choices are influenced by habits, which are created due to the influences of the economic, cultural and social conditions.

The continuum in the choice decision making between home and holiday behaviour can be explained by the spillover effect. Nilsson, Bergquist & Schultz (2017) define the spillover effect as 'the extent to which engaging in one behaviour influences the probability of conducting a subsequent behaviour' (p. 574). Spillover studies are becoming increasingly important to illustrate environmental behaviour and related issues in different contexts and situations (Thogersen, 1999; Nash et al., 2017). In tourism research, Juvan & Dolnicar (2014) evaluated tourists´ pro-environmental behaviour suggesting that this behaviour declines when tourists are on holidays, in what can be characterized as a decline of the spillover effects in the case of environmental decisions.

In general, successive studies have confirmed a reduction of the spillover effects when it comes to the influence of sustainable behaviour at home on those sustainable decisions potentially being carried out at destinations (Schütte & Gregory-Smith, 2015). In this regard, Whitmarsh, Haggar & Thomas(2018) compare individuals' waste reduction behaviour across multiple contexts (at home, at work and on holidays), finding that behavioural consistency is significantly related to personal norms when recycling on holidays. The evidence showed by this research is that recycling at home is more prevalent than in the workplace or on holidays, again suggesting a decline in the spillover effects in

the case of recycling. Thus, those tourists who are more pro-environmental at home do not consider tourism destinations as places where tobehave in such an environmentally responsible manner. Moreover, it has been suggested that some tourists may behave more environmentally prone at home in order to compensate their less sustainable engagement on holidays (Barr et al., 2010).

The spillover effect theory has been utilized in tourism to explain the relationship between leisure behaviour at home and on holidays. Thrane (2000) explored the relationship between cultural consumption and tourism, finding that everyday culture participation at home mediates the effects of the level of education on cultural tourism. Sthapit & Björk, (2017) analyze the spillover effects between home-holidays activities in the case of family tourism, considering the influence of leisure involvement, leisure habit, and psychological commitment. The authors found a positive relationship between the preferred activities of families at home and those at the destination. These findings suggest that tourists with higher activity involvement and leisure habits at home are more likely to engage in the same activity on holidays, although psychological commitment does not seem to mediate this relationship.

2.2. The health spillover effect

The spillover effect -or behavioural consistency- has been also studied in the context of health behaviour (e.g. Moen, Fan, & Kelly, 2013;Dolan & Galizzi, 2014; Galizzi & Whitmarsh, 2019). However, to the best of our knowledge -and unlike the case of pro-environmental behaviour - there are no studies that deal specifically with the health spillover effect across home and holiday contexts. Yet, a body of health research addresses some aspects of the lack of relationships between some health behavioural decisions at home and at destinations, and its implications. These studies suggest that certain type of tourists seem to engage in riskier unhealthy behaviours on holidays than at home. Examples of these are the involvement on binge drinking (Van De Luitgaarden et al., 2010), risky sexual behaviour(Sönmez et al., 2006) and drugs-taking (Uriely & Belhassen, 2006).

Other cases of higher health misbehaviour at home than on holidays can be considered more subtle and less striking, but equally important in terms of public health consequences. Examples are the lack of sun protection (Reinau et al., 2014) or the more unhealthy diet patterns followed by some tourists on holidays (e.g Khare & Inman, 2009; Moreno,

Johnston, & Woehler, 2013; Moreno, Vézina-Im, Vaughan, & Baranowski, 2017). Some researchers have suggested that this behavioural home-holiday dissonance may be due to the goal of escapism facilitated by i) the relaxation of social and work constrains, ii) a higher level of excitement, and iii) the influence of the image of some tourist destinations (O'Leary, Huan, Briggs, & Turner, 2012).

However, there is some evidence that suggests the potentially negative spillover effects in the case of health behaviour cannot be made extensive to all tourists or tourist segments. For instance, similar patterns of behaviour between home and destinations are frequently found for those tourists followingspecific healthy diets (Lee et al., 2014). Similarly, Simpson, Siguaw, & Sheng (2014) found that seasonal migrants with a higher life satisfaction at home also show higher levels of satisfaction with various activities carried out at the destination. In addition, some destinations promote healthy habits as a strategy for improving market positioning and increasing tourists' loyalty (e.g Raber, Crawford, & Chandra, 2017). Further, many destinations offer tourists various resources that are scarce at home and that can have positive effects on health, such as sun bathing, encountering nature, or being away from pollution (Mavroeidi et al., 2013).

2.3. Tourism of thermal baths in mineral waters

Thermal baths played an historical role in the acceptance and expansion of tourism since the eighteen century when 'travelling for health became part of popular culture' (Bynum, 2012, p. 1465). This activity has undergone alternating periods of decadence and golden ages throughout its history (Hall, 2011; Weisz, 2011). In modern times, it has become one of the most iconic types of health tourism, because the availability of mineral waters is an important element to sustain various health and wellness therapies (Smith & Puczko, 2014). Moreover, thermal baths in mineral waters are one of the most relevant tourist attractions and activities in many tourism destinations, and one of the most important priorities for DMOs. In Japan, Onsen destinations featuring their magnificent natural hot spring spas receive an average annual number of 150 million tourists (Erfurt-Cooper, 2009). Other examples are the Blue Lagoon, a geothermal lake spa and one of Iceland's most popular tourist attractors (Hadzik & Tucki, 2016); the Turkish thermal tourism destinations (Duman & Kozak, 2010); the European historic bath cities and health resorts (Smith & Puczko, 2010); the health tourism resources around the Dead Sea or the great variety of health experiences related to thermal baths offered in New Zealand, Australia

and America (Smith & Puczko, 2014). Thus, thermal bath resources and products are still a significant part of many tourism destinations' agenda, and their related markets continue to grow worldwide (Global Spa Summit, 2011;Voigt & Pforr, 2013).

Health tourism is commonly divided in two classes, *i.e.* medical and wellness segments. However, different health tourism products can be found within the proactive-reactive, or prevention-treatment, paradigms (Fyall, Hartwell, & Hemingway, 2013; Hall, 2011). Thus, there may be found some overlapping between medical and wellness tourism in some contexts. This is the case of thermal baths in mineral water facilities utilized in health tourism (Voigt & Laing, 2013). 'The key element of all such facilities is water' (Erfurt-Cooper & Cooper, 2009, p. 12), and around this significant resource a great variety of services can be provided: from diagnosis, treatment and rehabilitation to activities related to health prevention and promotion, and even self-indulgency (Hall, 2011). On the other hand, the World Health Organization (WHO) defines health services as 'all services dealing with diagnosis and treatment of disease, or the promotion, maintenance and restoration of health' (WHO, 2017). Thus, following this definition the majority of services related to thermal baths can be considered health services. Regardless the related services or how they are themed, health enhancement is one of the most important outcomes that is pursued by tourists on thermal baths at destinations.

2.4. Self-efficacy and health belief model of behaviour

The maintenance of health behaviour is essential for good health and a high quality of life. Disease prevention is more effective when healthy behaviours are kept over time and settings. On the other hand, adherence to health recommendations is the only way to assure the success of long-term therapies in chronic diseases (WHO, 2003). Self-efficacy theory (Bandura,1977) provides a useful explanation of individuals'participation in health behaviour and the continuous adherence to effective treatment. Perceived self-efficacy is defined as 'beliefs in one's capabilities to organize and execute the courses of action required to produce given levels of attainments' (Bandura, 1998, p. 624). Belief of personal efficacy plays a key role in Social Cognitive Theory (SCT) and is one of its major contributions to health-related behaviour (Conner & Norman, 2017). There is a growing interest in the role of self-efficacy in behaviour consistency across time and contexts in other research areas. For example, it has been suggested that self-efficacy influences

positive pro-environmental behaviour spillover (Lauren et al, 2016; Tagkaloglou & Kasser, 2018; Frezza et al, 2019).

Self-efficacy has been shown to be a consistent predictor of the maintenance of health behaviour and treatment adherence (Holmes et al., 2014). Moreover, self-efficacy is crucial to overcame the barriers to maintain healthy habits (Kelly et al., 2016; Torquati et al., 2016), and to follow and keep health recommendations (Oshotse et al., 2018). Utilizing the framework of SCT, Smith, Wallston, & Smith (1995) developed the construct Perceived Health Competence (PHC) as a useful instrument for the evaluation of self-efficacy in health decisions. Research with this construct has shown that high levels of PHC predict healthy behaviours in many circumstances and environments (Bachmann et al., 2017). In another application, Lee & McCleary, (2012) found that PHC helps explain USA seniors' choices of healthy items in family restaurants.

Self-efficacy also plays a central role in the health belief model (HBM), a theory that explains the adoption and maintenance of health prevention behaviours and health services recommendations (Yue, Li, Weilin, & Bin, 2015). This theory is related to social cognition models, and has been applied in a great number of situations to explain individuals' choices to engage in healthy actions (e.g. Branstrom et al., 2010). HBM hypothesizes that individuals' health related behaviours and activities depend not only on self-efficacy but also on their perceived susceptibility to health consequences and their severity, and on their belief that a particular health activity is beneficial for health (Rosenstock, Strecher, & Becker, 1988). The latter belief concept is known as 'perceived benefits'and is equivalent to the belief in the efficacy of a given therapy or health behaviour (Harvey & Lawson, 2009).

On the other hand, the perceived severity and susceptibility to health consequences are directly related to the perceived seriousness of a given health condition and its impact on current functioning (Olsen et al., 2008, p. 711). This can be assessed utilizing the scales of self-rated health and perceived health related limitations, two constructs which have been widely applied and validated in health science research (Jagger et al., 2010; Robine et al,2013*).* Perceived health status variables may be confounding factors for PHC (Smith et al., 1995) and previous research shows that they are not as consistent in HBM as the other factors (Gehlert & Bollinger, 2011). Hence,they can be considered control variables that can affect other predictors in the study of health related behaviour.

Since thermal baths in mineral waters at tourism destinations can be considered as health services offered to tourists, then health self-efficacy and health belief models can be useful

to explain tourists' behavioural consistency and adherence to the use of thermal baths in mineral water both at home and on holidays.

2.5. Hypotheses

Based on the preceding discussion and on the theoretical, conceptual and empirical perspectives found in the literature review, the following hypotheses are proposed:

H1: The more the tourists engage in a health experience (thermal baths) at home, the higher the probability to do the same experience on holidays.

H2: Self-efficacy (Perceived Health Competence) is a predictor of the relationship between thermal baths at home and on holidays.

H3: Perceived benefit of the thermal bath activity is a predictor of the relation between thermal baths at home and onholidays.

Tourists' perceived health status, chronic conditions (GALI) and self reported health (SRH), are control variables of the predictors Perceived Health Competence and Thermal baths therapeutic benefits.

3. Methods

3.1. Scales, measurement instrument and questionnaire

Following previous research(e.g. Kyle et al., 2004; Brey & Lehto,2007), individual health behaviours were measured by the following constructs: 1)the frequency of consumption of thermal baths in mineral water in the city or region where respondents live (when they are not on holidays)(answer options: *never, I`ve tried, occasionally, regularly*); and 2) the frequency of thermal baths in mineral water on holidays (not at home) (answer options: *never, once, or more than once*).

Perceived health self-efficacy was measured employing the Perceived Health Competence Scale (PHCS)(Smith et al., 1995). The eight items of PHCS (e.g. *I'm generally able to accomplish my goals with respect to my health*) are scored with a Likert scale ranging from 1 to 5. Higher PHCS scores (possible range 8-40) suggest higher individuals´ beliefs of their ability to engage in and keep healthy behaviours (Polchert, 2015). The importance of water therapeutic benefits was measured by a question based on a 1 to 7-response Likert scale. The perceived chronic conditions limitations were measuredby the single-

item,Global Activity Limitation Index (GALI)(Jagger et al., 2010) i.e. respondents were asked about their limitations due to health problems in activities people usually do (*not limited, moderately limited, or severely limited*). Self-rated health (SRH) was measured by asking individuals about self-perceived health in general (*very good, good, fair, bad and very bad*).

The questionnaire containing all evaluation constructs was translated to Spanish, English and German, using the double translation method (Brislin, 1986), after its validation and improvement by experts in the fields of tourism and health sciences, and after conducting a pilot test with subjects from other fields and interests.

3.2. Sample, data collection and analysis

The objective population of the study was formed by subjects of 18 years or more, who had travelled outside their country, and who resided in Germany, Spain and the United Kingdom. The survey work was carried out on-line in the countries of origin by a highly experienced professional company specialising in market research studies. The sample size is 823 with a response rate of 78.3 percent.

Multinomial logistic regression (MLR) analysis was utilized to explain the probability of subjects being included in the categories of the frequency of thermal baths in mineral water on holidays as a function of the independent variables considered in the theoretical framework.

Let us be (Y) the categorical dependent variable 'thermal bath frequency on holiday', (Y) = {1,2,3} where 1 = Once, 2 = More than once and 3 = Never, with probabilities p_1=p(Y=1), p_2=p(Y=2) y p_3=p(Y=3). The explanatory categorical and quantitative variables of the model are: X_1= Thermal bath frequency at home, X_2= Perceived Health Competence, X_3= Perceived thermal baths therapeutic benefits, X_4= SRH and X_5= GALI.

The MLR model states that:

$$p_1(X_1, \dots, X_5) = p_1 = E(Y_1) = \frac{\exp(Z_1)}{1 + \exp(Z_1) + \exp(Z_2)}$$

$$p_2(X_1, \dots, X_5) = p_2 = E(Y_2) = \frac{\exp(Z_2)}{1 + \exp(Z_1) + \exp(Z_2)}$$

$$p_3(X_1, \dots, X_5) = p_3 = 1 - p_1 - p_2 = \frac{1}{1 + \exp(Z_1) + \exp(Z_2)}$$

where $Z_1 = \beta_{01} + \beta_{11}.X_1 + \cdots + \beta_{51}.X_5$ and $Z_2 = \beta_{02} + \beta_{12}.X_1 + \cdots + \beta_{52}.X_5$

Chi-square final model fitting, pseudo R-Square and likelihood ratio tests were used to examine the validity of the model specification(Bayaga, 2010). The overall percentage of the classification accuracy rate was compared with the proportional by chance accuracy criteria in order to test model´s accuracy and usefulness (White, 2013; Mahrous & Hassan, 2017). Given the sample size, the condition for the minimum cases per independent variable was accomplished (Hosmer & Lemeshow, 2000). Multicollinearity among the independent variables was evaluated with correlations and VIF collinearity tests (Starkweather & Moske, 2011). The main interest of the analysis was to focus on the predicted probabilities of PHCS, thermal baths therapeutic benefits and thermal baths behaviours at home, while SRH and GALI were employed as control variables.

Following Jagger et al., (2010, p.893), GALI categories 'severely' and 'moderately limited' were merged into one category classed 'limited'. SRH (very) good categories were merged in one category and fair and (very) bad categories were merged inanother one. Regarding the frequency of consumption of thermal baths in mineral water at home, the 'occasionally' and 'regularly' options were merged into one category.

Multinomial logistic regression is a nonlinear model, thus the marginal effect of a predictor is not constant all over its range (Walker & Duncan, 1967; Karaca-Mandic, Norton, & Dowd, 2012). Therefore, predicted probabilities were reported in order to reflect this fact and to give a more sound interpretation of the results (Agresti & Kateri, 2011; Ferrante, Abbruzzo, & De Cantis, 2017). Moreover, predicted probability functions were computed to analyse the interactions between behaviour at home and on holidays and the main variables of interest (PHCS and thermal baths therapeutic benefits).

4. Results

The reliability (α-Cronbach test) of the PHCS scale was α= 0.83, which is in line with the acceptable thresholds suggested in the literature (Togari et al., 2004). Regarding MLR analysis, tests did not show multicollinearity between predictors (correlations <0.42 and VIF <2) and the model fit was good (Table 1). The accuracy and usefulness of the model were high. The overall percentage of the classification accuracy rate was 66.2%, which was greater than the proportional by chance accuracy rate criteria of 49%. Thus, the performance of the variables in the model was better than could be reasonably expected by chance. Logistic coefficients, significance and odds ratios are presented in Table 1.

Table 1: Parameter Estimates

	Frequency of thermal baths on holiday					
	Once Vs Never [Rf]		*More than Once* Vs Never [Rf]		*More than Once* Vs Once [Rf]	
Predictors	β	OR	β	OR	β	OR
Perceived Health Competence Score	-0.03	0.967	0.04*	1.042	0.07**	1.077
Thermal baths therapy benefits	0.23**	1.266	0.50**	1.649	0.26**	1.302
Thermal baths at home [a]						
Regularly-occasionally	2.74**	15.516	3.55**	35.042	0.81**	2.258
I have tried it	1.85**	6.388		11.940	0.62*	1.869
Global Activity Limitation [b]						
Not Limited	-0.19	0.821	-0.26	0.766	-0.06	0.933
Self-rated health [c]						
(Very) good	0.75*	2.118	0.20	1.230	-0.54	0.581
Intercept	-2.49*		-5.94*		-3.44*	

Note: χ^2 (12) = 383 p < .001. Pseudo R- square: 37.2% (Cox and Snell), 43% (Nagelkerke). β= Logistic coefficient. OR= Odds ratio. [a] Reference category = Never. [b]Reference category= Limited. [c] Reference category: Fair (very) bad. Rf = Reference category

** p<0.01. *p<0.05.

As hypothesised above, the results revealed that those tourists with a higher engagement in thermal baths at home do have a higher the probability to undertake the same activity on holidays. The odds of this association are not evenly distributed along the different levels of frequency. As shown in Table 1, the activity *regularly-occasionally* at home (compare to *never* at home as reference category) increases the likelihood of taking a bath *once* at the destination by 15.51 times rather than not taking any baths. Moreover, the likelihood of taking a bath *more than once* on vacation rises to 35 times for those who practise the activity *regularly-occasionally* at home compared to those who never do it at home,

holding the rest of predictors constant. The difference of odds between *once* and *more than once* on holidays is almost 20 times in this case, but decreases to 5.5 times when considering the category*I have tried it* at home (*never* at home as a reference category).

With respect to effect of the Perceived Health Competence, the results confirm the hypothesis partially. Health self-efficacy influences significantly the odds of taking more thermal baths on holidays when comparing *more than once* versus *never* and *more than once* versus *once*on holidays. In addition,one unit increase of the Perceived Health Competence Score (PHCS) increases the odds ratio of taking the activity on holidays*more than once* instead of *never* by a factor of 1.042 (4.2 % of increase). This marginal incremental factor by PHCS unit is of 1.077 in the case of *more than once* versus *once* on destination, given all other predictor variables in the model are held constant. These marginal effects are relevant taking into account the range values (8-40) of the PHCS.

However, the PHCS role is not significant when considering the likelihood of taking just one thermal bath at the destination rather than taking none, whereas SRH is significant. Moreover, GALI is not significant in all the cases. Thesefacts suggest that PHCS is a significant factor that counteracts tourists'SRH and GALI, but only for those who have a higher frequency of consumption of health tourism services.

On the other hand, tourists'perceived thermal baths therapy benefitsdo influence the probability of taking thermal baths on holidays. That is, the higher the level of thermal baths perceived benefits, the more likely it is that tourists will take *more than once* thermal baths on holidays, keeping the rest of explanatory variables constant.

Figures 1 and 2 show the predicted probabilities of the thermal baths home-holidays spillover with respect to the PHCS and the thermal baths perceived therapeutic benefits respectively. The lines (solid, dashed and dotted) represent the different frequencies of the use of the thermal baths at home (regularly, tried, and never). Thus, each of the panels in Figures 1 and 2 depict the relationships between the predicted probabilities of having thermal baths at the destination - for each of the categories of this variable - with respect to each of the categories of the frequency of using thermal baths at home.

The solid line corresponds to those subjects who practice the thermal baths regularly or occasionally in their normal life. In panels (b) and (c) in both Figures 1 and 2, it can be seen that the continuous line (regularly-occasionally) is always above the dashed and dotted lines, and the dashed line (once) is always above the dotted line (never). Thus, the probability of experiencing thermal baths at the destination is always higher for those

subjects who are frequent users at home for whatever level of perceived health competence score (Figure 1) and perceived therapeutic benefits (Figure 2). However, these relationships do reverse for panel (a) in both Figures 1 and 2, i.e. for those subjects who never realize thermal baths at home, thereby indicating that for these individuals there are not spillover effects. Thus, these relationships support hypothesis H1 that the higher the frequency of thermal baths in daily activities at home the higher the probability of frequency of use of thermal baths at the destination.

Moreover, as can be observed in panel c of Figure 1, the probability of having more than once baths at the destination rises with the perceived health competence score (PHCS) for all levels of thermal bath at home.However, as the gaps between the linesshow, this increase is much greater for those subjects who bath regularly at home,or who simplytried it, than for those who never take thermal baths at home, indicating the influence of PHCS onthe spillover home-holiday. PHCS has no effect on the probability of never having a bath at the destination (see panel (a) on Figure 1), whereas it has a negative effect on the probability of having just once bath at the destination at home (see panel (b) on Figure 1). That is, the higher the Perceived Health Competence Score (PHCS) the lower the probability of having just one thermal bath at the destination. Therefore, the results show that the PHCS has a positive effect mainly on the probability of having more than one baths at the destination.

Similar relationships are found for the influence of the thermal baths perceived therapeutic benefits on the probabilities of the different categories of the frequency of having thermal baths at the destination (Figure 2). As can be seen in panel (c) of Figure 2, the probability of having more than one baths at the destination rises with the thermal bath perceived benefits for all frequency levels of having thermal baths at home. The opposite is the case for the probability of never having thermal baths at the destination (panel a), i.e. it declines steadily with the thermal baths perceived therapeutic benefits. However, for the probability of taking just one thermal bath at the destination (panel b), there is no influence of the perceived therapeutic benefits. Therefore, the perceived therapeutic benefits has a positive effect on the probability of taking more than one baths at the destination which is also increased by the frequency of thermal baths at home or spillover effect.

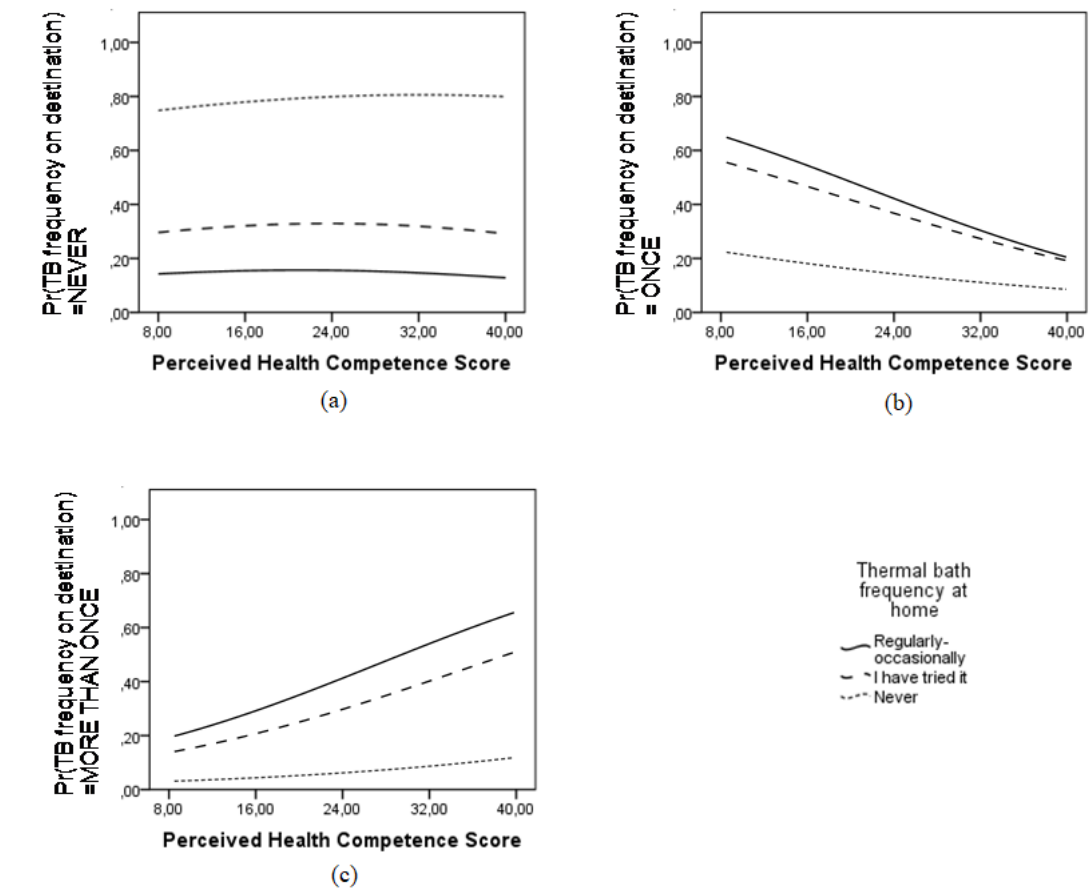

Figure 1: Influence of the Perceived Health Competence score (PHCS) on the probabilities of thermal bath frequency at the destination according to the level of frequency (*never*, *once* and *more than once*)

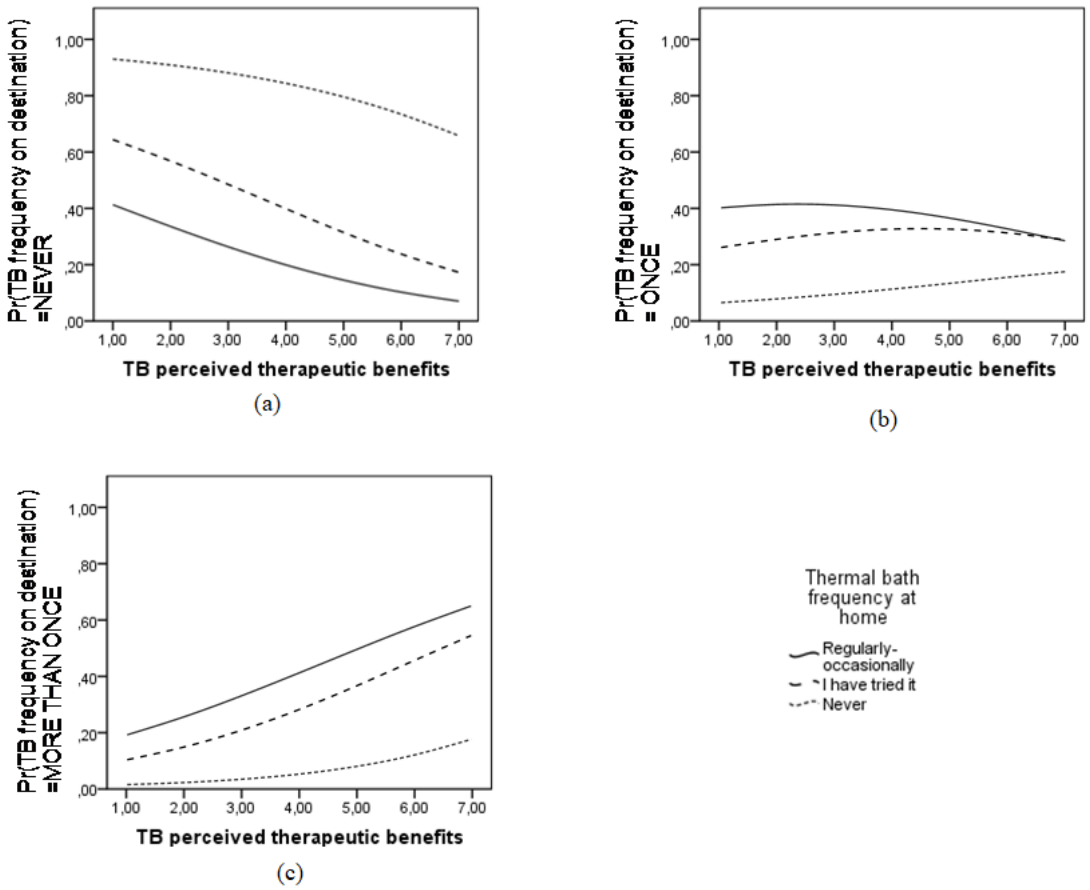

Figure 2: Influence of the Perceived Therapeutic Benefits of Thermal Baths on the probabilities of thermal bath frequency at the destination according to the level of frequency (*never*, *once* and *more than once*).

5. Discussion

This study has analyzed the relationships between the experience of thermal baths at home and on holidays, focusing on the potential influence of tourists' Perceived Health Competence (health self-efficacy) and perceived thermal baths therapeutic benefits. The results confirm the spillover effect that the more tourists involve in thermal bathing at home, the higher the probability of taking them on holidays. The probability of having thermal baths more than once on holidays increases with higher values of Perceived Health Competence (PHC) and higher levels of perceived thermal baths therapeutic benefits, holding the rest of predictors constant.

SRH (Self Rated Health) and GALI (Global Activity Limitation) are not significant predictors of the thermal baths at the destination for those tourists who have *more than*

once baths on holidays, while higher levels of PHC significantly increase the probability of having *more than once* thermal baths on holidays compare to *never* or *once*. Self-efficacy research is still limited in tourism, but the available literature shows that self-efficacy is related to tourists' capacity to confront barriers and increase participation in tourism experiences (Hung & Petrick, 2012; Jepson, Clarke, & Ragsdell, 2014; Jeuring & Becken, 2013). In line with this evidence, the results of this paper suggest that health self-efficacy is a significant factor that counteracts tourists' health-related constraints (e.g. SRH and GALI), but only for those who have a higher frequency of consumption of health tourism services.

Perceived benefits are central in the health belief model (HBM). The perceived certainty of a benefit is equivalent to the perceived importance of the efficacy of a given therapy or health behaviour (Harvey & Lawson, 2009). The results of this study show that higher perceived thermal baths therapeutic benefits significantly raises the likelihood of increasing the frequency of thermal baths on holidays, holding the rest of the explanatory variables constant.

To the best of authors' knowledge, this is the first evidence of the influence of the perceived therapeutic efficiency of thermal baths on their consumption on holidays. Panchal & Pearce (2011) found that for South East Asian spa tourists, health is a motive of mid level importance (behind the classic novelty, escape and relax); and that health becomes a less important motive as tourists travel more. Although the current study does not analyse health tourists´ motivations, its findings do not contradict Panchal & Pearce´s insights. However, the results of the current study show that the perceived therapeutic efficacy of thermal baths raises the probability of higher frequency of engagement in them on holidays and that having baths more frequently at home strengths this relationship.

Moreover, as presented in earlier sections, past research has suggested that the motivations of novelty seeking and escapism are drivers for some type of tourists when they are at the destination, and therefore are not always characteristics driven by a specific activity. This fact seems to be more relevant for the segment of special interest tourists (Trauer, 2006), in which high-frequency thermal baths tourists may be included. The results of this study suggest that, although health could not be a main motivation, tourists' beliefs about the therapeutic efficacy of the health tourism offer of the destination should not be neglected, and therefore must be taken into account by both tourism and health stakeholders.

The result that the health spillover effect is dependant on both the PHC (self-efficacy) and the perceived therapeutic benefits is partially in line with some research on the relationship between self-efficacy and pro-environmental behaviour (Steinhorst, Klöckner, &Matthies, 2015; Lauren et al., 2016; Nash et al., 2017; Frezza et al., 2019). On the other hand, perceived therapeutic benefits are related to health tourists' expectations and, consequently, tourists' trust about health tourism providers. This is a relevant factor of consumer retention (Han & Hyun, 2015) and tourists' adherence to a given health-related activity (e.g. thermal baths) on holidays. That is, tourists' perceived confidence, both in the health benefits of tourist destinations and in their own self-efficacy for health improvement, can influence health tourists´ behavioural home-holiday adherence.

The concept of self-efficacy and the health belief model have been used in the study of the behavioral patterns of the different stages of the evolution of the epidemic associated with the human immunodeficiency virus HIV (Marx, 1982), a disease that until now has caused more than 32 million deaths, and which has become a chronic disease thanks to antiretroviral therapy, but which has still been linked to 770,000 deaths and 1.7 million new infections in 2018 (WHO, 2019). The relationship between tourism, public health and HIV / AIDS has been widely documented in the literature (see, for example, Cossens & Gin, 1995; Forsythe, 1999; Clift & Forrest, 1999; Richter, 2003; Jonas et al.,2011), highlighting the importance of modifying human behaviour through appropriate messages.

In an pioneering study about the containment of the HIV epidemic, Bandura (1990, p.9) pointed out that social efforts to prevent its spread focused mainly on informing the population about how HIV 'is transmitted and how to safeguard against such infection'; however, similarly to what is happening with the COVID-19 epidemic, this information by itself did not have much influence in acquiring the habits necessary to control the epidemic, since people need personal resources to carry out these measures.

In this sense, Bandura (1990) argued that the perceived self-efficacy jointly affects the choices, effort and time that the subject will spend in coping with difficulties, as well as the adoption of self-encouraging strategies and the amount of stress that will be experienced in this situation. Furthermore, the lack of self-efficacy ends up producing a self-defeating dissonance between knowledge and action (Bandura, 1990).

On the other hand, the concept of health self-efficacy has been shown to increase the probability that people affected by HIV to have a positive change in their well-being over

time (Mukolo & Wallston, 2012). Similarly, the self-efficacy significantly contributes to improve the resilience of individuals when facing stressful and difficult situations such as those created by unfavorable health conditions (Schwarzer& Warner, 2013).

Regarding the applicability of the health belief model, the perceived benefits of HIV preventive behaviors and treatments have also been shown to be important factors in controlling and reducing mortality from the HIV / AIDS epidemic; both in the adoption of adequate preventive measures, and in the patient's prolonged adherence to these measures and to the treatment of the disease (Arnold et al., 1997; Barclay et al, 2007; Ayosanmi et al., 2020).

6. Conclusions

The results of this study provides robust evidence of a spillover effect in health tourism, since those tourists engaging in thermal baths at home show a higher probability to carry out the same experience on holidays. The spillover effect is significantly dependent on key factors related to tourists' perceptions about personal and destination's health capabilities. First, the probability of taking thermal baths on holidays rises with the perceived thermal baths therapeutic benefits offered by the destination. Thus, tourists' beliefs about the therapeutic efficacy of the health tourism offer should not be ignored and, therefore, considered by both tourism and health stakeholders of destinations. Second, the probability of taking thermal bath on holidays also rises with a higher health self-efficacy (PHCS) perceived by the individual regarding the potential of improving her own health through appropriate behaviour. Therefore, tourists' perceptions about their personal capabilities and the potential health benefits of the destinations' resources are important factors for explaining the spillover effects, and can be utilized in broader policy contexts to improve the positioning of health tourism destinations and for inducing successful health related behaviours at destinations.

Therefore, these findings have relevant implications for general marketing management as well as for directing tourists' health behaviour, focusing on the role of the promotion of self-efficacy (i.e. perceived health competence) and the perceive effectiveness of products and services (i.e. perceived health benefits). It has been shown that positive perceived self-efficacy increases the probability that individuals adhere to an engaging health behaviour

(Bandura, 2012). From a psychological perspective, self-efficacy is not considered a fixed trait of personality, but a motivational belief that can be changed or influenced (Yim, Chan & Lam, 2012). It plays an important role in how the individual faces the consumption of services, and therefore it can be increased to overcome consumers' resistance and stimulate the consumption of a certain service (Ben-Ami et al, 2014).

In the marketing arena, Park and John (2014) argued that self-efficacy can be associated with the promotion of a service or a brand, so that the service offered can increase self-efficacy in what the client seeks to achieve (e.g. 'you can do it, we can help', p. 245). In addition, it can also give advice on the best way to use the service for the consumers to receive the expected results. In service marketing, McKee et al. (2006) found that the perceived self-efficacy of the client increases both the perceived value of the service and the references of word of mouth, reducing the possibility of refusal. Customer self-efficacy is important in 'service encounters' because customers are involved in the creation and delivery of the service (Tam, 2019). The perceived competition of clients is an important factor in the co-creation of the services, since experiencing the service almost always implies that the user must successfully participate in their development (Ford & Dikcson, 2012). Therefore, the perceived self-efficacy is an important driver that plays a central role in the decision-making process of co-creation, and promotes consumer's co-creation (Im & Qu 2017; Xie et al, 2008).

The present study has showed that the Perceived Health Competence (i.e. health self-efficacy) positively influences the spillover effects of the practice of a health related service at home (i.e. thermal baths) to be carried out on vacation at a tourism destination. As previously discussed, the evidence of this theoretical relationship has marketing and managerial implications both at the promotion and at the production (co-creation) levels. Health tourism companies and destinations should develop promotion and persuasion strategies that increase the Perceived Health Competence (PHCS) in relation to thermal bath services, enhancing the possibilities of co-creation in the process of the tourist experience (e.g. 'we know you can improve your health on your own, and we can help').

That is, organizations and destinations can make both current and potential users more confident in their own abilities to maintain and increase their health. This would not only add higher values to the thermal services on offer but also it may be able to increase tourists' satisfaction and well-being (Van Beuningen et al., 2011). Furthermore, it would raise the probability that tourists consume more thermal tourism services at the destination.

On the other hand, as previously discussed, the results of this paper also suggest that an increase of perceived health competence (PHCS) by potential consumers successfully manages to counteract the negative effects on the consumption of thermal baths at the destination which are imposed by the perceived health limitations (i.e. SRH and GALI). However, as consumers' self-efficacy (i.e. PHCS) increases, clients are more likely to attribute responsibility for service failures to the company more than to themselves (Chen, 2018). Furthermore, our results show that the perceived health benefits of thermal baths are relevant for tourists to practice the activity of thermal baths on vacation. Therefore, companies or tourist destinations may better promote their services by highlighting the therapeutic virtues of thermal baths and attracting individuals with high PHCS (or promoting PHCS through marketing campaigns). This strategy should be accompanied by a high level of quality in the provision of tourist health services in order to successfully meet consumers' expectations.

On the other hand, since the present work has focused on the role played by the concepts of self-efficacy and health beliefs in the health related behavior of individuals in tourism, it raises direct managerial implications for the recent crisis caused by the COVID-19 pandemic. The theoretical framework is based on solid theories from which concepts and constructs of health-related behavior have been derived, and which have been empirically proven in other health situations, contexts and pathologies. Both self-efficacy and health beliefs can be modified through various strategies to improve the behaviour of tourists in destinations in order to contain the spread of epidemics.

It is expected that in the post-COVID-19 travel and tourism world, tourists will have available a lot of information that will require the implementation of strict personal actions that will prove their resilience, and whose non-compliance will affect their health and the public health of origins and destinations (UNWTO, 2020). The present study has shown that tourists with higher perceived health self-efficacy (PCHS) and perceived health benefits of the destination do have a higher probability of home-holidays health-related behavioral spillovers. Considering the experience of the usefulness of these concepts in the management of the HIV/AIDS epidemic, tourists with higher PHCS should be able to carry out more efficiently the actions related to health and COVID-19 that are required at origins and destinations, without significantly reducing their well-being and satisfaction. The

enhancement of self-efficacy and health beliefs through appropriate destination management measures could facilitate the containment of COVID-19, and speed up the progress towards a virus-free tourism.

The evidence provided in this paper has several limitations which need to be addressed in future research. It is a cross sectional study and, in order to establish casual-effect findings, longitudinal and dynamic studies on the issue are requested. Likewise, further research on other tourists´ nationalities and tourism products should be conducted. Despite this, this work provides further evidence on the relationships between home and holidays activities and behaviours, and underlines the importance of both tourists´ perceived health self-efficacy and the perceived benefits of health tourism supply to explain home-destination spillover in health tourism.

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CHAPTER 3

HETEROGENEITY OF TOURISTS´ PREFERENCES FOR INTERPERSONAL DISTANCE IN THERMAL SPAS

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CHAPTER 3

HETEROGENEITY OF TOURISTS´ PREFERENCES FOR INTERPERSONAL DISTANCE IN THERMAL SPAS

Abstract

Interpersonal distance is an important aspect of the tourist experience that is becoming increasing relevant in the context of managing COVID-19 and future health outbreak risks. This paper investigates tourists preferences for interpersonal distance in health wellness tourism which a segment with a large potential in the tourist market. The methodology utilizes state-of-the-art heterogeneity modeling of discrete choice experiments data in which tourists are asked about their choice decisions between alternative health wellness tourist destinations with different attributes including interpersonal distance in thermal baths. The mix-mix logit model provides a better representation of the heterogeneity of tourists' preferences for the attributes of health wellness tourism, leading to three segments of tourists with different preferences and willingness to pay. In general, it is shown that wellness tourists have a high willingness to pay for higher levels of interpersonal distance in thermal baths, although there is a class of medical tourists that only favor an increase up to a large level. The results show the importance of managing interpersonal distance in tourism and raise managerial implications for the potential trade-offs between crowding levels and profitability of health tourism organizations.

Keywords: Discrete choice, Interpersonal distance, Health tourism, Thermal baths, Tourists' preferences, Wellness.

1. Introduction

Health tourism is considered a tourism segment with a large growth potential, forming part of the agendas of destination management organizations (World Tourism Organization & European Travel Commission, 2018). Health tourism encompasses those activities carried out by people who move to a place other than their place of residence in order to maintain or improve their physical, mental, spiritual and even social status (World Health Organization, 2010; World Tourism Organization, 2019). This generic definition is a conceptual umbrella under which different typologies are grouped. There is consensus in considering that health tourism is divided into medical and wellness tourism (Smith & Puczko, 2014). This dichotomy assumes that the medical tourist travels to receive qualified professional treatment in specific health care systems at destinations. On the other hand, wellness tourism includes a wide portfolio of services commonly associated with the preventive aspect of health and well-being (Mueller & Kaufmann, 2001). However, this separation is sometimes not clear, as the different health tourism products can be placed on a continuum proactive-reactive, or prevention-treatment, paradigm (Fyall et al., 2013). Often there is overlapping between the services that are carried out by medical personnel that can be linked to the wellness services (Voigt & Laing, 2013), such as the medical check-ups offered at spas (Connell, 2013).

An important part of the health tourism offer takes place in facilities providing water-based services, where other experiences related to health are offered in a complementary manner. The main element is water, and around this important resource a wide variety of health and wellness products can be offered (Erfurt-Cooper & Cooper, 2009). 'Spa' is the generic term that defines these facilities, regardless of the type of water they contain (Mak et al, 2009). When this water comes from thermal springs, these centers usually receive other names: mineral water spas (Joukes & Gerry, 2010; Weisz, 2011), mineral springs spas (Hall, 2011) or thermal spas (Erfurt-Cooper & Cooper, 2009). The services offered in the centers with thermal mineral water can be strictly medical (balneotherapy or medical spas), but also include only wellness services or a combination of both (Gutenbrunner et al., 2010; Global Spa Summit, 2011; Heung & Kucukusta, 2013).

The health tourism market is constantly growing (Mainil et al., 2017), so the thermal resources of a destination are a good opportunity for the development of mineral springs spas. Although it is difficult to know the real size of the market for this type of tourism (World Tourism Organization & European Travel Commission, 2018), it is estimated

that spending on wellness tourism reached $639.4 billion in 2017, more than double the annual growth rate of general tourism. On the other hand, the thermal\mineral springs spa sector has been growing by 5% annually from 2015-2017 (Global Wellness Institute, 2018). Furthermore, thermal health tourism is considered a type of sustainable tourism because i) it takes advantage of renewable geothermal resources and energies (Shortall & Kharrazi, 2017), ii) sometimes helps to conserve facilities and centers of high cultural value (Valjarević et al., 2017), and iii) is often associated with local development in conjunction with ecological, cultural and rural tourism (Serbulea & Payyappallimana, 2012; Shunnaq, Schwab et al., 2008).

To implement and improve health tourism services related to mineral hot springs, it is necessary to know the preferences of the demand that allow the planning of spaces and services. This paper focuses on the analysis of interpersonal distance preferences among potential health tourists at a mineral spring spa that, alongside its bath offering, has wellness services and medical check-ups.

The objective of this paper is to evaluate the willingness of tourists to pay for the increase in interpersonal distance when enjoying spa sessions. In addition, it is intended to relate this preference for interpersonal distance with the choices made by tourists regarding health tourism services (some wellness tourism products and the medical check-ups), as well as with some personal characteristics of tourists. Furthermore, another research objective is to find out the potential taste heterogeneity in the preferences of interpersonal distances among potential health tourists. The knowledge of the distribution of the variations of the choices related to crowding in thermal spas has implications for a more detailed knowledge of the trade-offs between the attributes of space, time and health products that make up the profile of the demand for tourist experiences. This knowledge of demand would allow managers to more accurately schedule the flow of tourists at the facility. On the other hand, if the distribution of tourists' choice preferences is known with respect to the variation of interpersonal distance, it is possible to improve the design of public health policies aimed at reducing the spread of infectious-contagious diseases in the tourist areas.

This research uses the methodology of the Discrete Choices Experiments (DCE) (Louviere et al., 2000). DCEs have been applied in tourism research, some examples are: destination image (Carballo et al., 2015), tourist congestion in natural areas (León et al.,

2015) and the design or analysis of tourist services (Araña et al., 2016; Crouch et al. 2009; Chaminuka et al., 2012). In the DCE, simulations of realistic choice situations are used, where different alternatives are presented to the respondents in which the levels of the attributes to be investigated vary (Crouch, et al., 2019).

The outline of the paper is as follows. Section 2 consists of a literature review on crowding and interpersonal distance; Section 3 describes the models used to infer tourist's taste heterogeneity in interpersonal distance, CDE design and data collection; Section 4 presents the empirical application of the models and the results of the estimates are discussed; and Section 5 shows the conclusions of the study. In Appendices A and B the econometric specifications of the models used are expanded and the variables used to assign the segments are detailed with more precision.

2. Crowding and interpersonal distance in tourism and public health

Interpersonal distance is defined as 'the physical distance that individuals choose to maintain between themselves and others while interacting' (American Psychological Association, 2020). Hall (1966) coined the term *proxemics* as the study of interpersonal spatial behavior, where territoriality, crowding and interpersonal distance are analyzed (American Psychological Association, 2020). This author divided interpersonal distance into personal, social and public distance, based on how the use of space shapes communication and interaction between human beings. Although the distances that determine human spatial behavior vary with cultures and individuals, the mean values of 1.6, 3.3 and 5 meters of interpersonal distance based on Hall's early studies can be used to define the three interpersonal spaces mentioned above.

In his *proxemic* approach, Hall considers that in the social distance a certain interaction between people can be maintained, while the public distance is already "well outside the circle of involvement" (Hall, 1966, p.123). The *proxemic* factor of behavior is considered an important aspect of the relationship of environmental psychology with tourism (Fridgen, 1984), and studies have focused mainly on the realm of interactions between tourists and workers in the sector (e.g. Hashimoto & Borders, 2005; Jacob & Guéguen, 2012). Knowledge of the combination of interpersonal distance and the services offered

in a thermal spa is especially important not only for economic and management reasons but also for reasons related to public health.

Crowding has been an important factor in tourism since it has been traditionally associated with congestion and the concept of carrying capacity (Jurado et al., 2013). Spatial interaction between tourists, and between tourists and the local population, as well as the violation of interpersonal space influence the tourist experience (Jin & Pearce, 2011; Jacobsen et al., 2019). According to Andereck (1997), overcrowding stimulates the needs of territoriality in tourists when they do not get the privacy that they would like due to unwanted levels of interaction with other people. If this happens, the tourist will want to have a certain control so as not to suffer intrusion phenomena, leading to situations of claiming their space, being "the hot-tub at a resort" a place where these requirements are often produced (Andereck, 1997, p.717). Indeed, in spas, crowding is a factor that in a special way negatively affects the tourist experience (Lagrosen & Lagrosen, 2016). This makes it to emerge a trade-off between the economic benefits and the control of the number of users in a given space and time that challenges the management of these facilities (Cohen & Bodeker, 2009). The 'immersion' in a spa, whether for relaxation or health reasons, involves a series of particular motivations, sensations and expectations that differentiate it from other situations in which tourists share space (Lo & Wu, 2014). Therefore, the interpersonal distance between tourists is a potential factor of great importance.

Beyond the consequences that crowding has on the tourism experience and management, the high density of individuals in tourism is a major factor in the local and worldwide spread of infectious diseases that require person-person transmission (Wilder-Smith, 2006). The Covid-19 pandemic has increased interest in the relationship between infectious diseases and interpersonal distance in tourism. However, since tourism became a phenomenon that has moved millions of people, episodes of infectious diseases have occurred in destinations, overcrowding being one of the most important accidental factors (Wilson, 1995). Measures such as avoiding crowding and increasing interpersonal distance, which are currently applied due to Covid-19, have been known for years in public health and are part of voluntary personal non-pharmaceutical interventions (Bell et al., 2006). In this sense, the WHO has continuously established protocols that have been applied, for example, in the 2009 influenza A H1N1 pandemic (SteelFisher et al., 2012) or in the SARS epidemic (2003), an outbreak that had important consequences for tourism in affected places (Kuo et al., 2008). In addition, the field of spas in particular,

and that of pools in general, is especially sensitive to the spread of infectious diseases, because airborne and waterborne transmissions are linked (Kurosawa et al., 2010; Leoni et al., 2018; Mavridou et al., 2018; Bonadonna & La Rosa, 2019). Therefore, the control of spa congestion, in addition to the implications for marketing and profitability, has important consequences on public health when it comes to the management of infectious-contagious diseases in destinations.

3. Material and methods

3.1. Methods

The interpersonal distance preferences of tourists have been analyzed using a Discrete Choices Experiment. The theoretical foundation of this method is based on the Random Utility Theory. Lancaster (1966) established that the utility that the consumer obtains from a good is derived from its different attributes, rather than from the good itself. McFadden (1974) embeds this concept with the multinomial logit model that allows for the statistical and econometric analysis of the consumer choice of a good based on the attributes of the goods chosen. Thus, the probability that a certain discrete good is chosen from a set of different alternative goods can be analytically specified. The alternative goods differ because of the levels of their attributes or characteristics. The consumer will choose that good with the attribute levels that maximize utility. In the Random Utility Model (RUM) it is assumed that there are different factors (i.e. attributes of the good, characteristics of the consumer and the environment) that determine the utility. Those aspects of these factors that are added to the utility function and that are known to the researcher form the deterministic component of the model. However, there are factors that cannot be identified by the researcher and constitute the stochastic (random) component of the utility.

The general expression of the indirect utility function of the RUM is the following:

$$\cup_{ijt} = \beta_{ijt} X_{ijt} + \varepsilon_{ijt} \quad , i = 1, \dots, N, \; j = 1; \dots, J, \; t = 1, \dots, T \qquad (1)$$

where i is the individual that makes a choice of alternative *j* in period *t*, *X* is a vector of observable attributes defined by the researcher, β_{ijt} is a vector of parameters of the attributes and characteristics of the individual, and ε_{ij} is an error term of unobserved utility.

The choice model follows from RUM by associating a mathematical expression that assigns a choice probability to each of the available alternatives. There are different choice models based on how the vector of the parameters and how the error term are specified. In this article we apply a variant of The Generalized Multinomial Logit model, the G-MNL-II (Fiebig et al., 2010) and the Mixed-Mixed Multinomial model (MM-MNL) (Keane & Wasi, 2013).

The Multinomial Logit model (MNL) (McFadden, 1974) has been the basic model on which the other models have been developed. This model assumes the homogeneity of the β parameters in all individuals and that the error term follows an extreme value type 1 logistic probability distribution. The Mixed Logit model (MIXL) (Ben-Akiva et al., 1997) maintains the same distribution of the term ε_{ij} as the MNL model, but allows the parameters to change across individuals assuming they follow some probability distribution. This allows researchers to model the heterogeneity in consumers' preferences. The MM-MNL combines MIXL with the latent classes (LC) model (Kamakura & Russell, 1989). The LC model assumes that there is a discrete number of groups whose members share the same β parameters, while the MM-MNL considers that the β parameters are random in each of these groups. In all the models described above, the variance (or scale) of the error term is normalized to 1 to allow for their identification. On the contrary, the G-MNL model assumes that the variance of the error term is heterogeneous in the population, also maintaining the heterogeneity of the vector of parameters β of the MIXL model. The G-MNL model has two variants: G-MNL-I and G-MNL-II, which assume different variations of the error term. The econometric models used in this paper are further specified in Appendix A.

The discrete choice experiment (DCE) (Louviere et al., 2000) is a stated preference method (SP), i.e. preferences are elicited from individuals by asking questions. In contrast to reveal preference models (RP), where the data comes from real or declared market choices, DCE proceeds by designing simulated situations. The interviewee faces choice situations (or scenarios) in which she is presented with choice sets involving various alternatives that are differentiated based on the combinations of the different levels the attributes or characteristics of the good(s) to be value. The respondent chooses only one option from those presented on each choice situation. In these experiments the

alternatives and attributes are designed to be consistent with the choice models based on MacFadden's MNL base model (Louviere & Woodworth, 1983).

3.2. DCE design

Questionnaire development

The main objective of this research is to analyse the preferences for interpersonal distance in health tourism. To this aim, the factors influencing the choice of taking thermal baths in a thermal health tourism center are analysed. Thus, a choice scenario is built in which tourists are asked to decide upon alternative health tourism destinations offering specific features of health tourism products, in addition to thermal baths.

The choices of attributes and their levels for the design of the DCE were based on i) the literature review, ii) the benchmarking of available offers of health tourism packages in leading tour-operators, and iii) the advice of experts in health tourism products. In addition, several focus group sessions and a pilot survey were carried out. The focus group sessions were conducted with tourists of the three nationalities that would be analyzed in the study and who were on vacation in one of the destinations considered in the choice scenario. The focus groups helped to define attributes and levels with greater accuracy, improving the degree of understanding of the explanations of the choice task, and checking for the understanding and adequacy of the questionnaire. The pilot test allowed researchers to find out if respondents clearly understood the choice task and the questions of the questionnaire, and if they were able to interpret and answer the questions in the fieldwork. The final list of attributes and levels is presented in Table 1.

Table 1. Attributes and their levels

Attributes	Levels
DESTINATION	**LA PALMA**
	PAMUKKALE
	PHUKET
THERMAL BATH SESSION	30 minutes
	60 minutes
INTERPERSONAL DISTANCE (Available space per person in hydrotherapy pools)	**1.6 m (2.5 m^2)**
	3.3 m (10 m^2)
	5 m (25 m^2)
Healthy MENU	No
	Yes
MASSAGE SESSION	No
	30 minutes
	60 minutes
YOGA AND MEDITATION SESSION	No
	30 minutes
	60 minutes
Preventive MEDICAL CHECK-UP	No
	Yes
ALTERNATIVE THERAPIES SESSION	No
	Yes
BEAUTY AND RELAXATION SESSION	No
	30 minutes
	60 minutes
PRICE	1300€
	1050€
	900€
	750€

Note: In bold the reference levels used in the results section

The final questionnaire consisted of three parts. The first asked about some aspects of the image of the three destinations used as the levels of the destination attribute of the choice, the second section was the DCE and the last part focused on some personal aspects related to health and socioeconomic data.

3.3. Experimental Design

The possible combinations emerging from the attributes and their levels were too numerous to include all of them in the choice tasks. Thus, for the selection of the combinations to be posed to each respondent in the DCE tasks, a D-optimal design combined with a sequential design approach was followed (Carlsson & Martinsson, 2003) using software JMP (SAS). A pilot study was carried out with a design in which the a priori estimates of the vector of the parameters resulting from previous studies, interviews and focus groups were used. After the pilot study, its results were applied for a final optimal design.

This process led to four groups of twelve randomly matched combinations of alternatives. Thus, each group included six different choice situations. As a result, four types of questionnaires were created that were differentiated by the levels of the alternatives of the choice situations and that were randomized to the participants.

Choice scenario

Respondents were presented with the following text at the beginning of the choice scenario:

> Projects to build natural thermal spas facilities in each destination have been considered. These centers would be situated in places where the mineral thermal water emerges, integrated in the protected environment, with a minimal impact on the landscape and without lodging. These Natural Spa Centers will offer a wide range of health and wellness services to visitors, in specifically designed facilities equipped with separate areas: restaurant, spa, medical spa and balneology pools, indoor and outdoor hydrotherapy pools, massage zones, medical consulting rooms and terraces.

Each of the services provided in the natural thermal spas was described below using text and images. Figure 1 shows an example of these descriptions for the attribute of INTERPERSONAL DISTANCE in thermal pools (i.e. available space per person or level of crowding).

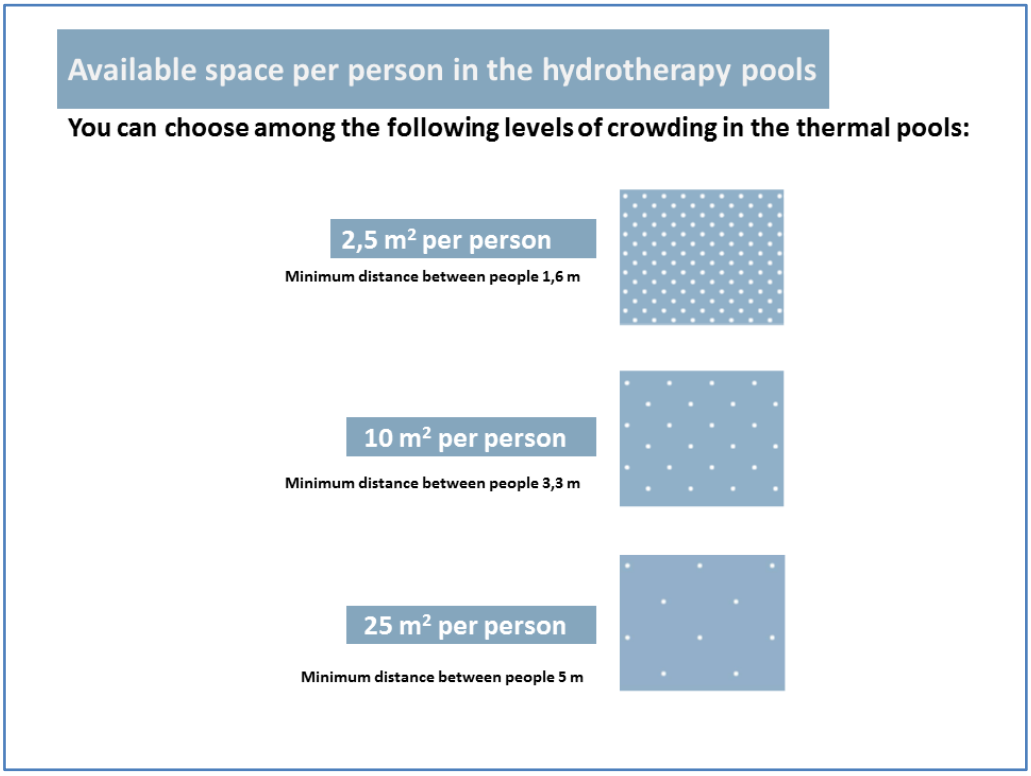

Figure 1. Description of INTERPERSONAL DISTANCE in the questionnaire. The distances of the figure were designed to scale by a professional architect following the recommendations of Li & Hensher (2013)

After the description of each of the attributes, the choice cards with three alternatives were shown to the respondent: two options with different levels of the attributes and an opt-out option in which the respondent did not choose either of the two. The opt-out was included in order to create a situation more in line with the real market in which tourists are not forced to choose between two alternative situations (Campbell & Erdem, 2019).

Each alternative was presented as a health tourism package in which the different services, the destination and the total price of the package were shown. Respondents were told that the total price of each package included the transportation to the destination, the accommodation, and the cost of health and wellness services included in each alternative, to be enjoyed at the thermal spa. Table 2 presents an example of a choice question.

Table 2. Example of Choice Card

	Option A	Option B	Option C
Destination	Phuket	La Palma	
Thermal bath session	30 minutes	30 minutes	
Available space per person in the hydrotherapy pools	2.5 m^2 (1.6 m^*)	10 m^2 (3.3 m^*)	
Healthy menu	No	No	
Therapeutic massage session	No	30 minutes	
Yoga and meditation session	No	No	
Preventive medical check-up	No	Yes	
Alternative therapies session	No	No	
Beauty and relaxation session	No	No	
Price	750€	900 €	
Please, mark *only one* of the three options	A □	B □	Neither of these two options C □

*The images shown in Figure 1 were used in order to clearly represent the distances between tourists

3.4. Sample and data collection

The objective population of the study was subjects of 18 years or more, who had traveled outside their country, and who resided in Germany, Spain and the United Kingdom. The field work was carried out on-line in tourists' countries of residence by a professional survey company specializing in market research. The sample size is 823 with a response rate of 78.3 percent.

4. Results

4.1. Models

Following Lancsar et al. (2017), two alternative models are utilised in order to provide a more thorough answer to the research questions: G-MNL-II and MM-MNL. Estimations were performed with the *gmnl* package in R (Sarrias & Daziano 2017). As seen in Tables 3 and 4, the statistical fit parameters (log likelihood, BIC and AIC) indicate that the G-MNL-II model performs better in terms of BIC, but the log likelihood and AIC improve with the MM-MNL model.

The parameters for INTERPERSONAL DISTANCE 3.3m and INTERPERSONAL DISTANCE 5m have been modeled as random in the MM-MNL model, based on i) the analysis of the interpersonal distance taste heterogeneity is the main object of the research, ii) the opt-out parameter is considered a fixed alternative specific constant and iii) if a greater number of random parameters are included in the MM-MNL model, it becomes much less parsimonious and is more complicated to interpret. Further, there are convergence problems when including more random parameters. In the MM-MNL, the researcher decides the number of classes (Q) of the model (Keane and Wasi 2016) based on model fit. Here, after considering Q = 2, 3 and 4, it was obtained that Q = 3 was the model with the best fit based on BIC and log likelihood (Hess and Daly 2014).

4.2. Attributes and Values

Table 3 shows the results of the G-MNL-II model. Most model parameters are significant at the 0.001 level. The PRICE coefficient has a negative sign as expected indicating that the higher the price the lower the probability of accepting to pay for a health tourism package based on thermal baths. Regarding the characteristics of the thermal baths in the tourist package, respondents show a higher preference for those concerned with more interpersonal distance (INTERPERSONAL DISTANCE 3.3 m. and 5 m.), Healthy MENUs, MEDICAL CHEK-UPs and ALTERNATIVE THERAPIES, since these are the variables with higher parameter values in the model. The only characteristic that is not significant is the length of the thermal bath session (THERMAL BATH session).

The preferences of tourists for lower congestion levels is seen by the high significance levels of the parameters of INTERPERSONAL DISTANCE 3.3 m. and INTERPERSONAL DISTANCE 5 m, and by the larger parameter value of the latter variable with respect to the former. Thus, tourists prefer higher distances from other individuals in the pool when experiencing thermal baths i. e. higher utility or satisfaction is generated by lower congestion levels that allow for a better enjoyment of the thermal bath experience.

Considering tourists preferences for the alternative thermal baths destinations in the DCE, it is found that there is a higher preference for LA PALMA, followed by PHUKET and PAMUKKALE, as shown by the negative signs of the latter two dummy destination variables in the model and their high level of significance.

Table 3. Parameter estimates for G-MNL-II

ASC opt-out	-4.227***	(0.836)
PHUKET	-0.916***	(0.175)
PAMUKKALE	-1.071***	(0.197)
Healthy MENU	0.689***	(0.136)
MASSAGE session	0.015***	(0.003)
YOGA session	0.004**	(0.002)
MEDICAL CHECK-UP	0.386***	(0.099)
ALTERNATIVE THERAPIES	0.327***	(0.095)
BEAUTY RELAX session	0.015***	(0.002)
THERMAL BATH session	0.035	(0.073)
INTERPERSONAL DISTANCE 3.3 m	0.554***	(0.137)
INTERPERSONAL DISTANCE 5 m	0.776***	(0.000)
PRICE	-0.002***	(0.000)
Standard deviation of random parameters		
ASC opt-out	5.470***	(0.917)
PHUKET	2.314***	(0.407)
PAMUKKALE	1.940***	(0.345)
MENU	1.257***	(0.239)
MASSAGE session	0.009*	(0.004)
YOGA session	0.008	(0.005)
MEDICAL CHECK-UP	0.307	(0.254)
ALTERNATIVE THERAPIES	0.755***	(0.215)
BEAUTY RELAX session	0.017***	(0.004)
THERMAL BATH session	0.017*	(0.005)
INTERPERSONAL DISTANCE 3.3 m	0.371	(0.268)
INTERPERSONAL DISTANCE 5 m	1.024***	(0.246)
τ	0.747***	(0.172)
N	4938	
Log-likelihood	-4208.2	
BIC	8637.472	
AIC	8468.350	

Note: Values within parentheses are standard errors. Significance: *** = p <0.001;** = p< 0.01; * = p < 0.05. MASSAGE, YOGA, BEAUTY RELAX and THERMAL BATH are in minutes, PRICE in €. The rest of the parameters are dummies. The ASC reflects the opt-out alternative choice (1= opt-out, 0= others). 500 Halton draws for each individual were used to simulate the probability. Standard errors in parentheses.

The significance of the standard deviations of most of the parameters in the model indicates that there is large preference heterogeneity across respondents, suggesting the convenience of utilising a more flexible model such as the MM-MNL that allows for the consideration of various groups of individuals with different preferences. Further, in the

G-MNL-II model the value of τ indicates that there is scale heterogeneity in the parameters of the utility function and this scale influences the variance of the error term.

Figure 2 shows the conditional distributions of the parameters of the interpersonal distances of the G-MNL-II model. It can be observed that in both INTERPERSONAL DISTANCE parameter estimates there are tails in the distributions (despite the fact that the standard deviation of INTERPERSONAL DISTANCE 3.3 is not significant), which indicates high heterogeneity. However, there is hardly any mass in the distribution with coefficients close to zero, which indicates that the respondents are not indifferent to the INTERPERSONAL DISTANCE attribute (Keane & Wasi, 2016). Thus, the conditional means of the interpersonal distances could be distributed following a mixture of normals (Fiebig et al., 2010) such as in the MM-MNL model.

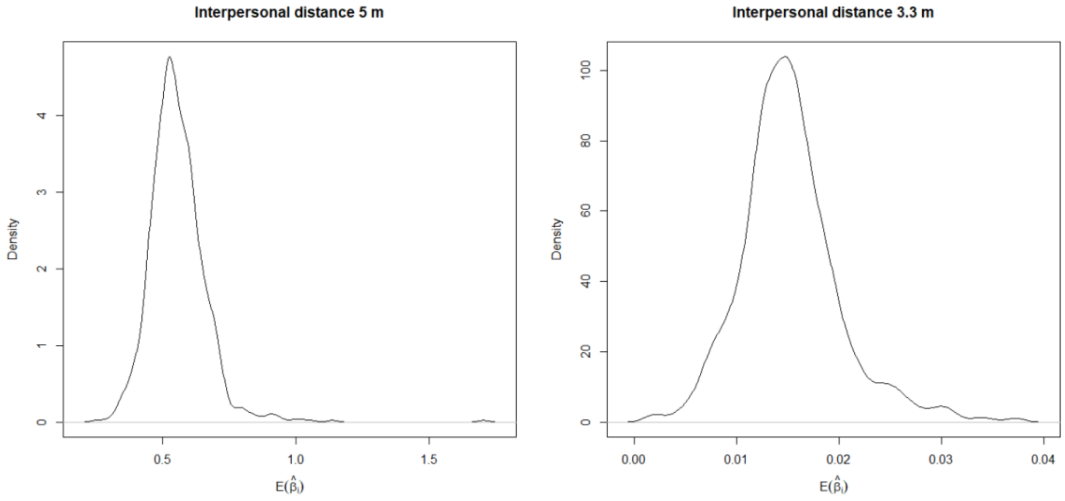

Figure 2. Coefficients conditional distribution for interpersonal distances in thermal bath spas. G-MNL-II model. *Note*: standard deviation is not significant in interpersonal distance 3.3m

Table 4 presents the estimated coefficients of the three classes (Q = 3) MM-MNL model. Individual heterogeneity in preference parameters has been modeled by considering random error terms for the parameters of INTERPERSONAL DISTANCE 3.3 m. and 5 m. under the assumption of a semiparametric distribution. Class 1 is assumed to be the reference class for the membership probability equations, so that the parameter estimates for the other two classes have to be interpreted with respect to this class. Membership

equations are functions that express the probability of belonging to classes 2 and 3 over class 1 based on socioeconomic and attitudinal characteristics of the respondents.

The class with the highest market share is class 3 with 68% of the sample of respondents followed by class 1 (18%) and class 2 (14%). There are important differences between the three classes in terms of the significance of the parameters explaining the choice between alternative spa health tourism destinations. Both class 1 and 3 show similar preferences for the health spa attributes to those obtained for the average sample with the G-MNL-II. That is, the health spa attributes that lead to higher utility levels or satisfaction of tourists are those concerned with the healthy MENUs, MEDICAL CHECK-Ups and ALTERNATIVE THERAPIES. However, the parameters for these and other attributes are much larger in class 1 than in class 3, indicating that the former class has a higher preference for the attributes offered by a health spa tourist destination.

The opt-out ASC parameter is positive in class 1 and negative for the other two classes. This means that for class 1 there is a higher preference for not choosing a health spa tourist package. It can be argued that the positive sign of the opt-out variable in class 1 may be due to the presence of lexicographic preferences on behalf of the respondents or to the lack of parsimony of the choice sets that complicates decision tasks (Campbell & Erdem 2019; Keane & Wasi, 2016). However, in this paper the positive sign of the opt-out alternative may be also explained because of the fact that the survey was addressed to the general population and not to the specific segment of health spa tourists. That is, subjects in class 1 may show a high preference for health spa services attributes but not provided in the context of traveling to a health tourism destination.

Respondents belonging to class 1 are more likely, compared to the other classes, to be medical tourists, chronically ill, of a younger age, without functional limitation problems, not having a good perceived health, and having less income. Thus, these tourists may not be fully satisfied with the services provided by spa health tourism and would be in favor of some other attributes in line with medical curative tourism.

Individuals in Class 2 favor the reference level destination (La Palma) over Phuket and Pamukkale that was also found with the G-MNL-II model. In addition, in this class only the time of massage sessions and the interpersonal distance of 5 m. are significant and with positive signs. The ALTERNATIVE THERAPIES and the THERMAL BATH session parameters are also significant but have negative signs, thereby reducing the utility level of the respondent. Further, the price of the tourist package is not significant in this class although it has a negative sign as expected. The non-significance of the price

parameter suggests that this segment did not paid attention to the price levels in the choice options presented in the DCEs, thereby concurring with the hypothesis of attribute non-attendance (Hensher et al., 2012; Keane & Wasi, 2013)

Class 2 includes tourists who say they are healthy, older, suffer from functional limitations and do not consider health to be an important aspect than for those tourists in class 1. They also value La Palma as a destination with good medical services for tourists. However, they are more likely than tourists in class 1 to believe that on La Palma there is a risk of suffering from contagious diseases transmitted by humans.

In class 3 all the parameters of the health spa attributes are significant except for the attribute of time in a thermal bath session. In this class both levels of interpersonal distance are significant, with the parameter for 5 m. distance being higher than the parameter for a 3.5 distance. This is the only class in which the attribute of YOGA session is significant and has a positive sign, what is in line with the general preferences found for wellness segments in other studies (Lehto et al. 2006; Kelly, 2010; Voigt, Brown yet al., 2011; Global Spa Summit, 2011). Thus, Class 3 is likely to include wellness tourists that find satisfaction in all the health product characteristic of this segment and are not just medical tourists.

The probability of belonging to class 3 increases for male subjects with high incomes who state that they have no chronic diseases and perceived good health. Although the positive parameter of the dummy variable for Phuket destination attribute is not significant, tourists in this segment consider that this destination offers better health services for tourists than the reference of La Palma, what is coherent with specialized opinion in medical and wellness spa tourism (Chongsuvivatwong et al., 2011; Han et al., 2018).

Table 4 .Parameter estimates for MM-MNL

	Class 1		Class 2		Class 3	
ASC opt-out	1.954**	(0.628)	-4.255***	(0.929)	-2.565***	(0.167)
PHUKET	-0.137	(0.249)	-5.130***	(0.555)	0.063	(0.055)
PAMUKKALE	-0.443 .	(0.251)	-4.181***	(0.501)	-0.080	(0.057)
Healthy MENU	0.646**	(0.215)	0.106	(0.317)	0.340***	(0.045)
MASSAGE session	0.028***	(0.005)	0.018**	(0.007)	0.005***	(0.001)
YOGA session	0.004	(0.005)	-0.007	(0.006)	0.004***	(0.001)
MEDICAL CHECK-UP	0.485*	(0.216)	0.108	(0.275)	0.139**	(0.044)
ALTERNATIVE THERAPIES	0.582**	(0.217)	-0.634*	(0.291)	0.171***	(0.047)
BEAUTY RELAX session	0.016***	(0.005)	0.016*	(0.007)	0.006***	(0.001)
THERMAL BATH session	0.002	(0.008)	-0.029**	(0.011)	0.002	(0.001)
INTERPERSONAL DISTANCE 3.3 m	0.254	(0.422)	0.453	(0.403)	0.146*	(0.060)
INTERPERSONAL DISTANCE 5 m	1.049**	(0.355)	1.468**	(0.454)	0.204**	(0.066)
PRICE	-0.004***	(0.001)	-0.001	(0.001)	-0.001***	(0.000)
Standard deviation of random parameters						
INTERPERSONAL DISTANCE 3.3 m	2.091***	(0.415)	1.319**	(0.473)	0.016	(1.514)
INTERPERSONAL DISTANCE 5 m	1.222**	(0.442)	1.698***	(0.436)	0.370*	(0.156)
Variables for class assignment						
Constant			-2.689***	(0.450)	0.270	(0.291)
Activities limitations due to chronic health problems (GALI) (^)			-0.393**	(0.129)	-0.069	(0.097)
Self Rated Health (SRH) (^)			0.204*	(0.086)	-0.011	(0.058)
No Chronic Disease			1.175***	(0.174)	0.299**	(0.109)
Health Value			-0.153*	(0.067)	0.020	(0.047)
Age			0.132*	(0.064)	-0.039	(0.047)
Male			0.499***	(0.125)	0.291***	(0.084)
Spanish			-0.177	(0.146)	0.099	(0.099)
Phuket. Health services for visitors with European quality standards			0.108	(0.063)	0.144***	(0.043)
La Palma. Health services for visitors with European quality standards			0.251***	(0.062)	-0.121**	(0.044)
Pamukkale. Health services for visitors with European quality standards			-0.145*	(0.062)	0.007	(0.046)
Phuket. Low risk of diseases transmitted by humans			0.052	(0.059)	-0.035	(0.039)
La Palma. Low risk of diseases transmitted by humans			-0.164**	(0.061)	0.074	(0.043)
Pamukkale. Low risk of diseases transmitted by humans			0.022	(0.064)	0.010	(0.043)
Medical tourist			0.232	(0.149)	-0.216*	(0.110)
Income			-0.034	(0.046)	0.120***	(0.029)
Class share	18%		14%		68%	
N			4938			
Log-likelihood			-4150.815			
BIC			8956.493			
AIC			8455.630			

Notes: Values within parentheses are standard errors. Significance: *** = p <0.001;** = p< 0.01; * = p < 0.05; . = p < 0.1 MASSAGE, YOGA, BEAUTY RELAX and THERMAL BATH are in minutes, PRICE in €. The rest of the parameters are dummies. The ASC reflects the opt-out alternative choice. 500 Halton draws were used. See appendix B for an explanation and interpretation of class assignment variables. (^) Higher values mean less activity limitations and better SRH.

The INTERPERSONAL DISTANCE 5 m. parameter is significant for all individuals in the three classes, while INTERPERSONAL DISTANCE 3.3 m. is only significant for class 3. Figure 3 shows the distribution of willingness to pay (WTP) for interpersonal

distances in thermal bath spas. It can be seen that there is less dispersion in WTP for tourist of class 3 (wellness tourists) for increasing interpersonal distance from 1.6 to 3.3 meters, while for the increase to 5.5 m. there is much more deviation from the mean value. Thus, within each class there is more sample heterogeneity in preferences across individuals for the increase in interpersonal distance to 5 m. than to 3.3 m.

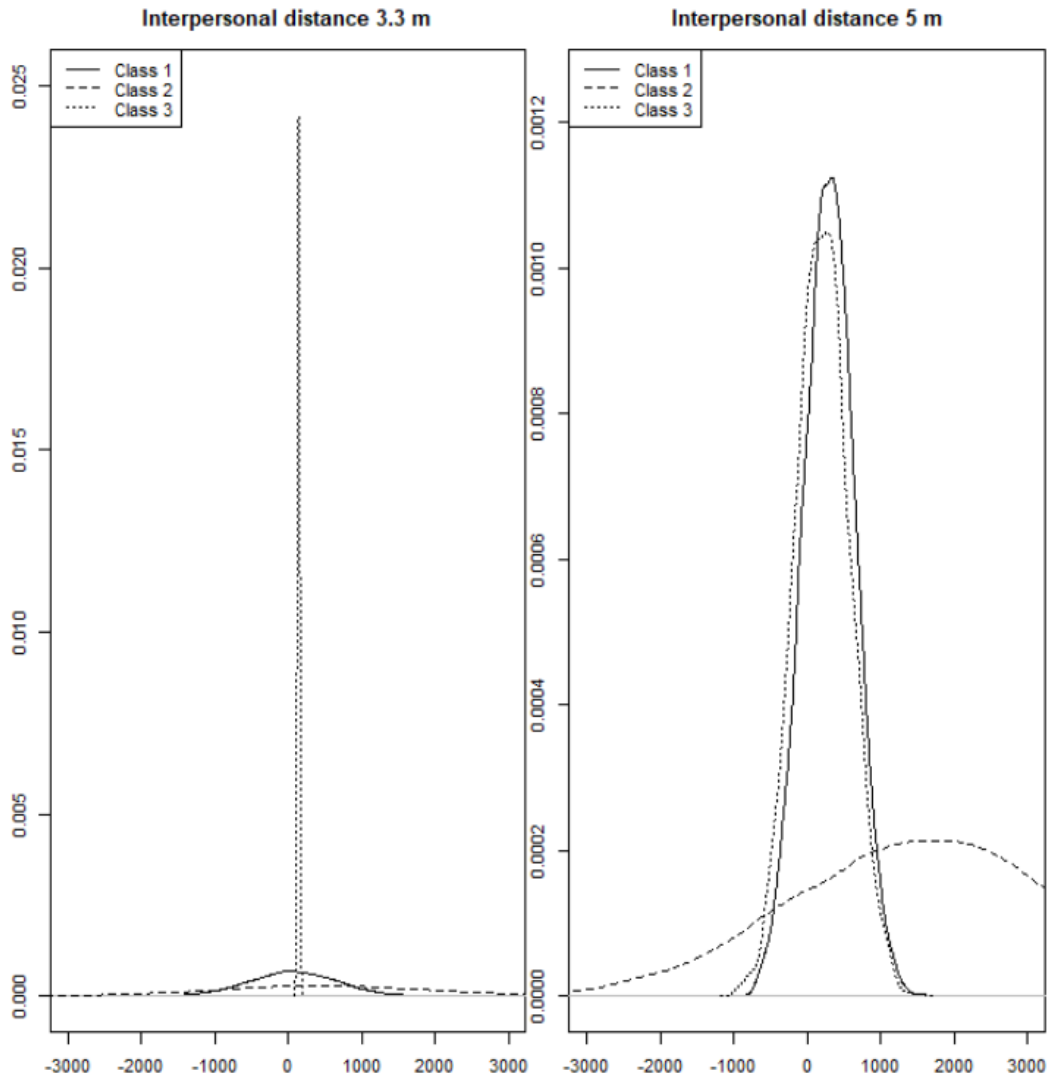

Figure 3. Willingness to pay heterogeneity for interpersonal distances in thermal bath spas. MM-MNL model. *Notes:* The horizontal axis measures WTP in Euros. Observed heterogeneity is evaluated at mean of variables.

Figure 4 depicts in more detail the dispersion of WTP for the interpersonal distance of those segments where the price is significant. For wellness tourists (class 3) the WTP is € 143 (with no dispersion) for increasing the interpersonal distance from 1.6 to 3.3 m in the thermal spa, while for the increase of 5 m this is € 204. For class 1, tourists are willing to pay € 297 for the same increase in interpersonal distance. Table 5 shows the WTP for significant health tourism experiences and significant personal covariates in both segments.

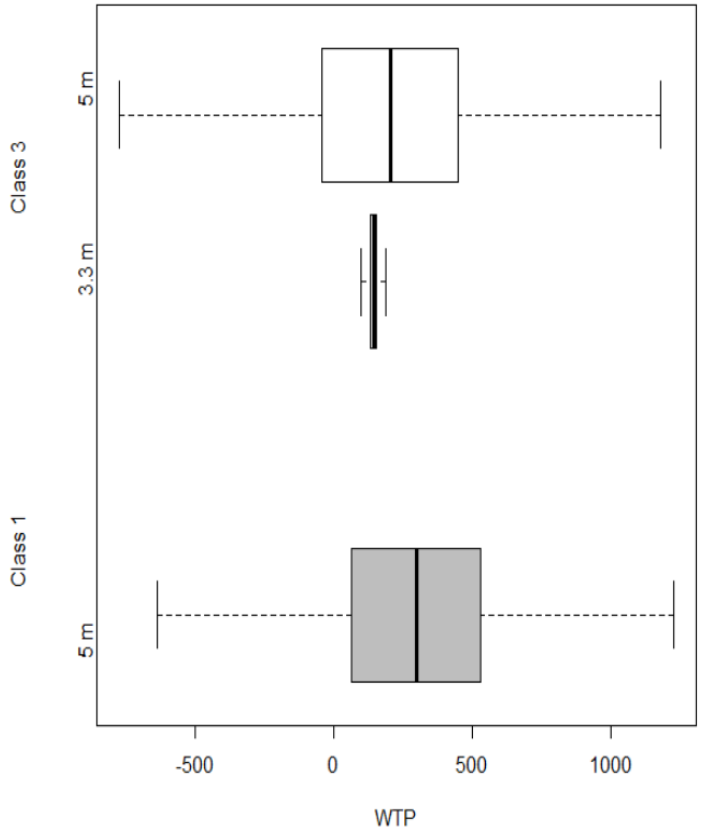

Figure 4. Estimated quartiles of WTP for interpersonal distance in thermal bath spas. *Notes:* Only the WTPs for interpersonal distances obtained from the significant parameters in each class are displayed. WTP in Euros.

Table 5. WTP for health tourism experiences and personal covariates for the segments where price is significant.

Class 1

Health tourism experiences	WTP(€)
Healthy MENU	161
MASSAGE session	7
MEDICAL CHECK-UP	121
ALTERNATIVE THERAPIES	145
BEAUTY RELAX session	4
Personal covariates (*)	
No activities limitations	
Worst Self Rated Health	
Chronic Disease	
Higher Health Value	
Less Age	
Female	
Medical tourist	
Low income	

(*) compare to class 2 and 3

Class 3

Health tourism experiences	WTP(€)
Healthy MENU	340
MASSAGE session	5
YOGA session	4
MEDICAL CHECK-UP	139
ALTERNATIVE THERAPIES	171
BEAUTY RELAX session	6
Personal covariates (*)	
No Chronic Disease	
Male	
No medical tourist	
High income	
Phuket has good health services for visitors	

(*) compare to class 1

Notes: Only the WTPs obtained from the significant parameters are displayed. WTP in Euros.

From the proxemic point of view (Hall, 1966), these results suggest that health spa tourists are willing to pay to increase their interpersonal distance, and therefore keep other tourists with whom they share space in a spa within a confortable or secure social area. The factors that explain proxemic preferences in human behavior can be diverse. Sorokowska et al. (2017) argue that the parasite-stress factor could explain the increase in social distance beyond the personal sphere, due to the cultural adaptation derived from the behavior of increasing interpersonal distance to avoid epidemics, a practice that humans have followed throughout over the centuries.

It is expected that the COVID-19 pandemic will change tourism practices in the close future and that widespread non-pharmaceutical interventions such as *social distancing* will influence tourist behaviors and practices (Hall et al., 2020). The recommended minimum distance in tourism as best practice to contain the COVID-19 pandemic fall within the limit of personal distance (1.6m) considered in this study (UNWTO, 2020).

However, a physical distance greater than 2 m becomes more effective and it is estimated that for every 1 m increase in interpersonal distance the relative effect on the reduction in virus infection increases by 2.02 times (Chu et al., 2020). The present study finds that wellness tourists are willing to pay € 143 for an increase of 1.7 m in interpersonal distance with other spa users. This would imply a 3.5-fold increase both in the prevention

of onward transmission and in the reduction of the adverse effects of SARS-CoV-2 infection.

Since this study has been conducted before the COVID-19 pandemic, it is not possible to ascertain what has been the effect of this worldwide health event on wellness tourists' preferences. However, the results of this study suggest that the increase in prices in order to enjoy greater health safety in spa services could be justified and would not raise the adverse reactions by tourists found by other scholars concerned with the negative side effects of revenue management practices that focus on compensating lower demand or higher costs with increasing prices (Zhang et al., 2020).

5. Conclusions

The health tourism segment is experiencing relatively high growth rates that are doubling the average of the tourist industry. Tourism in mineral springs spas is by itself a relevant sub-segment of health tourism because it contributes a significant percentage to this growth, and because it is also considered more sustainable than other types of tourism. Thermal spas host a considerable number of tourists who, in addition to using the hydrotherapy pools, enjoy services related to health and wellness. The interpersonal distance between tourists when experiencing thermal baths facilities is a key factor in tourists' satisfaction and therefore there is need to implement crowding control measures when managing the risks of infectious outbreaks.

This paper has assessed the preferences of thermal spas tourists for the level of interpersonal distance in the spa facilities, as well as for other attributes of wellness spa tourist destinations. The methodology has utilized a DCE model approach with consideration of sample heterogeneity across tourists. The results show tourists have positive preferences for the attributes of thermal spas in tourist destinations, included those related with the increase in interpersonal distance. However, there are various segments or classes of tourists with different preferences, with one segment of wellness tourists that value all those characteristics of health wellness destinations and another segment of medical tourists that are not interested in traveling to tourist destinations to enjoy the health benefits that are provided by thermal spas. In addition, since the investigation was addressed to a sample of general population, it was found another small segment of individuals without preferences for wellness spa tourism.

The preferences for interpersonal distance reveal that tourists are willing to pay a larger amount of money for an increase up to 5 m. distance than for an increase up to 3.3 m.

distance. This supports the hypothesis of scope effect in the economic valuation of interpersonal distance and can be interpreted as a test for the validity of the DCE designed in this study. That is, subjects are willing to dedicate a higher amount of their personal income for larger levels of a characteristic such as interpersonal distance.

From a managerial perspective, these findings have implications for evaluating the potential trade-offs between space facilities, economic benefits and tourist satisfaction at thermal spas, as well as for the application of public health policies designed with the aim of containing pandemics such as COVID-19 and reducing the risks of infectious outbreaks. It is demonstrated that there is grounded scope for increasing the prices of thermal spa services in order to attract tourists with higher WTP and higher preferences for interpersonal distance, thereby reducing the risks of outbreak of infectious diseases and raising tourist satisfaction with the wellness experience.

The present paper also contributes to the methodology in the investigation of preference heterogeneity in health spa tourism through the use of indirect methods that go beyond the traditional use of Likert scales. Moreover, it adds empirical evidence over the available scientific literature about the importance of utilizing more advanced flexible modeling approaches to DCE data which allows for the consideration of lexicographic responses and differences in the opt-out or status quo preferences that can not be represented and found out by more standard models.

Although this paper contributes to the analysis of interpersonal distance and crowding in tourism, further research is still needed in order to understand this phenomenon in other populations of origin and with different tourist experiences. In addition, the emergence of COVID-19 makes it more interesting to explore how tourists' preferences for interpersonal distance and the characteristics of wellness tourism destinations are changing. Further studies could explore how public health policies in tourism should be formulated based on the evolving tourists' preferences for wellness tourism attributes at destinations.

6. Appendices

Appendix A: G-MNL-II and MM-MNL models

Let us consider the utility function:

$$\cup_{ijt} = \beta X_{ijt} + \varepsilon_{ijt} \ , i = 1, \dots, N, \ j = 1; \dots, J, \ t = 1, \dots, T \quad (2)$$

where individual i in period t choice an alternative j and β is a vector de utility weights that are homogeneous in the population, and ε_{ijt} is *i.i.d* distributed Type 1 extreme value. The Mix Logit (MIXL) model assumes that parameters are random in function (2), where there can be assumed any density distribution for the parameters (McFadden & Train, 2000). If it assumed that parameters follow a multivariate normal distribution MVN (β , Σ) then the MIXL model is

$$\cup_{ijt} = \beta_n X_{ijt} + \varepsilon_{ijt} \ , i = 1, \dots, N, \ j = 1; \dots, J, \ t = 1, \dots, T \quad (3)$$
$$\beta_n \sim \text{ MVN } (\beta, \Sigma)$$

The Mixed-Mixed Logit model (MM-MNL) (Keane & Wasi, 2013) follows by considering that this heterogeneous distribution of preferences can be generalized to a finite mixture of multivariate normal distributions. Then, the distribution for the parameters would be

$\beta_n \sim$ MVN (β_q ,Σ_q) with probability P_{iq} for q= 1,…, Q, where (4)
$\sum P_{iq} = 1$ y $P_{iq} > 0 \ \forall$ q

Thus, the choices probabilities are:

(5)

$$\Pr\left(\{y_{ijt}\}_{t=1}^{T}\right) = \sum_{q=1}^{Q} P_{iq} \left\{ \int \left[\prod_t \prod_j \left(\frac{e^{\beta_n X_{ijt}}}{\sum_{j=1}^{J} e^{\beta_n X_{ijt}}} \right)^{y_{ijt}} \right] \right\} f_q(\beta_n) d\beta_n$$

Where $f_q(\beta_n) = \text{MVN } (\beta_q \ , \Sigma_q)$

When $P_{iq} \to 0$ for all classes in the model but one MM-MNL is equivalent to the MIXL. Moreover, if $\Sigma_q \to 0$ for all q then MM-MNL becomes the Latent Class Model (Kamakura & Russell, 1989). For a more complete presentation see Greene & Hensher (2013) and Keane & Wasi (2013).

Equation (3) can be reformulated as:

$$\cup_{ijt} = (\beta + \eta_n)X_{ijt} + \varepsilon_{ijt}/\sigma_n, \quad i = 1, \dots, N, \quad j = 1; \dots, J, \quad t = 1, \dots, T \qquad (6)$$

where $\eta_n \sim$ MVN $(0, \Sigma)$ is the deviation of the mean for individual *n*, and σ_n is the scale of the error term which is considered heterogeneous in the population.

The G-MNL model (Fiebig et al., 2010) multiplies the utility function by the scale of the error term and adds a parameter γ that determines how the standard deviation of the random coefficient is modified in relation to the scale of β . That is:

$$\cup_{ijt} = [\sigma_n\beta + \gamma\eta_n + (1-\gamma)\sigma_n\eta_n]\ X_{ijt} + \varepsilon_{ijt} \qquad (7)$$

This model assumes that the distribution of σ_n is log-normal, $\sigma_n \sim$ LN $(1, \tau^2)$, where the standard deviation τ is the parameter reflecting heterogeneity. If τ approches zero, model G-MNL becomes the MIXL model. Model G-MNL can have two versions depending on the value of γ. If $\gamma = 0$ it is called model G-MNL-I, and when $\gamma = 1$ it is model G-MNL-II. For a more detailed presentation see Fiebig et al. (2010) y Keane & Wasi (2016).

Appendix B: Variables for class assignment

Variable	Description	Interpretation
Activities limitations due to chronic health problems (GALI)	Global Activity Limitation Index. GALI. MEHM (^) (Cox et al, 2009)	Higher rate, less limitation. 1 Severely limited, 2 Limited but not severely, 3 Not limited at all. Single item
Self Rated Health (SRH)	MEHM (^)	Higher rate, better SRH. Single item
No Chronic Disease	MEHM (^)	Dummy variable
Health Value	Scale used to measure health as a value (Lau & Hartman, 1986). Sample α-Cronbach = 0.7	Higher health value score predicts the performance of those behaviors that protect against a direct threat to health
Phuket. Health services for visitors with European quality standards	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
La Palma. Health services for visitors with European quality standards	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
Pamukkale. Health services for visitors with European quality standards	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
Phuket. Low risk of diseases transmitted by humans	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
La Palma. Low risk of diseases transmitted by humans	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
Pamukkale. Low risk of diseases transmitted by humans	Healthy destination image item	Likert scale. 7 'strongly agree', 1 'strongly disagree'. Single item
Medical tourist	Main motivation, and reason, for respondents´ holidays when they had this service on holiday	Dummy variable

Note: Sociodemographic variables are not displayed. (^) MEHM = Minimum European Health Module.

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CONCLUSIONS

This thesis has shown that tourists have perceptions and expectations with respect to the image of a healthy destination, as well as different behavioural patterns of home-destination spillover and heterogeneous choices of interpersonal distance in thermal tourism.

The main conclusions of the first chapter are:

1. The image of a healthy destination and the expectations perceived by tourists regarding the improvement of health in the destination are influenced by two dimensions: i) perceived natural and social factors of health-related environments and ii) perceived situations and settings related to well-being.2.
2. The dimension of well-being (ii) includes those experiences associated with the destination for which tourists' anticipates ideas of a healthy destination in their mind, such as the offer of activities in nature, gastronomy and local cultures, landscapes with therapeutic capacities and residents' kindness.
3. In turn, the perception of this well-being dimension is influenced by dimension (i) that groups together factors of the natural and social environment that are related to health, such as the health system for tourists and residents, the possibility of contracting infectious diseases, environmental management and accessibility.

Tourists perceive as healthy those destinations where health systems are integrated with tourism services. Therefore, to project a complete healthy destination image, there must be close collaboration between the destination agents involved in the fields of health and tourism, since the tourist integrates holistically the attributes that form the healthy destination image, beyond the specific tourist experience. This has important implications for the development of destination marketing strategies, and for inducing the participation of tourism agents in health policies at destinations that benefit visitors and residents.

The main conclusions of the second chapter are:

1. Tourists who use thermal spa services at home have a high probability of doing the same activity at the destination, which demonstrates the home-destination spillover effect in thermal tourism.

2. The likelihood of taking hot springs baths at the destination increases with the perceived effectiveness of the health improvement due to hot springs.
3. The probability of taking thermal baths at the destination also increases with a higher perceived health competence (health self-efficacy).
4. The spillover level of home-destination thermal spa activity increases with an increased perceived health competence (health self-efficacy) and with the belief that thermal baths are effective in improving health.

These conclusions have important practical applications in tourism marketing and in the promotion of both individual health and public health measures. Synergies can be created in order to benefit tourism companies and inhabitants and visitors' health at the destination, as well as services and health promotion at tourists' place of residence. The perceived competence in health and the perceived benefits of thermal baths are beliefs that can be modified with specific programs aimed at tourists, both at home and at destination. With this, the spillover of use of these services between the place of residence and destination is increased, in addition to increasing tourists' co-production of servicies and their final satisfaction. In addition, the increase in health self-efficacy makes individuals carry out more efficiently those actions related to health and the control of the Covid-19 pandemic in tourism - which are required at home and at destination - without significantly decreasing their well-being and satisfaction.

The main general conclusions of the third chapter are:

1. In general, tourists have positive preferences for thermal spa attributes in tourist destinations, including those related to increased interpersonal distance.
2. There are several segments or classes of tourists with different preferences. The larger segment of wellness tourists values the attributes of thermal spas in tourist destinations, with little heterogeneity in preferences for an increase in the lower level of social distance, in relation to a greater increase in distance, where the variability of willingness to pay is greater but also more heterogeneous. The segment of medical tourists is not so interested in travelling to tourist destinations to enjoy the benefits that result from thermal spas. In addition, since the research was aimed at a general population sample, another small segment of individuals with no preferences for health and wellness tourism was found.

3. The results show that there is a well-founded margin to increase the prices of the thermal spa services in order to attract those tourists who have both a greater willingness to pay and greater preferences for increasing interpersonal distance, thus reducing risks of infectious diseases and increasing tourists' satisfaction in the wellness experience.

From a tourism management perspective, these findings have implications for evaluating the potential tradeoffs between facility space, economic benefits, and tourist satisfaction at the thermal spa. Furthermore, from the perspective of health management, the results are relevant for the application of public health policies aimed at containing pandemics such as COVID-19 and reducing the risks of infectious outbreaks. The present work also contributes to the research methodology of the variability of preferences in health and wellness tourism, through the use of indirect methods that go beyond the traditional use of Likert scales. In addition, it contributes to the available scientific literature on the importance of using flexible and more advanced approaches to discrete choice analysis models, which allow considering lexicographic responses and opt-out (or status quo) choices, which cannot be detected on standard models.

Finally, some limitations of this thesis and future lines of research are presented.

The research is based on cross-sectional studies of a sample of international tourists from three European countries. Therefore, it would be necessary to conduct longitudinal studies that would expand the sample to tourists from other countries. A longitudinal study would help to better explain the relationship between the dimensions of the healthy destination image, and increasing the sample would improve the validity of the results. On the other hand, in the study of spillover, it would be convenient to carry out combined studies of consumption behaviours with real monitoring at destination and at home, to better understand adherence patterns and differentiate the behaviour of those tourists who only go to the thermal spa on holiday. In addition, research on other health tourism products should be deepened, especially in medical tourism, going beyond preventive medical check-ups. It would be necessary to improve the design of the choice experiment, to be able to differentiate the choices of the alternatives due to lexicographic issues, and to better adjust the measurement of tourist well-being and satisfaction through willingness to pay.

The following lines of future research are proposed:

1. Conduct longitudinal and prospective studies on the image of a healthy destination, at places of residence and destinations, increasing the scope of the sample.
2. Deepen the longitudinal research of the thesis topics in relation to specific health variables, such as validated measurements of quality of life associated with health and their relationship with the empirical and validated analysis of well-being.
3. Study the relationship between standard and health tourism with regard to improve health in special groups, both tourists and residents (people with disabilities, the elderly, chronically ill people, etc), as well as the relationship between health tourism and social tourism.
4. Research the different ways of synergy, cooperation and governance between destination tourism organizations and health organizations from destinations and places of residence
5. Apply methodologies such as discrete choice experiments with structural equations or network analysis, to better integrate the variables associated with the destination in relation to tourism and health
6. Expand research of health self-efficacy and tourism, developing and validating a specific scale.

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