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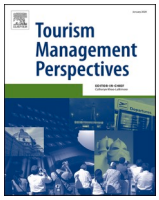

A review and extension of the flow experience concept. Insights and directions for Tourism research

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ABSTRACT

The flourishing positive psychology field has Flow as a core construct. This systematic review of 185 articles examines Flow's concept, to analyse it theoretically, methodologically, empirically, and to provide an agenda for Tourism research. This paper adds to the knowledge in tourism psychology by exploring the Flow framework's core elements, incorporating its drivers, processes and outcomes, as an instrument to improve tourists' experiences. The study suggests the relevance of considering the tourist's characteristics and both the positive and negative outcomes of the Flow experience and other concepts, such as immersion or cognitive stimulation. Extant studies often use the Flow state scale as a measurement tool, but new opportunities are offered by using physiology instruments. Several propositions are put forth to foster the investigation on Flow in the tourism field, and to further the understanding of the tourists' behaviour and experience.

1. Introduction

The psychological state of Flow, put forth in 1975 by Csikszentmihalyi, has attracted extensive attention from both scholars and practitioners, as a positive psychology approach to understanding the optimal experiences (Csikszentmihalyi, 2014a, 2014b; Jackson, 1992, 2012; Jackson & Eklund, 2002; Voelkl & Ellis, 1998; Csikszentmihályi and LeFevre, 1989). The interest from the researchers to explore Flow is evident in several areas and contexts, from psychology and leisure (Coble, Selin, & Erickson, 2003; Havitz & Mannell, 2005; Kleiber, 2012; Lee & Payne, 2016) to other areas and disciplines, such as art production and consumption (Aykol, Aksatan, & İpek, 2017; Freer, 2009); gambling (Khazaal et al., 2013; Trivedi & Teichert, 2017; Wanner, Ladouceur, & Vitaro, 2006); gaming (Buil, Catalán, & Martínez, 2018; Voiskounsky, Mitina, & Avetisova, 2004, 2005); and in the context of social media and online or virtual activities (Barnes & Pressey, 2016; Cheon, 2013; Stavropoulos, Alexandraki, & Motti-Stefanidi, 2013). The importance of the concept can be seen in recent studies, including in the tourism context (Abuhamdeh, 2020; Filep & Laing, 2019; Vada, Prentice, Scott, & Hsiao, 2020), which reinforces the value and importance of positive psychology and Flow during every experience customers live (Csikszentmihalyi, 2014a, 2014b).

This individual search for a specific state of mind is the foundation upon which the tourism experience has been developed over the past decades, and on the basis on which the concept of Flow was built (Csikszentmihalyi, 1975, 1990; Csikszentmihalyi & Nakamura, 2014; Jackson & Marsh, 1996). Flow, defined as a subjective optimal experience, or an ecstasy state, lived by individuals during events or tasks while being performed (Csikszentmihalyi, 1990), is central and a core concept of the theoretical and operational framework of the experience (s) (Frouchot, 2019). Flow has been found to have the potential to awake emotions during experiences, and to strongly contribute to the creation of positive experiences, despite the context (Duerden, Ward, & Freeman, 2015; Tyng, Amin, Saad, & Malik, 2017).

In tourism psychology, prior studies (e.g., Holbrook & Hirschman, 1982; Huang, Wei, & Leung, 2020; Maslow, 1962) found that the relationship between Flow and experiences was highly relevant. This link resonates with the tourists' and individuals' need to move away from the

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ordinary towards the extraordinary, to be exposed to highly rewarding and positive experiences (Huang et al., 2020). In fact, tourists' main motivation is to be exposed to and live experiences that immerse them into highly rewarding and rich psychological states (Aykol et al., 2017; Pine & Gilmore, 1999, 2011). Moreover, emerging claims that Flow is at the essence of leisure experiences have been carried out by scholars in the tourism field (Kim & Thapa, 2018; Ritchie & Hudson, 2009). However, it has been acknowledged that most Flow studies are centred on physical activities and sports (Sinnamon, Moran, & O'Connell, 2012). For that reason, the connection between Flow and tourists' experience remains understudied, and there is little knowledge about the role of Flow during experiences' consumption (Huang et al., 2020; Lee, Ha, & Johnson, 2019; Sthapit & Coudounaris, 2018; Tung & Ritchie, 2011). For example, Huang et al. (2020) claim that "the way tourists assess their best experiences, and the underlying reasons of such experiences remain a pertinent but under-researched area in the tourism experience literature" (p. 1). These claims, along with recent literature (Ellis, Freeman, Jamal, & Jiang, 2019; Ellis, Freeman, Jiang, & Lacanienta, 2019; Frochot, Elliot, & Kreziak, 2017), have highlighted the critical importance of Flow and other related concepts to provide tourists with the chance of *digging deep* or being immersed in an experience.

The debate around the role of Flow for the tourists' experience is pivotal for both researchers and industry practitioners because Flow is critical to understand customers' motivation, but also their behaviour (Jackson, 2012). One solution to furthering the knowledge in this area is to perform a literature review to examine the concepts and variables that lead individuals, in general, and tourists, in particular, to Flow, and by extending this debate by looking at its drivers, processes, and outcomes. Following recent discussions on humanist thinking in tourism (e.g., Filep & Laing, 2019; Pearce & Packer, 2013), this review intends to identify current developments in positive psychology and tourism, so they may be employed and used in understanding tourists' behaviour and experience.

Accordingly, our study aims to put forth a systematic quantitative literature review to understand the state-of-the-art of the Flow experience and expose the core elements of the Flow framework. The relevance of this review is twofold. Firstly, a systematic literature review of Flow in tourism literature is overdue, although several authors have addressed the importance of studying the state of Flow or similar states in which experiences become intense in opposition to ordinary experiences (Kim, 2016; Pine & Gilmore, 1999; Quan & Wang, 2004; Schmitt, 1999). Therefore, this review is timely, by contributing to bridging such literature gap. Secondly, the review advances the understanding of the topic by identifying research trends and research opportunities.

This paper is organized as follows: after this introduction, section two presents a review of relevant literature about the Flow concept, dimensions, and applications. Section three details the methodology used to collect, select, and analyse the data retrieved from bibliographic databases. In section four, the findings of the literature review are examined and explored. Section five discusses the theoretical findings and implications that underpinning the study. Finally, section six highlights the main conclusions and the theoretical and practical implications of the study.

2. Literature review

The Flow theory is the psychologist Mihaly Csikszentmihalyi's attempt to understand the activity of "rewarding in and of itself" (Nakamura & Csikszentmihalyi, 2009, p. 89), i.e., the inner-self. Flow has been initially defined as "the holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1975. p. 4). Jackson and Marsh (1996) state that Flow "occurs when the performer is totally connected to the performance, in a situation where personal skills equal required challenges" (p. 17). Flow can be described as a subjective experience lived by individuals during events or tasks being performed, and is often associated with delight, enjoyment and loss of control (Csikszentmihalyi, 1990; Mosing et al., 2012; Ullen et al., 2012), which is, to a certain extent, the outcome expected for tourism experiences. Effortless attention is also referred to as a characteristic of Flow, to describe a state in which individuals are so absorbed in a challenging task or event that they lose track of time (Rodriguez-Sanchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011; Wang & Hsu, 2014; Wright, Wright, Sadlo, & Stew, 2014a).

The Flow phenomenological map was first divided into three regions of the experience (i.e., Flow channel, boredom region, and anxiety region) and later changed to eight experiential channels (Apathy, Boredom, Worry, Anxiety, Relaxation, Control, Arousal, and Flow), with concentric rings representing the level of intensity of the experience (Csikszentmihalyi, 1975; Csikszentmihalyi, 2014a, 2014b). Three main conditions support the Flow occurrence. First, the perceived challenges and the required skills should match the individuals' capabilities; second, clear and proximal goals should be set; third, immediate and precise feedback should be given regarding the progress made (Nakamura & Csikszentmihalyi, 2009; Tse, Nakamura, & Csikszentmihalyi, 2020). Csikszentmihalyi's proposal conceptualizes nine dimensions (i.e., challenge and skills balance; merging of action and awareness; clear goals; unambiguous feedback; concentration on the task at hand; the sense of control; loss of self-consciousness, the transformation of time; *autotelic* experience) as key characteristics of the state of Flow. Fong, Zaleski, and Leach (2015) defined the autotelic experience as an "activity being intrinsically rewarding and enjoyable, or that the task has a purpose in and of itself" (p. 3).

Csikszentmihalyi's seminal works between the 1970s and 1990s introduced and shaped the academic research about Flow, leading to most studies employing Csikszentmihalyi's (1990) perspective across several different settings, such as sports (Jackson & Marsh, 1996; Kohoutkova, Masaryk, & Reguli, 2018), arts (Aykol et al., 2017), and videogames (Sites & Potter, 2018). Over the past decades, several scholars have continued to take different theoretical and methodological approaches to Flow. Among these, Frouchot (2019), in the tourism context, recently recalled the difference between Flow, and Optimal Experiences and Peak Experiences, in which ordinary people at ordinary times can have a fulfilling and happy experience while performing a task (e.g., working or travel). Prior studies highlighted that the Flow dimensions' weight can vary across the diverse contexts (Lee et al., 2019) and that the balance between challenges and skills is not a mandatory condition for Flow to be experienced (Løvoll & Vittersø, 2014). These findings may explain why the plethora of studies on the subject has led to diverse meanings and understandings (Frouchot, 2019). According to Quinn (2005), the reason for the divergence in the number of dimensions used in the application of the concept may be justified by the fact that not all dimensions are necessary, nor do they need to co-exist at the same time for individuals to experience Flow. The author argues that some dimensions turn out to be antecedents or outcomes of Flow. The lack of common ground in identifying the core elements of Flow can also be seen in studies in which the dimensions are not even identified (e.g., Chen, Ye, Chen, & Tung, 2010; Leung, 2020); instead, only some items are used to measure Flow. The difficult operationalization and evaluation of Flow are among the most common criticism of the concept (Løvoll & Vittersø, 2014). A thorough understanding of the Flow concept and the dynamics of its dimensions is determinant for improving the design of tourism experiences, to foster tourists' engagement and to produce positive outcomes.

3. The systematic quantitative literature review (SQLR) method

The study employed a systematic quantitative literature review (Chiao, Yang, Khoo-lattimore, & Arcodia, 2017; Patroni, Simpson, & Newsome, 2018; Ribau, Moreira, & Raposo, 2018), which is a reliable and reproducible method to perform systematic literature reviews (Pickering & Byrne, 2014; Pickering, Grignon, Steven, Guitart, & Byrne, 2015). The systematic literature review consists of a process to

"summarize in an explicit way, what is known and not known about a specific practice-related question" (Briner, Denyer, & Rousseau, 2009, p. 19). This process uses systematic procedures and methods to identify, collect, organize, select, and analyse the information used in SQLR (Xiao & Watson, 2019).

According to Moher et al. (2015), SQLR requires several steps: First, the *research question(s)* should be defined, establishing the boundaries of the SQLR objective. This study seeks to answer the following research question: What are the core elements of the flow framework and its contribution to tourism psychology research?

Second, a *review protocol* should be produced. The protocol followed in this study is presented in appendix 1. Two academic experts on the study's topic were consulted to select the search strings and criteria for the inclusion and exclusion of articles (Vada et al., 2020). Table 1 presents the search strings and Boolean operators used. The terms *Flow experience* and *optimal experience* were chosen to (i) focus on the core terms employed by the theoretical background; (ii) avoid retrieving an impracticable oversize sample of papers; and (iii) reduce potential biases, considering the study's aim.

Third, a *literature search* was conducted in December 2019 in Web of Science (WOS) and Scopus databases (Le, Scott, & Lohmann, 2018). These two databases are among the largest research databases covering vast interdisciplinary areas (Agapito, 2020). They were selected because of their comprehensiveness (Gorraiz, Melero-Fuentes, Gumpenberger, & Valderrama-Zurián, 2016) and high impact, in opposition to Google Scholar (GS), since, despite the GS's advantage in terms of coverage, it includes a large number of low impact documents (Martín-Martín, Orduna-Malea, Thelwall, & Delgado López-Cózar, 2018).

The articles' main selection criteria were based on having been peer-reviewed, written in the English language, and pertaining to the subject areas of Social Sciences and Psychology (Table 2). All articles included, either in the title, abstract or keywords, at least, one of the Boolean terms were selected for screening. This type of criteria is a common procedure in this kind of review to reduce variability and to simplify subsequent synthesizing of the findings (Chiao et al., 2017; Figueroa-Domecq, Pritchard, Segovia-Pérez, Morgan, & Villacé-Molinero, 2015; Vada et al., 2020).

The search output resulted in 1363 articles, whose title, abstract, and keywords were downloaded and imported to a reference manager software (Mendeley.com). In this process, the duplicate publications (n = 514) were eliminated, resulting in an initial list of 849 publications that met the study's aim and inclusion criteria. The authors performed a screening of the articles' title, abstract, objectives, research contexts (e.g., leisure, occupational), and keywords. At the end of the screening process, 667 articles were identified to be excluded due to inadequate topic, or not being relevant to the study's aim. As a result, 182 peer-reviewed articles were selected, and the full-text was downloaded for content analysis.

Table 1
Search terms and Boolean operators on WOS and Scopus.

Boolean operators without any selection criteria	Results	
	WOS	Scopus
"Flow experience" TITLE-ABS-KEY ("Flow experience")	809	1235
"optimal experience" TITLE-ABS-KEY ("optimal experience")	317	347
"Flow experience" or/and "optimal experience" (TITLE-ABS-KEY (Flow) OR TITLE-ABS-KEY ("optimal experience") OR TITLE-ABS-KEY ("Flow experience"))	1064	1494
Boolean operators with filters applied in the selection of the articles	**WOS**	**Scopus**
"Flow experience" or/and "optimal experience" (TITLE-ABS-KEY ("optimal experience") OR TITLE-ABS-KEY ("Flow experience") AND (EXCLUDE (LANGUAGE, "English") AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "PSYC")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English"))	791	572

Source: Own elaboration.

Table 2
Article selection and screening steps.

Step 1. Source and Keyword selection →	Step 2. Recording preliminary results
Sources • WOS • Scopus Timeframe (without date limitation): From January 1987 to December 2019 Keyword set: Experience Flow, optimal experience.	Showing result first round from keyword search in the two databases. • WOS = 791 • Scopus = 572 Total = 1363 articles
Step 3. Screening related articles →	Step 4. Final articles screening
The three authors read the title, abstract, and keywords of each manuscript for screening the articles. Articles are categorized into three groups: 1) Flow was explicitly stated in the article's title, abstract, or keywords. 2) Flow could be inferred, but the contents are not explicit. 3) 3) The articles are not related to the Flow concept.	All authors selected articles in category 1. The results were: Sources • WOS • Scopus Total = 182 articles Articles added in reference search = 3 Total articles included for synthesis = 185

Source: Adapted from Wattanacharoensil and La-ornual (2019).

The articles' full-text assessment allowed identifying three additional articles in a reference search, which were included for the SQLR as they address the Flow topic, met the inclusion criteria and were recently published. The final number of studies for the analysis was 185 articles.

The fourth step, *extract literature*, consisted of summarizing and listing the 185 full-text articles' data using an Excel spreadsheet, containing the authors' names, publication year, context, methodology, the publication's title, main findings, and the journal's name. The full text of the articles was again reviewed and screened by the first author to verify its eligibility. The Excel spreadsheet was then shared with the other authors for validation.

The fifth step entailed *synthesizing findings*. An inductive and deductive content analysis was made, which are both commonly used methods in social sciences and psychology (e.g., Swann, Crust, Keegan, Piggott, & Hemmings, 2015). The former was used to reduce or group data, by discovering themes (e.g., personality) or subthemes (e.g., autotelic personality, personality traits), and to analyse open or semi-structured data in qualitative research (Kyngäs, Mikkonen, & Kääriäinen, 2020). The latter was carried out subsequently by relying on several studies (e.g., Choe, Kang, Seo, & Yang, 2015; Vada et al., 2020) to validate theoretically the data retrieved by grouping the themes (theoretical and methodological framework) and subthemes (Flow drivers, processes and outcomes) into those categories. At the end of this process, the authors decided on the need to synthesize and group even more the data reviewed and the themes. As such, the findings were further divided into two additional subsections: a) the descriptive analysis, and b) future research agenda, in accordance with previous studies performing the same type of quantitative synthesis and interpretation (e.g., Johnson & Eagly, 2000; Vada et al., 2020).

4. Findings

4.1. Descriptive analysis

The majority of the studies reviewed – 168 articles (91%) – were empirical, whereas 17 articles (9%) were conceptual. The articles retrieved following the described criteria covered the Flow theory from 1985 to 2019 (Fig. 1). The growth of the interest in the topic can be

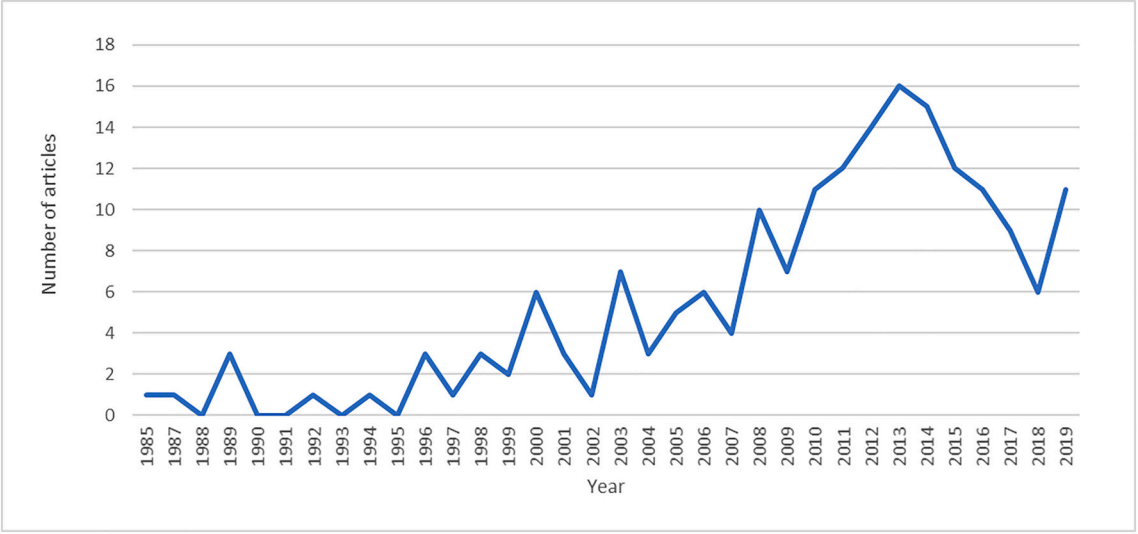

Fig. 1. Number of articles retrieved per year.
Source: Own elaboration.

witnessed mostly between 2010 and 2016, when the volume of articles is higher, with the publication of 11 or more articles per year.

The 185 articles retrieved were published in 112 different journals (Table 3). Most of the articles were published in Computers in Human Behavior (CHB) – 11 articles (6.1%). The Journal of Leisure Research (JLR) and the Journal of Happiness Studies (JHS) both contributed with seven articles (3.9%), and Psychology of Sport and Exercise (PSE) with six articles (3.4%). The journals Leisure Sciences and Personality and Individual Differences contributed with five articles (2.7%) each. The inclusion of two journals in the area of leisure in the top six contributors reveals the topic's interest within the experiential context, including in tourism.

Other journals, related to other scientific areas, also published articles addressing the topic; for example, the Spanish Journal of Psychology (SJP) published four articles (2.2%), the Journal of Occupational Science (JOS) published four articles (2.2%), the Journal of Psychology:

Table 3
Published articles/year by journals.

Journals year	CHB	JLR	JHS	PSE	LS	PID	SJP	JOS	JPIA	JOB	SIR	Other journals	Total
1958												1	1
1987					1								1
1989												3	3
1992												1	1
1994												1	1
1996												3	3
1997												1	1
1998		2										1	3
1999	1											1	2
2000												6	6
2001		1										2	3
2002						1						0	1
2003		1		1	1							4	7
2004	1										1	1	3
2005		1								1		3	5
2006								1				5	6
2007	1							1				2	4
2008	1						2		1			6	10
2009			3									4	7
2010	1	1									1	8	11
2011				1		1				1		9	12
2012			1	1	2	2			1	1		6	14
2013	2		1		1							12	16
2014			1			1	1	2			1	9	15
2015	1	1		1			1					8	12
2016	2		1	1					1			6	11
2017												9	9
2018									1			5	6
2019	1			1								9	11
Subtotal	11	7	7	6	5	5	4	4	4	3	3	119	185
Cumulative Total	11	18	25	31	36	41	45	49	53	56	59	185	

Notes: CHB – Computers in Human Behavior, JLR – Journal of Leisure Research, JHS – Journal of Happiness Studies, PSE – Psychology of Sport and Exercise, LS – Leisure Sciences, PID – Personality and Individual Differences, SJP – Spanish Journal of Psychology, JOS – Journal of Occupational Science, JPIA – Journal of Psychology: Interdisciplinary and Applied, JOB – Journal of Organizational Behavior, SIR – Social Indicators Research.
Source: Own elaboration.

Interdisciplinary and Applied (JPIA) published four articles (2.2%), the Journal of Organizational Behavior (JOB) published three articles (1.7%), and the journal Social Indicators Research (SIR) published three articles (1.7%). A more detailed view, in which the authors are included (Table 4), allows verifying that, from the late 1990s up to 2019, the topic continued to be important to these journals and the authors.

The results also allowed identifying the most productive authors in the area (Fig. 2). Among them, two Italian authors, Della Fave (nine articles, 5%) and Bassi (seven articles, 3.9%) stand out. These two authors, along with Csikszentmihályi, Fullagar, and Swann (five articles, 2.8%), were the most prolific authors addressing the Flow theoretical and empirical framework within the 1985–2019 timeframe, according to the data retrieved.

Table 4
Articles' distribution by journals with higher number of articles and authors.

Journal	Nr.	%	Authors
Computers in Human Behavior	11	6	Bilgihan, 2016; Chen, Wigand, & Nilan, 1999; Cipresso et al., 2015; Faiola, Newlon, Pfaff, & Smyslova, 2013; Kim & Ko, 2019; Kim, 2016; Sedig, 2007; Skadberg & Kimmel, 2004; Stavropoulos et al., 2013; Takatalo, Nyman, & Laaksonen, 2008; Zaman, Anandarajan, & Dai, 2010.
Journal of Leisure Research	7	3.9	Bassi & Fave, 2010; Coble et al., 2003; Duerden et al., 2015; Havitz & Mannell, 2005; Vittersø, Vorkinn, & Vistad, 2001; Voelkl & Ellis, 1998; Walker, 1998.
Journal of Happiness Studies	7	3.9	Bassi, Steca, Monzani, Greco, & Delle Fave, 2014; Carpentier, Mageau, & Vallerand, 2012; Ceja & Navarro, 2009; Collins, Sarkisian, & Winner, 2009; Engeser & Baumann, 2016; Mesurado & de Minzi, 2013; Rogatko, 2009.
Psychology of Sport and Exercise	6	3.4	Bakker, Oerlemans, Demerouti, Slot, & Ali, 2011; Bortoli, Bertollo, Hanin, & Robazza, 2012; Jackman, Swann, & Crust, 2016; Pates, Karageorghis, Fryer, & Maynard, 2003; Swann, Jackman, Schweickle, & Vella, 2019; Swann, Piggott, Crust, Keegan, & Hemmings, 2015.
Leisure Sciences	5	2.8	Allison & Duncan, 1987; Jones, Hollenhorst, & Perna, 2003; Stenseng, Rise, & Kraft, 2012; Woeran, Arnberger, Wöran, & Arnberger, 2012; Wu, Scott, & Yang, 2013.
Personality and Individual Differences	5	2.8	Boyd-Wilson, Walkey, & McClure, 2002; Mosing et al., 2012; Ross & Keiser, 2014; Teng, 2011; Ullen et al., 2012.
Spanish Journal of Psychology	4	2.2	Calvo, Castuera, Ruano, Vaillo, & Gimeno, 2008; Liu, Ji, & Watson II, 2015; Moreno Murcia, Cervelló Gimeno, & González-Cutre Coll, 2008; Rufi, Javaloy, Batista-Foguet, Solanas, & Paez, 2014.
Journal of Occupational Science	4	2.2	Jonsson & Persson, 2006; Wright, Sadlo, & Stew, 2007; Wright et al., 2014a.
Journal of Psychology: Interdisciplinary and Applied	4	2.2	Bassi & Delle Fave, 2012; Mesurado, Cristina Richaud, & José Mateo, 2016; Mills & Fullagar, 2008; van den Hout, Davis, & Weggeman, 2018.
Journal of Organizational Behavior	3	1.7	Ceja & Navarro, 2011; Demerouti, Bakker, Sonnentag, & Fullagar, 2012; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005.
Social Indicators Research	3	1.7	Chen et al., 2010; Delespaul, Reis, & de Vries, 2004; Løvoll & Vittersø, 2014.

Source: Own elaboration.

The affiliation of the first author included 32 countries (Fig. 3). The top five countries with the most published articles were the USA (32%), followed by Italy (8%), Spain (7%), UK (7%), and Canada (6%).

The top three contexts in which studies applying the Flow concept were carried out, within the disciplinary fields of social sciences and psychology, were the occupational (27%), the learning (18%), and the virtual (16%) ones. However, the context of tourism and leisure (15%) follows very closely. Other fields exploring the concepts are sports (15%), musical (6%), and gaming (2%) (Fig. 4).

During the content analysis stage, the review also allowed identifying key concepts related to Flow. Among these, the ones depicted in Table 5 were deemed relevant, regarding the drivers, process, and Flow outcomes.

4.2. Flow conceptualization

4.2.1. Flow domains of study and application

Csikszentmihalyi's (1975) Flow concept helped to develop and better understand the mechanisms that Flow entails during the diverse activities and at different places (Aboubaker Ettis, 2017; Faiola et al., 2013; Klasen, Weber, Kircher, Mathiak, & Mathiak, 2012; Kühn & Petzer, 2018; Mao, Roberts, Pagliaro, Csikszentmihalyi, & Bonaiuto, 2016; Ozkara, Ozmen, & Kim, 2016; Pelet et al., 2017). The permanent academic growth of the Flow concept has reinforced the existing literature about the positive psychology and optimal experience and emphasized the self and positive dimensions, particularly those related to individual development (Choe et al., 2015; Lee & Chen, 2017; Magyaródi & Oláh, 2015; Mesurado & de Minzi, 2013; Rathunde, 1989, 1996; Swann, Crust, & Vella, 2017). For this reason, several studies address topics such as self-esteem, self-concept, psychological well-being, happiness, and satisfaction with life (Freire, Lima, Teixeira, Araújo, & Machado, 2018; Freire, Tavares, Silva, & Teixeira, 2016). These studies' findings are relevant for tourism since most tourist experiences are expected to provide tourists with happiness and increase their physical and psychological well-being.

Several attempts have been made to understand how Flow influences human development and individual experiences in various domains of psychology and social sciences (Choe et al., 2015; Csikszentmihalyi & Rathunde, 2014; Freire et al., 2018; Lee & Chen, 2017; Moreno Murcia et al., 2008; Rathunde, 1989, 1997, 2014). The relationship between Flow and productivity during occupational activities (Min, Delong, & LaBat, 2015; van den Hout et al., 2018), or daily routine life (Delle Fave & Bassi, 2009; Voelkl & Ellis, 1998), has been reported in the past (Jonsson & Persson, 2006; Kulkarni, Anderson, Sanders, Newbold, & Martin, 2016; MacDonald, Byrne, & Carlton, 2006). Researchers examined the core job dimensions during the participants' work to attain an optimal state and its influence on subjective well-being (Demerouti et al., 2012; Fullagar & Kelloway, 2009; Oh, Assaf, & Baloglu, 2016). Similarly, in the educational environment, experiencing Flow impacts students' interest, knowledge attainment, and understanding during lectures (Coleman, 2014; Culbertson, Fullagar, Simmons, & Zhu, 2015). Thus, Flow mediates the constant interaction between the individual and the virtual environment in the several contexts, such as learning, gaming, but also tourism and leisure, to provide experience enrichment and various outcomes (e.g., emotion, satisfaction) (Barnes & Pressey, 2016; Burgess & Ice, 2011; Faiola et al., 2013; Kim & Ko, 2019).

In other contexts, such as sports (Boyd, Schary, Worthington, & Jenny, 2018; Liu et al., 2015), over the past decades, the examination of athletes' performance (e.g., psychological states, analysis of the goals' pursue) has been a challenge (Jackman et al., 2016; Swann, 2016; Swann et al., 2017). The emphasis on the relationship between Flow and performance was also made about learning, playing or composing music, individually or in a group. Depending on the engagement level during music practice, Flow can take people to be *in the zone* (Borovay, Shore, Caccese, Yang, & Hua, 2019; Marin & Bhattacharya, 2013). Such

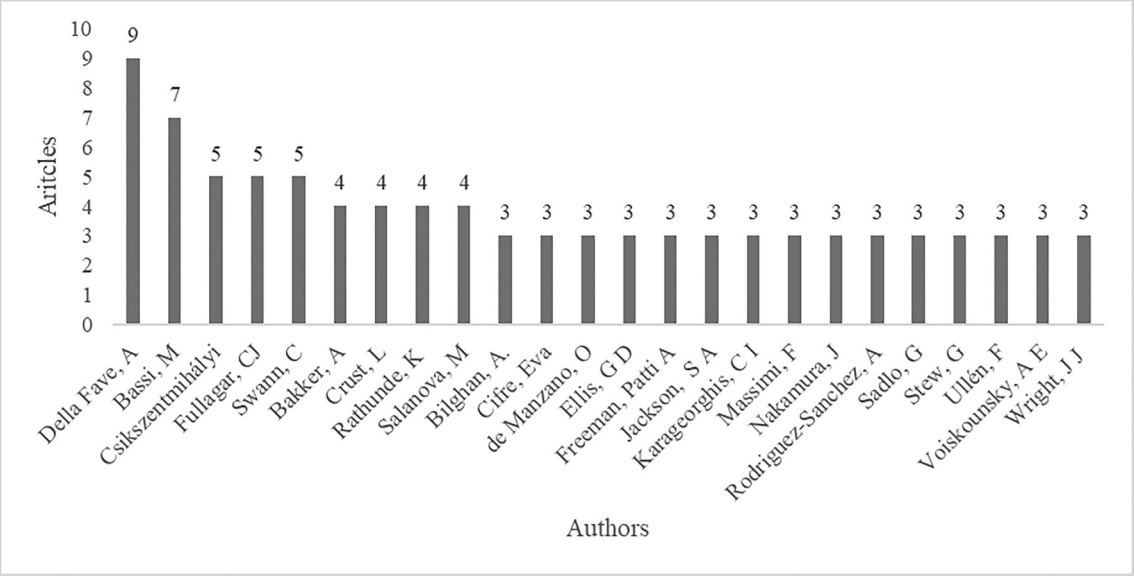

Fig. 2. Number of publications by author.
Source: Own elaboration.

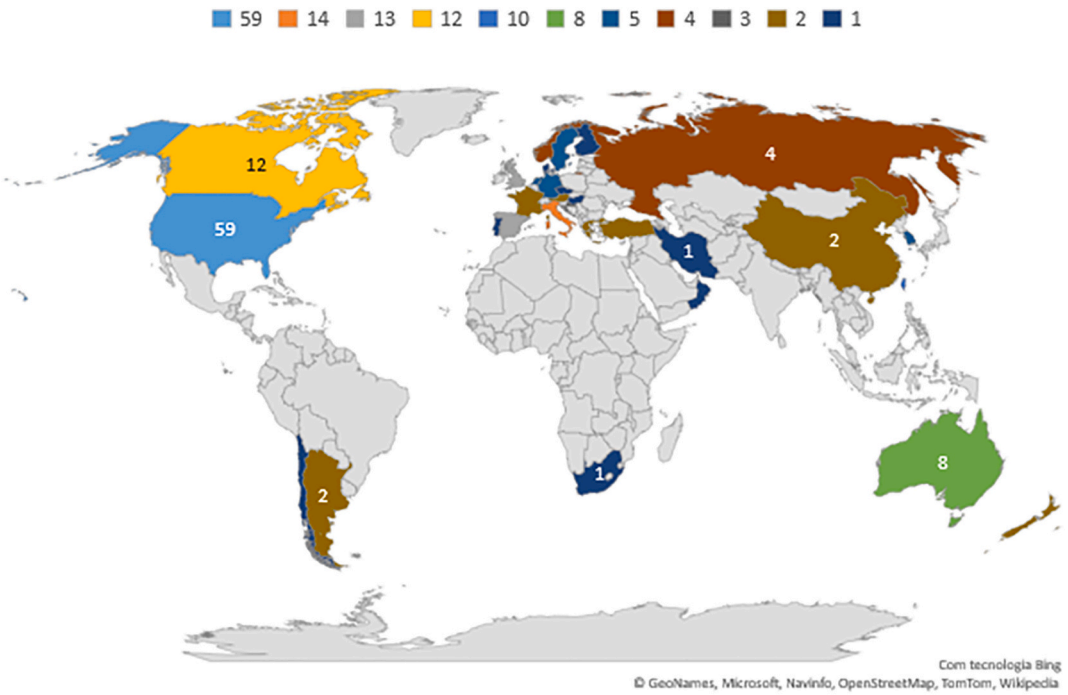

Fig. 3. Authors' country of affiliation.
Source: Own elaboration.

zone provides the opportunity, not only for music students or gamers but also for athletes, to overcome their challenges and, consequently, has an impact on the quality of their performance and on the reward each individual receives (MacDonald et al., 2006; Marin & Bhattacharya, 2013; Panebianco-Warrens, 2014; Wrigley & Emmerson, 2013). In particular, gamers engage in gaming experiences in which concentration-enjoyment provides them with intrinsic self-rewarding moments, i.e., Flow (Buil et al., 2018; Sites & Potter, 2018; Voiskounsky et al., 2004). These studies' findings are particularly important when considering the implementation of Tourism gamification solutions, which can increase the interaction between visitors seeking meaningful and more stimulating experiences from tourism providers and tourism attractions.

Regarding consumer behaviour, particularly in the tourism and leisure domains, Flow has also received some attention (Alexiou, 2018; Bilgihan, 2016; Coble et al., 2003; Frochot et al., 2017; Lee & Payne, 2016). In these areas, several studies showed that Flow could be an important element in influencing the consumers' behaviour and assessment of their experiences in any leisure context, in online or offline environments (Henke, 2013; Hernandez & Vicdan, 2014; Lotz, Eastlick, Mishra, & Shim, 2010; Tasci & Milman, 2017).

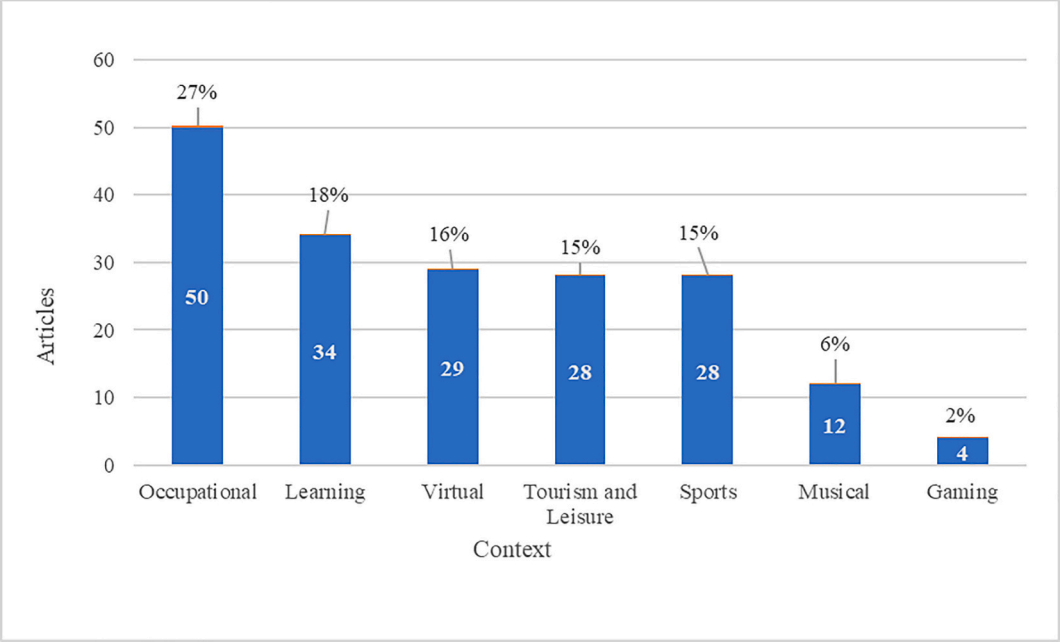

Fig. 4. The context in which articles studies were conducted.
Source: Own elaboration.

Table 5
Key Flow concepts understudied in the context of tourism.

Role	Concept	Definition
Driver	Intrinsic motivation	"[…] intrinsic motivation refers to the state in which people engage in the work activity for their own sake rather than for some extrinsic reward" (Demerouti et al., 2012, p. 277).
Driver	Extrinsic motivation	"[…] wide range of behaviors considered to be means to an end. The fundamental goals of such behaviors are to receive something positive and avoid something negative" (Kowal & Fortier, 2000, p. 172).
Driver	Autotelic personality	"[…] represents an individual difference factor believed to […] [influence the] propensity [for people] to experience Flow" (Ross & Keiser, 2014, p. 3).
Driver	Flow proneness	"Tendency to experience Flow" (Ljubin-Golub, Rijavec, & Jurčec, 2018, p. 99).
Process	Flow	"Flow is an optimal experience that results in intense engagement in an activity" (Wang & Hsu, 2014, p. 912).
Process	Telepresence	"[…] a subjective feeling of immersion into a virtual environment" (Pelet, Ettis, & Cowart, 2017, p. 118).
Process	Immersion	"[…] a feeling of well-being, development and satisfaction" (Carù & Cova, 2003, p. 60).
Outcomes	Satisfaction	"[…] the degree to which consumers' perceptions of their … experience confirm their expectations."(Cheon, 2013, p. 318).
Outcomes	Enjoyment	"[…] positive feeling of enjoyment while being engaged in the activity […]" (Rodriguez-Sanchez, Schaufeli et al., 2011, p. 76).
Outcomes	Happiness	"[…] form of experiences of hedonic enjoyment […]" (Tsaur, Yen, & Hsiao, 2013, p. 363).

Source: Own elaboration.

4.2.2. *Drivers, processes, and outcomes of flow*

Previous studies suggest that two key issues may be important Flow drivers: personality and motivation. The importance of personality and personality traits as Flow drivers has been highlighted previously, particularly concerning Flow proneness – the individuals' propensity to experience Flow (e.g., Kowal & Fortier, 1999; Mills & Fullagar, 2008; Rea, 2000; Voiskounsky & Smyslova, 2003). As for the motivation, several studies found that intrinsic and extrinsic motivation are pivotal in enabling individuals to develop skills to respond to environmental cues and reaching the state of activation (Bassi et al., 2014; Mesurado & de Minzi, 2013; Ross & Keiser, 2014). Hence, to achieve the Flow in tourism, the tourist must display some level of Flow proneness and be motivated to activate the Flow state when provided with adequate environmental cues.

Other researchers investigated the process of Flow and the variables that influence the way individuals experience it. In this regard, new dimensions, besides traditional ones (e.g., time distortion, enjoyment), were found during the holiday experience at the same time as Flow (e.g., immersion, absorption) that can help individuals to have better experiences (Barnes & Pressey, 2016; Bilgihan, Okumus, Nusair, & Bujisic, 2014; Bucher & Fieseler, 2017; Ellis, Freeman, Jamal, & Jiang, 2019; Frochot et al., 2017). In the same context, Lee and Payne (2016) studied Flow in different types of leisure events. They found that customers that engage in activities enhancing cognitive stimulation are more prone to experience Flow. The authors also argued that "what matters the most to experiencing Flow is not what we do, but how we do it" (Lee & Payne, 2016, p. 163). This is important for planning tourism experiences, which must be designed to not only focus on the outcome but also taking into consideration the way people will interact with the experience.

Such view was found in other studies assessing the quality of the experience during consumption or purchase of products and services (Bilgihan et al., 2014; Bilgihan, Nusair, Okumus, & Cobanoglu, 2015; Hoffman & Novak, 2009; Novak, Hoffman, & Duhachek, 2003; Pelet et al., 2017). An environment of particular interest to the researcher's evaluation of the quality of the experience was the online one. In one of their various studies, Bilgihan et al. (2014) suggested that e-commerce managers must provide specific hooks to customers (i.e., immersion, engagement, emotions, and co-creation), during online shopping experiences to help them experience Flow.

Moreover, this review identified that the most frequent Flow outcomes studied were about life satisfaction, well-being, happiness, pleasure, and enjoyment (Bassi et al., 2014; Chen et al., 2010; Collins et al., 2009; Pelet et al., 2017; Rijavec, Ljubin-Golub, & Olčar, 2016; Rodriguez-Sanchez, Schaufeli, et al., 2011; Ullen et al., 2012). However, it

was also reported that individuals experiencing Flow have a higher degree of trust and loyalty (Bilgihan, 2016). Therefore, experiencing Flow may heighten the tourist's confidence and loyalty towards the destination.

It was also postulated that Flow contributed to individuals' detachment from ordinary life (e.g., Demerouti et al., 2012). Conversely, the review found that the Flow process may also include negative outcomes, such as anti-Flow episodes, generating potential dissociative disorders among individuals, physical pain or negative dimensions (e.g., fear) (Schattke, Brandstätter, Taylor, & Kehr, 2014; Tse, Fung, Nakamura, & Csíkszentmihályi, 2016; Wanner et al., 2006).

4.2.3. Development of new theories

In an attempt to understand the Flow state, different perspectives were proposed. The literature revealed the existence of alternative theoretical frameworks related to Flow. Although the majority of the studies ($n = 152$) applied the Flow theory (82%), the Clutch State theory was used in three studies (2%), and the Reversal theory in two (1%). The remaining articles ($n = 28$, 15%) applied other theories, such as the Social Cognitive Theory and the Self-Determination Theory, for example (Table 6).

The Flow theory seeks to understand, from the outset, why individuals are so motivated and persistent to engage in absorptive activities for the intrinsic reward of the self (i.e., autotelic activity). Motivation is crucial for Rea (2000), who examined the theory of optimal motivation for talent development, finding a balanced process between different motivational conditions and serious fun in which students attained and maintained a high level of talent development. In the author's words, optimal motivation can be described "[…] as a 'flow' experience in which students become so absorbed in a task that they lose track of time and their efforts seem 'effortless'" (Rea, 2000, p. 187). During such a Flow state, the conditions and potential negative consequences (e.g., fatigue, pain) that may occur are ignored, to a certain extent (Csikszentmihalyi, 1990). These conditions can create frustration, boredom or a sense of lack of control in the individual, which, according to Allison and Duncan (1987), are the antithesis of flow, i.e., anti-flow. However, when addressing the consequences of Flow, most studies emphasized mainly the positive outcomes related to positive emotions (e.g., happiness) (Collins et al., 2009; Tsaur et al., 2013).

Despite the broad and extensive research on the Flow theory, other theoretical approaches were made by other authors, which have similarities with Flow and its goals. Among these is the Clutch State theory, which has been argued to be an overlapping but distinct state of Flow, occurring more rapidly than Flow, in specific situations that require individuals to increase their effort or intensity to conquer, win or achieve something important (e.g., winning a race) (Swann, Crust, & Vella, 2017). As for the Reversal theory, a theory about motivation, emotion, and personality, developed in the 1970s by Apter (2007), it suggests that individuals regularly move between different types of consciousness states similar to Flow (Wright et al., 2014b). The existence of several states similar to Flow is challenging for evaluating tourism experiences, inasmuch that the same experience may elicit different Flow manifestations, making it hard to identify and compare the outcome of the experience precisely.

Table 6
Flow and related theories.

Theoretical framework	Nr. of studies	Example of studies
Flow theory	146	Busch, Hofer, Chasiotis, & Campos, 2013; Delespaul et al., 2004; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; Elkington, 2010; Fullagar, Knight, & Sovern, 2013; Kim, Oh, & Lee, 2005; Klasen et al., 2012; Lambert, Chapman, & Lurie, 2013; Raphael, Bachen, & Hernández-Ramos, 2012; Schweinle, Turner, & Meyer, 2008; Tan & Chou, 2011; Valenzuela & Codina, 2014.
Clutch state theory	3	Duerden et al., 2015; Ellis, Freeman, Jiang, & Lacanienta, 2019.
Reversal theory	2	Wright et al., 2014a; Wright, Wright, Sadlo, & Stew, 2014b.
Other theories- Social Cognitive, Self-determination, Generational, Eudaimonistic identity, Complexity, Bottom-Up, Achievement goal, Optimal motivation, deep, effortless concentration, Antiflow	27	Allison & Duncan, 1987; Bassi & Delle Fave, 2012; Bilgihan, 2016; Bonaiuto et al., 2016; Ceja & Navarro, 2009; Chen et al., 2010; Linzmayer, Halpenny, & Walker, 2014; Marty-Dugas & Smilek, 2019; Moreno, Cervello, & Gonzalez-Cutre, 2010; Rodriguez-Sanchez, Salanova, et al., 2011.

Source: Own elaboration.

4.3. Methodological frameworks

This review found that, in the study of the Flow state, the most challenging task is to measure it. Primarily, because when individuals are deeply involved in an activity (i.e., *in Flow*), they are not fully conscious of their state, neither willing nor available to share their comments on it (Frochot et al., 2017). Findings from the literature show that diverse methods have been used to study the Flow state. The most common type of methodological approach, found in 168 empirical articles, was quantitative (77%), using several different statistical analyses (e.g., *t*-test, exploratory factor analysis, confirmatory factor analysis, structural equation modelling), followed by the qualitative methods (14%) (e.g., experience sampling method, interviews, phenomenological inquiries) and mix-methods (7%) (Table 7). New methods to analyse consumers' Flow were also applied (2%), particularly using physiology instruments in a non-invasive way, through wearable biosensors (e.g., electrodes in muscle, skin, piezo-electric respiratory belt, and electroencephalography).

Regarding the quantitative approach, different measurement tools have been proposed. Jackson and Marsh (1996) developed a Flow state scale (FSS) to overcome the problems from the initial qualitative instruments. Based on Csikszentmihalyi's (1975, 1990) theoretical framework, the authors identified nine dimensions, also called first-order scales (Challenge-skill, Action-awareness, Clear goals, Unambiguous feedback, Concentration, Sense of control, Loss of self-consciousness, Transformation of time and autotelic experience), corresponding to 36 items. Jackson, Ford, Kimiecik, and Marsh (1998) proposed another scale – the Dispositional Flow Scale (DFS) (e.g., Moreno et al., 2010; Jackson, Thomas, Marsh, & Smethurst, 2001). It is similar to the FSS, but with reformed and re-written items to focus more on finding Flow as a personality trait. Despite these developments, Jackson and Eklund (2002) and Jackson, Martin, and Eklund (2008) were not pleased with the instrument, so they made further modifications to the items to improve the measurement of Flow dimensions. These modifications led to two self-report instruments, FSS-2 and DFS-2, with a long version (36 items) and a short version (nine items) (Riva

Table 7
Research methodology in empirical articles.

Method	Nr. of articles	%
Quantitative	129	78%
Qualitative	23	12%
Mix-methods	12	7%
Physiology	4	2%
Total	168	100%

Source: Own elaboration.

et al., 2017). Such a plethora of measurements and interest by researchers led to the development of new approaches, such as WOLF – work-related Flow inventory – which was produced to measure Flow at work (Bakker, 2008). This scale was later improved and adapted (e.g., Wolf 2, I-WOLF, WOLF-S) to different settings and languages (Gouveia, Pais-Ribeiro, Marques, & Carvalho, 2012; Riva et al., 2017), and contexts, e.g., the educational (Bakker, Golub, & Majdarijavec, 2017) and the sport (Zito, Cortese, & Colombo, 2018) contexts, with successful results.

As for the qualitative studies, the most employed research method was the Experience sampling method (ESM) (Bassi & Fave, 2010; Ceja & Navarro, 2009; Engeser & Baumann, 2016; Jonsson & Persson, 2006). This was among the first qualitative instruments created by researchers to assess Flow. It consisted initially of contacting the study's participants via pager or phone to report their experience. An alternative method was also developed, in which individuals used a diary, where, at different moments of the day (for several days, ranging from two to 14 days), they reported their activities, thoughts, and psychological states (Cheng, Chen, & Lin, 2017; Delespaul et al., 2004; Riva et al., 2017).

However, other methodological approaches have been used in isolation or complementary to self-report measures, enabled by technological tools (Buil et al., 2018; Jin, 2011; Kim et al., 2005; Takatalo et al., 2008; Voiskounsky et al., 2004; Yeh, Chen, Rega, & Lin, 2019). These researchers used virtual environments, such as virtual simulators or games (e.g., avatar-based games, Multi-User Dimensions) among gaming communities (e.g., Cybermavens, MUDders), often using questionnaires after the (individual or group) experience to check the balance between skill and challenge, as well as its impact on Flow growth. More recently, Kim and Ko (2019) confirmed that Flow is stronger on sports media consumers, using virtual reality as a tool. In the study, the participants had the chance of watching an NBA (National Basketball Association) game on a virtual reality set, which amplified the participants' involvement and Flow.

The introduction of non-invasive methods, borrowed from the discipline of physiology, to understand how the human body works, using biosensors to test the individual's reactions to diverse stimuli (e.g., piezo-electric respiratory belt, and electroencephalography) (e.g., Cipresso et al., 2015; Wang & Hsu, 2014), mitigates the difficulty to compare individual and subjective experience(s) because researchers may not be addressing the same attributes of Flow (Wright et al., 2014b). Although several methods were used and various measures developed to assess Flow, the current review reveals no specific framework designed to evaluate Flow in a tourism context. For that reason, and since tourism experiences have particular characteristics, it would be valuable to stimulate the development of a set of items to measure Flow in tourism experiences.

5. Discussion

5.1. Past and present of flow

This study aims to establish the state-of-the-art of the Flow experience and to further extend the concept within the tourism area, where it is under-studied, to build an understanding of the tourists' behaviour and experience. The study's SQLR of 185 articles allowed looking into the past and present of the Flow theory and elucidate on the core elements of the Flow experience framework to help to shape future research avenues. As such, this study allowed the identification of four main results: First, although the Flow theory has expanded to various scientific domains, the mechanisms and triggers of Flow in those domains are not yet fully understood, in particular, within the specific context of tourism and leisure, where new approaches are needed. Second, the Flow theory has helped the development of new theoretical domains and psychological states (e.g., the Clutch state). Third, researchers are moving beyond the dichotomy of Skills and Challenges (i.e., they are using other dimensions and scales besides the Flow state scale), with new Flow dimensions being (re)incorporated into empirical studies.

Moreover, the focus of those studies is not just on a specific psychological state (i.e., Flow) but rather on the drivers, processes, and outcomes in which the whole Flow experience occurs. Fourth, new approaches using physiology methods paved the way to new ways of measuring Flow, a subjective and individual psychological state that is hard to capture, and an area where there is still much to explore, particularly on a concept that has been approached mostly through quantitative methods, despite some usage of qualitative methods. Nevertheless, the existing approaches do not address the specificities of the tourism sector. Therefore, there is the need to stimulate the development of measures allowing a more precise evaluation of Flow in the context of tourist's experiences.

This review indicates that the concept of Flow continues to generate significant interest for both academics and practitioners since Csikszentmihalyi's seminal work (e.g., Jackson, 1996; Swann et al., 2019). The study's *descriptive analysis* identified a rapid growth of research on Flow in Western countries, particularly the USA, which made a relevant contribution to its theoretical and empirical development. However, since the empirical studies were conducted within those countries, there is a lack of studies comparing the various cultural backgrounds of the research samples. This review also identified the need for a better understanding of the relationship(s) between Flow and other concepts, such as immersion, absorption and cognitive stimulation, which are under-studied.

The initial studies within different contexts, such as occupational science, education, and sports, provided the ground to explore the *Flow framework*. The review showed that researchers have been trying to understand and explore Flow within three domains: a) antecedents or drivers (which are the triggers of Flow); b) episodes or consumption contexts (when the processes of Flow occur); and c) consequences or outcomes (benefits of achieving Flow) (e.g., Vada et al., 2020). The relationship between the antecedents, context, and outcomes in tourism must be further studied to deepen the understanding of how these interact to motivate the consumption of tourism experiences and produce positive outcomes, such as destination trust and loyalty.

The studies included in this review suggest that existing research employed various *new theories* and models, but not all theories were compatible or overlapping. In the case of tourism, it is vital to evaluate which theories and models better serve the research objectives in tourism to guide the adjustment of existing procedures. This review also shows that researchers are moving beyond the boundaries of Csikszentmihalyi's (1975, 1990, 2014) phenomenological map. Firstly because finding a balance between skills and challenges is not the only way to measure Flow, considering that the imbalance between high challenges and high skills has proven to impact more on the subjective experience (Løvoll & Vittersø, 2014) and do not fully attend to the settings of tourism experiences. Secondly, other characteristics of Flow and similar concepts were found by other authors, which raise more questions about the future of the concept and the theoretical paths beyond the eight experiential channels (Apathy, Boredom, Worry, Anxiety, Relaxation, Control, Arousal, and Flow).

5.2. Future research agenda and propositions

This study's main contribution is to provide an encompassing overview of the extant core theoretical background on the Flow experience. Furthermore, this study explored the theories and methods that both Tourism scholars and industry practitioners can apply. Based on this research's findings, in this section, we discuss and offer propositions about research opportunities for Tourism (Fig. 5). Thus, scholars and practitioners can better understand the concept and its current limitations by identifying future development avenues.

The authors' review of the Flow concept shows that many studies have identified personality as a relevant element of Flow. Likewise, the tendency to experience Flow, or Flow proneness, has been associated

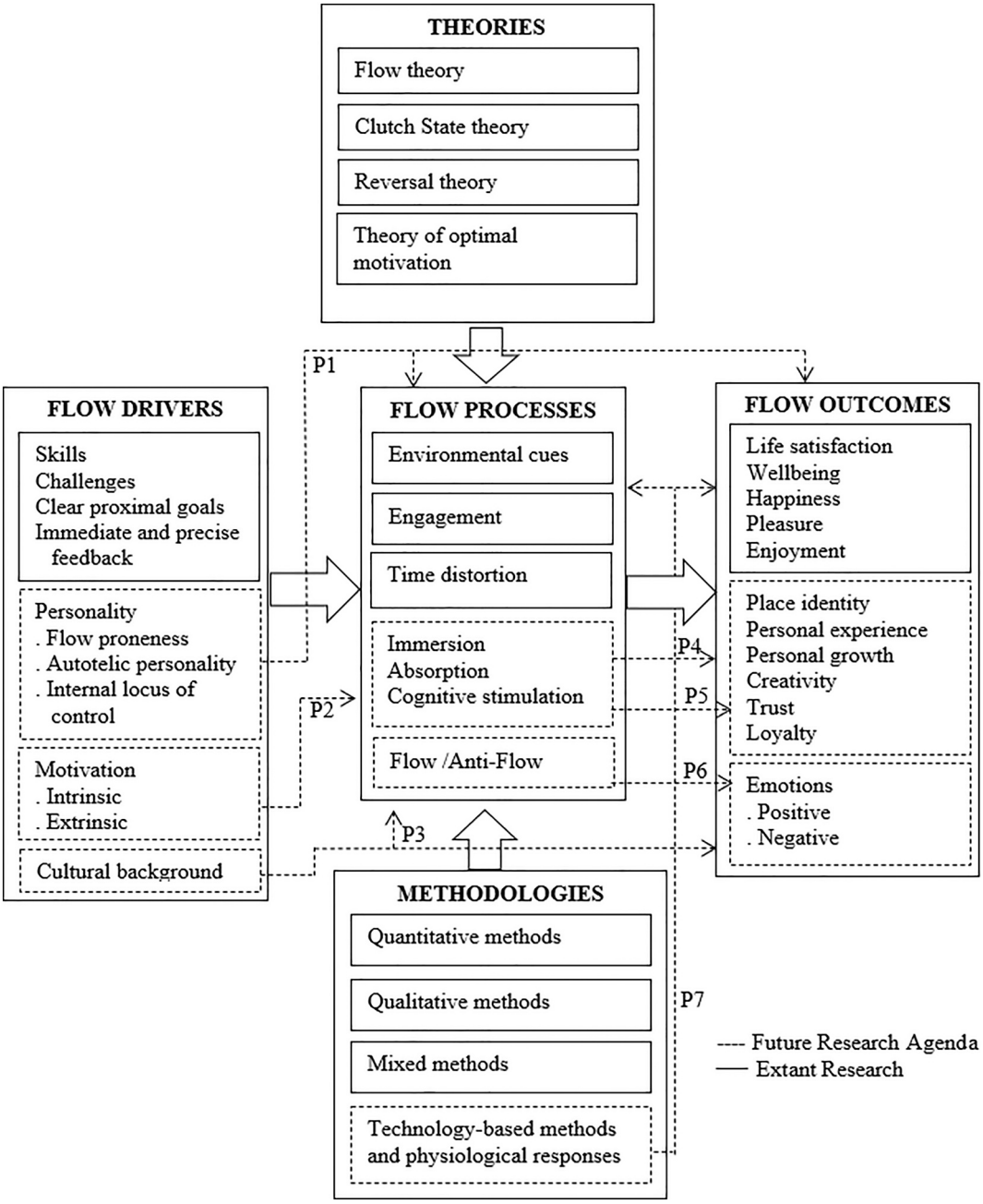

Fig. 5. Flow research agenda for tourism.

with different aspects of personality, i.e., personal traits, autotelic personality and internal locus of control, which were also found to influence the Flow state (Hernandez & Vicdan, 2014; Ljubin-Golub et al., 2018; Mosing et al., 2012; Ullen et al., 2012). For example, the concept of autotelic personality, put forth by Csikszentmihalyi in the 1990s, is used to describe individuals who act not to seek any external goal as a reward but for the intrinsic reward of the very experience (Csikszentmihalyi, 2000, 2014; Jackson & Marsh, 1996). Research indicates that this type of personality adds to augmenting consumers' satisfaction (Lee et al., 2019) and aids in their control over their behaviour (Taylor, Schepers, & Crous, 2006). Some individuals consider control as the result of their own actions, denoting what it called "internal locus of control" (Taylor et al., 2006). Thus, although researchers have highlighted personality as a predictor of tourists' behaviour and a driver of Flow, its characteristics need to be assessed more clearly, in particular within the tourism field, where consumers seek intrinsically rewarding experiences. Thus, the authors posit the following proposition:

Proposition 1. Personality characteristics and traits, such as Flow proneness, autotelic personality and internal locus of control, influence the tourists' Flow process and Flow outcomes.

The review showed that motivation contributes to the individual's Flow (Barnes & Pressey, 2016; Csikszentmihalyi & Nakamura, 2014; Mills & Fullagar, 2008). For example, Mills and Fullagar (2008) investigated the different motivation sources – intrinsic and extrinsic – in academic activities. Intrinsic motivation can support the learning process and, at the same time, increase individual happiness (Allison & Duncan, 1987). The reason for this claim lies in the fact that intrinsically motivated individuals are more goal-oriented and more concerned with the situation or context of the experience than those who are not intrinsically motivated (Csikszentmihalyi & Nakamura, 2014). Csikszentmihalyi & Nakamura (2014) also argue that "intrinsic motivation

highlights the existence of another system (i.e., self) that determines behaviour, in addition to genetic programming and stimulus-response pathways" (p. 177). On the other hand, extrinsic motivation, i.e., behaviours instigated by the need to receive external rewards (Deci, 1975), reinforces the role that the environment and engagement can play in activating individuals (Ljubin-Golub et al., 2018). The state of activation (Delespaul et al., 2004; Ellis, Freeman, Jamal & Jiang, 2019), that is, the way individuals' relate to the environmental affordances, can be an element of influence, since it can increase or reduce during experiences. The state of activation is related to the level of challenge and skill (Corcos, 2018) and the characteristics of the activity (Rufi et al., 2014). Barnes and Pressey (2016), for example, tried to uncover the motives behind the use of the online setting in cyber-mavens communities (highly knowledgeable individuals that publicize information online) and found that hedonist motives and personal interest influenced the individuals' propensity to experience Flow. This link between motivation in the form of personal identity, activities (i.e., intrinsic and extrinsic factors) and Flow has also been reaffirmed by Bonaiuto et al. (2016). Thus, the authors posit that:

Proposition 2. In the tourism domain, the tourists' motivation to engage in tourism experiences, influence the Flow state.

Another important issue found in the review is the need to find and study new variables besides the most recurrent ones (e.g., skills, challenges, clear proximal goals, immediate and precise feedback). One such variable to be taken into account is culture (Busch et al., 2013; Hernandez & Vicdan, 2014). The authors' review indicates the need to explore cross-cultural studies since most extant literature and research is based on Eastern countries' culture. Some studies have provided indications that culture indeed plays a role in how individuals experience Flow. For example, Hernandez and Vicdan (2014) looked into retail shopping among Mexican cross-border shoppers and identified culture from among the attributes that influence shoppers' propensity to experience Flow. Thus, the authors posit that:

Proposition 3. The cultural background influence the tourists' Flow process and Flow outcomes.

It has been argued that individuals experience time distortion and a higher sense of focus during the processes of Flow, as well as a deeper level of absorption, immersion and cognitive stimulation (Ellis, Freeman, Jamal, & Jiang, 2019) et al., 2019; Lee & Payne, 2016; Wright et al., 2014b). The concept of immersion can be considered as a process, inasmuch that it can be described as the access to the experiential event or as a state of being, in which pleasure and detachment from ordinary life are present (Carù & Cova, 2007; Faiola et al., 2013; Frochot et al., 2017; Pelet et al., 2017; Stavropoulos et al., 2013). Furthermore, Flow is not only attained when challenges and skills are harmonized/matched; in fact, the opposite was reported, i.e., that a higher level of positive outcomes (e.g., feelings) resulted from an imbalance situation (e.g., Løvoll & Vittersø, 2014). Similarly, the authors posit the following:

Proposition 4. Flow outcomes are influenced not only by the challenges and skills match but also by the level of absorption, immersion and cognitive stimulation experienced by tourists.

Flow outcomes entail different benefits. The study allowed identifying six more outcomes besides the traditional ones from positive psychology and the most frequently studied (i.e., life satisfaction, wellbeing, happiness, pleasure and enjoyment). The Flow was found to be associated positively not only with place identity, personal growth (Bonaiuto et al., 2016), personal experience (Collins, 2010) and individual's creativity (Gute, Gute, Nakamura, & Csikszentmihályi, 2008) but also with trust (Bilgihan et al., 2015) and loyalty (Bilgihan, 2016), which are important to attract and retain customers. For example, Bilgihan et al. (2015) found that when customers experience Flow during hotel booking, they build a higher degree of trust regarding the hotel website. In another study, Bilgihan (2016) studied online shopping among generation Y and suggested Flow to be a precursor of e-loyalty. Based on these findings, the study identified the need to consider a more comprehensive set of outcomes of Flow that is important to assess the tourism experience performance. Thus, the authors posit that:

Proposition 5. The Flow experience results in various positive outcomes, not only regarding aspects such as life satisfaction and wellbeing, but also aspects such as trust and loyalty, which are relevant to assess the tourism offer performance.

Findings revealed that the Flow experience might also generate negative outcomes. Walker (1998) explored the benefits of optimal experiences, suggesting that a high quantity of optimal experiences can be addictive. For example, if the challenge that individuals face is too high or if individuals become addicted (e.g., games), it may create dissociation between them and their environment, transforming their reality (e.g., pain, fear) and their life in a negative way (e.g., alienation from the reality) (Tse et al., 2016; Wanner et al., 2006; Wu et al., 2013). Other negative outcomes found in the literature review were that individuals might need to negotiate and overcome threats during the experience (physical or psychological), or even negative emotions (e.g., fear) (Coble et al., 2003; Schattke et al., 2014). Hamilton, Pernía, Puyol Wilson, and Carrasco Dell'Aquila's (2019) findings, on the other hand, suggest that these negative emotions can enhance Flow, leading the authors to suggest that Flow should not be assessed only from the positive psychology perspective. In this context, it is postulated that Flow, deFlow and anti-Flow experiences may be related to both positive and negative outcomes, such as negative emotions. Thus, the authors posit that:

Proposition 6. The tourists' Flow and anti-Flow experience generate negative and positive outcomes.

The common usage of quantitative methods and tools (e.g., FSS, DFS, FSS-2, DFS-2) and qualitative methods (e.g., interviews), although explaining the nature of the concept by focusing on positive, enjoyable, and intrinsically rewarding experience, does not explain, however, the full characteristics of the concept. Firstly because it is an elusive state and, thus, it is not easy to capture. Secondly, during any experience, unexpected event(s) may interrupt the experience Flow (e.g., serendipity), thus hampering its measurement without bias (Elkington, 2010). Thirdly, any attempt to measure Flow during the process will influence and possibly interrupt it. The new methods developed based on physiological responses, for example, can provide an answer to these problems, since this approach uses non-invasive methods of analysis, without interruption of individual's Flow, and reduces personal bias during the reporting of the experience. Thus, the authors posit that:

Proposition 7. Technology-based methods and physiological responses enable measuring more accurately the tourists' Flow and its outcomes.

Fig. 5 depicts the Flow research agenda for tourism deriving from the literature review carried out in this study.

6. Conclusions

This study aimed at understanding the state-of-the-art of the Flow experience and elucidating on the core elements of the Flow framework. Therefore, the authors performed an SQLR review, incorporating 185 articles that identified the past and present developments of the Flow concept, but also presented knowledge gaps for future investigation in the field of tourism. As such, the Flow theoretical and methodological frameworks were explored, without neglecting a descriptive analysis of the main contributors for the area (i.e., authors, journals, affiliations) and how the contributions evolved throughout the years. This study found an increasing interest in the topic from 2011 onwards and revealed the interdisciplinary nature of the Flow concept and framework, reflected on the diverse journals from different subject areas. This study showed that the theoretical framework relies mostly on Western

culture studies, by researchers and journals from the same Western countries, particularly those from the USA.

The SQLR performed revealed that, in the fields of psychology and tourism psychology, Flow remains a trendy topic, explored by many researchers in these fields, but with a higher focus on contexts such as the occupational and learning, although the tourism and leisure area has also received some attention. This study puts forth old and new theories developed about the topic, revealing its dynamism and evolution due to the extensive number of studies on the optimal experience and the Flow theory.

Findings revealed the predominance of quantitative methods applied in research in this area, which may be explained by the success of the Flow state scale and the short Flow scale. The key findings of the study show that Flow has been mostly studied as a process variable, neglecting the role of the different components of the framework (i.e., drivers, processes, and outcomes). More significantly, this study argues that, despite what is known about Flow and its traits, there is yet much to learn, once researchers move beyond the dichotomy of challenges and skills towards considering how a Flow state is reached, in a holistic experiential way (integrating not only the Flow state, but its drivers, processes, and outcomes), and the positive and negative outcomes. Despite the extensive research since the 1960s on how individuals experience or are engaged in positive and optimal experiences, a question still remains unclear today and probably tomorrow: how is Flow experienced and by whom? (Llorens, Salanova, & Rodríguez, 2013). This unanswered question shows that there is still much to learn about Flow.

Despite this, the research results offer some practical implications for tourism and leisure practitioners. This study provides a broad body of knowledge on the Flow state, contributing to a better understanding of the state but also its drivers, process, and outcomes. Practitioners in the tourism and leisure industry can design better experiences at a time when the travel and tourism landscape is changing, for example, with the raising of bleisure tourism (Lichy & McLeay, 2018). Thus, understanding bleisure tourist's behaviour during non-leisure activities will help tourism managers to create engaging experiences that will contribute not only to leisure activities but also to business activities, improving the tourists' chances of experiencing Flow during their stay. Moreover, this review provides insights about Flow that can be used at different stages of the tourism experience: a) before the experience, by taking into consideration not only extrinsic motivation but also intrinsic motivation factors, the tourists' personality, and their cultural backgrounds; b) during the experience, by creating more personalized experiential stages to activate tourists' motivation and (physical and psychological) engagement; c) after the experience, by recalling memories of the experiences lived, related with Flow outcomes (e.g., emotions, enjoyment). Moreover, the measurement scales and technology-based techniques identified in the review can be used and serve as potential research instruments by tourism organizations.

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Appendix A. Review protocol of inclusion/exclusion criteria of articles and their justification.

Inclusion criteria	Exclusion criteria	Main justification
Studies reporting to experience Flow, Flow and optimal experiences.	Studies not reporting to experience Flow (e.g., passengers Flows).	To identify core elements and theoretical framework of the concept and the main trends and gaps in the tourism area.
Original studies based simultaneously on: - Theoretical research - Mix-methods Empirical (quantitative and qualitative research)	Opinion articles, policy documents.	In general, primary research is easier to assess (in terms of quality) than secondary research. Secondary data research is the most suitable research approach to capture the theoretical framework, experiences and future avenues.
Peer-reviewed journal articles	Books, book chapters, dissertations, research reports, conference proceedings, discussion papers, website documents, media articles and other non-research or peer-reviewed documents.	The double-blind review process of articles assures the reliability and validity of the studies selected. Dissertations, research reports, conference proceedings and discussion papers were excluded to avoid having an enormous volume of studies to screen. Website documents, media articles and other non-research documents were excluded because they do not offer, most of the times, research-based evidence.
Studies published at any time	None	The research seeks to identify theoretical trends and research avenues, without any constraints regarding the date of publication.
Studies located in national and international databases	None	To have a more comprehensive volume of studies, no location was excluded.
Studies written in English	Studies not written in English	English is the most used language in academia. The most familiar language for the reviewers is also the English language.
Studies focused on social sciences	Studies focused on other scientific areas, such as Medicine	Only studies in the social sciences were included in the literature review because we surmised that the inclusion of the other studies would create some difficulties in the review process, increasing the volume of studies to be screened. More importantly, the Flow topic addressed in those areas (i.e., Flow can be used as a verb, noun) would widen the research population if other scientific areas were included (e.g., medicine area, Flow of blood, …). In addition, the topic of Flow in those areas is not the central topic of this review.

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