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# The role of self-determination theory in marketing science: An integrative review and agenda for research

Faheem Gul Gilal [a, *], Jian Zhang [b], Justin Paul [c, d], Naeem Gul Gilal [e]

[a] Department of Business Administration, Sukkur IBA University, Airport Road, Sukkur, Sindh, Pakistan
[b] Donlinks School of Economics and Management, University of Science and Technology Beijing, Beijing, 100083, China
[c] Rollins College-Florida, USA
[d] University of Puerto Rico, San Juan, PR, USA
[e] School of Management, Huazhong University of Science and Technology, Wuhan, Hubei, 430074, China

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ABSTRACT

The marketing literature is replete with the repeated use of traditional theories of behaviour, such as 'the consumer decision model,' the 'theory of buyer behaviour,' the 'theory of reasoned action,' the 'theory of planned behaviour,' and 'the model of goal-directed behaviour.' The conclusions and criticisms that are drawn from these theories stem from the many ways in which these theories are applied, which reduces the efficiency of these approaches in the sense of predictability and generalizability across different cultures. Moreover, these theories have minimal influence on autonomously motivated behaviours. Despite these limitations, marketing scientists have overwhelmingly applied these theories to predict consumer intention and behaviour. However, theories that are actually capable of explaining consumers' motivations have been surprisingly ignored in the marketing literature; for instance, 'self-determination theory' (SDT) is a leading theory of human motivation that has been proven effective at identifying the contingencies that affect motivation and behaviour. Therefore, the goal is to review the marketing research in which SDT is used. To this end, we review all empirical studies published on the subject over a 20-year period. Several clusters of research are identified in which SDT appears to be more promising in addressing marketing problems. Finally, we provide directions for future research in greater detail.
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## 1. Introduction

One of the most interesting concepts in the field of marketing is motivation (Palmatier, Dant, Grewal, & Evans, 2006). Several consumer behaviour theories have been adopted by marketing scientists in order to better understand and address consumers' motivations. For example, the consumer decision model (Engel, Kollat, & Blackwell, 1968, pp. 3–20) and the theory of buyer behaviour (Howard & Sheth, 1969) have been considered pioneering theories in consumer behaviour research, followed by the theory of reasoned action (Fishbein & Ajzen, 1975) and the theory of planned behaviour (Ajzen, 1985, pp. 11–39). These four behavioural theories have been widely tested and cited in the marketing literature. In the late 1990s and early 2000s, the theory of trying (Bagozzi & Warshaw, 1990) and the model of goal-directed behaviour (Perugini & Bagozzi, 2001) captured the attention of consumer-behaviour scholars worldwide.

Clearly, the literature on consumer behaviour is replete with examples of the influence of behavioural theories; however, the use of so many different theories has actually limited the applicability of those conclusions. One of the earliest attempts to predict consumers' motivations was the theory of reasoned action (Fishbein & Ajzen, 1975), which suggested that 'attitudes' towards a particular behaviour and 'subjective norms' could predict consumer behaviour. However, the predictive ability of this theory is weakened when the studied behaviour is not under volitional control (e.g., in cases of behaviour over which the individual does not have full control) (Gentry & Calantone, 2002). The theory of planned behaviour (TPB) was thereby proposed by Ajzen (1985, pp. 11–39). In fact, the TPB is an extension of the theory of reasoned action supplemented by perceived 'behavioural control' to more holistically explain behavioural intentions (Ajzen, 1985, pp. 11–39). However, the TPB has had its own share of limitations, the primary one being its limited ability to "directly account for the influence of

* Corresponding author.
*E-mail address:* faheem.gul@iba-suk.edu.pk (F.G. Gilal).

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more superordinate, general cognitive influences on 'attitudes', 'subjective norms' and 'perceived behavioural control'" (Hagger, Chatzisarantis, & Biddle, 2002 to account for more global goal-directed motives (Bagozzi, 1982; Hagger et al., 2002), and its predictability is certainly questioned by both academicians and practitioners alike.

These concerns have prompted researchers from different domains (e.g., the physical activity and computer software training context) to explore a more suitable alternative, and they have developed the model of goal-directed behaviour, which has been shown to predict consumers' motivations better than the TPB (Leone, Perugini, & Ercolani, 2004; Perugini & Bagozzi, 2001). The model of goal-directed behaviour (Perugini & Bagozzi, 2001) suggests that people primarily respond rationally through their intentions to act; the model further assumes that human behavioural intention is largely influenced by 'past behaviour' and 'desires,' which have been thought to be guided by 'attitude,' 'anticipated emotions', and 'subjective norms.' Although the model of goal-directed behaviour has proved to be more robust than its predecessor (i.e., the theory of planned behaviour, TPB), several studies have proposed 'self-determined motivation' as a better predictor of behaviour (Hagger & Chatzisarantis, 2009; Leung & Matanda, 2013; Moller, Ryan, & Deci, 2006; Ryan, Rigby, & Przybylski, 2006; Webb, Soutar, Mazzarol, & Saldaris, 2013; Weinstein & Ryan, 2010). For example, Webb et al. (2013) blended the constructs of goal-directed behaviour along with the constructs of the SDT to predict consumer behaviour, specifically in Australia. This blend shows the autonomous motivation of the SDT to be a better predictor of consumer behaviour in comparison to its more established predictors, such as 'intention', 'subjective norms', 'perceived behavioural control', and 'past behaviour'.

It is quite surprising to learn that the theories mentioned above mainly have an extrinsic focus, and they do not predict intention development in light of intrinsic motives (Hagger & Chatzisarantis, 2009; Leavell, 2017). For example, a woman may not necessarily choose to buy designer clothes to signal her wealth and status (i.e., extrinsic motivation), but rather the choice may derive from her natural interest in new clothing designs (i.e., intrinsic motivation). This line of thought is thus similar to the intrinsic motivation component of the SDT, which maintains that people by nature possess intrinsic motivation that can be manifested in curiosity-based behaviours, the discovery of new perspectives, and the seeking out of optimal challenges (Gilal et al., 2018d; Ryan & Deci, 2000). In line with these rationales, we argue that SDT is a more promising way to account for different motives when trying to predict behaviour through the constructs of intrinsic and extrinsic motivation.

Moreover, earlier research within the marketing literature broadly predicted consumer behaviour by linking extrinsic motives such as an excellent price, quality, durability, and packaging (Grisaffe & Nguyen, 2011; Japutra, Ekinci, & Simkin, 2014; Levy & Hino, 2016; Vlachos, Theotokis, Pramatari, & Vrechopoulos, 2010). However, the roles of intrinsic motives (e.g., the fulfilment of autonomy, competence, and relatedness needs) in the formation of consumer behaviour have been ignored (Gilal et al., 2018f). We argue that sometimes, consumer behaviour cannot be solely explained by the provision of extrinsic incentives and benefits. For example, consumers may prefer a particular brand because it may make them feel appreciated, empowered, and able to express their individuality (e.g., autonomy need); conversely, consumers may become attached to a brand that makes them feel competent, successful, and capable of performing well (e.g., competence need), or consumers may feel emotionally attached to a brand that seems to care about them and provides warm feelings of openness and acceptance (e.g., relatedness needs). These types of consumer behaviour can only be addressed by the basic psychological need theory (BPNT) of SDT. BPNT maintains that intrinsic consumer motivation is shaped by the satisfaction of the basic psychological needs for autonomy, competence, and relatedness; it further suggests that when these natural needs are met, they provide the 'emotional security' that is required to create emotional attachments, thereby leading to subsequent purchases (Loroz & Braig, 2015; Thomson, 2006).

The organismic integration theory (OIT) of SDT may be the only theory that has categorized the consumer's extrinsic motives into types that can be applied in marketing research to account for the different reasons why consumers engage in certain behaviours (Gilal et al., 2018g). For example, women may buy cosmetics because of their inherent interest in beauty products (e.g., intrinsic regulation), because they want to improve their appearance and look young (e.g., identified regulation), perhaps because they want to assuage their worry and guilt about not taking care of their appearance (e.g., introjected regulation), or because they simply feel jealous when they compare their physical attractiveness with that of another (e.g., external regulation). Similarly, an individual may be motivated to buy a high-status car because he has an inherent interest in or passion for cars (e.g., intrinsic regulation); because he identifies the importance of having a car, i.e., to save time and not be late to the office (e.g., identified regulation); because he thinks he should have such a car to avoid feelings of guilt and shame if other colleagues already have good cars (e.g., introjected regulation); or simply to maintain prestige and social status (e.g., external regulation).

The goal content theory (GCT) of SDT distinguishes a consumer's intrinsic life goals (e.g., personal growth, close relationships, community feelings, good health and/or fitness) from his or her extrinsic life goals (e.g., money, fame, image) and suggests that people tend to pursue intrinsic goals because of the internal satisfaction, pleasure, or personal meaning derived from their attainment, whereas individuals who chase extrinsic life goals tend to be more concerned about how they are perceived by others (Kasser & Ryan, 1996). Given this background, we argue that the intrinsic and extrinsic life goal constructs underpinned by GCT can be fruitfully used to explore many interesting marketing issues, such as whether consumers' intrinsic and extrinsic life goals enhance or undermine consumer preference for luxury and green products. Other constructs include whether the intrinsic or extrinsic goal(s) is/are prominent with regard to purchase intention for religious and non-religious consumers or whether the intrinsic or extrinsic life goal(s) is/are promising with regard to brand attachment/preference in an individualistic or collectivistic culture (Gilal et al., 2018d, 2018f; Paul, 2018).

Despite the richness and robustness of this theory when explaining unique marketing problems, less effort has been made to model consumer behaviour from the theoretical perspective of SDT. This study seeks to fill this void; it aims to inspire SDT research in marketing science by highlighting possible marketing problems (presented as propositions) where SDT appears to be particularly promising. To this end, the authors review the extant literature and propose possible research projects that could be undertaken under the purview of SDT constructs within the marketing and consumer behaviour disciplines.

Based on the guidelines suggested for writing classic review articles (Palmatier, 2016; Palmatier, Houston, & Hulland, 2018), we organize the present review into four sections. First, we begin with a discussion of each mini-theory of SDT. Second, we report on the methodology that was used in collecting, identifying, and analysing the extant literature. Third, we summarize all studies that have notably used SDT in the marketing context. Finally, we propose possible research projects that could be undertaken using SDT.

## 2. Historical overview of six mini-theories of SDT

Self-determination theory (SDT) is a macro-theory of motivation, emotion, and personality in social contexts (Deci & Ryan, 2000). SDT comprises six mini-theories: cognitive evaluation theory (CET), organismic integration theory (OIT), causality orientations theory (COT), basic psychological needs theory (BPNT), goal contents theory (GCT), and relationships motivation theory (RMT). The amalgamation of these mini-theories explains human behaviour in terms of psychological needs.

Cognitive Evaluation Theory, the first mini-theory of SDT, was developed based on extensive research into the dynamic interplay between external events (Deci, Connell, & Ryan, 1989). CET relates to intrinsic motivation, which is motivation based on the satisfaction of behaving a certain way for its own sake. CET specifically addresses the effects of social contexts on intrinsic motivation or how factors such as rewards, interpersonal controls, and ego-involvements influence intrinsic motivation. Deci (1975) proposed that by nature, people possess intrinsic motivation, which can manifest as engagement in curiosity-based behaviours and the discovery of new perspectives in seeking optimal challenges.

The majority of practices in which people engage are not essentially interesting and enjoyable; people tend to spend much of their time fulfilling responsibilities and duties. Thus, intrinsic motivation is less applicable, or it may not even be relevant to some activities for which extrinsic motivation is either preferred or required. This view gave rise to the organismic integration theory (OIT) of SDT, which addresses people's extrinsic motivation (EM) and perceived locus of causality (Deci & Ryan, 1985b; Gilal et al., 2018e). Extrinsically motivated behaviour tends to provide a feeling of satisfaction derived from achieving a goal that is external to the behaviour itself. There are four distinct forms of extrinsic motivation: external regulation, introjected regulation, identified regulation, and integrated regulation (Deci & Ryan, 1985b; Gilal et al., 2018e). External regulation is the first form of EM in which people are motivated to avoid punishment or obtain a reward (Deci & Ryan, 1985b; Gilal et al., 2018e). The second form of EM is introjected regulation, in which people are motivated to demonstrate the ability to maintain self-worth or avoid feelings of guilt and shame (Deci & Ryan, 1985b; Gilal et al., 2018e). Introjected regulation also includes the external perceived locus of causality, wherein the behaviour is considered to be non-self-determined (Deci & Ryan, 1985b; Gilal et al., 2018e). The third form of EM is identified regulation, in which people understand, endorse, and consciously value a goal; it is considered to be a more autonomous form of extrinsic motivation (Deci & Ryan, 1985b; Gilal et al., 2018g). Finally, integrated regulation, the fourth form of EM, is considered to be the most autonomous and fully internalized; integrated regulation synthesizes various identifications to create a coherent and unified sense of self (Deci & Ryan, 1985b; Gilal et al., 2018g).

In contrast to CET and OIT, which examine the motivational dynamics in particular life domains or situations, causality orientations theory (COT) is the third mini-theory of SDT, focusing primarily on individual differences in global motivational orientations (Deci & Ryan, 1985a). COT is based on three types of human behaviours or psychological processes: autonomy orientation, controlled orientation, and amotivation or impersonal orientation (Vansteenkiste, Niemiec, & Soenens, 2010). The autonomy orientation includes intrinsic as well as well-internalized extrinsic motivation; it is the first form of human behaviour in which people tend to act according to their emerging interests and self-endorsed values, interpret external events as informational, and thus typically regulate their behaviours autonomously (Deci & Ryan, 1985a; Vansteenkiste et al., 2010). People with a highly autonomous orientation possess high self-esteem and experience low levels of guilt (Gilal et al., 2018e, 2018f). However, under the 'controlled orientation', people tend to act in accordance with external or internal demands, interpret external events as pressure, and thus typically regulate their behaviour with an experience of control (Gilal et al., 2018d, 2018e; Vansteenkiste et al., 2010). Finally, under 'amotivation or impersonal orientation', people tend to perceive their life experiences as beyond personal control; rather, they believe that whatever they have experienced has been the result of their luck or fate (Gilal et al., 2018e; Hung & Lu, 2018). People with an impersonal orientation feel helpless, ineffective, and inept, and they are characterized negative self-evaluation, self-derogation, and low self-esteem; such behaviour is conceptually similar to Rotter's (1966) concept of the external locus of control.

The fourth mini-theory, 'basic psychological needs theory' (BPNT), argues that psychological well-being and optimal human functioning are predicated on three universal psychological needs: 'autonomy', 'competence', and 'relatedness' (Deci & Ryan, 2002; Gilal et al., 2018d, 2018f). The need for autonomy refers to the experience of volition and psychological freedom (Gilal et al., 2018d, 2018f). The need for competence relates to the experience of effectiveness in one's pursuits, and the need for relatedness (Baumeister & Leary, 1995) refers to one's desire to feel connected to others. Overall, this theory argues that these basic needs are essential and that if any of them is thwarted, it would certainly be at a functional cost (Deci & Ryan, 2002).

In addition to studying the factors that trigger behavioural regulation and the satisfaction of psychological needs, a growing body of research on SDT has elucidated different types of life goals (both intrinsic and extrinsic) or aspirations that people pursue (Kasser, 2002; Vansteenkiste, Lens, & Deci, 2006). The fifth mini-theory of SDT, the 'goal contents theory' (GCT), may be an offshoot of this research; GCT primarily grows out of the distinctions between intrinsic and extrinsic goals and their impact on human motivation and psychological well-being. Kasser and Ryan (1996) distinguished intrinsic life goals (i.e., personal growth, close relationships, community contribution, physical health) from extrinsic life goals (i.e., money, fame, image) and suggested that intrinsic life goals or aspirations are more likely to satisfy the basic needs for autonomy, competence, and relatedness, whereas extrinsic life goals or aspirations are likely to be unrelated to the satisfaction of basic needs.

Finally, relatedness has to do with the development and maintenance of close personal relationships such as best friends and romantic partners as well as belonging to groups (Palmatier, Scheer, Evans, & Arnold, 2008). Relationships motivation theory (RMT), the sixth mini-theory of SDT, argues that some level of close personal relationships is not only desirable but also essential for optimal human functioning and well-being because it is relationships that satisfy the need for relatedness (Deci & Ryan, 2014).

## 3. Review methodology

Using procedures from the extant research (Palmatier, 2016; Rana & Paul, 2017), we defined our domain to conduct systematic manual and electronic searches for all articles published on SDT in quality, high-impact journals[1] listed and/or indexed in the Sciences Citation Index/Social Science Citation Index (SCI/SSCI). We also included journals with a Scopus Cite score of 2 and above. We focused on those journals due to their relevance to our study objectives and because we expanded our first collection with systematic reviews of SDT in all other publications listed on EBSCO, ABI/INFORM Global (ProQuest), JSTOR, Emerald, ScienceDirect, Wiley Online Library, and Google Scholar to ensure that we included all scientific articles on this subject (following Palmatier

et al., 2018; Paul, Parthasarathy, & Gupta, 2017; Kozlenkova, Samaha, & Palmatier, 2014). We searched multiple databases using keywords such as 'self-determination theory and marketing', 'consumer behaviour', 'self-determined customers', 'firm-determined customers', 'intrinsic and extrinsic motivation', 'customer autonomy', 'competence', and 'relatedness'.

This process produced more than nine hundred studies in marketing and non-marketing journals. After employing the methods mentioned above to collect academic and peer-reviewed articles, we followed the conventional literature review approach to manually refine the pool of publications by using three criteria. First, we skimmed and scanned entire papers to drop non-marketing studies (following Palmatier et al., 2018). Second, we further refined the pool by setting the scope of the review to include empirical studies (following Paul & Benito, 2018). Finally, we retained all publications conducted under the theoretical perspective of SDT in the marketing domain. Consequently, our final set was comprised of forty-nine studies published in thirty-four renowned journals between 1998 and 2018. Fig. 1 provides a synopsis of the research on SDT in marketing.

Moreover, we evaluated the number of articles that explicitly use SDT in the marketing domain since inception. As shown in Fig. 2, the number of articles that use SDT mini-theories in the marketing field has increased every year since 2010. This publication trend suggests that this is a new research area that is increasingly attracting the interest of marketing scholars seeking to further the understanding of consumer behaviour from the theoretical perspective of SDT. We further evaluated the trend of each journal disseminating SDT research and found that *Psychology & Marketing* (n = 6) takes up the majority share of the research output, followed by *Journal of Consumer Research* (n = 3), *Journal of Services Marketing* (n = 3); the *Journal of Marketing* (n = 2), *Journal of Service Research* (n = 2), *Personality and Individual Differences* (n = 2), *Journal of Retailing and Consumer Services* (n = 2), and *Journal of Computer Information Systems* (n = 2) take up equal shares of the research output and are considered to be targeted outlets for publishing SDT studies in marketing. Table 1 shows the journals disseminating SDT research in marketing science.

Finally, we evaluated research settings, which revealed that SDT research covers 16 countries, and the majority of the studies were conducted in the United States (n = 15), followed by Australia (n = 10), Taiwan (n = 5), France (n = 4), and Pakistan (n = 3).

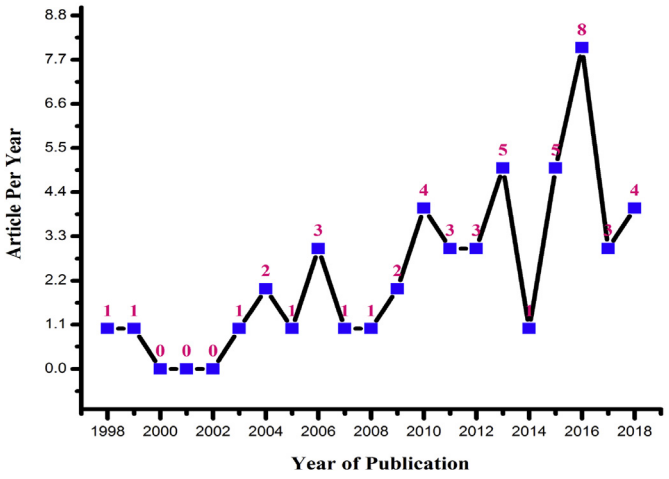



**Fig. 2.** SDT in marketing research: article publication trends 1998–2018.

Singapore (n = 1), the United Kingdom (n = 1), China (n = 1), Germany (n = 1), Switzerland (n = 1), Canada (n = 1), Norway (n = 1), Netherlands (n = 1), South Korea (n = 1), Spain (n = 1), Poland (n = 1), and Sweden (n = 1) account for equal shares of the research output. Table 2 shows the most frequently surveyed countries.

## 4. Review of studies

To guide our review of studies, we considered four major questions. (1) Which mini-theories of SDT were adopted in the marketing research? (2) What research contexts have been studied? (3) What research methods were used? (4) Which conceptual models of SDT mini-theories were tested, and what marketing issues were addressed under each mini-theory? These questions helped us synthesize the research findings, thereby enabling us to conduct a more comprehensive review of these studies in the marketing domain.

### 4.1. Mini-theories of SDT in marketing research

In general, we evaluated the pattern of studies that explicitly

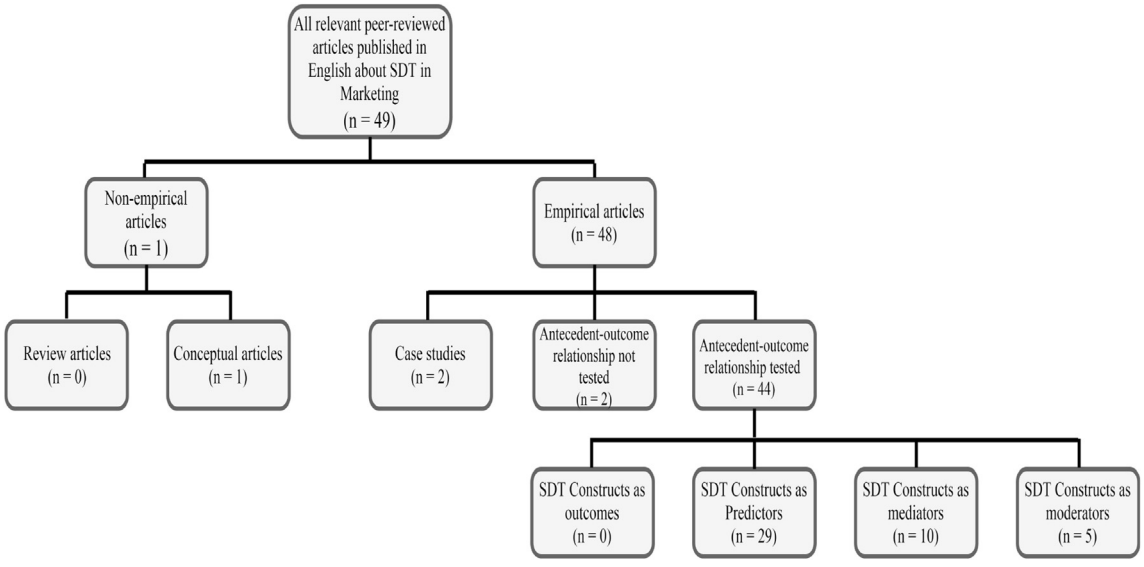



**Fig. 1.** Overview of the initial list of studies considered.

**Table 1**
Journals disseminating SDT research in marketing science.

| Journal | # | Articles |
|---|---|---|
| Psychology & Marketing | 6 | Sun, Tai, and Tsai (2010) , Gountas et al. (2012), Sweeney et al. (2014), Loroz and Braig (2015), Proksch, Orth, and Cornwell (2015), Norris and Williams (2016). |
| Journal of Consumer Research | 3 | Zhang, Xu, Jiang, and Huang (2010), Botti and McGill (2011), Martin and Hill (2012). |
| Journal of Services Marketing | 3 | Sharma et al. (2017), Engström and Elg (2015), Meyer-Waarden (2013). |
| Journal of Marketing | 2 | Thomson (2006), Schepers et al. (2012) |
| Journal of Service Research | 2 | McGinnis et al. (2008), Wunderlich et al. (2013). |
| Personality and Individual Differences | 2 | Otero-López and Villardefrancos (2015), Razmus, Jaroszyńska, and Palęga (2017) |
| Journal of Retailing and Consumer Services | 2 | Truong and McColl (2011), Leung and Matanda (2013). |
| Journal of Computer Information Systems | 2 | Wang and Li (2016), Wang and Li (2017). |
| Australian and New Zealand Marketing Academy | 2 | Morse and Peloso (2003), Binney et al. (2004) |
| Journal of the Academy of Marketing Science | 1 | Cadwallader, Jarvis, Bitner, and Ostrom (2010). |
| Psychology Research and Behaviour Management | 1 | Gilal et al. (2018d). |
| Journal of Marketing Research | 1 | Dholakia (2006). |
| European Journal of Marketing | 1 | White, (2015). |
| Journal of Interactive Marketing | 1 | Hsieh and Chang (2016). |
| Journal of Consumer Behaviour | 1 | Hung and Lu (2018). |
| Review of Managerial Science | 1 | Gilal et al. (2018e). |
| European Journal of International Management | 1 | Gilal et al. (2018f). |
| Journal of Marketing Education | 1 | Jillapalli and Wilcox (2010) |
| Omega: The International Journal of Management Science | 1 | Teo, Lim, and Lai (1999). |
| Journal of Marketing Practice: Applied Marketing Science | 1 | Carrigan (1998). |
| Journal of Brand Management | 1 | Ilicic, Baxter, and Kulczynski (2016). |
| Journal of Product & Brand Management | 1 | Truong, McColl, and Kitchen (2010). |
| International Journal of Retail & Distribution Management | 1 | Meyer-Waarden, Benavent, & Castéran (2013). |
| Journal of Environmental Psychology | 1 | Webb et al. (2013). |
| Journal of Business and Psychology | 1 | Lin, Tsai, and Chiu (2009). |
| Social Behaviour and Personality | 1 | Gong, Choi, and Murdy (2016). |
| Computers in Human behaviour | 1 | Kim and Drumwright (2016). |
| Internet Research | 1 | Tang, Zhao, and Liu (2016). |
| Information & Management | 1 | Shang, Chen, and Shen (2005). |
| International Journal of Learning | 1 | Madden-Hallett, Hall, and Binney (2006). |
| Computers & Education | 1 | Sørebø et al. (2009). |
| International Journal of Tourism Research | 1 | Huang et al. (2016) |
| Americas Conference on Information Systems | 1 | Malhotra (2004). |
| Marketing Theory and Applications | 1 | Herzog, Morhart, and Reinecke (2007). |
| **Total** | **49** | |

**Table 2**
Most frequently surveyed countries.

| Country | Publication | Percent |
|---|---|---|
| United States of America | 15 | 30.61% |
| Australia | 10 | 20.40% |
| Taiwan | 5 | 10.20% |
| France | 4 | 8.16% |
| Pakistan | 3 | 6.12% |
| Singapore | 1 | 2.04% |
| United Kingdom | 1 | 2.04% |
| China | 1 | 2.04% |
| Germany | 1 | 2.04% |
| Switzerland | 1 | 2.04% |
| Canada | 1 | 2.04% |
| Norway | 1 | 2.04% |
| Netherlands | 1 | 2.04% |
| South Korea | 1 | 2.04% |
| Spain | 1 | 2.04% |
| Poland | 1 | 2.04% |
| Sweden | 1 | 2.04% |
| **Total** | **49** | **100%** |

used SDT mini-theories in their marketing research and found that the basic psychological needs theory (BPNT) was widely used (n = 20), followed by cognitive evaluation theory (n = 10), goal contents theory (n = 7), organismic integration theory (n = 6), and causality orientations theory (n = 6). It is interesting to note that relationships motivation theory (RMT) has been ignored in marketing research (n = 0). One possible reason might be that RMT was recently introduced. A further examination revealed that the BPNT and goal contents theory (GCT) have received much academic and practitioner attention in recent years. As shown both in Table 3 and Fig. 3, the number of articles borrowing SDT mini-theories in the marketing domain has increased each year since 2010. We summarized all studies (n = 49) conducted over a 20-year period, as presented below.

### 4.2. Marketing research under cognitive evaluation theory

Several studies have used cognitive evaluation theory (CET) to develop exploratory understandings of consumers' intrinsic and extrinsic motivations under various contexts. Carrigan (1998) segmented customers over the age of 50 who mainly depended on intrinsic and extrinsic motivations for different types of consumption. Surveys such as those conducted by Teo et al. (1999) found that consumers are generally extrinsically motivated to use the internet, for instance, because of its perceived usefulness rather than for perceived enjoyment; this is contrary to Shang et al.'s

**Table 3**
Publication trends: mini-theories of SDT in marketing research.

| Year | Cognitive Evaluation Theory | Organismic Integration Theory | Causality Orientations Theory | Basic Psychological Needs Theory | Goal Contents Theory | Relationships Motivation Theory |
|---|---|---|---|---|---|---|
| 1998 | + | | | | | |
| 1999 | + | | | | | |
| 2000 | | | | | | |
| 2001 | | | | | | |
| 2002 | | | | | | |
| 2003 | | + | | | | |
| 2004 | | + | | + | | |
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| 2006 | | | + | ++ | | |
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| 2011 | + | | | | ++ | |
| 2012 | | | | ++ | + | |
| 2013 | ++ | + | + | + | | |
| 2014 | | | | + | | |
| 2015 | + | + | | ++ | + | |
| 2016 | ++ | | | +++++ | + | |
| 2017 | | | | ++ | + | |
| 2018 | | + | + | ++ | | |
| **Total Studies** | **10** | **6** | **6** | **20** | **7** | **0** |

Note: Key: + = Particular theory used once in a year, ++ = used twice in a year, +++ = used thrice in a year, and so on.

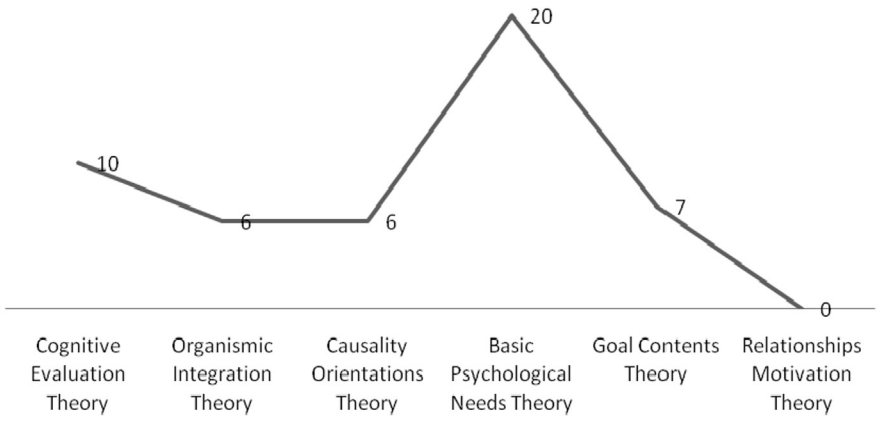



**Fig. 3.** Publication trends: mini-theories of SDT in marketing research.

(2005) finding, which states that intrinsic motivation is a prominent reason why consumers shop online. However, Cadwallader et al.'s (2010) study in the service domain showed that when employees perceive their work to be characterized by an increased degree of autonomy and are intrinsically motivated, they are open to innovation and change. Truong and McColl (2011) reported that there is a negative effect of intrinsic motivation on conspicuous consumption behaviour and suggested that consumers who are mainly motivated by intrinsic values are more likely to avoid purchasing luxury goods. Meyer-Waarden (2013) extended previous research by exploring the relationships between purchase orientations and personalized rewards on customers' perceived value and subsequent loyalty and reported intrinsic rewards as prominent predictors of purchase orientation and subsequent loyalty. Furthermore, along these lines, Proksch et al. (2015) used a motivational approach to explain brand attachment and found that extrinsic motivation influenced the effects of competence enhancement on brand attachment through emotional process mechanisms; they also found that intrinsic motivation exerted a moderating influence on anticipated joy. These findings led to the conclusion that an emphasis on functional brand characteristics in advertising or personal selling may facilitate high brand attachment. Kim and Drumwright's (2016) study explored the effects of both intrinsic and extrinsic motivation on consumer behaviour through a moderating role of social relatedness and showed that consumers' perceived social relatedness moderates the effects of consumer motivation (e.g., intrinsic and extrinsic motivation) on engagement, consuming intention, satisfaction, commitment, and trust. Tang et al. (2016) found intrinsic and extrinsic motivations to be prominent factors for customers' mobile coupon sharing and suggested that marketing strategies should be crafted according to users' different motive types. In line with the studies cited above, we argue that CET is a more promising way to account for different motives to predict consumer behaviour through the constructs of intrinsic and extrinsic motivation.

### 4.3. Marketing research under organismic integration theory

Several studies have borrowed organismic integration theory (OIT) and its constructs to categorize consumer behaviour based on four different forms of motivational regulations. For example, Morse and Peloso (2003) explored the effects of intrinsic, identified, introjected, and external regulations on consumers' goal perseverance and proved that students who pursue high-involvement goals for inherent pleasure (e.g., intrinsic regulation) and future value (e.g., identified regulation) are more likely to persevere and remain committed to their goals than those who pursue goals only to satisfy external expectations (e.g., external regulation). However, Malhotra (2004) empirically validated the three most important types of motivation: intrinsic, introjected, and external motivation. Lin, Tsai, and Chiu (2009) found that customer loyalty can be captured through intrinsic and identified motivation and that customer satisfaction can be achieved through intrinsic, identified, introjected, and external regulation. Overall, loyalty has been found to be positively influenced by both intrinsic and identified regulation, while introjected and external regulations have been found to be insignificant in capturing customer loyalty. Furthermore, Wunderlich, Kranz, Totzek, Veit, and Picot (2013) found consumers' intrinsic perceived locus of causality to be a stronger driver of consumers' intention to adopt transformative services in Germany specifically, alluding to the fact that there may be a possibility of a 'cultural' or 'geographical' flavour to consumer behaviour. Gilal et al. (2018e) uncovered the link between motivation types and brand passion and showed that external motivation had the greatest effect on consumer brand passion. Finally, White (2015) reported intrinsic motivation to be a prominent predictor of positive and negative emotions and service quality in both the early and later stages of the service experience; introjected motivation was found to be a significant predictor of service quality and positive emotions in the early stage of the service experience, but this was not applicable in the later stage. In line with these findings, it appears that more controlled forms of motivation predict only the early stage of the service experience, whereas autonomous forms predict the early and later stages. This is consistent with the notion of SDT that controlled motivation has only a short-term impact on behaviour, whereas autonomous motivation leads to sustained engagement. Furthermore, we also gather that these motivation types allow for more precise motives that can be applied in marketing research to account for the different reasons why consumers engage in certain behaviour.

### 4.4. Marketing research under causality orientations theory

Some researchers have used causality orientations theory (COT) and constructs (e.g., autonomous motivation, controlled motivation, and amotivation) to understand consumer behaviour in a service context. For instance, surveys conducted by Dholakia (2006) and Herzog et al. (2007) showed that customers who join firms autonomously may exhibit higher purchase intentions and loyalty and that reminder coupons undermine the motivations of self-determined customers. However, McGinnis, Gentry, and Gao (2008) showed that autonomous service flow experiences create immersive, enhanced and enduring involvement with such service. Furthermore, Sun et al. (2010) demonstrated that a volitional choice for behavioural change would be more favourable than a controlled choice. Webb et al. (2013) used autonomous and controlled motivations as independent variables to predict consumer intentions and behaviours. Overall, the results showed autonomous motivation to be a stronger form of behavioural regulation and a better predictor of consumer behaviour. Finally, Hung & Lu (2018) examined the rosy side (positive emotion) and the blue side (negative emotion) of brand attachment through two hierarchical constructs—autonomous and controlled motivations—and showed that the rosy side (positive emotion) of brand attachment is a more effective predictor of brand repurchasing intentions and word-of-mouth behaviours than is the blue side (negative emotion) of brand attachment. In line with these rationales, we believe that COT is more prominent in explaining the positive side (e.g., brand passion, brand resurrection movements, and actual purchase behaviour) and the negative side (brand detachment, brand hate, and brand disloyalty) of consumer behaviour.

## 5. Marketing research under basic psychological needs theory

Other researchers have used the basic psychological needs theory (BPNT) to predict marketing and consumer behaviour outcomes. For example, in the context of branding, Thomson (2006) showed that when a human brand enhances a person's feelings of autonomy and relatedness, the person is likely to become more strongly attached to it. However, Loroz and Braig (2015) found competence to be an important psychological need in the development of strong brand attachment. Nevertheless, Huang et al. (2016) completely reversed this concept while reporting that competence satisfaction ultimately fails to capture consumers' behavioural intentions and experiences of enjoyment, especially in the tourism context. Hsieh and Chang (2016) showed that autonomy, competence, and relatedness facilitated consumer motivation to participate in brand co-creation campaigns, wherein these motivations promote the establishment of brand co-creation engagement. However, Gong et al. (2016) emphasized customer self-determination as the significant mediator of customer value creation behaviour and customer value. Gilal et al. (2018d, 2018f) integrated psychological needs satisfaction into the relationship between product design and consumer behaviour (i.e., brand attachment, WOM, and WTP a premium) across samples drawn from China, Korea, and Pakistan and confirmed the significant mediating effect of each form of psychological needs satisfaction on the relationship between product design and brand attachment. Wang and Li (2016, 2017) reported that consumers' perceived competence, autonomy, and perceived relatedness could support their motivation to produce user-generated content (UGC). Schepers, Falk, Ruyter, Jong, and Hammerschmidt (2012) reported that employees who feel related to the organizational network and are allowed to act autonomously were found to exhibit higher levels of customer stewardship control, while team autonomy and team competence were found to be strongly associated with customer stewardship control. This, in turn, encourages employees to take ownership of their performance towards customers rather than shifting the liability to supervisors. Leung and Matanda (2013) found that autonomy, competence, and perceived anonymity are related to the adoption of self-service technologies and suggested that accommodating the lifestyles of customers and providing options for customers to choose self-service technologies is essential to increasing the use of those technologies. Sweeney, Webb, Mazzarol, and Soutar (2014) found that receiving a number of positive WOM messages has significant positive effects on consumers' sense of autonomy, relatedness, and competence, which in turn significantly enhances integrated user motivation, thereby affecting consumer behaviours. Engström and Elg (2015) explored the factors determining patients' motivation to participate in service development and revealed that participants may be intrinsically (e.g., the satisfaction of needs for autonomy, competence, and relatedness) and extrinsically motivated to participate in service development.

Ilicic et al. (2016) showed that the needs for autonomy and relatedness aroused by celebrities become less influential on older

consumers' attachment to celebrities and strengthen younger adult consumers' attachment to celebrities. Sharma, Conduit, and Rao Hill (2017) used self-determination theory to examine how the differing co-creation roles of customers with mental illness lead to different customer well-being outcomes; they suggested that value co-creation activities provided customers with feelings of autonomy, relatedness, and competence. Furthermore, Martin and Hill (2012) found that relatedness and autonomy have significant effects on an individual's life satisfaction and showed that greater psychological need fulfilment in the form of autonomy and relatedness promotes greater life satisfaction and increases personal well-being. The series of studies conducted by Binney & colleagues (Binney, Kennedy, & Hall, 2004; Madden-Hallet, Hall, & Binney, 2006) showed that among students pursuing a marketing degree, those who enjoyed challenges and were more stimulated by the subject performed better than the lower performing students. This led to the conclusion that more autonomous teaching styles lead to greater need satisfaction and increased course enrolment. Finally, Jillapalli and Wilcox (2010) found that when professors satisfy students' basic psychological needs, students form stronger attachments, trust their professors more, are more satisfied with the educational experience and are willing to advocate for their professor as a brand. As confirmed by Sørebø, Halvari, Gulli, and Kristiansen (2009), the satisfaction of basic psychological needs and intrinsic motivation could be useful for predicting teachers' e-learning continuance intentions. In line with these studies, we gather that satisfying consumers' basic needs (e.g., autonomy, competence, and relatedness) enables the activation of more precise intrinsic motives that can be applied in marketing research to capture consumer behaviour in different settings.

### 5.1. Marketing research under goal contents theory

Studies have used intrinsic and extrinsic goals and/or the aspirations of goal contents theory (GCT) to understand consumer behaviour with regard to luxury brand preference and consumption. For example, Truong et al. (2010) examined the effects of intrinsic and extrinsic aspirations on luxury brand preference and found that consumers' choice of a luxury brand is significantly influenced by extrinsic goals and negatively affected by intrinsic desires; moreover, customers with intrinsic aspirations tend not to prefer luxury brands. Similarly, Botti and McGill (2011) showed that customer satisfaction with an intrinsic goal was greater than customer satisfaction with extrinsically motivated goals. Otero-López and Villardefrancos (2015) reported that consumers with a high compulsive buying propensity scored significantly higher on the importance and likelihood assigned to extrinsic goals, whereas an opposite pattern was found between the levels of importance and likelihood assigned by compulsive buying groups with regard to intrinsic goals. Norris and Williams (2016) found that consumers who emphasized the importance of extrinsic goals consider more luxury brands, and those who emphasized the importance of intrinsic goals consider fewer luxury brands. Razmus et al. (2017) showed that people who value extrinsic aspirations exhibit a higher tendency to include famous brands as part of their self-concept, whereas intrinsic aspirations, such as self-acceptance, affiliation, and community feeling, are negatively associated with brand engagement as part of self-concept. Zhang et al. (2010) found that when customers perceive a goal, their pursuit is adopted through an autonomous choice. The initial effort investment increases the value of the goal as well as the customer's subsequent motivation. When customers perceive that the goal they pursued has been imposed on them, they devalue the goal as they invest more effort in their pursuit and show lower subsequent motivation. Finally, Gountas, Gountas, Reeves, and Moran (2012) validated the desire-for-fame scale and demonstrated that the scale has a significant positive effect on extrinsically derived needs and/or aspirations (e.g., attractive appearance, financial success, materialism, and social recognition) and a significant negative effect on intrinsic goals, specifically self-acceptance and affiliation.

Taken together, these studies provide valuable support for our propositions that SDT is a well-developed theory that can provide many insights into a wide range of marketing issues, thereby promoting basic need satisfaction, intrinsic motivation, and the full internalization of extrinsic motivation. Such insights, in turn, can lead to a more effective understanding of consumer behaviour in terms of brand preference, word-of-mouth, consumption experience, purchase intention, behaviour change, satisfaction, loyalty, and consumer psychological well-being.

### 5.2. Research contexts

Upon further review, we identified nine different themes and/or clusters pertaining to the noted research contexts. Table 4 shows that the majority of the studies were conducted in the service (n = 14) and branding research contexts (n = 12), followed by the social media context (n = 5) and the consumption context (n = 5). Table 3 further shows that the basic psychological needs theory (n = 6), cognitive evaluation theory (n = 2), and goal contents theory (n = 2) were borrowed by marketing scholars to address branding issues, while organismic integration theory (n = 4) and causality orientations theory (n = 4) appeared more promising

**Table 4**
Research context studied using mini-theories of SDT.

| Research Context | Mini-Theories of SDT | | | | | |
|---|---|---|---|---|---|---|
| | Cognitive Evaluation Theory | Organismic Integration Theory | Causality Orientations Theory | Basic Psychological Needs Theory | Goal Contents Theory | Relationships Motivation Theory |
| Branding | ++ | + | + | ++++++ | ++ | |
| Service | ++ | ++++ | ++++ | ++++ | | |
| Social media | ++ | | | ++ | + | |
| Marketing education | | | | +++ | | |
| Energy-saving | | | + | + | + | |
| Consumption | + | | | + | +++ | |
| Retailing | + | | | + | | |
| Internet/online shopping | ++ | | | | | |
| Tourism/education | | + | | ++ | | |
| **Total Studies** | **10** | **6** | **6** | **20** | **7** | **0** |

Note: Key: + = Particular theory used once in specific context, ++ = used twice in specific context, +++ = used thrice in specific context, and so on.

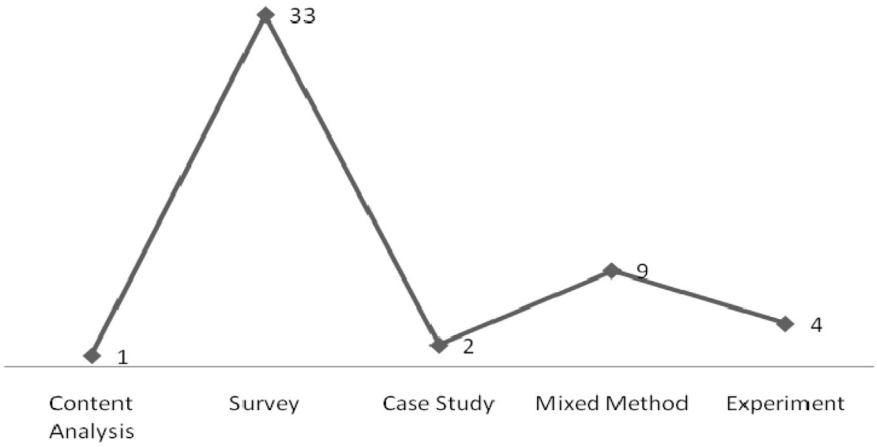



**Fig. 4.** Research methods in the literature.

**Table 5**
Research methods in the literature.

| Research Method | Mini-Theories of SDT | | | | | |
|---|---|---|---|---|---|---|
| | Cognitive Evaluation Theory | Organismic Integration Theory | Causality Orientations Theory | Basic Psychological Needs Theory | Goal Contents Theory | Relationships Motivation Theory |
| Content analysis | + | | | | | |
| Survey | +++++++ | ++++++ | +++++ | ++++++++++ | ++++ | |
| Case Study | | | | ++ | | |
| Mixed method | + | | + | ++++++ | + | |
| Experiment | + | | | + | ++ | |
| **Total Studies** | **10** | **6** | **6** | **20** | **7** | **0** |

Note: Key: + = Particular method used once under mini-theory, ++ = particular method used twice under mini-theory, +++ = used thrice under mini-theory, and so on.

when addressing service marketing issues. Finally, basic psychological needs theory (n = 3) and goal contents theory (n = 3) were adopted in the marketing education and consumption contexts.

## 6. Research methods

Upon further review, we note that the selected studies employed both qualitative (e.g., focus group and consumer interviews) and quantitative methods (e.g., surveys and experiments) to address marketing problems. As shown in Fig. 4, over 77.51% (n = 37) of the studies implemented quantitative methods (e.g., correlation analysis, hierarchical multiple regressions, structural equation modelling, multivariate analysis of covariance, moderated mediation, analysis of covariance, exploratory factor analysis, confirmatory factor analysis, and T-tests), while 22.44% (n = 11) of the studies adopted mixed methods (e.g., qualitative and quantitative). These findings indicate that quantitative methods dominate SDT research in marketing science.

Further examination shows that only one study applied simple qualitative methods, such as content analysis, to understand consumer behaviour. For instance, Carrigan (1998) used a content analysis of the extant literature to segment customers over the age of 50 on their intrinsic and extrinsic motivations. Because SDT has recently attracted considerable attention from scholars in the marketing domain, we expect more studies in the following years, which would be based primarily on qualitative research methods such as focus group interviews, narrative analysis, and ethnographic analysis, to develop exploratory understandings of consumer motivation. For example, using the focus group interview method, scholars may categorize customers' motivation (e.g., intrinsic, identified, introjected, and external regulations) in relation to purchases. Table 5 displays the research methods adopted in SDT research.

## 7. Mini-theories of SDT and their constructs in marketing research

In a similar vein, we evaluate the conceptual models underpinned by the SDT mini-theories that were tested by consumer scholars to address marketing issues. In general, our literature review shows that the antecedents in conceptual models that are underpinned by SDT mini-theories (e.g., cognitive evaluation, organismic integration, causality orientations, basic psychological needs, and goal contents theories) were widely applied in marketing research as independent variables (n = 29) to address issues in several areas of marketing, such as marketing education, consumer behaviour, branding, and service and/or relationship marketing. In particular, the antecedents underpinned by the basic psychological needs theory, such as consumer autonomy, competence, and relatedness needs, were used as independent variables (n = 13) to predict customer satisfaction, celebrity attachment, and intention to adopt self-service technologies in the service and branding context, whereas consumers' autonomy, competence, and relatedness needs were used as mediating variables (n = 5) to capture customer value, integrated motivation, and users' satisfaction, brand attachment, and WOM in the branding and social networking context (see Web Appendix W1). Similarly, intrinsic and extrinsic goals underpinned by goal contents theory were also applied as independent variables (n = 6) to capture consumers' luxury brand preference, brand engagement, customer motivation, and satisfaction in the branding and consumption context (see Web Appendix W2). Moreover, consumers' intrinsic and extrinsic

motivations underpinned by cognitive evaluation theory were used as independent variables (n = 3) as well as mediating (n = 3) and moderating variables (n = 3) to predict consumer behavioural intentions, loyalty, and attachment in various marketing domains (see Web Appendix W3). Finally, the antecedents of conceptual models underpinned by organismic integration and causality orientations theories were mainly adopted as independent variables (n = 3; n = 4) in the service and consumer behaviour domains (see Web Appendix W4-5). Table 6 presents the details of the results.

Taken together, the review of these studies has provided valuable insights into how the antecedents underpinned by SDT mini-theories (e.g., as independent, mediating, moderating) are applied in diverse areas of the marketing domain. This review has also highlighted the marketing problems that are addressed under each SDT theory. Such valuable insights provide support for our propositions that SDT is the richest and most well-developed theory and that it provides many insights into a wide range of marketing issues (see Web Appendix W6-10).

## 8. Going forward: Future Research Agenda

Much of the existing literature on SDT consistently addresses 'motivation' in the non-marketing field. In comparison, few studies have tested the SDT mini-theories within the marketing domain. In this section, we discuss possible research opportunities in the marketing field under the theoretical purview of SDT and present propositions that may inspire future research (see Fig. 5).

Many surveys and lab experiments have examined the importance of intrinsic and extrinsic motivation in the non-marketing domain. However, in comparison, very few studies have investigated consumers' motivations in the field of marketing. Teo et al. (1999) showed that consumers' extrinsic motivation is an important predictor of consumers' intentions to use the internet. Similarly, Shang et al. (2005) showed that consumers' intrinsic motivation is more prominently used to explain consumers' intentions to shop online. However, Truong and McColl (2011) reported that consumers who are mainly motivated by intrinsic values are more likely to avoid purchasing luxury goods. Although researchers have highlighted the importance of intrinsic and extrinsic motivation as better predictors of behavioural intentions, the 'best' method is still unknown with regard to capturing the consumer's intrinsic and extrinsic motivation. Thus, further research is certainly required to explore whether and how the marketing environment (e.g., emotional messages, functional and/or rational) enhances or undermines the consumer's intrinsic and extrinsic motivation.

Our review of SDT shows that only three studies have used consumers' intrinsic and extrinsic motivation as independent variables to predict consumer behaviour in the social media and branding context. Thus, we highlight a few marketing issues that should be addressed under the framework of cognitive evaluation theory. It is surprising to see that the current marketing (and other business practice) literature has placed too much emphasis on extrinsic factors; however, what is needed is to gather perspectives that integrate intrinsic motivation into marketing research. Empirical research is thus needed to investigate whether intrinsic and/or extrinsic motivation has a greater influence in predicting various marketing outcomes, such as new product adoption (Thompson & Sinha, 2008), brand preference (Ramsøy & Skov, 2014), brand attachment (Proksch et al., 2015), customer retention (Bojei, Julian, Wel, & Ahmed, 2013), consumer willingness to spread positive word-of-mouth (Sicilia, Delgado-Ballester, & Palazon, 2016), brand love (Batra, Ahuvia, & Bagozzi, 2012; Carroll & Ahuvia, 2006), mass prestige (Kumar & Paul, 2018; Paul, 2015), and brand passion (Gilal et al., 2018b, 2018c). Therefore, we posit the following:

**Proposition 1a.** *Consumers' intrinsic and extrinsic motivations have an effect on purchase intention and other marketing outcomes.*

Many studies have examined the effect of intergenerational advertisement appeals on consumer behaviour outcomes. For example, Francis and Burns (1992) reported similarities between mother and daughter dyads in the way in which they acquire clothing. Similarly, other researchers have highlighted significant similarities between mother and daughter dyads in brand preference (Mandrik, Fern, & Bao, 2005) and brand involvement and prestige (Francis & Burns, 1992; Moore, Wilkie, & Alder, 2001; Paul, 2018), while others have indicated significant differences in word-of-mouth behaviours (Strutton, Taylor, & Thompson, 2011). Examining how intergenerational advertisement appeals influence the behavioural intention to buy a product is thus flourishing (Chang & Tung, 2016). However, little effort has been made (only two studies) to examine these specific factors in light of SDT research. For example, research has shown that consumers with low perceived social influence expressed higher intrinsic motivation about the brand than did those with high social influence. This notion is consistent with the findings of Dholakia's (2006) study which revealed that reminder coupons and controlled marketing

**Table 6**
SDT and consumer behaviour constructs in the literature.

| SDT Constructs | Mini-Theories of SDT | | | | | |
|---|---|---|---|---|---|---|
| | CET (Intrinsic & Extrinsic Motivation) | OIT (Intrinsic, Identified, Introjected, External Regulations) | COT (Autonomous & Controlled Motivation) | BPNT (Autonomy, Competence, Relatedness) | GCT (Intrinsic & Extrinsic Goals) | RMT (Relatedness) |
| Independent variable | +++ | +++ | ++++ | ++++++++++++ | ++++++ | - |
| Mediating variable | +++ | + | + | +++++ | - | - |
| Moderating variable | +++ | + | + | - | - | - |
| Dependent variable | - | - | - | - | - | - |
| Not applicable | + | + | - | ++ | + | - |
| **Total Studies** | **10** | **6** | **6** | **20** | **7** | **0** |

**Note:** CET = Cognitive evaluation theory, OIT = organismic integration theory, COT = causality orientations theory, BPNT = basic psychological needs theory, GCT = goal contents theory, = RMT = relationships motivation theory: **Key:** + = Particular theory' construct (s) used once as independent, mediator, or moderating variable, ++ = used twice as independent, mediator, or moderating variable, +++ = used thrice as independent, mediator, or moderating variable, and so on. Similarly, key: - = Particular theory's construct (s) never used as independent, mediator, or moderating variable.

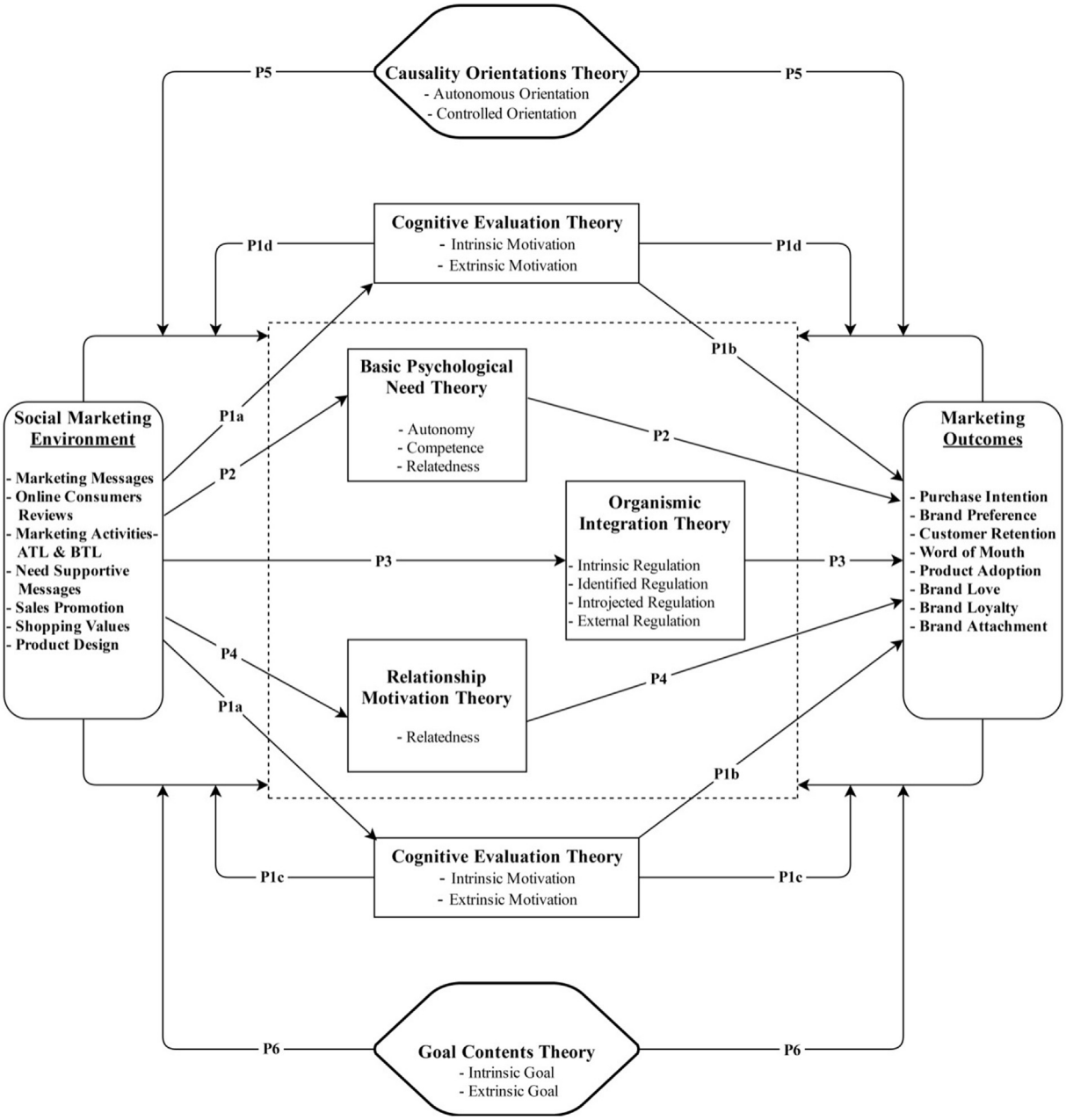



**Fig. 5.** Summary of future research agenda.

communication significantly undermine motivation and lead to lower levels of interest and behaviours. In line with these findings, it would be of great value to investigate how could each type of motivation (e.g., intrinsic versus extrinsic) moderate the effect of intergenerational advertisement appeals to consumer behaviour. It is expected that intergenerational advertisement appeal will have stronger effects on the purchase behaviour when the intrinsic motivation towards the advertised brand is high. Similarly, the effect of intergenerational advertisement appeal on purchase intention is undermined when consumer extrinsic motivation towards the advertised brand is high. This expectation is consistent with SDT's notion that controlled/extrinsic motivation has only a trivial influence on behaviour, whereas autonomous/intrinsic motivation has a significant impact on behaviour which can be sustained over the long term. Thus, we posit the following:

**Proposition 1b.** *Intrinsic motivation will strongly interact with the factors (*e.g.*, intergenerational advertisement appeal*) *that determine marketing outcomes than will the extrinsic motivation.*

Much of the extant literature covering SDT has used basic psychological need theory (e.g., autonomy, competence, and relatedness) to address a wide variety of organizational behaviour and management issues. However, marketing scholars have paid little attention to consumer motivation from the perspective of psychological need fulfilment. Thus, the basic psychological needs for autonomy, competence, and relatedness may be used as independent variables to address unique marketing issues. The previous investigations within the marketing literature broadly explain consumer attachment to brand, willingness to spread positive word-of-mouth (WOM), and willingness-to-pay (WTP) a premium for products by linking extrinsic motives, such as excellent price,

quality, durability, perceived uniqueness, and prestige benefits (Chatterjee & Kumar, 2017; Japutra et al., 2014; Grisaffe & Nguyen, 2011; Levy & Hino, 2016; Ligas & Chaudhuri, 2012; Vlachos et al., 2010), whereas the role of intrinsic motives (e.g., the fulfilment of consumer autonomy, competence, and relatedness needs) in the formation of consumer behaviour have been surprisingly ignored in the marketing literature. We argue that intrinsically motivated consumers may prefer a brand and be more willing to spread positive WOM, thereby paying a premium price for a brand that makes them feel appreciated and empowered while also enabling them to express their individuality (e.g., autonomy need). In addition, consumers may emotionally attach themselves to a brand that they perceive as caring about them and providing warm feelings of openness and acceptance, thereby prompting consumers to spread positive WOM (e.g., relatedness needs). Consumers may also feel strongly attached to a brand, pay a premium price, and spread positive WOM because that brand makes them feel competent, successful and capable of performing well (e.g., competence need). Given this information, future research could use consumer autonomy, competence, and relatedness as independent variables to investigate the influence of the aforementioned basic needs on consumer behavioural intentions.

Furthermore, although researchers have highlighted consumers' needs for autonomy, competence and relatedness as better predictors of consumer behaviour outcomes, how exactly these needs are influenced by the marketing environment are still unknown. To this end, one problem that should be addressed in the social media context is whether attribute-based reviews and emotion-based reviews on social media platforms satisfy or thwart consumers' needs for autonomy, competence, and relatedness (Li, Ngai, & Xu, 2015). Another important problem that should be addressed in the advertisement context is whether the visual green appeals and textual environmental appeals of advertising satisfy or frustrate customers' needs for autonomy, competence, and relatedness (Xue & Muralidharan, 2015). Finally, research should also investigate how companies' above-the-line and below-the-line marketing activities influence consumers' needs for autonomy, competence and relatedness (Mishra & Muralie, 2007; Wilson & Amine, 2009; Ghobadian & O'Regan, 2011).

Moreover, our review of SDT also shows that very few studies have operationalized consumer needs for autonomy, competence, and relatedness as mediating mechanisms to address marketing issues in the service and social media context. Thus, researchers can develop models to analyse consumers' needs for autonomy, competence, and relatedness as a mediating mechanism to identify and re-link missing psychological drivers between marketing environments and marketing outcomes in the branding context. Hence, we posit the following:

**Proposition 2.** *Consumers' autonomy, competence, and relatedness needs will have independent as well as mediating effects on marketing outcomes.*

The organismic integration theory of SDT is the only theory in the literature that has detailed the processes through which a consumer's extrinsic motivation can become autonomous. It is proposed that consumers' extrinsically motivated behaviours may be internalized into full-fledged autonomous purchase intentions. This proposition has received support in the political science domain; for example, Koestner, Losier, Vallerand, and Carducci (1996) examined how motivational regulations predict voters' interest in issues in terms of actual voting behaviour. The results showed that intrinsic motivation was the better predictor of whether someone would gather information about issues, whereas identified regulation was a better predictor of actual voting behaviour. Thus, intrinsically motivated people may not exert the effort to go out and vote until they are motivated by the importance of the issues themselves. Similarly, although the introjected motivation is a controlled, lower form of motivation, it could still impact consumer behaviour, perhaps through a fear of missing out or appealing to consumers' egos. If so, this would likely only result in short-term consumption. Thus, academic research is needed to explore how introjected motivation could influence consumer behaviour. Furthermore, our review of SDT shows that only six studies have borrowed the organismic integration theory of SDT to address marketing problems, and among them, only three studies have used motivational regulations as independent variables to predict consumer behaviour (Gilal et al., 2018e; Morse & Peloso, 2003; White, 2015).

Our review of SDT further shows that only one study used motivational regulations as mediating variables to explore the effect of customer satisfaction on customer loyalty; that study demonstrated that loyalty is positively influenced by both intrinsic regulation and identified regulation, while introjected regulation and external regulation are insignificantly related to loyalty (Lin et al., 2009). The study cited above is the only empirical study in the marketing domain that borrowed the constructs of organismic integration theory to bridge the gap between the marketing environment and marketing outcomes. Given little knowledge about the mediating effects of motivation types, future studies could benefit from exploring whether autonomous (e.g., intrinsic and identified) or controlled motivational regulations (e.g., introjected and external) can facilitate the link between the marketing environment and consumers' behavioural intentions. It is expected that autonomous motivational regulations will have stronger long-term mediating effects on consumer behaviour outcomes such as emotional attachment, word-of-mouth, brand passion, and consumer e-waste behaviour (Gilal et al., 2018b, 2018c, 2018d, 2018f, 2018g; Hudson, Roth, Madden, & Hudson, 2015; Levy & Hino, 2016). This expectation is consistent with SDT's notion that controlled motivational regulations have only a short-term impact on behaviour and cannot sustain behaviour over the long term, whereas autonomous motivation leads to sustained consumer engagement. Thus, we posit the following:

**Proposition 3.** *Autonomous motivational regulations (*e.g., *intrinsic and identified) will have stronger independent and mediating effects on marketing outcomes than will the controlled motivational regulations (*e.g., *introjected and external).*

As discussed earlier, the relationship motivation theory (RMT) is a new mini-theory of SDT, which suggests that some level of close personal relationships is not only desirable but also essential for optimal human functioning and well-being because the relationship satisfies the need for relatedness (Deci & Ryan, 2014) Our review shows that although a considerable amount of the literature has been published on RMT, consistently addressing the need for relatedness in the field of social psychology, health care, and organizational settings, consumer scholars have made less effort to borrow insights from this theory in the marketing domain. Given the lack of knowledge about RMT in marketing, future studies could benefit from borrowing insights from this theory to address marketing research. For instance, according to Hofstede's (1980) culture typology, social relatedness is perceived to be less important in individualistic cultures, in which people place a high value on their separateness from others or believe in independence; this contrasts with collectivistic cultures wherein people place value on interrelatedness. Therefore, it would be of great value to study the role of social relatedness in predicting brand engagement on social media across samples drawn from countries where perceived social relatedness may differ. Furthermore, Palmatier, Jarvis, Bechkoff, and Kardes (2009) argued that a successful service relationship is

built upon the satisfaction of a consumer's relatedness need. Thus, one direction for future research would be to explore how customers' social relatedness can actually influence relationship strength in a service context. Such an investigation could provide a more accurate assessment of the role played by social relatedness in fostering relationship strength in service research. Similarly, it would be of great value to study how marketing environments such as advertisement appeals can influence customers' purchase intentions when customer social relatedness is low/high in the appeal. Furthermore, empirical research is greatly needed to explore how customer relatedness is influenced by the marketing environment. For example, in the advertisement domain, researchers may investigate how celebrity attractiveness (Rifon, Jiang, & Kim, 2016), celebrity credibility (Hassan Fathelrahman Mansour & Mohammed Elzubier Diab, 2016), and celebrity personality (Mishra, Roy, & Bailey, 2015) influence customers' social relatedness satisfaction. Finally, additional research could also be conducted to explore how celebrity endorsers for single and multiple brands can influence social relatedness among the followers of a single specific brand in social media (Erfgen, Sattler, & Villeda, 2016; Kim & Drumwright, 2016). Thus, we posit the following:

**Proposition 4.** *Relationship motivation theory constructs such as consumer relatedness needs will be influenced by the factors determining sales and consumption, which in turn would have additive, independent effects on marketing outcomes.*

Many non-marketing researchers have fully capitalized on causality orientation theory to address various issues in different life domains. For example, in medical settings, Williams, Grow, Freedman, Ryan, and Deci (1996) showed that patients who were high in autonomy orientation were more autonomous in their motivation to lose weight than patients who were low in autonomy orientation. Black and Deci (2000) introduced a similar perspective in education, wherein they reported that students whose motivation was more controlled at the beginning of a semester showed substantial benefits when they had autonomy-supportive instructors. Similarly, in the service marketing research, only six studies have utilized causality orientation theory to address marketing issues. Among them, four studies applied controlled and autonomous orientation as independent variables to predict customers' intention and enduring involvement in the service marketing context (Herzog et al., 2007; Hung & Lu, 2018; McGinnis et al., 2008; Webb et al., 2013), while two studies used controlled and autonomous orientation constructs as moderating and mediating variables in the service research context (Dholakia, 2006; Sun et al., 2010).

Given little knowledge about controlled and autonomous orientation constructs in marketing, we believe that COT is more prominent in explaining the positive side (autonomous orientation) and the negative side (controlled orientation) of consumer behaviour. Thus, based on our review of SDT studies, we highlight a few problems that may inspire future research in the marketing domain under causality orientation theory. First, studies have shown that customers who join firms autonomously could exhibit higher purchase intentions and loyalty, and remainder coupons undermine the motivations of self-determined customers (Dholakia, 2006; Herzog et al., 2007). These findings raise questions on the effectiveness of remainder marketing programmes in advertisement appeals. Thus, it would be of great value to investigate how marketing environments such as soft-selling and hard-selling advertising appeals can actually influence marketing outcomes such as purchase intentions when customers are high in autonomous motivation and high in controlled causality orientation (Albers-Miller & Royne Stafford, 1999; Chen, Chang, & Gong, 2015). Second, it is also essential to investigate how sales promotion techniques, such as price deals, loyalty rewards, cents-off deals, coupons, and rebates, influence purchase behaviour in terms of the perception of the quality of autonomously motivated customers (Birtwistle & Tsim, 2005; Pacheco & Rahman, 2015). Third, in the retail context, it would be of great value to investigate which shopping values (e.g., quality, price, social, and emotional value) are more promising to capture store satisfaction and/or loyalty and store WOM when customers are high in autonomous and controlled causality orientations (Diallo, Coutelle-Brillet, Rivière, & Zielke, 2015). Finally, it would certainly be interesting to explore how product design dimensions, such as affective, cognitive, ergonomic, and reflective designs, can influence the product adoption intentions of customers who are high in autonomous, controlled, and amotivation or impersonal orientations (Gilal et al., 2018a, 2018b; Thompson & Sinha, 2008). Thus, we posit the following:

**Proposition 5.** *Autonomous and controlled causality orientations interact with the factors that determine marketing outcomes.*

Our review of SDT shows that only seven studies have borrowed goal content theory in marketing research to explore the effect of intrinsic versus extrinsic goals on consumer behaviour. For example, Truong et al. (2010) investigated the effect of intrinsic versus extrinsic life goals and/or aspirations on brand preference in the luxury product category. Botti and McGill (2011) examined the effect of customer satisfaction on two different goals, such as a hedonic goal and a utilitarian goal. Otero-López and Villardefrancos (2015) explored the importance of compulsive buying and life aspirations for intrinsic versus extrinsic goals in three groups with low, moderate and high compulsive buying propensities. These studies used the consumer's intrinsic and extrinsic goals as independent variables to predict marketing outcomes. It is thereby proposed that many marketing issues could be addressed by using the consumer's intrinsic versus extrinsic goals as moderating variables. For example, it would be of great value to explore how customers' positive and negative online reviews can influence a loyal customer's repurchase intentions compared to a new customer's purchase intention when both customers are actually pursuing intrinsic versus extrinsic goals (Park, Lee, & Han, 2007; Schindler & Bickart, 2012). Similarly, it would also be of interest to investigate how consumers' religious views influence their willingness-to-pay a high price premium for luxury products and green products when they are pursuing intrinsic versus extrinsic goals (Biswas & Roy, 2016; Joshanloo, 2016; Steenkamp, Van Heerde, & Geyskens, 2010). It has been well documented in the literature that people who pursue extrinsic life goals are less happy and more depressed than those who pursue intrinsic goals (Kasser & Ryan, 1996). Thus, it would be of great value to investigate how product design dimensions such as affective, cognitive, ergonomic, and reflective design can influence consumer satisfaction among customers who pursue intrinsic versus extrinsic identity-related goals (Gilal et al., 2018a, 2018b; Xiao, 2017). Therefore, we posit the following:

**Proposition 6.** *Intrinsic and extrinsic goals interact with the factors determining sales and marketing, which in turn predict marketing outcomes.*

## 9. Conclusion

To the best of the authors' knowledge, this review is the first synthesis of empirical studies exploring the role of SDT in marketing science. Specifically, we have contributed to the literature in two ways. First, we reviewed all empirical studies conducted over a 20-year period that explicitly use the mini-theories of SDT in

marketing, and we have highlighted the reasons why SDT should be the focus of scholars' attention. Second, we identified the clusters of research, presented the propositions, and developed a research agenda for future studies. We believe that this review will provide a source of inspiration for marketing scholars across the globe to develop and test novel hypotheses that meaningfully account for observed phenomena.

Although this review study is a source of inspiration for marketing scholars worldwide, it does have some limitations. First, we refined the publication pool by setting the scope of the review to include only literature reviews and empirical studies, whereas short reports and commentaries were not included. Second, we provide a detailed review of forty-nine studies published in thirty-four renowned journals between 1998 and 2018. Nevertheless, based on the insights from this review, we urge researchers to use one/two/three/all of our propositions as testable hypotheses in their future studies and to use tools such as multiple regression, structural equation modelling or causality tests.

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## Appendix A. Supplementary data

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