



It takes two to Tango! Interactive impact of service provider behaviours and customer characteristics on key service outcomes

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It takes two to Tango! Interactive impact of service provider behaviours and customer characteristics on key service outcomes

Purpose: This paper explore the interactive impact of doctors' service behaviours (friendliness, clarity and effectiveness of explanations, responsiveness, respect and emotional support towards their patients) and the patients' knowledge and self-confidence, on the patients' trust, satisfaction and loyalty toward their doctors.

Design/methodology/approach: This study used an online survey with 345 female members of social media groups/forums on women's reproductive health and childbirth in Malaysia, using a structured questionnaire with well-established scales to measure all the constructs.

Findings: The doctor's responsiveness, friendliness, respect and emotional support towards their patients positively impact their ability to explain the patient's condition and progress, the technical processes of care, and how to conduct self-care, which raise the patient's knowledge and self-confidence that in turn improve the patient's trust, satisfaction and loyalty.

Research limitations/implications: This study used a sample with well-educated working women that may limit the generalisability of its findings. Future research may extend our research by testing our hypotheses using diverse socio-economic groups along with possible moderating effects of patient's demographic characteristics such as age, gender and education.

Practical implications: This paper highlights the importance of doctor's responsiveness and friendliness along with respect and emotional support for their patients can enhance the effectiveness of their explanations and improve positive healthcare outcomes.

Originality/value: This paper explores the combined impact of the doctors' service behaviours and the patients' knowledge and self-confidence, on the patients' trust, satisfaction and loyalty toward their doctors, which addresses a long-standing gap in the health services literature.

Keywords: friendliness; loyalty; respect; responsiveness; satisfaction; trust

Introduction

The good physician treats the disease; the great physician treats the patient who has the disease ~ Sir William Osler (Canadian Physician, 1849-1919)

As illustrated by Sir William Osler's popular quote above, doctors' affective behaviour is often more important than their instrumental behaviour (Roongruangsee, Patterson, & Ngo, 2022). Understanding doctors' behaviours during medical service encounter is crucial for the development of doctor-patient relationship and patient health outcomes. The importance of doctor-patient relationships is underscored by the uncertainties, worries and fear experienced by patients in many medical situations (Grothaus, Köcher, Köcher, & Dieterle, 2023; McColl-Kennedy et al., 2017a; Stewart et al., 2024), making them much more emotional and demanding compared to other service consumers (Berry, Attai, Scammon, & Awdish, 2022). Quality healthcare is therefore requires not only the science of medicine but also the art of medicine, and that doctor-patient relationship should be the foundation of contemporary clinical practice (Berry, Awdish, Letchuman, & Steffensen, 2021). Nevertheless, the cultivation of quality doctor-patient relationship remains a major challenge in the healthcare services sector (Danaher & Gallan, 2016).

Interestingly, most extant health services research has focused on the role of patient satisfaction and perceived quality of care, with little attention to the development of doctor-patient relationships that could drive patient loyalty, a construct that has received tremendous attention in the broader services literature given its theoretical and practical implications (e.g., Bergel, Frank, & Brock, 2019; Gidaković & Zabkar, 2021; Reitsamer, Stokburger-Sauer, & Kuhnle, 2024). Understanding healthcare services also has strong policy implications given its potential economic and social ramifications. Moreover, healthcare is an increasingly competitive industry and is complicated by issues such as shortage of personnel, complex regulation, and increasing malpractice suits (Berry, Yadav, & Hole, 2024). This reality begs

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3 the question of what underlying mechanisms are responsible for the role of doctors' service
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5 behaviours in the development, maintenance, or enhancement of patients' loyalty. This research
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7 addresses this transformative service research issue.
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11 Prior research demonstrates a positive relationship between a doctor's communication skills
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13 and clinical outcomes such as patient's adherence to medical treatment (Kemp & Poole, 2017;
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15 Stewart, 1984), appointment keeping, service utilization, disclosure (Danaher, Berry, Howard,
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17 Moore, & Attai, 2023), and emotional health (Gruber & Frugone, 2011; Roongruangsee et al.,
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19 2022; Stewart, 1995). However, most studies have looked at only one or two specific aspects
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21 of doctors' behaviour. For instance, DiMatteo (1998) considered only the doctor's willingness
22
23 to answer the patient's questions whilst other scholars (e.g., Choi & Kim, 2013; Gallan, Jarvis,
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25 Brown, & Bitner, 2013) combined elements of doctor's service behaviour such as friendliness,
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27 empathy and sensitivity into a single measure and labelled it as communication effectiveness
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29 or interaction quality. This approach makes it difficult to pinpoint the individual impact of
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31 specific behavioural traits on a high-quality doctor-patient relationship, which could help both
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33 doctors and patients understand and improve the quality of their interactions and long-term
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35 relationships. An expanded view that takes into consideration various traits of doctors' service
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37 behaviour could lead to optimal clinical outcomes.
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44 Conventional wisdom recognises the importance of doctor-patient dyads, but the
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46 mechanisms by which specific doctors' behaviours influences relational outcomes such as
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48 trust, satisfaction and loyalty remain unanswered. Several questions may illuminate this issue.
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50 For example, what specific traits or behaviours of doctors do patients want from a medical
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52 encounter? What contributions may these doctors' behaviours make to sustain an enduring
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54 doctor-patient relationship? To what extent does patients' knowledge and self-confidence
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56 affect the quality of medical encounter considering the increasing power balance in doctor-
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58 patient dyads attributable to Internet advancement? How important are specific doctors'
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3 behaviours (e.g. friendliness, responsiveness and respectfulness) in building relational
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5 outcomes such as trust, satisfaction and loyalty?
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8 Healthcare is a high-involvement service characterised by a high degree of risk and
9
10 uncertainty (Gaur, Xu, Quazi, & Nandi, 2011). This nature of services highlights the
11
12 importance of relationship marketing as opposed to transaction-oriented marketing (Manjit,
13
14 2004). This study addresses the aforementioned issues through an integration of doctor-patient
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16 dyads and relationship marketing literature to assess the interplay between specific doctors'
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18 service behaviours and patients' knowledge and self-confidence and their impact upon patients'
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20 trust, satisfaction and loyalty toward their doctors. The doctors' service behaviours examined
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22 in this study include friendliness, clarity and effectiveness of their explanations, responsiveness
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24 and respect shown towards their patients, and the degree of emotional support exhibited.
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29 Health service scholars and practitioners alike have acknowledged the importance of the
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31 doctor-patient interaction to the success of healthcare organisations (Berry et al., 2021;
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33 Danaher et al., 2023). Nevertheless, the literature has thus far evolved with little integration of
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35 literature from fields such as nursing, medicine, and health sciences (McColl-Kennedy et al.,
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37 2017b) and mostly conducted in Western nations. This study contributes by taking a
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39 multidisciplinary approach to develop a theory-based conceptual model to advance our
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41 understanding of the impact of doctors' service behaviours on patients' relational outcomes.
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43 Moreover, unlike past studies, this study was conducted with female patients on reproductive
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45 health and childbirth in Malaysia, a conservative society with high gender inequality and high
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47 power-distance, which characterise traditional asymmetric patient-doctor relationships,
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49 especially in female healthcare (Kabir et al., 2022; Kok Wah, 2025). Thus, it helps extend our
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51 current knowledge about healthcare systems from the Western and more modern cultural
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53 settings to the Eastern and more traditional cultures in other parts of the world. This is
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55 important to understand as healthcare awareness and service standards rise around the world.
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Theoretical background and hypotheses development

Relationship marketing in healthcare services

Relationship marketing has been a topic of great interest for both researcher and practitioner, involving a major shift in marketing thinking (Banik, Gao, & Rabbanee, 2019; Cortez, Johnston, & Ehret, 2023; Shuqair et al., 2022). According to Morgan and Hunt (1994), relationship marketing refers to “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges” (p. 34). This definition emphasises the importance of customer retention over sales transaction, placing priority on long-term relationships management between customers and suppliers (Guerola-Navarro, Gil-Gomez, Oltra-Badenes, & Sendra-García, 2021; Jaiswal, Niraj, Park, & Agarwal, 2018). The management of customer relationships is particularly salient in healthcare services given its intangible and high credence nature where customers may lack the required knowledge in appraising the quality of the service rendered (Virlee, Van Riel, & Hammedi, 2020). This situation makes the element of risk reduction by maintaining long-term relationships with their doctor crucial for patients (Sandvik, Hetlevik, Blinkenberg, & Hunskaar, 2022). Clearly, doctor-patient relationship plays a key role in shaping the healthcare service experiences.

The establishment of doctor-patient bonds is particularly important and applicable in the case of private obstetric care (i.e., the field of female reproductive health and pregnancy management) which is the context of this study. An obstetrician sees his or her patients throughout pregnancy, which stresses the interpersonal nature of relationship building. This relationship is dependent partially on the obstetrician’s ability to communicate and establish rapport with patients (Diamond-Brown, 2016). Nevertheless, very often relationship marketing is neglected by doctor considering the hectic pace of obstetric care (Peltier, Boyt, & Schibrowsky, 1999). Studying the effects of doctors’ behaviours, such as being caring and sensitive, on patient satisfaction and loyalty can be beneficial from a marketing standpoint

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3 (Cleary & McNeil, 1988; Xiao, Ju, & Shiao, 2024). This is true for private healthcare services
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5 where continued retention of patients is crucial to financial success.
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8 Healthcare scholars have turned their attention to the concept of relationship marketing in
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10 which successful development of mutually committed relationships will be helpful for building
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12 loyalty to the healthcare organization (Mohd-Any, Sundramohana, & Sarker, 2022). Customer
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14 loyalty has long been recognized as an essential relationship marketing outcome in the services
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16 literature (Matsuoka, 2022). Several outcomes have stimulated research in the area of customer
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18 loyalty including reduction of marketing costs and price sensitivity among consumers,
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20 opportunity for positive word of mouth dissemination and competitive advantage development
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22 (Dick & Basu, 1994; Huarng & Yu, 2020; Jamal & Anastasiadou, 2009; Mazzarol, Soutar, &
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24 Mamouni Limnios, 2019). Customer loyalty can be considered as an ultimate outcome in
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26 relationship marketing since loyal customers are closely tied to the financial performance of an
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28 organization (Wongsansukcharoen, 2022). In the obstetric care context, loyal patients are no
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30 different than any other loyal customers in this respect. Ultimately, it is their repeated visits
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32 and their recommendations of doctors to their peers that is most desired. In this study, loyalty
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34 is defined as the behavioural intention of patients to continue engaging with their doctors while
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36 also spreading positive word-of-mouth and recommending their doctor to their peers.
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43 Customer satisfaction and trust have been identified as two other relational outcomes that
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45 may lead to customer retention (Huarng & Yu, 2020; Jaiswal et al., 2018). As such, healthcare
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47 organizations are striving to manage customer relationship with an attempt to enhance
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49 customer satisfaction and trust. Consumer satisfaction refers to the feeling or attitude that
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51 expectations are met after purchasing a product or service (Ashworth & Bourassa, 2020).
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53 Satisfied customers represent a valuable asset for a healthcare organization since they are more
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55 likely to exhibit traits of loyalty such as repurchases, referral or spread of positive word-of-
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57 mouth (Al-okaily, Alzboun, Alrawadieh, & Slehat, 2023; Jung, Kim, & Kim, 2020; Matsuoka,
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2022) which are helpful not only in improving the image (Lee, Lee, & Kang, 2012) but also influencing value and cash flows of the organization (Matsuoka, 2022). In the healthcare context, patient satisfaction is produced by quality doctors' service behaviours during the ongoing clinical encounters (Gaur et al., 2011). When it comes to service behaviour, the overall satisfaction is a key relational outcomes, defined as the cumulative satisfaction arising from repeated clinical visits between the patient and doctor (Chiou, Droge, & Hanvanich, 2002).

Customer satisfaction is closely related to the concept of trust (Atulkar, 2020; Gaur et al., 2011; Roberts & David, 2020), which is defined as the confidence one has towards another to behave in a reliable manner with integrity (Morgan & Hunt, 1994). Trust can be considered as an essential relational element comprised of perceptions of honesty, reliability and trustworthy motives and intentions (Singh, 2022). Generally, long-term dealing with a trustworthy service provider coupled with honest and open communication helps to reduce the feeling of uncertainty; and thus, building trust in a service provider (Koponen & Julkunen, 2022). Trusting behaviour may be reflected on the willingness to accept vulnerability. That is, for trust to become operational, a person must be placed in a vulnerable position when confiding with another person, and trust that person to take care of their interest (Doney & Cannon, 1997; Zheng, Hui, & Yang, 2017). The feeling of vulnerability is common in most doctor-patient dyads given the emotional state caused by their medical condition (Stewart, 1984; Sutton, Martin, Eborall, & Tarrant, 2023). Existing evidence not only support trust as determinant of better health outcomes but also favourable marketing outcomes including positive word-of-mouth, referrals, and increased satisfaction (Mohd-Any et al., 2022). Trust is therefore an important component in examining the relationships between doctors and patients. Trust is conceptualised in this study as the confidence the patients have that their doctors will look after their best interests. Thus, customer loyalty, satisfaction and trust play a key role in the health system whereby the healthcare services are largely relational in nature (Ozawa & Sripad, 2013).

Doctor's service behaviours and doctor-patient relationships

Given that consumers are susceptible to interpersonal influence (Lasarov, Orth, Wirtz, & Holm, 2023; Zhang, Liang, & Qi, 2021), the quality of doctor-patient relationship is largely affected by doctors' behaviour during the clinical encounter. Based on a thorough literature review, we identified five doctors' service behaviours that are essential traits in the development of relational outcomes. Firstly, responsiveness is the willingness of the doctor to spend time attentively listening to the patient's questions and concerns, while simultaneously attempting to elicit a response (Stewart, 1995). Second, explanation is another important service interactivity where doctors provide the necessary information to patients that convey their current medical condition, the technical processes of healthcare, and self-care instructions (Stewart, 1984). Interpersonal style of doctor that expresses interests in the patient as an individual is often more desired (Berry et al., 2024; Kreuzer, Cado, & Raies, 2020; Matthews & Eilert, 2022) than a formal business-like approach when dealing with patient. The third service behaviour, friendliness, is therefore conceptualised beyond merely behaving nice and pleasant, but doctors should also acting courteously while making the effort to make their patients feel welcomed (Stewart, 1995). The last two service behaviours are respectfulness, which is the doctors' behaviour in recognizing their patient's viewpoints and respect their privacy; lastly, emotional support refers to the degree in which a doctor provides reassurance and empathy when meeting patients (Stewart, 1995). Emotional support is a crucial behavioural trait when serving patients who may be experiencing mixed emotion (e.g. fear, anxiety and uncertainty) caused either by the state of their health or the potential risks involved (Berry et al., 2024). Despite its importance, doctor-patient relationships research has yet to specifically address these behaviours (Choi & Kim, 2013; Gallan et al., 2013; Gaur et al., 2011).

The doctor-patient dyad has undergone a transition in the digital society. Information shared via various forms of social media and virtual communities has led to the empowerment of

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3 patients in medical decision making (Dahl, Milne, & Peltier, 2021; Kraus, Schiavone,
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5 Pluzhnikova, & Invernizzi, 2021; Zheng, Wu, & Tian, 2022). This reality challenges the
6
7 traditional 'doctor knows best' mind-set, bringing our attention to the role of patients'
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9 knowledge and self-confidence. Generally, the average patients may not possess the objective
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11 health knowledge given the lack of professional training and required expertise (Virlée et al.,
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13 2020; Xiao et al., 2024). Therefore, we define knowledge as the subjective, or self-assessed,
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15 knowledge possessed by the patient on the subject matter (Flynn & Goldsmith, 1999) and self-
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17 confidence as the assuredness and confidence of patients in their decision-making abilities
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19 concerning their relationships with their doctors (Bearden, Hardesty, & Rose, 2001).
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25 The behaviour of service providers has long been noted as an important determinant of
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27 customer loyalty (Jung et al., 2020) in that poor service behaviour affects the customer
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29 switching behaviour (Baker & Legendre, 2021; Banik et al., 2019; Kim & Han, 2023) and is
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31 seen as a betrayal of trust that greatly affects satisfaction; and consequently, customer loyalty
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33 (Wei, Zhang, & Hua, 2019). Based on the relationship marketing and doctor-patient
34
35 relationships literature, we put forward our expectations for the impact of doctors' service
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37 behaviours on relational outcomes. Specifically, customer loyalty is modelled as the ultimate
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39 goal of relationship marketing (Mohd-Any et al., 2022; Wongsansukcharoen, 2022) while
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41 satisfaction and trust are posited as key determinants to loyalty (Jung et al., 2020; Kim & Kim,
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43 2021). We expect that the interplay between the aforementioned doctors' service behaviours
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45 and patients' knowledge and self-confidence will have an influence on satisfaction, trust and
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47 loyalty, as explained in the next section.
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51 52 *Doctor's responsiveness and explanation*

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55 Responsiveness does not just involve listening, but also doctor's attempt to draw out responses
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57 from patients by fostering an environment of trust (Stewart et al., 2024). DiMatteo (1998) noted
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59 that doctors who made the effort to answer their patients' questions had better results in medical
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3 adherence. This was surmised due to the fact that responsive doctors will better influence their
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5 patients to share their doubts, concerns and expectations rather than dominating the
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7 conversation during patient visit (Stefanini, Aloini, Gloor, & Pochiero, 2021). Thus, we expect
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9 that the explicitness of the doctor's explanation will improve since a responsive doctor tended
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11 to have a better understanding of his or her patient (Stewart, 1984):
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15 **H1:** The responsiveness of the doctor positively relates to the doctor's ability to
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17 explain a) the patient's condition and progress, b) the technical processes of care
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19 and c) how to conduct self-care.
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22 *Doctor's explanation to patient's knowledge and to self-confidence*

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25 Communication is considered an important component of the doctor-patient relationship
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27 (Berger & Packard, 2023; Danaher et al., 2023; DiMatteo, 1998; Stefanini et al., 2021) and
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29 explaining to patients their medical condition is one form of communications during a clinical
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31 encounter (Danaher et al., 2023; Xiao et al., 2024). The continued interaction between patient
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33 and doctor should serve to increase the patient's understanding of the subject matter (Park,
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35 Mothersbaugh, & Feick, 1994) and that effective communication skills of doctors affect patient
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37 satisfaction (Allenbaugh, Corbelli, Rack, Rubio, & Spagnoletti, 2019). Similarly, providing an
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39 explanation to the patient about their health condition is part of relationship building effort that
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41 may bring beneficial outcomes such as increased medical adherence, self-regulation and better
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43 coping (Berger & Packard, 2023) which in turn may enhance patient's confidence in their
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45 decisions. Empirically, doctors' behaviour of explaining has been shown to instil self-
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47 confidence in patient (Gaur et al., 2011). We expect that doctors who are good at explaining
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49 and providing relevant information tend to improve patients' knowledge, making them feel
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51 more assured in their choices. Therefore, in a doctor-patient relationship, we expect that:
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58 **H2:** The doctor's ability to explain the patient's current condition and progress will
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positively affect the patient's a) knowledge and b) self-confidence.

H3: The doctor's ability to explain the technical processes of care will positively affect the patient's a) knowledge and b) self-confidence.

H4: The doctor's ability to explain how to conduct self-care positively affects the patient's a) knowledge and b) self-confidence.

Doctor's friendliness and explanation and patient's trust and satisfaction

Doctors' personal qualities such as friendliness is important in shaping patients' perception towards the healthcare profession and organisation (Roongruangsee et al., 2022). Friendliness has been associated with understanding and reducing distress (Cox, Smith, Brown, & Fitzpatrick, 2008), and may facilitate more effective interaction by stimulating more open and collaborative conversations (Boninsegni, Furrer, & Mattila, 2020; Jap, Manolis, & Weitz, 1999). Furthermore, friendly behaviour helps to establish credibility in the doctor (Matthews & Eilert, 2022; Roongruangsee et al., 2022) which enhances the doctor's persuasiveness in their explanations to the patients. As such, we expect that doctors who are perceived as friendly may elicit more pertinent information from their patients, and are more successful at explaining the patient's medical condition and treatment:

H5: The doctor's friendliness positively relates to the doctor's ability to explain a) the patient's condition and progress, b) the technical processes of care and c) how to conduct self-care.

According to Jap et al. (1999), "...subtle, mutually reinforcing behaviors that flow from friendly, personal relationships provide a basis for increased trust" (p. 306). Friendliness nature of doctor behaviour gives the impression of benevolence which relates to building a patient's trust (Chen, Shi, & Dong, 2008). In their study to understand the desired qualities that patients believe general practitioners should possess during service recovery encounters, Gruber and

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2
3 Frugone (2011) assert that medical professionals should demonstrate not only competence but
4
5 also friendliness in order to restore trust in their patients. Previous research also demonstrates
6
7 that a doctor's friendliness can have a profound impact on customer satisfaction. For instance,
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9 friendliness displayed by service providers in their interaction with the customers has been
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11 shown to positively affect satisfaction in financial services (Boninsegni et al., 2020; Huang &
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13 Ha, 2020) and healthcare (Dhakate & Joshi, 2023; Roongruangsee et al., 2022). Therefore,
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17 **H6:** The doctor's friendliness positively relates to a) the trust the patient has in the
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19 doctor and b) the patient's relationship satisfaction.
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22 *Doctor's respectfulness and relational outcomes – trust, satisfaction and loyalty*

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25 In the current e-health era, technology advancement has led to power balance in the doctor-
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27 patient relationship (Kraus et al., 2021). Respectfulness is considered as one of the crucial
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29 interpersonal skills for developing a patient-centred model of doctor-patient relationship
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31 (Murphy & Salisbury, 2020). When the patients are treated with respect by doctors, the trust
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33 level in the doctor-patient relationship is likely to increase (Kreuzer et al., 2020), which can
34
35 result in greater patient satisfaction and loyalty. There are empirical evidence that the doctor's
36
37 behaviour, particularly respectfulness, has an effect on patient's healthcare experience
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39 (Kreuzer et al., 2020), satisfaction and loyalty (Beach et al., 2005; Blanchard & Lurie, 2004;
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41 Gaur et al., 2011). Ashworth and Bourassa (2020) echoed this perspective by showing that
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43 customers' perception of respect, based on their interactions with organizations, plays a crucial
44
45 role in their satisfaction response. Therefore, we propose that respectfulness is an essential trait
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47 for a high-quality relationship, which affects patient's satisfaction, trust and loyalty:
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53 **H7:** The doctor's respectfulness positively relates to the a) trust the patient has in the
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55 doctor, b) the patient's relationship satisfaction and, ultimately, c) the patient's
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57 loyalty towards the doctor.
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Doctor's emotional support and relational outcomes – trust, satisfaction and loyalty

The concept of emotional support is fundamental to building trust. Previous studies have shown that doctors who are attentive, caring, and supportive of their patients are perceived as trustful by their patients (Berry et al., 2024; Dhakate & Joshi, 2023; Kreuzer et al., 2020). Empathy, an important element of emotional support, refers to understanding and concern demonstrated by the doctors to their patients (Gruber & Frugone, 2011) is the most essential service behaviour in healthcare (Dhakate & Joshi, 2023; Wu, Jin, & Wang, 2022). Doctor's behaviour that demonstrates empathy during service encounter has an impact upon patient satisfaction (Kreuzer et al., 2020; Roongruangsee et al., 2022) and loyalty (Chen et al., 2008; Peltier et al., 1999). Based on this discussion, we propose that:

- H8:** The doctor's degree of emotional support positively relates to the a) trust their patient has in the doctor, b) the patient's relationship satisfaction and, ultimately, c) the patient's loyalty towards their doctor.

Patient knowledge, trust and self-confidence

Patient knowledge is another essential concept in the e-health era. As the patients obtained more medical knowledge, the doctors and patients tend to reach greater consensus about the health issue at hand, which can lead to increased trust level (Awdish & Berry, 2019; Bernardi & Wu, 2022; Chen, Guo, Wu, & Ju, 2022; Mohd-Any et al., 2022). Furthermore, a more knowledgeable patient may be able to recognise and thus appreciate certain aspects of healthcare services that may well be taken for granted or ignored by less knowledgeable patients. Hence, higher level of knowledge may reduce patients' feeling of uncertainty which may be helpful in building trust in their doctor (Bell & Eisingerich, 2007). Consumer knowledge is also related to consumers' self-confidence (Lin & Chou, 2022; Park et al., 1994). Particularly, consumers who possess high subjective knowledge tend to be more self-confident,

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3 which affects their decision-making abilities (Kumar, Polonsky, Dwivedi, & Kar, 2021;
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5 Takahashi et al., 2022). Therefore, we hypothesised that:
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8 **H9:** The patient's knowledge will positively affect a) the trust the patient has in their
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10 doctor and b) the patient's self-confidence.
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13 *Patient's self-confidence and relational outcomes – trust, satisfaction and loyalty*

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16 The e-health era has exposed patients to various forms of medical information which can
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18 increase their self-confidence in medical decisions (Bernardi & Wu, 2022). Patient's self-
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20 confidence in their decision-making abilities may reduce the perceived risk which in turn may
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22 result in greater trust in their doctor (Li, James, & McKibben, 2016). Also, confidence benefits
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24 such as reduced anxiety and perception of risk and faith in the service provider positively
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26 influence satisfaction and trust level (Chiou et al., 2002; Chou & Chen, 2018). Furthermore,
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28 there is evidence that self-confidence is associated with relationship satisfaction and loyalty in
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30 the healthcare setting (Gaur et al., 2011). Therefore, self-confidence has a positive impact on
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32 relationship outcomes between patients and doctors – trust, satisfaction and loyalty.
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37 **H10:** The patient's self-confidence will positively affect a) the trust the patient has in
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39 their doctor, b) the patient's relationship satisfaction and, ultimately, c) the
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41 patient's loyalty towards their doctor.
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45 *Patient's trust, satisfaction and loyalty*

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48 Trust is one of the most important components in interpersonal dyads (Singh, 2022) particularly
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50 in relational contexts that are characterised as high risk and uncertainty such as healthcare
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52 services (Danaher et al., 2023; Lee, McGlynn, & Safran, 2019; Murphy & Salisbury, 2020;
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54 Petrocchi et al., 2019). Consumer trust has been linked with a number of relational outcomes.
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56 For instance, Chiou et al. (2002) assert that trust is an important determinant of satisfaction in
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58 that a customer will likely be dissatisfied with the encounter if he or she does not trust the
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3 service provider. In the healthcare context, Petrocchi et al. (2019) argue that trusting patients
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5 tend to experience greater satisfaction. Empirically, patients' trust in their health professionals
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7 has been reported to enhance customer satisfaction and loyalty (Mohd-Any et al., 2022; Peltier
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9 et al., 1999). Furthermore, trust and satisfaction are the two main determinants of customer
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11 loyalty (Jung et al., 2020). One of the most consistent empirical findings in the satisfaction
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13 literature is the positive relationship between satisfaction and loyalty responses such as
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15 repurchase, recommendation to others and spread of positive word-of-mouth (Al-okaily et al.,
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17 2023; Gardiazabal, Bianchi, & Saleh, 2020; Hsu & Lin, 2023; Jung et al., 2020; Singh, 2022).
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19 Therefore, we expect trust to be related to satisfaction and loyalty:
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24 **H11:** The patient's trust in their doctor will positively affect a) the patient's relationship
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26 satisfaction and, ultimately, b) the patient's loyalty towards their doctor.
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30 **H12:** The patient's satisfaction in their relationship with their doctor will positively
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32 affect the patient's loyalty towards their doctor.
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34 **Method**

35 *Research setting*

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37 This study was conducted using a cross-sectional survey approach in Malaysia. We chose
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39 Malaysia as the research setting as it is an affluent and yet conservative multi-cultural society,
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41 with high power distance and masculinity coupled with knowledge asymmetry between doctors
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43 and patients (Sharma et al., 2015), which could affect the quality of their interactions with each
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45 other differently to those in other countries and socio-cultural settings (Sharma et al., 2015).
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47 Therefore, Malaysia provides us with a suitable context to test all our hypotheses about the
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49 impact of different types of doctor's service behaviours on the quality of their interactions and
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51 relationships, especially with their female patients (Kabir et al., 2022; Koh & Goh, 2021; Kok
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53 Wah, 2025). Next, we describe the measures, sampling and data collection method.
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Measures

All the constructs were operationalised by adapting well-established scales with satisfactory psychometric quality from past studies. A seven-point Likert-type scale anchored questions with *strongly disagree/strongly agree* was adopted. Appendix 1 shows all the scales used.

Sampling and data collection

Data were collected online using a non-probability purposive sampling method. The target sample consisted of female members of social media groups/forums sharing information on women's reproductive health and childbirth in Malaysia. We used this research setting due to high collectivism, gender inequality and power distance in Malaysian society, which allows us to extend the current research on healthcare settings in the Western cultures with high individualism and gender equality with low power distance (Kabir et al., 2022; Koh & Goh, 2021; Kok Wah, 2025). A screening question was used to select only respondents over the age of 18 who had visited an obstetrician or a gynaecologist in the past two years. To obtain access to these social media groups/forums, the administrator(s) of these sites were electronically approached for permission via emails or private messages. A link to the questionnaire was then sent to the target sample, either in the form of an announcement in the social media group/forum or via a personal email. The survey was available online for five weeks.

Sample profile

A total of 345 completed questionnaires were usable. The respondent age ranged from 18 to 63, and were predominantly aged between 20 to 45 years old. About 90% of the respondents were employed. Approximately 77% of the respondents possessed a Bachelor's Degree or higher, indicating that a majority of the respondents were well-educated professionals. Chinese made up 54% of the sample, 38% Malay and 8% Indians. About half the respondents (52%) with household income greater than RM100,000 indicate their middle-income background. The

sample profile represents female customers who patronage private healthcare services in line with the growing trend towards privatisation of healthcare services in Malaysia (Bu, 2025).

Data analysis and results

Reliability and validity of measures

We used the well-established two-stage approach to analyse our data, beginning with an assessment of the measurement model to establish the reliability and validity of all the scales used in this study, followed by a structural (path) model to test all the hypothesised relationships among the various constructs. A total of four items (one each from the following scales) were dropped based on an initial assessment via inter-item correlation: Explanation of technical processes of care, friendliness, respectfulness, and knowledge (as indicated in Appendix 1 in italics). As presented in Table 1, the average variance extracted (AVE) scores for all main constructs exceeded the 0.50 threshold, suggesting the variance due to measurement error is smaller than the amount of variance captured by the constructs (Henseler, Hubona, & Ray, 2016). In addition, all scales used in this study met the recommended composite reliability of 0.70 (Saunders, Lewis, & Thornhill, 2012), indicating that these scales do indeed measure what they are intended for. Consequently, these measures were retained as the requirements for AVE and composite reliability were met.

[Insert Table 1 about here]

Model testing

The conceptual model was tested using the variance-based structural equation modelling (SEM) approach with SmartPLS 4.1.1.4, as the main aim of this study was to predict the variance in the key outcome variables and it had a relatively smaller sample size. As shown in Table 2, both Square Root Mean Square Residual (SRMR) ($0.06 < 0.08$) and Normed Fit Index (NFI) ($0.92 > 0.90$) are better than the recommended threshold values, showing a good model

1
2
3 fit. The R^2 values obtained for the main constructs ranged from 0.44 to 0.79, and the lowest
4
5 score of 0.44 was greater than 0.4, providing an acceptable level of explanation for the variance
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7 explained by the respective predictors. Upon establishing the convergent validity and model
8
9 fit, the significance, direction, and size of key structural relationships were analysed.

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12
13 [Insert Table 2 about here]
14

15 16 *Hypotheses testing (Direct effects)*

17
18 The direct effects derived from our analyses are summarised in Table 3 in which the value of
19
20 the path coefficient, standard error, T-statistics and significance level are reported. 21 out of
21
22 28 hypotheses are supported. Overall, the results suggest that the importance of doctors' service
23
24 behaviours in influencing the quality of doctor-patient relationship. Furthermore, a patient's
25
26 self-confidence has a role in predicting key relationship outcomes. The results for each
27
28 hypothesis and their implications are discussed in the next section.

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31
32 [Insert Table 3 about here]
33

34 35 *Direct effects*

36
37 Firstly, our results revealed that the extent of a doctor's responsiveness is positively related to
38
39 the clarity of his/her explanations to patients in terms of condition and progress ($\beta = 0.59$),
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41 technical processes of care ($\beta = 0.59$) and how to conduct self-care ($\beta = 0.41$). Therefore, H1a,
42
43 H1b and H1c) were supported. This finding validated the assumption we made based on the
44
45 works of DiMatteo (1998) which theorised that doctors who made the effort to elicit responses
46
47 from patients were more successful in providing explanations and thereby enhancing their
48
49 patients' medical adherence. Our finding concluded that the doctor's behaviour of
50
51 responsiveness does draw out patients to communicate their concerns with their doctor which
52
53 may enhance the perceptions towards the quality of doctors' explanations.
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60 Next, we found explanation of patient's condition has a positive effect on patient knowledge

(H2a: $\beta = 0.18$) but not self-confidence (H2b). In contrast, explanation of technical processes of care has an effect on self-confidence (H3b: $\beta = 0.20$) but not patient's knowledge (H3a). One reason for these mixed results could be due to the high credence nature of healthcare services. That is, both explanations of the patient's condition and technical processes of care involved medical terms that are unfamiliar to the patient. The lack of understanding of the medical concepts could have contributed to the lower patient's knowledge and self-confidence.

Next, explanation on how to conduct self-care has a positive effect on patient's knowledge (H4a: $\beta = 0.51$) and self-confidence (H4b: $\beta = 0.14$), supporting the need to provide clear explanations on self-care to patients, which is probably easier to understand by patients compared to the other two types of explaining behaviours (Stewart, 1995). Explanations of this nature would have the desired effect of reducing feeling of anxiety which ultimately lead to increased knowledge and self-confidence. Next, friendliness of a doctor is positively linked to their explanation of patient's condition (H5a: $\beta = 0.26$) technical processes (H5b: $\beta = 0.26$) and self-care conduct (H5c: $\beta = 0.39$), in line with Roongruangsee et al. (2022) showing that friendliness improves the credibility of the doctor.

Friendliness also has a positive effect on relationship trust (H6a: $\beta = 0.32$) consistent with Boninsegni et al. (2020) but no effect on satisfaction (H6b). Oliver (1999) defines customer satisfaction as a feeling that arises if expectations are met. As patient's expectations for a high credence service like healthcare are high, perceived competence of a doctor plays a crucial role in forming patient satisfaction (Gaur et al., 2011). However, a friendly doctor may not necessarily be perceived as competent, as reflected by no direct effect on satisfaction (H6b).

We also find that respectfulness has a positive effect on relationship trust (H7a: $\beta = 0.15$), satisfaction (H7b: $\beta = 0.42$) and loyalty (H7c: $\beta = 0.23$), congruent with past research showing respectfulness as an important service behaviour for doctors (Choi & Kim, 2013; Gallan et al., 2013; Gaur et al., 2011; Murphy & Salisbury, 2020). The last type of service behaviour,

1
2
3 emotional support, is positively related to satisfaction (H8b: $\beta = 0.31$) and loyalty (H8c: $\beta =$
4
5 0.20) but not with trust (H8a), unlike Wu et al. (2022). One possible explanation for this could
6
7 be that patient trust, which we defined as the confidence of patients that a doctor will have their
8
9 best interest at heart, requires more than just emotional support to be gained. We speculate that
10
11 emotional support, although crucial in building other relationship outcomes, may do little to
12
13 reduce the suspicion a patient may have or improve credibility that may serve to increase the
14
15 patient's trust (Mohd-Any et al., 2022; Morgan & Hunt, 1994). In addition, trust in doctors and
16
17 their knowledge may be implicit in high power-distance cultures like Malaysia, which may be
18
19 reflected by no significant impact of emotional support on trust as seen in this study.
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25 Next, the positive effect of patient knowledge on self-confidence (H9b: $\beta = 0.28$) is
26
27 congruent with past studies (Allenbaugh et al., 2019; Park et al., 1994). We proposed a direct
28
29 link between knowledge and trust on the basis of Bell and Eisingerich (2007) suggestion that
30
31 knowledgeable customers may be able to recognise more aspects of high credence services
32
33 than less knowledgeable customers. However, there was no significant effect of patient's
34
35 knowledge on trust (H9a). One possible explanation is that subjective knowledge of patient
36
37 may not be accurate. That is, no matter how knowledgeable a patient may think they are, they
38
39 may not have sufficient knowledge to truly appreciate the healthcare services they received,
40
41 making it difficult to translate the knowledge into trust.
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46 Next, patient's self-confidence has a positive effect on trust (H10a: $\beta = 0.34$) and satisfaction
47
48 (H10b: $\beta = 0.09$) towards their doctors, confirming that self-confident patients are more likely
49
50 to believe they made the right choice in trusting and being satisfied with their doctors (Bearden
51
52 et al., 2001; D'Souza, Taghian, & Brouwer, 2021; Storopoli, da Silva Neto, & Mesch, 2020).
53
54 The non-significant relationship between self-confidence and loyalty (H10c) may be explained
55
56 by the potential costs involved in healthcare sector. Given the cost implications, loyalty must
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58 be carefully considered by patients, especially as private healthcare in Malaysia is costlier than
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3 public hospitals. Thus, patients may trust their self-confidence on other matters, but they may
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5 not be so sure when choosing to be loyal without considering other factors.
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8 Finally, trust (H11a: $\beta = 0.17$) and satisfaction (H12: $\beta = 0.33$) to have positive effects on
9
10 loyalty, which supports findings reported in past studies. The non-significant link between trust
11
12 and satisfaction was surprising as this path is also well-established in the services literature.
13
14 We suggest that the development of feelings of satisfaction in patients may require more than
15
16 just a trustworthy doctor particularly in high credence service like healthcare. Moreover, trust
17
18 and loyalty towards doctors and healthcare providers may be high in the Malaysian context and
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20 not be influenced by the doctor's behaviours or patient's own knowledge and confidence.
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24 25 *Indirect Effects*

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27 Table 4 presents the results for indirect effects in which the path coefficient, standard error and
28
29 T-statistics are reported. In total, 21 significant indirect effects were discovered.
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33 [Insert Table 4 about here]
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36 We performed mediation analyses to gain further insights into the insignificant hypothesized
37
38 paths to see if there could be an indirect effect between these paths. While at first glance it
39
40 appeared that the influence of doctor's friendliness was not related to relationship satisfaction
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42 as reported earlier, but our further analysis demonstrated that the relationship between
43
44 friendliness and satisfaction was indeed fully mediated by trust. Similarly, our earlier finding
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46 indicated that patient knowledge does not constitute as a significant predictor of trust, but the
47
48 mediation analyses showed that this relationship was instead fully mediated by the patient's
49
50 self-confidence. We also found that self-confidence and trust fully mediated the link between
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52 patient knowledge and satisfaction. In addition, the relationship between emotional support and
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54 loyalty was also found to be fully mediated by trust and satisfaction. The result also
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56 demonstrated that although self-confidence has no direct effect on loyalty but its link was found
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3 to be fully mediated by trust and satisfaction.
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6 Besides the full mediation effects reported earlier, our analyses revealed several indirect
7 effect of doctor's service behaviours on the relationship outcomes. For instance, the doctor's
8 responsiveness has a significant indirect relationship with the relationship outcomes of trust
9 and satisfaction whereby these paths were mediated by the three types of doctor's explaining
10 behaviour and patient's self-confidence. Significant indirect effects were observed for links
11 between the explanation of patient's self-care towards trust and satisfaction as well as the
12 explanation of the technical processes of care with the patient's trust. These indirect effects are
13 mediated by the patient's self-confidence, which shows that the behaviours of responsiveness
14 and explaining play a part in forming high-quality relationships between doctors and patients.
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26 27 **Discussion and implications** 28

29 *Theoretical contributions* 30 31

32 This paper contributes by providing theoretical insights into the mechanisms underlying the
33 effects of specific doctor's service behaviours on the patient-relationship outcomes including
34 trust, satisfaction and loyalty. We extend past research by identifying the specific traits of
35 doctor's service behaviour that have influence doctor-patient relationship. Overall, this study
36 underlines the importance of a doctor's behaviour when interacting with his/her patients. Our
37 findings are important from a theoretical perspective and would guide future research into
38 patient-doctor interactions in culturally and socio-economically diverse research settings.
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49 First, past research focuses on one or two aspects of doctors' behaviour, others have
50 combined several service behaviours (e.g. empathy and friendliness) into a single measure.
51 This study supports the role of several doctors' service behaviours in influencing the
52 relationship with their patients. Specifically, friendliness, emotional support and respectfulness
53 are positively related to some or all of these relationship outcomes – trust, satisfaction, and
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3 loyalty. In this paper, we find that a doctor's responsiveness and certain aspects of his/her
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5 explaining behaviour, notably the explanation of patient self-care, are indirectly linked to
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7 patient trust and satisfaction, which are key elements of patient-doctor relationship. Therefore,
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9
10 this research has important implications for Relationship Marketing theory in healthcare, as it
11
12 emphasizes the long-term value of building strong patient-doctor relationships through
13
14 consistent positive service encounters, leading to patient retention and positive word-of-mouth.
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16

17
18 Second, this study explores the effect of a patient's self-confidence on the relationship with
19
20 their healthcare providers. Previous research reports that self-confident consumers are certain
21
22 in making the right choices (D'Souza et al., 2021; Storopoli et al., 2020). Our study
23
24 demonstrates that such assuredness in decision-making abilities can translate into relationship
25
26 trust and satisfaction. Particularly, we find that self-confidence fully mediates the effect of
27
28 patient's knowledge on trust and satisfaction. Furthermore, patient's self-confidence mediates
29
30 the links between a doctor's explaining behaviours (i.e. explanation of patient's self-care and
31
32 the technical processes of care) and trust and satisfaction. These findings help explain how self-
33
34 confidence may mediate the effect of service behaviours on relational outcomes not just in the
35
36 context of doctor-patient relationships, but services in general. Self-Efficacy theory can explain
37
38 the role of patient self-confidence by showing that when doctors provide clear explanations
39
40 and emotional support, they can enhance a patient's belief in their ability to manage their health
41
42 (self-efficacy), resulting in greater engagement and compliance, which in turn would lead to
43
44 loyalty. This is becoming particularly important under the influence of social media and
45
46 proliferation of health-related information on the internet (Imran & Zulfaqar, 2025).
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53 Third, as advised by an anonymous reviewer, our theoretical contribution could be further
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55 strengthened by explicitly linking our findings to broader marketing theories beyond
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57 relationship marketing discipline. We thank the reviewer for this invaluable suggestion and
58
59 discuss how our theoretical framework may link with several established theories. For example,
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3 Social Exchange Theory (SET) posits that individuals evaluate relationships based on
4
5 perceived rewards and costs (Mukherjee, 2010). Thus, a doctor's positive service behaviours
6
7 may be perceived as rewards, while a patient's trust, satisfaction, and loyalty could be the
8
9 reciprocal benefits for the doctor and the healthcare system. Similarly, Attribution Theory can
10
11 explain how patients attribute the quality of their care to specific doctor behaviours (Zhao et
12
13 al., 2023). For example, if a patient perceives a doctor's unresponsiveness as a lack of care, it
14
15 can negatively impact their trust, whereas by contrast, doctor's responsiveness might be
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17 attributed to diligence and empathy, fostering positive patient outcomes.
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22 Finally, Expectancy-Disconfirmation perspective can explain that patients would be more
23
24 satisfied if a doctor's service behaviours exceed their expectations, whereas unmet expectations
25
26 would lead to dissatisfaction, implying a moderating or mediating role of patient knowledge
27
28 and self-confidence (Kashif et al, 2016). For example, positive effect of a doctor's clarity on
29
30 patient trust might be stronger for patients with lower initial health literacy, as the explanation
31
32 fills a greater knowledge gap. Conversely, for highly knowledgeable patients, the impact of
33
34 clarity might be less pronounced, but respect and responsiveness might become more critical
35
36 in maintaining their trust and loyalty. Thus, it seems that patient characteristics could moderate
37
38 the impact of doctor's service behaviours on their relationship outcomes with each other.
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42 43 *Practical implications*

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45 In this paper, we identify specific behavioural traits of doctors and the influence of these traits
46
47 their relationship with patients. Our findings about the relationships among these relevant
48
49 variables offer some important practical implications for healthcare service providers.
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53 First, compliance with medical advice is a crucial aspect of healthcare to ensure positive
54
55 patient outcomes and despite the severe consequences of non-compliance, many patients still
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57 do not adhere to the medications or other advice prescribed by their doctors, which leads to
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3 increased healthcare costs and poor health conditions (Nicosia et al., 2020; Osterberg &
4
5 Blaschke, 2005). One way to increase the chances of patients adhering to their doctor's
6
7 medication or treatment advice is to demonstrate doctor's effective explaining behaviour (Gaur
8
9 et al., 2011). Our finding that doctor's responsiveness and friendliness can enhance the
10
11 effectiveness of his/her explanations implies that doctors should behave in a responsive and
12
13 friendly manner seeing that it increases the chances of a positive healthcare outcome. This
14
15 finding may also be used by healthcare organisations to train their medical staff including
16
17 doctors and nurses, to ensure they provide the best possible service to their patients.
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22
23 Second, this paper also provides many useful insights into doctors' service behaviour by
24
25 empirically showing their contribution to the patient's loyalty. Given the beneficial outcomes
26
27 of patient's loyalty such as re-patronage intention, recommendation, and spread of positive
28
29 word-of-mouth, doctors that display the behavioural traits highlighted in this study will gain a
30
31 competitive advantage over their similarly trained counterparts in terms of retaining and
32
33 attracting new patients. The doctors' training tends to make them be cold and emotionally
34
35 insensitive (Gallan et al., 2013). We hope that the results of this study will encourage doctors
36
37 to open up more, communicate effectively and be more sensitive to the needs of their patients.
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41
42 Third, this study shows that a doctor can influence their patient's knowledge and self-
43
44 confidence by explaining effectively. Specifically, a doctor who can explain their patient's
45
46 condition and progress and how to conduct self-care effectively, can enhance their patient's
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48 knowledge and health outcomes. Moreover, the doctor's ability to explain the technical
49
50 processes of care and how to conduct self-care can boost the patient's self-confidence. Armed
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52 with this knowledge, health professionals can pay special attention to explaining behaviour
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54 seeing how it may ultimately affect the patient's trust and satisfaction.
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58 Fourth, we found that doctor's service behaviours, such as responsiveness and friendliness,
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60 influence patient knowledge and self-confidence indirectly through the explaining behaviours.

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3 This result shows that patient knowledge leads to their self-confidence, which in turn helps
4
5 them build relationship outcomes such as trust and satisfaction. The interplay between patient
6
7 knowledge and self-confidence is critical as patients who feel knowledgeable and confident
8
9 about their health are more likely to engage in shared decision-making, ask pertinent questions,
10
11 and adhere to treatment plans, all of which contribute to higher satisfaction and loyalty.
12
13 Healthcare providers may use these findings to train and encourage their service providers to
14
15 engage in behaviours that reinforce patients' knowledge and self-confidence due to their
16
17 positive impact on patient satisfaction, trust and loyalty.
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22 Overall, our findings about the patient-doctor relationship dynamics would allow
23
24 healthcare providers to develop targeted interventions to improve the patient experience, foster
25
26 stronger doctor-patient relationships, and ultimately enhance health outcomes. Specifically,
27
28 when doctors exhibit positive service behaviours, such as being friendly and providing clear
29
30 explanations, patients are more likely to feel heard and understood. This can directly influence
31
32 their knowledge about their condition and treatment options, as well as their self-confidence in
33
34 managing their health. For instance, a doctor who patiently explains a complex diagnosis in an
35
36 understandable way can empower a patient to take a more active role in their treatment
37
38 decisions, leading to increased adherence and better health management. Conversely, a lack of
39
40 responsiveness or perceived disrespect can erode trust, leading to patient dissatisfaction and a
41
42 decreased likelihood of returning for follow-up care or recommending the doctor to others.
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48 **Limitations and future research**

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50 This study used a sample consisting mostly well-educated working professionals; therefore,
51
52 generalisations to other socio-economic groups should be made with caution. This gap serves as
53
54 a potential area for future research to explore the impact of various doctor's service behaviour
55
56 on relational outcomes across different socio-economic groups. Another possible direction for
57
58 future research would be to examine the moderating effects of patient's demographic
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3 characteristics such as age, education level and household income on the relationships between
4
5 doctor's service behaviour and relationship outcomes. Finally, a patient's knowledge and self-
6
7 confidence may be influenced by factors that are beyond the doctor's control such as word-of-
8
9 mouth or information available on the Internet (Dahl et al., 2021; Kraus et al., 2021; Shan,
10
11 Wang, Shi, & Evans, 2024; Zheng et al., 2022). Therefore, future research should consider the
12
13 potential interactive effect of interpersonal sources or communication on patient behaviour and
14
15 decision-making (Lasarov et al., 2023; Wu, Wu, & Schlegelmilch, 2020; Zhang et al., 2021).
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17
18 Appendix 2 summarises the directions for future researchers and healthcare providers.
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Table 1. Validity and reliability of measures

Scale	Cronbach's alpha coefficient	Composite reliability	Average variance extracted
Responsiveness	0.79	0.87	0.64
Explanation of patient's condition	0.93	0.97	0.94
Explanation of technical processes of care	0.87	0.92	0.80
Explanation of self-care	0.90	0.92	0.63
Friendliness	0.92	0.96	0.93
Respectfulness	0.84	0.91	0.76
Emotional support	0.84	0.90	0.76
Knowledge	0.84	0.92	0.86
Self-confidence	0.90	0.92	0.71
Trust	0.88	0.91	0.64
Satisfaction	0.88	0.93	0.82
Loyalty	0.95	0.96	0.84

Table 2. Variance explained in dependent variables

Variable	R ²
Explanation of patient's condition	0.63
Explanation of technical processes of care	0.64
Explanation of self-care	0.56
Knowledge	0.44
Self-confidence	0.52
Trust	0.65
Satisfaction	0.78
Loyalty	0.79
Fit indices	
SRMR Composite Factor Model	0.06 (< 0.08)
NFI	0.92 (> 0.90)

SRMR: Square Root Mean Square Residual (SRMR); NFI: Normed Fit Index

Table 3. Hypotheses testing (direct effects)

H#	Hypothesised Path	Path Coefficient	Standard Error	T-Statistics	Result
H1a	Responsive → Explain Condition	0.59***	0.06	9.86	Yes
H1b	Responsive → Explain Process	0.59***	0.06	9.97	Yes
H1c	Responsive → Explain Care	0.41***	0.05	8.27	Yes
H2a	Explain Condition → Knowledge	0.18*	0.08	2.41	Yes
H2b	Explain Condition → Confidence	-0.11	0.08	1.37	No
H3a	Explain Process → Knowledge	0.01	0.08	0.18	No
H3b	Explain Process → Confidence	0.20**	0.08	2.60	Yes
H4a	Explain Care → Knowledge	0.51***	0.07	7.29	Yes
H4b	Explain Care → Confidence	0.14*	0.08	1.90	Yes
H5a	Friendliness → Explain Condition	0.26***	0.06	4.03	Yes
H5b	Friendliness → Explain Process	0.26***	0.07	3.99	Yes
H5c	Friendliness → Explain Care	0.39***	0.05	7.25	Yes
H6a	Friendliness → Trust	0.32**	0.10	3.15	Yes
H6b	Friendliness → Satisfaction	0.09	0.06	1.47	No
H7a	Respectfulness → Trust	0.15*	0.08	1.94	Yes
H7b	Respectfulness → Satisfaction	0.42***	0.06	6.80	Yes
H7c	Respectfulness → Loyalty	0.23**	0.08	2.97	Yes
H8a	Emotional Support → Trust	0.10	0.07	1.36	No
H8b	Emotional Support → Satisfaction	0.31***	0.06	5.53	Yes
H8c	Emotional Support → Loyalty	0.20**	0.07	3.06	Yes
H9a	Knowledge → Trust	0.04	0.06	0.73	No
H9b	Knowledge → Confidence	0.28***	0.05	5.37	Yes
H10a	Confidence → Trust	0.34***	0.07	5.01	Yes
H10b	Confidence → Satisfaction	0.09*	0.05	1.99	Yes
H10c	Confidence → Loyalty	-0.05	0.05	0.97	No
H11a	Trust → Satisfaction	0.08	0.05	1.39	No
H11b	Trust → Loyalty	0.17**	0.06	2.98	Yes
H12	Satisfaction → Loyalty	0.33***	0.08	4.06	Yes

*** p < 0.001; ** p < 0.01; *p < 0.05

Table 4. Hypotheses testing (indirect effects)

Path	Path Coefficient	Standard Error	T-Statistics
Responsive → Knowledge	0.33***	0.04	8.02
Responsive → Confidence	0.21***	0.05	4.11
Responsive → Trust	0.08***	0.02	3.88
Responsive → Satisfaction	0.02*	0.01	2.40
Explain Condition → Confidence	0.05*	0.02	2.14
Explain Care → Confidence	0.14***	0.03	4.24
Explain Care → Satisfaction	0.03*	0.01	2.47
Explain Care → Trust	0.12***	0.03	9.86
Explain Process → Trust	0.07*	0.03	2.08
Friendliness → Knowledge	0.25***	0.04	7.17
Friendliness → Confidence	0.15***	0.04	3.91
Friendliness → Trust	0.06***	0.02	3.29
Friendliness → Satisfaction	0.04*	0.02	2.17
Friendliness → Loyalty	0.10***	0.03	3.22
Respectfulness → Trust	0.10**	0.04	2.86
Respectfulness → Satisfaction	0.05*	0.02	2.41
Respectfulness → Loyalty	0.18***	0.04	4.53
Emotional Support → Loyalty	0.12***	0.03	3.79
Knowledge → Satisfaction	0.04**	0.01	2.71
Knowledge → Trust	0.09***	0.03	3.46
Confidence → Loyalty	0.09***	0.03	3.27

*** p < 0.001; ** p < 0.01; *p < 0.05

Appendix 1: Measures used for each construct

Construct / Reference	Operational definition	Scale items
Responsiveness (Stewart et al., 1995)	The ability of a doctor to be responsive to a patient's concerns and expectations, as well as, to elicit a response.	<ul style="list-style-type: none"> • My obstetrician/gynaecologist gives me enough time to say what I thought was important • My obstetrician/gynaecologist listens carefully to what I had to say • My obstetrician/gynaecologist ignores what I tell them* • My doctor takes my concerns seriously
Explanation (Stewart et al., 1995)	The doctor's ability to explain the condition of the patient, the technical processes of care involved and patient self-care.	<p>Doctor's ability to explain the condition of the patient:</p> <ul style="list-style-type: none"> • My obstetrician/gynaecologist gives me enough information about my pregnancy • My obstetrician/gynaecologist makes sure I understand my pregnancy <p>Doctor's ability to explain the technical processes of care involved:</p> <ul style="list-style-type: none"> • My obstetrician/gynaecologist explains why a test is being done • My obstetrician/gynaecologist explains how the test is being performed • My obstetrician/gynaecologist explains to me what he/she is doing as he/she examined me • I often felt confused about what was going during my consultation as my obstetrician/gynaecologist did not explain things well* <p>Doctor's ability to explain patient self-care:</p> <ul style="list-style-type: none"> • My obstetrician/gynaecologist tells me what I should do to take care of myself at home • My obstetrician/gynaecologist tells me how to pay attention to my symptoms and when to call him/her • My obstetrician/gynaecologist explains clearly how to take my medicine (for instance when, how much and for how long) • My obstetrician/gynaecologist goes over all the medicines I am taking • <i>My obstetrician/gynaecologist gives me written instruction about how to take my medicine (other than what is written on the container)</i> • My obstetrician/gynaecologist tells me the reason for taking the medicine • My obstetrician/gynaecologist tells me about the possible side-effects I might get from

		medicines given to me
Friendliness (Stewart et al., 1995)	The perceived friendliness and courteousness of the doctor.	<ul style="list-style-type: none"> • My obstetrician/gynaecologist treats me in a friendly and courteous manner • My obstetrician/gynaecologist makes me feel that I am welcomed • <i>My obstetrician/gynaecologist behaves rudely towards me*</i>
Respectfulness (Stewart et al., 1995)	The extent in which the doctor shows interest to the patient while respecting their privacy and respecting them.	<ul style="list-style-type: none"> • My obstetrician/gynaecologist seems to care about me as a person • My obstetrician/gynaecologist addresses me by a name that I prefer • <i>My obstetrician/gynaecologist talks in front of me as if I wasn't there*</i> • My obstetrician/gynaecologist respects my privacy when examining me or asking me questions
Emotional support (Stewart et al., 1995)	The interpersonal style of a doctor to provide reassurance, as well as, empathy to the patient with the goal of helping patients feel better and less anxious.	<ul style="list-style-type: none"> • My obstetrician/gynaecologist helps me feel less worried about my pregnancy • My obstetrician/gynaecologist compliments me on how well I am managing my pregnancy • My obstetrician/gynaecologist treats me in a compassionate and caring manner
Self confidence (Bearden et al., 2001)	The self-confidence of consumers to judge and decide the choice of doctor which is acceptable.	<ul style="list-style-type: none"> • I am confident in my ability to recognize an obstetrician/gynaecologist worth considering • I can tell which obstetrician/gynaecologists meet my expectations • I trust my own judgment when deciding which obstetrician/gynaecologists to consider for my pregnancy • I know where to obtain information on obstetrician/gynaecologists for my pregnancy • I can focus easily on a few good obstetrician/gynaecologists when making a decision regarding my pregnancy
Knowledge (Flynn & Goldsmith, 1999)	The subjective knowledge of patients towards pregnancy	<ul style="list-style-type: none"> • I know a lot about pregnancy • <i>Among my friends, I am considered as one of the "experts" on pregnancy</i> • Compared to other people I know less about pregnancy*
Trust (Zaheer, McEvily & Perrone, 1998)	The interpersonal trust that patients have in their doctors.	<ul style="list-style-type: none"> • My obstetrician/gynaecologist has always been fair in his/her consultation with me. • I know how my obstetrician/gynaecologist person is going to act. • My obstetrician/gynaecologist can always be counted on to act as I expect. • My obstetrician/gynaecologist is trustworthy. • I have faith in my obstetrician/gynaecologist to

		<p>look out for my interests even when it is costly to do so.</p> <ul style="list-style-type: none"> • I would feel a sense of betrayal if my obstetrician/gynaecologist's performance was below my expectations.
Satisfaction (Gaur et al., 2011)	The extent of a patient's satisfaction with their doctors.	<ul style="list-style-type: none"> • As a regular patient I have a high quality relationship with my obstetrician/gynaecologist • I am happy with the efforts the obstetrician/gynaecologist is making towards regular patients like me • I am satisfied with the relationship I have with my obstetrician/gynaecologist
Loyalty (Zeithaml et al., 1996)	The loyalty of patients towards their doctor; specifically, their intent to repeat patronage and spread positive word-of-mouth.	<ul style="list-style-type: none"> • I say positive things about my obstetrician/gynaecologist to other people • I recommend my obstetrician/gynaecologist to someone who seeks my advice • I encourage friends and relatives to see my obstetrician/gynaecologist • I will consider this obstetrician/gynaecologist as the first choice for treatment • I will continue with this obstetrician/gynaecologist for the next few years

Note: Items in italics were dropped due to poor inter-item correlations.

* Reverse coded items

Appendix 2: Directions for future research and healthcare providers

Objectives	Expected scope	Managerial actions and outcomes
1. Study the link between specific doctor service behaviours (friendliness, explanations, responsiveness, respect, emotional support) and patient knowledge and self-confidence.	<ul style="list-style-type: none"> • Include various medical specialties and patient demographics, examining both acute and chronic care settings. • Study patient-doctor interactions within the context of diverse healthcare systems and cultural backgrounds. 	<ul style="list-style-type: none"> • Improved patient education strategies, leading to enhanced patient engagement in their own care. • Increased patient adherence to treatment plans due to better understanding of their condition and options. • Empowered patients who feel more confident in making informed health decisions.
2. Analyse the mediating role of patient knowledge and self-confidence in the relationship between doctor service behaviours and patient outcomes (satisfaction, trust and loyalty).	<ul style="list-style-type: none"> • Longitudinal studies to observe changes in trust over time as a result of sustained positive or negative doctor behaviours. • Investigate the impact of initial interactions versus ongoing relationships. 	<ul style="list-style-type: none"> • New training programs for medical professionals focusing on communication skills that foster patient understanding and self-efficacy. • Reduced medical errors due to clearer communication and patient participation. Enhanced patient-doctor relationships built on a foundation of mutual understanding and respect.
3. Determine the direct and indirect effects of doctor service behaviours on patient satisfaction.	<ul style="list-style-type: none"> • Survey patients across different stages of their healthcare journey, from initial consultation to follow-up appointments. • Study the influence of administrative and support staff on the overall patient experience. 	<ul style="list-style-type: none"> • Higher patient satisfaction scores, which are often linked to better health outcomes and reduced likelihood of malpractice claims. • Improved reputation for healthcare providers and institutions. Increased patient retention and positive word-of-mouth referrals.
4. To investigate the long-term impact of doctor service	<ul style="list-style-type: none"> • Examine patient choices of future 	<ul style="list-style-type: none"> • Increased patient loyalty, leading to greater continuity

<p>behaviours on patient outcomes and continuity of care.</p>	<p>healthcare providers and willingness to recommend their doctor to others.</p> <ul style="list-style-type: none"> • Explore the economic implications of patient loyalty for healthcare organizations. 	<p>of care and better management of chronic conditions.</p> <ul style="list-style-type: none"> • Reduced healthcare costs associated with patient churn and the need to acquire new patients. • Stronger patient-doctor bonds that contribute to a more personalized and effective healthcare experience.
<p>5. Identify specific communication techniques and interpersonal strategies that optimize patient knowledge, self-confidence, trust, satisfaction, and loyalty.</p>	<ul style="list-style-type: none"> • This involves qualitative research methods such as interviews and focus groups to gather in-depth insights into patient perceptions and preferences. It also includes observational studies of doctor-patient interactions. 	<ul style="list-style-type: none"> • Creation of evidence-based guidelines for effective doctor-patient communication. • Integration of these guidelines into medical school curricula and continuing medical education programs. • Development of tools and resources to help doctors assess and improve their service behaviours.
<p>6. Explore the influence of cultural factors and individual patient characteristics on the perception and impact of doctor service behaviours.</p>	<ul style="list-style-type: none"> • Cross-cultural studies to understand how cultural norms and expectations shape patient responses to doctor behaviours. • Incorporate factors such as age, education level, and health literacy. 	<ul style="list-style-type: none"> • Tailored communication approaches that are sensitive to diverse patient needs and backgrounds. • Reduced health disparities by addressing cultural barriers to effective communication. • Improved patient engagement across all demographics.
<p>7. Develop and validate measurement tools to assess doctor service behaviours and their impact on patient outcomes.</p>	<ul style="list-style-type: none"> • Psychometric testing of new and existing scales to ensure their reliability and validity across diverse healthcare and socio-cultural settings. 	<ul style="list-style-type: none"> • Standardized methods for evaluating doctor performance in terms of patient-centred care. • Benchmarking of best practices in doctor-patient communication. Facilitation of research in this area through robust measurement instruments.