From Culture to Behaviour: Donor Orientation and Organisational Identification

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Abstract

Purpose – This study aims to evaluate whether cultural market orientation (MO) of blood transfusion centres and services (BTCS) results in behaviours aimed at offering a suitable service-experience to blood donors, and if the relationship between cultural and behavioural MO is partially mediated by BTCS staff members' organisational identification (OI). Also, it analyses whether certain employee characteristics, particularly their status of medical or non-medical staff, may affect their perceptions about MO (cultural and behavioural), OI, and the relationship between these variables.

Design/methodology/approach - An online survey was conducted with senior management staff and chiefs of Spanish BTCS, as well as blood collection staff - physicians, nurses and promoters- (147 participants).

Findings - Spanish BTCS have a strong belief in the importance of donors as key stakeholders in the donation system, although cultural MO does not turn into behaviours with the same strength. The results also show that there is a direct effect between cultural and behavioural MO, as well as a mediator effect of OI in this relationship.

Research limitations/implications – This study demonstrate that OI is a relevant internal marketing construct with a high potential explanatory power of customer orientation.

Practical implications - This study offers a validated tool to assess and monitor BTCS' donor orientation and recommends that BTCS design effective marketing intelligence systems.

Social implications - This research contributes to social welfare by helping to explain how the organisational culture of BTCS and their employees' perceptions and behaviours might help to enhance donor orientation, which would guarantee continual blood collection. This might be useful in a context of negative evolution of blood donation levels in many countries.

Originality/value – This research puts the focus on the role of the BTCS's employees to understand the process by which a donor orientation culture would translate into market-oriented behaviours aimed to

reach blood donor satisfaction, in order to guarantee a constant, growing blood donor pool. In this translation process, organisational climate seems to play a fundamental role through one of its main variables, i.e. organisational identification.

Keywords - non-profit marketing, blood donation, donor orientation, organisational identification

Article classification - Research paper

Introduction

Blood donation is a socially desirable goal given that voluntary, unremunerated blood donation is viewed as the best option to ensure a safe and sustainable blood supply, which is needed to guarantee the functioning of health systems all over the world. Voluntary donors are excellent educators, recruiters and health promoters, which helps improve the system's efficiency (Leipnitz, 2014; Nilsson Sojka and Sojka, 2008; Solomon, 2012). Therefore, increasing the number of donors, retaining them and making donations more frequent is a priority for the blood transfusion centres and services (BTCS). However, in some countries, such as Spain, blood donation levels have become stagnant or even fallen with a decrease in the recruitment of new donors. Thus, the blood donation level in Spain has suffered a decline in the last years to reach just under 1,700 million units in 2019; a level that is below that of 2013 (Federación Española de Donantes de Sangre, 2020). In 2019, the rate per thousand inhabitants (indicator for the general availability of blood in a country) was of 36,6 donations in Spain (Federación Española de Donantes de Sangre, 2020) and of 31,5 donations in the high income countries from where 40% of blood donations are collected (World Health Organization, 2020). According to the World Health Organization, a suitable rate should be between 40 and 60 donations per thousand inhabitants. One reason of this negative evolution of blood donation levels in some countries despite the increase in allocated funds (Gillespie and Hillyer, 2002; Godin et al., 2007) might be attributable to the fact that BTCS have not adopted an appropriate management approach (Lemmens et al., 2009) to create a constant, growing donor pool.

The (World Health Organization and International Federation of Red Cross and Red Crescent Societies, 2010) state that an effective blood donation programme requires effective management, which is based on strong leadership, management, communication and marketing skills. This in turn leads to the need of putting the focus on some key stakeholders to improve the organisation's performance (Scherhag and Boenigk, 2013). Thus, BTCS should be market (donor) oriented focusing on the needs of their blood donors, who are the cornerstone of the whole system, as well as the organisations' employees who are the critical liaisons between the BTCS and the blood donors. A comprehensive orientation of those

employees on how to offer donors a suitable service-experience will likely bring about the desired behaviour in the recipient: sustain their blood donation and recommend it to others.

However, BTCS are health, and in some countries such as Spain, non-profit organisations, which have remained sceptical about adopting marketing principles and practices, such as those relating to market orientation (MO) (Donovan, 2011; Mitchell et al., 2015; Modi and Mishra, 2010). Specifically, in health services, where medical, nursing and laboratory staff are prevalent, the importance of these capabilities is not recognised or sufficiently valued, and they can even resent the terminology and philosophy of marketing and fail to realise that they are critical factors in the effectiveness of the service they offer. Indeed, health staff may be concerned about the redirection of health funding to inconsequential service features that may negatively impact other service protocols, even undermining their professional status (Previte and Russell-Bennett, 2016). Moreover, there is an erroneous and limited view of marketing as public relations, or a tool aimed only at promotion (Dolnicar and Lazarevski, 2009). Therefore, the introduction of a market orientation culture in BTCS and its translation in employee behaviour aligned to the donor is a challenge, given that health professionals are hesitant about embracing activities centred around marketing (Russell-Bennett et al., 2013).

Additionally, previous research has indicated that attitudes and behaviours of medical staff are key reasons for donors not to continue participating in blood donation (Russell-Bennett et al., 2012). In this sense, previous contextual research of blood donation has suggested that donor loyalty is associated to identification with their centres (Leipnitz, 2014). This in turn may be related to the level of organisational identification of the BTCS's employees as suggested by previous research on the relationship between employee identification and customer identification with the organisation (e.g. Homburg et al., 2009; Schuh et al., 2012). Therefore, in this work, the focus will be on the organisational identification (OI) as one of the most important variables of the organisational climate (Ashforth et al., 2008; Lee et al., 2015; Riketta, 2005) that might promote a change in employees' behaviour in order to allow BTCS to become more market (donor) oriented for greater donor retention. OI is defined as the process by which individuals perceive themselves as a part of an organisation which serves as a frame of reference by

accepting its values, goals and behavioural standards (Ashforth et al., 2008; Nahapiet and Ghoshal, 1998). OI is a central construct which uniquely impacts attitudes and behaviours in organisations (Lee et al., 2015).

Therefore, the aim of this work is to show that a culture of MO is an antecedent of market oriented behaviour, but this relationship is partially mediated by OI of the members of the BTCS. With this aim, the work puts the focus on the service employees as a way of understanding their role in promoting donor-oriented behaviour. Thus, the study takes into account the influence of employees' perceptions about the culture of MO in the BTCS, and their degree of OI. Additionally, this study sets an exploratory objective with the aim of highlighting whether certain employee characteristics such as educational level, seniority, contract type, and particularly, the status of medical or non-medical staff, may affect their perceptions about MO (cultural and behavioural), OI, and the relationship between these variables. The preliminary results obtained on this respect might open new research avenues in the future that allow us to hypothesise how those characteristics of the BTCS's employees could encourage blood donation.

From an academic perspective, this study makes several contributions. Thus, the consideration of the OI as a mediating variable between the two different perspectives -the cultural and the behavioural- of MO at the BTCS makes a contribution to the general marketing field, this way allowing for a better understanding of the relationship between market-oriented values and behaviours. Even though OI is a critical construct in the literature on organisational behaviour, it has received little attention both in general marketing (Wieseke et al., 2009), social marketing to improve social welfare (Russell-Bennett et al., 2013) and in public management scholarship (Campbell and Im, 2015). Moreover, a contribution is made to the particular field of non-profit management by focusing on the MO of BTCS. Non-profit marketing is an issue scarcely addressed given the multiple specificities of the non-profit context (Chad, 2013; Modi and Mishra, 2010) and the role of employees' identification has been almost ignored in this context even though it is crucial in explaining their work behaviours (Rho et al., 2015). Also, from a methodological perspective, this research contributes by developing a specific empirical tool to address the issue of MO in the context of BTCS, this way following the suggestion of several scholars who state

the need to adapt the classical MO scales to the specific context of the different non-profit organisations (Alnawas and Phillips, 2015; Duque-Zuluaga and Schneider, 2008; Gainer and Padanyi, 2005; Valero-Amaro et al., 2019).

Ultimately, this research makes also a contribution to the social marketing field because it establishes the mechanisms leading to a change in individuals' behaviour (BTCS's employees) to enhance the retention of blood donors and the recruitment of new ones by offering them a suitable service experience as a result of a MO. According to this study, employees, and in turn donors, would contribute with their behaviours to the social welfare.

Theoretical framework

One of the main differences of non-profit organisations such as the BTCS is that they operate in a dual market, as their target audience does not only comprise the beneficiaries of their actions, but also donors, who are key to achieving their aims (Padanyi and Gainer, 2004). Indeed, in the non-profit context the customer has been renamed 'stakeholder' to reflect a broader definition of MO that leads to non-profit effectiveness (Padanyi and Gainer, 2004; Rey García et al., 2013; Valero-Amaro et al., 2019; Wymer et al., 2015) and in which customer is split into various subsets: beneficiary, donor, employee, volunteer (Duque-Zuluaga and Schneider, 2008; Mitchell et al., 2015) or even society at large (Valero-Amaro et al., 2019; Wymer et al., 2015).

In this context, the change of management approach of BTCS implies moving away from a more production/sale-oriented management (obtaining the highest number of blood bags by virtue of intensive marketing campaigns at specific points in time) to another that considers current and potential donors the essential cornerstone by fostering employee behaviour focused on offering a service-experience to donors that encourages them to behave in accordance with sustainable blood collection. This is why it is more appropriate in the blood donation sector to use the term 'donor orientation' instead of 'market orientation,' given that donors are the most relevant stakeholder. Following this approach, previous research has focused on analysing the orientation to the donor in terms of medical staff attitude and

behaviour, and service process that promote future donation behaviour (e.g. Russell-Bennett et al., 2012) and address the key barriers to donate (Masser et al., 2008) As non-profit organisations, it is necessary for BTCS to orient themselves towards the blood donors because the effective attraction of a donor requires somewhat more than providing the sensation of collaborating in a just cause. A long-term perspective of relationship with donors which fits in with the organisational mission is needed (Álvarez González et al., 2002). Indeed, research has shown that satisfaction with treatment as a result of a donor orientation has stronger relationship on blood donor loyalty than altruistic values (e.g. Boenigk et al., 2011; Moog, 2009; Nguyen et al., 2008). Also, the donor orientation has shown to be a key determinant of the persuasion success of conversations with blood donors to convert to plasmapheresis donation (Bagot et al., 2014) and show a link to donor identification, satisfaction, and identity salience (Boenigk and Helmig, 2013).

A non-profit organisation, such as the BTCS, with a high donor orientation takes care of donors' needs, tries to build trusting relationships, and keeps donors' best interests in mind (Boegnik et al., 2013). This implies both a cultural and a behavioural perspective of donor (market) orientation (Jaworski and Kohli, 1993; Kohli and Jaworski, 1990; Modi and Mishra, 2010; Narver and Slater, 1990; Padanyi and Gainer, 2004). From a cultural perspective, MO can be defined as 'the organizational culture that most effectively and efficiently creates the necessary behaviours for the creating of superior value for buyers and thus continuous superior performance for the business' (Narver and Slater, 1990, p. 21). This organisational culture includes 'the set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise.' (Deshpandé et al., 1993, p. 27).In other words, 'being market oriented is a part of the firm's culture and reflects the shared values of organizational members' (Carr and Lopez, 2007, p. 114). Under this perspective, the organisational culture is a driver of behaviours, and market-oriented behaviours do not appear in the organisation if the culture lacks commitment to superior value for customers. From a behavioural perspective, Kohli and Jaworski (1990, p. 6) define MO as 'the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it.'

Therefore, they conceptualise MO as a set of behaviours rather than an overriding culture, given that the more a firm engages in each of these activities, the more market oriented the firm becomes.

BTCS should implement activities and initiatives that strengthen blood donors' perceptions that it is taking care, has the donors' best interests in mind, and works to establish long-term relationships (Boegnik et al., 2013). Therefore, following scholars such as (Matsuno et al., 2005) and (Carr and Lopez, 2007) we will treat the two perspectives of MO as related, rather than competing, and suggest that a culture of MO can be considered as a causal antecedent of a market oriented behaviour. On this basis, the first hypothesis of this research is suggested:

H1. The stronger the culture of market (donor) orientation, the stronger the market (donor) oriented behaviour of BTCS.

However, the existence of a culture of MO seems not to be a guarantee that the members of an organisation will adopt a MO behaviour (Carr and Lopez, 2007; González-Benito and González-Benito, 2005). Thus, even though a culture of MO can be considered as an antecedent of a market oriented behaviour, this relationship may be affected by the organisational climate (Carr and Lopez, 2007; Matsuno et al., 2005). (Zhou et al., 2009) state that the roles of top management and individual employees within an organisation have been identified as an important factor influencing the extent to which MO is implemented in the organisation. Also, based on a meta-analysis, (Kirca et al., 2005, p. 36) determined that 'internal processes have a greater influence than organizational structure variables' on the introduction of MO in an organisation.

On these bases, we propose that one of the most important variables of organisational climate, the organisational identification (OI) (Ashforth et al., 2008; Lee et al., 2015; Rho et al., 2015), acts as a mediator between a MO culture and behaviour. Thus, two additional hypotheses are proposed. The first one suggests that a culture of market orientation (MO) is an antecedent of OI, and the second one suggests that OI is in turn an antecedent of a market-oriented behaviour.

OI involves cognitive and affective connections with the organisation and describes the relationship between the individual and the organisation in terms of the individual's self-concept (Fuller et al., 2006; Johnson et al., 2012; Lee et al., 2015; Wieseke et al., 2007). Identification links the individuals' self-concept and their perceptions of the organisation to which they belong either cognitively, emotionally, or both (Campbell and Im, 2015; Rho et al., 2015).

Thus, on the one hand, OI reflects the psychological merging of self and organisation so the more the people identify with an organisation, the more the organisation's values, norms and interests are incorporated in the self-concept (Lam and Liu, 2014; Ng, 2015). On the other hand, as stated by Ashforth et al. (2008), the basic motive for identifying with an organisation is the enhancement of one's sense of collective self-esteem; that is, people identify to provide the basis for thinking of themselves in a positive light, and seeking to experience a sense of pride, warmth, or affirmation. People identify with groups to make themselves feel better and therefore they have to feel positive feelings about membership in those groups such as pride (Johnson et al., 2012; Lee et al., 2015; Ng, 2015). For the particular case of non-profit organisations, it has also been argued that being a member of an attractive, successful and prestigious non-profit may help develop and enhance members' self-esteem and therefore their OI (Tidwell, 2005).

The images that members hold of their organisations can be understood in two ways: the way a member personally thinks about his/her organisation and the way that s/he believes others think about the organisation (Rho et al., 2015). Thus, individuals' perceptions of their organisation as distinctive and prestigious are key antecedents of OI (Lange et al., 2015). In other words, if individuals believe that organisational outsiders (e.g. customers or blood donors in the case of the BTCS) hold the firm in high regard, they tend to more strongly identify with the organisation (Fuller et al., 2006; Rho et al., 2015). This is more likely if the organisational culture emphasise values and norms oriented to create superior value for customers as is the cases of a MO culture (Narver and Slater, 1990). Thus, a culture of MO can be seen as a form of sense-making that will 'inform and constrain the identity and action' of employees

of non-profit organisations (Weick et al., 2005, p. 409), and can be considered a powerful tool to building a common identity (Valeau et al., 2019).

Kohli and Jaworski (1990) suggest that a MO affords a number of psychological and social benefits to employees. Specifically, a MO is argued to lead to a sense of pride in belonging to an organisation in which all departments and individuals work toward the common goal of satisfying customers. Also, people will identify with groups that contribute to their feelings of efficacy and sense of meaning (Lange et al., 2015). Working in an organisation that enhances the goal of customer satisfaction is posited to result in employees sharing a feeling of worthwhile contribution (Jaworski and Kohli, 1993) and, as a consequence, their feeling of identification may also be enhanced. Therefore:

H2. The stronger the culture of market (donor) orientation the stronger the OI of the employees of the BTCS.

In line with Wieseke et al. (2007), and based on the arguments leading to H2, we suggest that employees will act in customer (donor) oriented ways if (a) the organisation's identity incorporates the value of donor orientation as part of its culture; and (b) the employees identify with their organisation so the value of donor orientation becomes self-defining. If employees internalise organisational norms and values as part of their self-concept, they will experience these norms and values as intrinsically motivating (Wieseke et al., 2007). Thus, identified individuals understand, accept, and employ organisational premises in their decision making and in their actions in such a way that acting on behalf of the organisation is tantamount to acting on behalf of themselves. This way identified employees enact the organisation's identity (that is, they attempt to live up the ideals embodied in the organisation's mission and values) (Ashforth et al., 2008; Lam et al., 2010). Thus, those who strongly identify with their organisation will perceive the policies, procedures and practices concerning donor service in a positive way (Zhang et al., 2011).

When employees identify with organisations they consider organisational identity as part of their personal identity, so what matters to the organisation also matters to them (Lam and Liu, 2014; Tidwell, 2005). The identification with an organisation fosters concern about collective processes and results, having a powerful effect on member's willingness to restrict personal gain in order to preserve the organisational good (Wieseke et al., 2007). Thus, identified employees are less likely to prioritise or even distinguish between their own self-interest and the interest of the organisation and are more eager to pursue actions conducive to the achievement of organisational goals (Campbell and Im, 2015; Lam and Liu, 2014; Lange et al., 2015) and this is also true for the particular case of the non-profit organisations (Traeger and Alfes, 2019).

Identification can be understood as a process of psychological attachment based more on a desire of affiliation than on the purpose of earning extrinsic rewards (Rho et al., 2015). Highly identified employees are more likely to go beyond the simple economic exchange in their relationships with the organisation and to pursue symbolic value or meaning, such as regards, trust and praise (Zhang et al., 2011). Thus they are more prone to engage in pro-social behaviours for the benefit of the organisation (Tidwell, 2005) and at the same time to that of society at a large (Ostrom et al., 2010), as is the case of the promotion of a sustainable blood donation system based on the reinforcing of donor oriented behaviours. On similar lines, identified employees try to experience a sense of pride, warmth, or affirmation (Ashforth et al., 2008). When employees feel pride in their organisation they want to protect the organisation's reputation and benefit the organisation by matching their behaviours to organisational norms and behaving in a way that could contribute to build a positive corporate reputation (Ni et al., 2014). Therefore, they will be willing to do more to meet customers' needs and they will show higher levels of job engagement and excel at doing a good job on the customer behalf (Anaza and Rutherford, 2012).

Thus, the most referenced organisational outcomes of identification involve job involvement, in-role performance, extra-role performance, cooperation, effort, participation, and organisational beneficial decision making (Ashforth et al., 2008; Lee et al., 2015; Rho et al., 2015). All these outcomes can be

related to the concept of organisational citizenship behaviour (OCB), given that performance of OCB can indicate to others on the employee's willingness to sacrifice personal matters for the good of the whole organisation, this way serving as an identity cue to facilitate an employee's self-verification process (Liu et al., 2011). Evidence of OI as an antecedent of OCB has also been found in public organisations. Examples of public sector employees' citizenship behaviours include helping co-workers with their job tasks; proactively being involved in solving citizens' problems; being actively engaged in identifying problems related to current public service provision and suggesting appropriate solutions; and helping one's organisation to maintain a favourable image in the community (Shim and Faerman, 2017).

More concretely, OI has been related to a specific form of OCB known as voice behaviour, which involves offering suggestions and constructive ideas to improve organisation (Fuller et al., 2006; Lee et al., 2015). Strong identifiers tend to share information and communicate with co-workers (Lee et al., 2015). Thus, identification with a network may facilitate knowledge transfer and other forms of cooperative behaviour between the members of that network (Ashforth et al., 2008; Nahapiet and Ghoshal, 1998; Wieseke et al., 2009). This kind of behaviour allows organisational members to have access to, leverage and disseminate valuable information, which is crucial to respond to customer needs quickly and, at the same time, combine multiple insights to generate new ideas and foster innovation (Merlo et al., 2006).

Based on the above arguments, we can state that identified employees will contribute to translate a MO as an organisational culture into behaviours according to that culture. Therefore:

H3. The stronger the OI of the employees of the BTCS, the stronger the market (donor) oriented behaviour of these organisations.

At a glance, our research seeks to understand the process by which a cultural market orientation of BTCS would translate into a behavioural change of employees in terms of becoming oriented to satisfy the needs of the blood donors. With this aim, the authors suggest that employees' OI can play a partial

mediating role, because they propose that a direct relationship exists between cultural donor orientation (CDO) and behavioural donor orientation (BDO) (H1). However, at the same time, there is a relationship between cultural donor orientation and organisational identification (H2), and also a relationship between organisational identification and behavioural donor orientation (H3). Globally this assumption of partial mediation will be investigated in Hypothesis 4 as follows:

H4. The relationship between cultural donor orientation (CDO) and behavioural donor orientation (BDO) is partially mediated by organisational identification (OI).

This mediation framework is represented in Figure 1.

[Figure 1]

Methodology

Sampling

In Spain, blood donation is the responsibility of the so-called blood transfusion centres and services (BTCS). Currently, there are 471 BTCS which are distributed throughout the national territory and grouped into 17 large regional centres. The study population is comprised of BTCS' senior and middle management staff, as well as blood collection staff (physicians, nurses and promoters) who work directly and personally with donors at fixed or mobile venues belonging to the BTCS. This decision is due to the fact that successful implementation of market orientation in these organisations does not depend only on the commitment of senior management staff, but also of middle management staff and employees who work directly with donors (Lam et al., 2010).

An online survey was used for data collection. 14 of the 17 regional centres in Spain participated, sending the questionnaire to their employees, since the Data Protection Law prevented access to their corporate email. Field work started on the 2nd March, 2018, and finished on the 25th September, 2018. During this period, a weekly message was sent to each of the collaborators reminding them of the importance

of obtaining a high sample. 28 reminders were sent, the first one on March 19, 2018 and the last one on September 24, 2018. The sample size was 147 BTCS staff members. It is noteworthy that of the total population, 35.24% initiated the survey (277), 147 completed it in full. The research team did not know the characteristics of the study population, only that its size amounted to a total of 786. That is why it was not possible to verify the coincidence of the profile of the sample with that of the population in terms of quotas of distribution. The demographic profile of the participants is shown in Table 1. The data show that most respondents are female (61.9%), aged between 36 and 55 (66.5%), who hold university degrees (70.8%), the majority with seniority higher than 10 years (51.0%) and with stable jobs (58.5%). The higher percentage of women in the sample may be due to the fact that in Spain the university degree in nursing is mostly chosen by women, being the nurses at BTCS an important part of our sample. The high percentage of respondents with a university degree may be due to the fact that our study population is also made up of managers and other persons in qualified positions.

[Table 1]

Measures

Market (donor) orientation was measured from both cultural and behavioural perspectives. The dimensional structure of the scales is mainly based on the seminal works carried out by Narver and Slater (1990) and Kohli and Jaworski (1990). These works are of obligatory consultation and reference for both defining and measuring MO. This has been done in many subsequent works in the non-profit sector (i.e. Balabanis et al., 1997; Caruana et al., 1997; Choi, 2014; Gainer and Padanyi, 2005; Kara et al., 2004; Levine and Zahradnik, 2012; Mulyanegara et al., 2010; Voss and Voss, 2000) , although very few are applied to blood donation.

From the cultural perspective, only the consumer orientation dimension established by Narver and Slater (1990) was considered, excluding competitor orientation due to the particular characteristics of the sector

in Spain where no competitor can be identified[1]. Concerning interfunctional coordination, although early work on organisational-level MO has also considered this dimension as part of the MO, more recently it has been treated as an organisational structure variable (Lam et al., 2010). From the behavioural perspective, the three dimensions defined by Kohli and Jaworski (1990) were considered, based on the current, inactive or potential donor's intelligence: generation, dissemination and responsiveness. As for the contents of each dimension, it has been necessary to adapt or remove some items of the scales found in Narver and Slater's (1990) and Kohli and Jaworski's (1990) works owing to the particular characteristics of BTCS. Numerous authors have highlighted the need to modify the scales to the specific needs of each non-profit organisation (Alnawas and Phillips, 2015; Duque-Zuluaga and Schneider, 2008; Gainer and Padanyi, 2005; Valero-Amaro et al., 2019). These two new scales of MO - Cultural Donor Orientation (CDO) and Behavioural Donor Orientation (BDO) - were pre-tested by 10 managers of Spanish BTCS directly linked to the blood-extraction service. This allowed us to validate their content and its suitability for the blood donation field.

Organisational Identification (OI) was measured using four items from the (Mael and Ashforth, 1992) well-established scale, and a fifth item from the scale used by Johnson et al. (2012). These items capture the individuals' perception of being a part of their BTCS and the link between the individuals' self-concept and their perceptions of the BTCS to which they belong (Johnson et al., 2012; Lee et al., 2015; Rho et al., 2015; Wieseke et al., 2007). This scale was also validated by the 10 managers of Spanish BTCS directly linked to the blood-extraction service.

[1] It is important to point out that in the case of the Spanish blood donation system, the stakeholder 'competitor' is not relevant given that there are no competing blood collection organisations. Further, competition in terms of altruistic behaviour is not as applicable to blood donors as it is to volunteers. Volunteers normally get to choose the social project/s they contribute their limited time and/or finances to. Voluntary blood donors are motivated by a sense of moral duty, and the pride they feel contributing to the national health system (Snelling, 2014) can only be attributed to blood donation. Therefore, blood donation does not compete with other behaviours of social volunteering.

Table 2 shows the final items in the scales, which were seven-point Likert scales ranging from 'totally disagree' to 'totally agree.'

[Table 2]

Analysis and results

This section was structured in two parts. Firstly, we describe the analysis of the validity of the measurement scales used. And secondly, we test the proposed model using Structural Equation Modelling (SEM). Although there are different techniques that are appropriate for small samples (e.g. PLS), we decided to perform SEM because our goal was testing, and not predicting, which is the goal when performing PLS, for example. As (Hair et al., 2014) state, SEM is a confirmatory method, guided more by theory than by empirical results. Therefore, it is crucial to start from a theoretical justification. This is the main reason why SEM was carried out. However, aware of the sample size, we attempted to keep the minimum ratio of at least 5 respondents for each estimated parameter (Hair et al., 2014). Because of this, the CFA analyses were stepwise. PLS would not allow second-order constructs as is the case with BDO.

As a previous step, we analysed the existence of common method variance (CMV) in order to test for spurious internal consistency that occurs when the apparent correlation among indicators is due to their common source. We tested for this by jointly including the thirty items of the different scales to detect the existence of a single or various factors, one of which would explain most of the total variance. Five factors emerged explaining 76.05% of the variance. However, the first factor only explained 28.36%, while the remaining factors explained 47.69% of the variance. Accordingly, CMV does not appear to be a problem in this study since no method factor emerged.

Analysis of the validity of the measurement scales

Validation of the two scales of donor orientation (BDO and CDO)

Owing to sample size and the requirements of SEM application, the scale of BDO needs to be validated in stages. Therefore, Table 3 displays the results of the three Confirmatory Factorial Analysis (CFA) that have been applied separately to the three dimensions of BDO, since the high number of items in the global BDO scale and the sample size prevented making a single CFA that included all three dimensions. The results of the three models show that the indicators of global fit are found to be within the values recommended, so we can conclude that the three specified models adequately reproduce the observed covariance matrixes. These three measurement models show a suitable fit since the values of CFI are higher than 0.95 and the values of RMSEA do not exceed the recommended maximum of 0.08. The three models demonstrate acceptable levels of individual reliability, since the relationship between each item and its respective dimension/construct is statistically significant, with standardised regression weights higher than or very close to 0.7, and with *t* statistic values also being significant. The measurements of internal consistency have very satisfactory levels. So, the values of composite reliability (CR) are higher than 0.70 and all AVE exceed 0.50. The Cronbach's alpha values corroborate these results. In sum, the measurement model of each of the three dimensions of BDO can be considered as valid.

The second stage of the validation process has consisted of validating the scales of behavioural donor orientation and cultural donor orientation jointly (BDO and CDO) using a CFA. To carry out this validation, we started from the results of the three CFA of the previous stage. With these results, three new observed variables were created, one for each BDO dimension, which were labelled with the same name given to the dimension (IG, ID and R). These three new variables were created as a weighted average of the scores given by the respondents to the items that make up each dimension weighted by the regression weights of each of them in the three previous CFA. This is a data reduction system suggested by (Hair et al., 2014), which preserves the relative weight of each item in the conformation of each dimension, unlike the system of average score of the items, in which all items load equally. The validation results for both scales (BDO and CDO) show the scales are valid as the fit model is satisfactory and the measurements of individual reliability and internal consistency have very satisfactory levels (see Table 3).

Validation of the organisational identification scale

The measurement model arising from OI is one-dimensional and composed of five items (see Table 3). In this case, the results show that the model, besides not being statistically significant [χ^2=5.814, p=0.325], does present very satisfactory values for other indicators of global fit (CFI=0.998, NFI=0.983, RMSEA=0.033). The model shows a satisfactory individual reliability, with standardised regression weights greater or closer to 0.7 and t statistic values also being significant. As for the measurements of internal consistency, the indicator value of CR reaches a value exceeding 0.70, and higher than 0.50 for AVE. The value of Cronbach's alpha corroborates that obtained in the composite reliability. These results therefore indicate that this model is valid.

[Table 3]

The discriminant validity of the three constructs was also tested (see Table 4), which refers to the degree of differentiation between the different constructs. According to the (Fornell and Larcker, 1981)'s testing system, discriminant validity can be assessed by comparing the amount of the variance captured by the construct and the shared variance with other constructs (correlation). Thus, the levels of square root of the AVE for each construct should be greater than the correlation involving the constructs. In Table 4 it can be seen that the square roots of all AVE are greater than the elements not on the diagonal. Therefore, it can be affirmed that the three scales also possess discriminant validity. Moreover, mean values shown in Table 4 suggest that blood transfusion centre staff have high CDO levels (M=6.16), unlike BDO, with levels far below the former (M=4.32).

In order to analyse results more in depth at a descriptive level, Table 4 presents the means, standard deviations and correlations between the different items measuring the three constructs included in the model (CDO, BDO and OI). In the case of the BDO, it has been decided to include in this table the three new variables created, one for each of its dimensions (IG, ID and R). In accordance with previous results, mean values of CDO items are significantly high, indicating that in these BTCS donors are considered an important resource for the organisation that must be kept satisfied. However, such high CDO levels

are not met by equally high BDO levels. Mean values of each BDO dimension are not higher than 5, with intelligence generation being the lowest (M=3.82), followed by dissemination (M=4.32) and finally responsiveness (M=4.84). As for the OI, the average values of the items indicate a high level of identification in general since the average values are between 4.68 and 5.75. Finally, the higher correlations between items in the same construct compared to the correlations between items in different constructs reinforce the existence of convergent and discriminant validity of the three scales used. Likewise, correlation between the three dimensions of BDO is very high, which suggests that they are converging to a common construct (BDO), supporting the convergent validity of the scale.

[Table 4]

Hypotheses testing

To test the mediation model, Structural Equation Modelling (SEM) was applied, using the variance-covariance matrix as input data. The results of the model show a good goodness-of-fit [χ^2=55.140, p=0.009; CFI=0.970; NFI=0.931, RMSEA=0.068], since CFI value is higher than 0.95 and RMSEA value is lower than 0.08 (Mathieu and Taylor, 2006). These results, shown in Figure 2, demonstrate that (1) CDO is a direct antecedent of both BDO (β=0.391, p=0.000) and OI (β=0.184, p=0.047), thus accepting H1 and H2; (2) OI is a direct antecedent of BDO (β=0.281, p=0.008), this way supporting H3; (3) the size of the total effect of CDO on BDO is 0.443; and (4) the proposed model explains 27.2% of BDO.

[Figure 2]

In order to demonstrate the existence of a partial mediation model explaining an indirect additional effect of the CDO on BDO through OI, the procedure established by (Mathieu and Taylor, 2006) was followed. The need to work with latent (unobserved) variables is what has prevented us from using Hayes' mediation software, traditionally used for mediation analysis, but where only observed variables can be used. Following these authors, 'Only direct (no mediation)' and 'full mediation' models were fitted to verify that the model proposed is indeed a partial mediation model.

The direct model estimates a direct path from the CDO to BDO, with no path leading to or stemming from the OI (although this construct remains as latent variable). The results demonstrate that the CDO influences BDO (β=0.451, p=0.000) and the model explains 20.4% of BDO. Therefore, they attest to the relevance of the mediator variable, also highlighting that their inclusion in the model increases the explained proportion of BDO by 6.8%.

The full mediation model estimates paths from the CDO to organisational identification and from the organisational identification to BDO. This model does not include a direct effect of CDO on BDO. Results indicate that (1) the change in the adjustment of the model is significant [$\delta\chi^2(1)$=14,573, p=0.000], (2) the values of the rest of the indicators are less satisfactory (CFI=0.952; RMSEA=0.085) and (3) the model explains 16.5% of BDO. Therefore, these results provide us with valuable information about the significance of the relationships and are consistent with the assumption of a partial mediation model by which CDO influences BDO directly and also indirectly through the OI, thus supporting H4.

On the other hand, and in order to provide further support for future research, it was deemed appropriate to adjust three new models, one for each of the BDO dimensions. Each of the three dimensions were included in the corresponding model as latent variables and not as observed variables. Although it would have been appropriate to adjust a single model with the three dimensions as latent variables and analyse their relationships with the other constructs (CDO and OI), the limitations derived from the sample size in terms of the number of parameters to estimate did not advise this way of proceeding. The results of these three models are shown in Figure 3. As seen, the effect of CDO on the three dimensions of BDO is significant and differs between them, the most relevant being the effect on the R dimension (β = 0.575, p = 0.000). In fact, the model is able to explain 41.1% of this dimension of the BDO. Regarding the influence of the OI on the three dimensions of BDO, the results show that there are no large differences, with regression weights ranging between 0.198 and 0.249. Therefore, these results indicate that CDO is a very important antecedent of behaviours derived from the BDO related to the organisational response to market intelligence and market needs.

[Figure 3]

Market Orientation and Organisational Identification according employees' characteristics: Exploratory analyses

With the aim of exploring whether certain employee characteristics such as educational level, seniority, contract type, and particularly, the status of medical or non-medical staff, may affect their perceptions about MO (cultural and behavioural), OI, and the relationship between these variables, we carried out some additional analyses. One the one hand, we carried out one-way ANOVA analyses to find out whether there were differences between the average values of the analysed constructs (CDO, BDO and OI) in function of the characteristics of the sample listed below (see Table 5).

Firstly, regarding the educational level of the respondents, we observe the existence of significant differences in BDO (F=3,356, p=0.027). The most educated respondents, and mainly those who were not haematologist physicians (M=3.85), perceived a lower behavioural orientation of the centres towards donors. Secondly, the seniority at the centre also generates differences in respondents' valuations about the orientation of the centres towards donors both from a cultural and behavioural perspective (F=2,610, p=0.038 and F=3,790, p=0.010, respectively). As the results show, respondents with a seniority at the centre of 6 to 15 years are those who show a more critical perception and also with a greater disparity, if we keep in mind the high standard deviations of these groups. Finally, the type of work relationship only generates differences in the cultural orientation of the centres towards their donors (F=2,744, p=0.031), employees with a permanent employment contract, the most critical.

[Table 5]

On the other hand and given the close connection between medicine and blood donation, we seek to understand the influence that the profile (medical or not) of the personnel with university studies had on the three constructs in our research. To this end, we have only selected university respondents (N=104), who represent the highest percentage of our sample (70.8%), and we grouped them into two categories:

(1) medical staff, to include hematologist physicians, and physicians and nurses linked to blood collection (67.3%) and (2) non-medical staff, staff with university studies not related to medicine (32.7%). The results of the test of mean difference, which are shown in Table 6, indicate that the medical staff perceives a higher CDO of the BTCS in which they work (M=6.40 *vs* M=5.54) and presents a higher level of OI (M = 5.90 vs M = 4.71). As for the BDO, no differences are observed between both groups (t=0.905, p=0.372), although in both, the mean values are not entirely satisfactory (M=4.16 and M=3.68) and also with deviations that indicate the lack of consensus within each group (SD=1.78 and SD=1.19).

[Table 6]

These differences could lead to think that the mediation model may work differently for each group of employees. Therefore, an exploratory multi-group model (medical staff versus non-medical staff) was tested. The results shown in Figure 4 indicate that, in both groups of employees, CDO influences BDO and OI influences BDO in both groups of employees. However, the same is not true for the relationship between CDO and OI. This indicates the importance of OI as a mediating variable in the relationship between the two perspectives of donor orientation for medical staff only.

[Figure 4]

Conclusions

Discussion and contributions

The results obtained support the four hypotheses of this work by showing that a culture of donor orientation is an antecedent of donor orientation behaviour, and that this relationship is partially mediated by the identification that the employees of blood transfusion centres and services (BTCS) have with their organisations. In fact, the results show that Spanish BTCS have a strong belief in the importance of the donors as the key stakeholder in the whole system of blood transfusion (i.e. strong cultural donor orientation). However, this belief has different tiers depending on the seniority at the BTCS. Likewise, not all types of contractual relationships with the organisation foster the same belief about the cultural orientation of the BTCS to the donor. For their part, staff with a university degree in health perceive a

greater culture of donor orientation in the BTCS than those with a non-medical degree, and as the results of the multi-group analysis show, the influence of this culture on OI is significant for the medical staff only. This result contributes to clarifying the existing controversy in relation to how health personnel consider the market orientation of the health organisations. We can affirm that in the case of blood donation, this culture of market orientation among medical personnel is remarkable.

However, this cultural orientation is not translated with the same strength into behaviours aimed at generating and disseminating intelligence about donors and using this information to respond to donors' needs. The higher level of behavioural orientation to the donor is observed for those interviewees with less seniority in the BTCS (with a maximum of five years), getting worse as this seniority increases. The intermediate group in seniority is the most critical regarding this orientation. Likewise, when employees' academic training rises to a university degree (especially non-medical type), their perception about the behavioural orientation to the donor of the BTCS worsens. Nevertheless, when the variable Organisational Identification (OI) is taken into account the proportion of Behavioural Donor Orientation (BDO) explained by the model increases in 6.8%, this way attesting to the importance of this attitudinal variable in order to foster the performance of the marketing behaviours needed to keep donors satisfied and therefore loyal to the transfusion system. This influence is particularly significant in the medical staff. These results signify the important contribution of this study in terms of showing how to foster social welfare through a behavioural change of the BTCS' employees, and ultimately blood donors.

Theoretical implications

This research also contributes to academic literature from several points of view. Firstly, it contributes to the scarcely developed area of non-profit marketing. This is relevant because the rise of non-profit organisations and their importance in our current economy have led to the need for further analysis on how suitable a market orientation (MO) philosophy is for these sorts of organisations in order to derive social marketing objectives, such as a behaviour change, from their employees and other stakeholders involved (donors among them). There are very few published studies that delve into this issue, especially so in the blood donation context (Zhou et al., 2009). The lack of research on MO in the non-profit sector

is largely a result of many characteristics peculiar to non-profit organisations, for example the intangibility of their performance targets, stakeholder diversity or the wide range of subsectors comprised by the non-profit sector, each with markedly different goals and activities (Chad et al., 2013; Modi and Mishra, 2010; Padanyi and Gainer, 2004; Valero-Amaro et al., 2019).

With the aim of analysing some of these particularities, this study has developed specific empirical tools to address the issue of MO in the context of BTCS. Thus we have tried to follow the suggestions of several scholars such as Gainer and Padanyi (2005) and Alnawas and Phillips (2015), who point out that, if the traditional market-orientation scales are to be applied to non-profit organisations, first they need to be adapted on a case-by-case basis. Accordingly, Duque-Zuluaga and Schneider (2008) say that it is necessary to develop market-orientation scales adapted to each context and that they must be empirically validated.

Secondly, we contribute to the general marketing field by helping to explain the relationship between the two different perspectives (cultural and behavioural) of MO, this way adding some evidence in relation to this important debate in the marketing literature (Carr and Lopez, 2007; González-Benito and González-Benito, 2005; Matsuno et al., 2005). The organisational climate and specifically the OI have contributed to explain how to translate of a culture of donor orientation to the behaviours required to meet donors' needs. OI is a critical construct in the literature on organisational behaviour, but it has received little attention in marketing research (Wieseke et al., 2009), and particularly in relation to the fundamental issue of MO. Our results are in line with the scarce marketing literature on this topic which suggests that OI is a particularly relevant internal marketing construct in order to foster customer-oriented behaviours and outcomes (Johnson and Ashforth, 2008; Wieseke et al., 2009) so being a variable with a high explanatory power of customer orientation (Homburg et al., 2009). On similar lines, and in relation to the literature on non-profit organisations, OI has received little attention in public and non-profit management scholarship despite its obvious relevance to the field and the potential benefits of better understanding how public workers form a bond with their organisations (Campbell and Im, 2015;

Rho et al., 2015) and develop pro-organisational and pro-social behaviours related to the consideration of the blood donors' needs.

Managerial implications

Social marketing is defined as the application of marketing principles and tools to achieving socially desirable goals (Kotler and Zaltman, 1971; in Donovan 2011). In this sense, this research has shown the importance of managing internal employee dynamics if BTCS (and non-profit organisations in general) want to improve their employees' behaviour in order to put into practice MO principles. This is particularly relevant since although many blood collection organisations have a marketing department or similar, not all employees are acclimated to marketing (just marketers). This study offers a validated tool to assess and monitor BTCS' donor orientation, which is a management philosophy whose influence on the organisations' results in terms of customer (donor in our case) satisfaction and loyalty has already been tested in prior research (Kohli and Jaworski, 1990; Jaworski and Kohli, 1993; Leipnitz, 2014). This management philosophy leads to a change in employees' behaviours in order to enhance the retention of blood donors and, in turn, the recruitment of new ones. As a result, blood donors will be motivated to maintain a social desirable behaviour and influence the people they interact with to foster blood donation. The ultimate goal of this endeavour is to ensure a sustainable blood supply system which can be considered a cornerstone to support the health system, and consequently the quality of life, in any society.

Therefore, in their pursuit of donor loyalty, non-profit organisations should try to forge relationships with internal customers (employees) because internal customers' bonding with the organisation is related to external customers' (donors') loyalty (Lam et al., 2010). In the context of our research, and to make sure that this new management philosophy achieves the desired results, it is necessary to translate cultural orientation into behaviours aimed at offering an adequate service-experience to the donor that could foster their retention. BTCS would need to design effective marketing intelligence systems that allow them to have the necessary data for decision-making. As we have seen in this study, this requires BTCS to make greater efforts in some areas. Thus, efforts must be made to translate the cultural orientation to

the donor of the BTCS (highly perceived by employees with sanitary university training) in the generation of valuable, truthful and frequent information that can be disseminated throughout the organisation and that, in turn, can allow the centres to give appropriate answers to the donor. That is why it is necessary to insist on strengthening the generation and dissemination of intra- and inter-BTCS intelligence, relying on dynamics such as teamwork and collaborative projects. This ensures that BTCS answer to donors' needs based on relevant and useful information. Also, training programs in marketing will provide medical and non-medical employees with knowledge about this discipline and its benefits on organisational, human resource, and donor levels. It would likely contribute to overcoming the potential resistance to organisational change within BTCS. Likewise, sharing successful marketing experiences developed in BTCS can be beneficial for the system as a whole to generating discussion and interest.

However, BTCS must continue strengthening their donor-oriented culture (CDO), especially among those groups of employees who show a great disparity in their perception regarding it. It is necessary to emphasise the need to undertake individual and organisational behavioural changes that allow this philosophy to saturate the BTCS. Providing adequate training and information that stimulates such CDO would be beneficial since such orientation has proven to be a key determinant of BDO in all of its dimensions (Figure 3). This would once again contribute to the strengthening of policies aimed at the generation and dissemination of intelligence, as well as offer a more accurate response to the donor's needs.

As the recent COVID-19 crisis has dramatically shown, the commitment and identification of the health professionals with their organisations' goals, and ultimately with the patients' needs, are of paramount importance. This is congruent with the results of this research and makes evident the need to enhance the levels of identification of all employees with BTCS (and health organisations in general). In this sense, this work shows that medical staff presents higher levels of identification with their BTCS than non-medical staff. Therefore, managers in both public and non-profit sectors need to find ways to reinforce the OI of all their employees, and particularly their non-medical staff, by for example

enhancing organisational image, or improving the selection process of new employees in order to find candidates with a value profile likely to fit into a market-oriented culture. Also, and since employees' value inculcation is important in forming employees' organisational identification, public managers need to pay attention to employees' socialisation in order to ensure that their employees find their jobs meaningful and accept public organisational values (Shim and Faerman, 2017). As found in this research, this would allow medical and non-medical employees' behaviour to support the organisational philosophy of market orientation translating to a strong generation and dissemination of intelligence and in offering a suitable response to blood donors as a fostering element for their retention.

Limitations and future research

This research has been developed in Spain. In this sense, one of its main limitations may be that it is derived from only the Spanish blood donation system, where donation is voluntary and the responsibility for blood donation, transfusion and promotion rests on the shoulders of state-led BTCS, which have no competition with other institutions in respect of this responsibility. These results could be different if we consider alternative types of blood donation (e.g. paid donation) although we have to keep in mind that the objective of the World Health Organization for 2020 is that all donations be voluntary because paid donations present serious threats both to the health and safety of recipients, and to donors themselves (Iajya et al., 2013; WHO Expert Group, 2012; World Health Organization and International Federation of Red Cross and Red Crescent Societies, 2010). Further, if there are competing organisations for blood collection in those other countries, it would be important to take into consideration the orientation toward the competitor when we analyse their market orientation. Furthermore, previous research has suggested that the effects of organisational identification are moderated by national culture, a higher-level social context wherein the organisation is embedded, such that the effects are stronger in a collectivistic culture than in an individualistic culture (Lee et al., 2015). Therefore, future research could try to expand our results by testing our model in different countries, this way allowing for comparative analysis. Also, future research should empirically analyse the relationship between higher donor orientation in terms of BTCS' behaviours, higher retention of current donors, and attraction of new donors as we suggest in this work.

Additionally, future research could analyse other variables related to the organisational climate, such as organisational commitment or work satisfaction. Also, variables related to human resource practices (e.g. recognition, empowerment, training, and rewarding among others) could help to better explain the relationship between a culture of MO and the resulting market-oriented behaviour. All of this could help managers in the non-profit organisations to adjust their behaviour as effective leaders in order to enhance their capacity of satisfying the needs of the relevant stakeholders. Future studies could aim to deepen the relationship between employee recognition, donor identification and the expected results in terms of donor loyalty to the non-profit organisation, as suggested by earlier research (e.g. Leipnitz, 2014).

Finally, it would be interesting to discover the potential relationship between blood and organ donation based on the specific case in Spain. There is no doubt that a high amount of both types of donation is closely linked to the solidarity of Spanish people. However, it is also proven that the cooperation of health professionals and transplant coordinators to detect potential donors is the basis for the successful rate of organ donation in Spain (Europa Press, 2019). Therefore, the familiarisation of the National Transplant Organisation to the donor plays a key role. A future research question that deserves attention is whether an orientation of the BTCS to the donor, which results in a high loyalty of blood donors, could be a precursor of a greater commitment of blood donors with public health systems that could turn them into organ donors. This would help to improve current levels of blood donation in Spain and to reinforce the country's high degree of organ donation.

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Table 1. Sample profile

Characteristics	N	%
Sex		
Male	56	38.1
Female	91	61.9
Age (years)		
18-25	5	3.4
26-35	23	15.6
36-45	44	29.9
46-55	45	30.6
>55	30	20.4
Education		
Primary	7	4.8
Secondary	35	23.8
University (haematologists physician)	21	14.3
University (other degrees)	83	56.5
Seniority at the centre (years)		
0-5	39	26.5
6-10	29	19.7
11-15	25	17.0
16-20	19	12.9
>20	31	21.1
Work relationship		
Officer	11	7.5
Permanent statutory staff	19	12.9
Temporary statutory staff	28	19.0
Permanent employment contract	56	38.1
Temporary employment contract	29	19.7
Total	**147**	**100.0**

Table 2. Definitive items of the scales

Constructs		Code	Items
CULTURAL DONOR ORIENTATION (CDO)		COM1	We believe that blood donors are the most important resource
		COM2	Keeping blood donors satisfied is a priority
BEHAVIOURAL DONOR ORIENTATION (BDO)			
Intelligence generation (IG)	Current donors as a source of information (D1_IG)	IG1	Every year we update data on donation evolution, number of donors and donor profiles in detail
		IG2	Every year we regularly analyse donor loyalty indicators (lost donors, recovered donors, new donors, retired donors, etc.)
		IG3	Every year we regularly distribute a survey to current donors to assess the quality of our services and donor satisfaction
	Inactive donors and non-donors as sources of information (D2_IG)	IG4	Every year we regularly distribute a survey to inactive donors to know what factors caused them to stop donating blood
		IG5	From time to time (no more than every five years) we regularly distribute a survey to non-donors to know what factors prevent them from donating blood
	Other sources of information (D3_IG)	IG6	Every year regular meetings are held with blood collection staff to gather data about donors
		IG7	Every year regular meetings are held between different divisions or departments to analyse data about donors
		IG8	We have a fluid relationship with blood transfusion centres/services from other Spanish autonomous communities to share information and experiences
		IG9	We often collect and analyse data on actions taken by the blood transfusion centres/services from other Spanish autonomous communities
Intelligence dissemination (ID)		ID1	The staff responsible for marketing (or similar) activities hold regular meetings to share and discuss data collected on donors with other divisions or departments
		ID2	Donor information can be accessed by the staff who needs it in accordance with the Spanish Data Protection Act
		ID3	Donor information (perceived quality, satisfaction, loyalty, complaints, etc.) is released regularly at every level
		ID4	The staff responsible for marketing (or similar) activities is a driver for donation
		ID5	Our staff shares and discusses any new and useful information about blood transfusion centres/services from other Spanish autonomous communities
Responsiveness (R)		R1	We use collected data on donors to take actions aimed at improving our results
		R2	We offer quick answers to queries and suggestions made by donors through telephone calls, social media, the centre's website, etc.
		R2	Employees are always willing to help donors
		R4	We will develop a yearly marketing plan based on professional criteria
		R5	When donors demand service improvements, every division or department involved works hard to meet their request
		R6	Our staff receives continuous training to provide donors with a top quality service
		R7	We assess the efficiency of donor recruitment and retention plans or programmes
		R8	We invest a number of resources in developing software to plan, manage and control blood collection

	R9	We often carry out joint activities with blood transfusion centres/services from other Spanish autonomous communities aimed at improving donor recruitment and loyalty
ORGANISATIONAL IDENTIFICATION (OI)	OI1	When someone criticises my centre, it feels like a personal insult
	OI2	I am very interested in what others think about my centre
	OI3	When I talk about my centre, I usually say ‘we’ rather than ‘they’
	OI4	My centre’s successes are my successes
	OI5	My self-identity is based in part on my membership in the centre

Table 3. Results of CFA

Relationships			Standardised estimators	*t*	*p*	Internal consistency
CFA of the dimensions of BDO						
Intelligence generation (IG) χ^2**=44.304,** *p***=0.007, CFI=0.971, NFI=0.941, RMSEA=0.076**						
D1_IG	←	**IG**	0.780			CR=0.871
D2_IG	←	**IG**	0.887	6.354	0.000	AVE=0.692
D3_IG	←	**IG**	0.826	6.170	0.000	α=0.930
IG1	←	D1_IG	0.797			CR=0.873
IG2	←	D1_IG	0.943	9.889	0.000	AVE=0.698
IG3	←	D1_IG	0.754	8.398	0.000	α=0.869
IG4	←	D2_IG	0.964			CR=0.929
IG5	←	D2_IG	0.898	12.269	0.000	AVE=0.868 α=0.930
IG6	←	D3_IG	0.893			
IG7	←	D3_IG	0.918	14.582	0.000	CR=0.947
IG8	←	D3_IG	0.908	13.056	0.000	AVE=0.818 α=0.942
IG9	←	D3_IG	0.898	12.777	0.000	
Intelligence dissemination (ID) χ^2**=2.036,** *p***=0.844, CFI=1.000, NFI=0.994, RMSEA=0.000**						
ID1	←	**ID**	0.850			
ID2	←	**ID**	0.525	5.975	0.000	CR=0.889
ID3	←	**ID**	0.831	10.756	0.000	AVE=0.623
ID4	←	**ID**	0.768	9.732	0.000	α=0.899
ID5	←	**ID**	0.915	12.065	0.000	
Responsiveness (R) χ^2**=51.003,** *p***=0.003, CFI=0.960, NFI=0.921, RMSEA=0.078**						
R1	←	**R**	0.884	10.546	0.000	
R2	←	**R**	0.575	6.345	0.000	
R3	←	**R**	0.549	6.427	0.000	
R4	←	**R**	0.810			CR=0.973
R5	←	**R**	0.859	10.237	0.000	AVE=0.589
R6	←	**R**	0.767	9.040	0.000	α=0.929
R7	←	**R**	0.813	9.150	0.000	
R8	←	**R**	0.741	8.342	0.000	
R9	←	**R**	0.701	7.635	0.000	
CFA of BDO and CDO						
χ^2**=9.602,** *p***=0.087, CFI=0.988, NFI=0.976, RMSEA=0.079**						
Behavioural donor orientation (BDO)						
Intelligence generation (IG)	← BDO		0.949			CR=0.974
Intelligence dissemination (ID)	← BDO		0.923	13.640	0.000	AVE=0.896
Responsiveness (R)	← BDO		0.944	14.115	0.000	α=0.951
Cultural donor orientation (CDO)						
COM1	← CDO		0.926	18.385	0.000	CR=0.921 AVE=0.854 α=0.924
COM2	← CDO		0.922			
CFA of OI						
χ^2**=5.814,** *p***=0.325, CFI=0.998, NFI=0.983, RMSEA=0.033**						

OI1	←	OI	0.674			
OI2	←	OI	0.822	8.444	0.000	CR=0.873 AVE=0.581 α=0.864
OI3	←	OI	0.790	8.195	0.000	
OI4	←	OI	0.712	7.509	0.000	
OI5	←	OI	0.802	8.297	0.000	

Table 4. Discriminant validity and descriptive statistics and correlations

Constructs	Discriminant validity[1]				Descriptive statistics and correlations[2]										
	Mean (SD)	CDO	BDO	OI	Variables	Mean (SD)	1	2	3	4	5	6	7	8	9	10
CDO	6.16 (1.37)	0.924			1 COM1	6.19 (1,40)	---									
					2 COM2	6.13 (1.44)	0.858***	---								
BDO	4.32 (1.60)	0.534	0.947		3 Intelligence Generation (IG)	3.82 (1.65)	0.401***	0.497***	---							
					4 Intelligence Dissemination (ID)	4.32 (1.79)	0.318***	0.411***	0.873***	---						
					5 Responsiveness (R)	4.84 (1.63)	0.556***	0.587***	0.887***	0.873***	---					
OI	5.56 (1.33)	0.210	0.503	0.762	6 OI1	4.68 (2.06)	0.320***	0.256***	0.494***	0.391***	0.441***	---				
					7 OI2	5.60 (1.55)	0.068	0.040	0.211	0.188*	0.177	0.583***	---			
					8 OI3	6.16 (1.41)	0.145*	0.156*	0.217	0.131	0.195	0.482***	0.646***	---		
					9 OI4	5.45 (1.72)	0.174**	0.150*	0.284**	0.255**	0.291**	0.520***	0.556***	0.598***	---	
					10 OI5	5.75 (1.52)	0.109	0.123	0.227*	0.332***	0.362***	0.532***	0.666***	0.643***	0.556***	---

[1] The diagonal values correspond to the square root of its average variance extracted (AVE) and the other values correspond to the correlations between the three constructs.

[2] *** $p \leq 0.01$ ** $p \leq 0.05$ * $p \leq 0.10$

Table 5. Differences in mean values according to sample characteristics

Characteristics	CDO			BDO			OI		
	Mean (M)	**SD**	***F* (*p*)**	**Mean (M)**	**SD**	***F* (*p*)**	**Mean (M)**	**SD**	***F* (*p*)**
Education									
Primary	5.57	1.51	1.054 (0.371)	4.97	0.82	3.356 (0.027)	5.27	1.90	2.116 (0.101)
Secondary	6.43	0.82		5.68	1.08		5.79	1.28	
University (haematologist physician)	6.31	1.30		4.41	1.46		6.09	1.01	
University (other degrees)	6.07	1.54		3.85	1.63		5.37	1.35	
Seniority at the centre (years)									
0-5	6.55	0.93	2.610 (0.038)	5.43	1.41	3.790 (0.010)	5.66	1.44	0.367 (0.832)
6-10	6.03	1.35		3.70	1.75		5.57	1.45	
11-15	5.66	1.89		3.23	1.56		5.64	1.11	
16-20	6.66	0.65		5.39	1.07		5.24	1.27	
>20	5.97	1.47		4.54	1.09		5.48	1.34	
Work relationship									
Officer	6.45	0.79	2.744 (0.031)	5.41	1.99	1.748 (0.158)	5.78	1.31	1.143 (0.339)
Permanent statutory staff	6.34	1.03		4.72	1.23		5.37	1.13	
Temporary statutory staff	6.25	1.24		4.22	1.30		6.03	0.98	
Permanent employment contract	5.80	1.74		3.58	1.73		5.47	1.38	
Temporary employment contract	6.77	0.40		5.01	1.59		5.43	1.62	
TOTAL	**6.16**	**1.37**		**4.32**	**1.60**		**5.56**	**1.33**	

Table 6. Differences in mean values according to staff type (medical vs non-medical)

Constructs	Medical (N=70)		Non-medical (N=34)		*t* (*p*)
	Mean (M)	SD	Mean (M)	SD	
CDO	6.40	1.26	5.54	1.77	2.830 (0.006)
BDO	4.16	1.78	3.68	1.19	0.905 (0.372)
OI	5.90	1.03	4.71	1.49	4.739 (0.000)

Figure 1. Proposed model

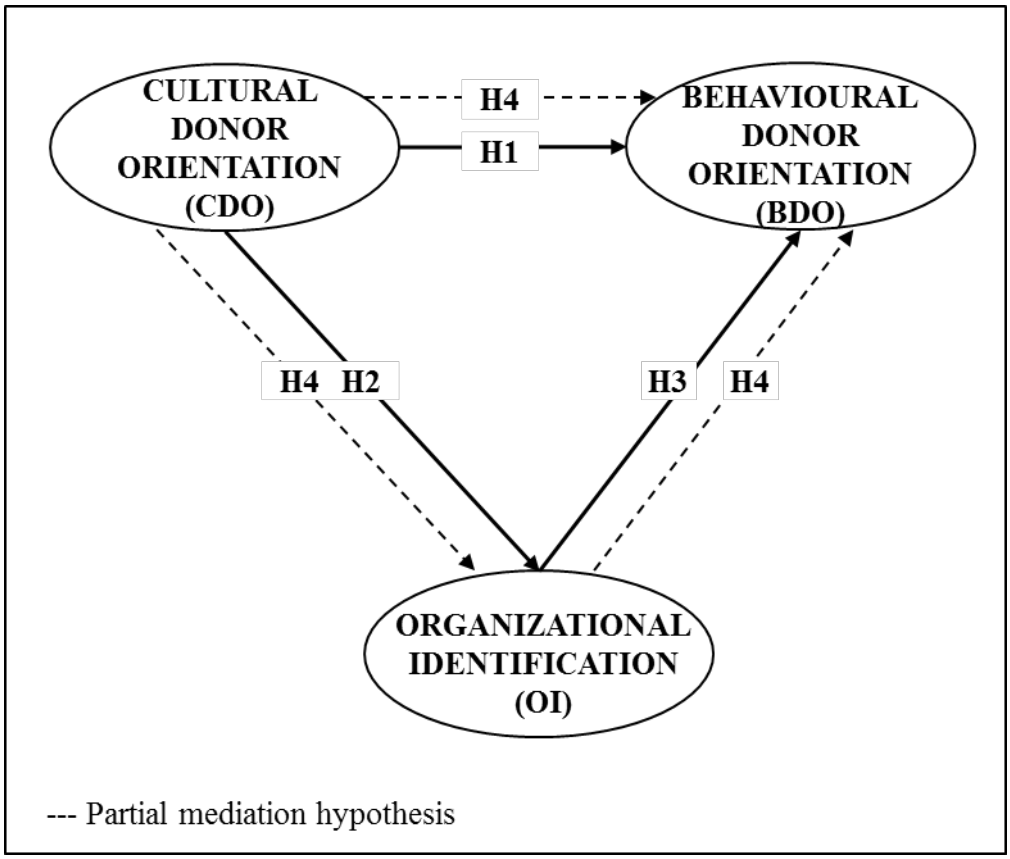


Figure 2. Results of the mediation model

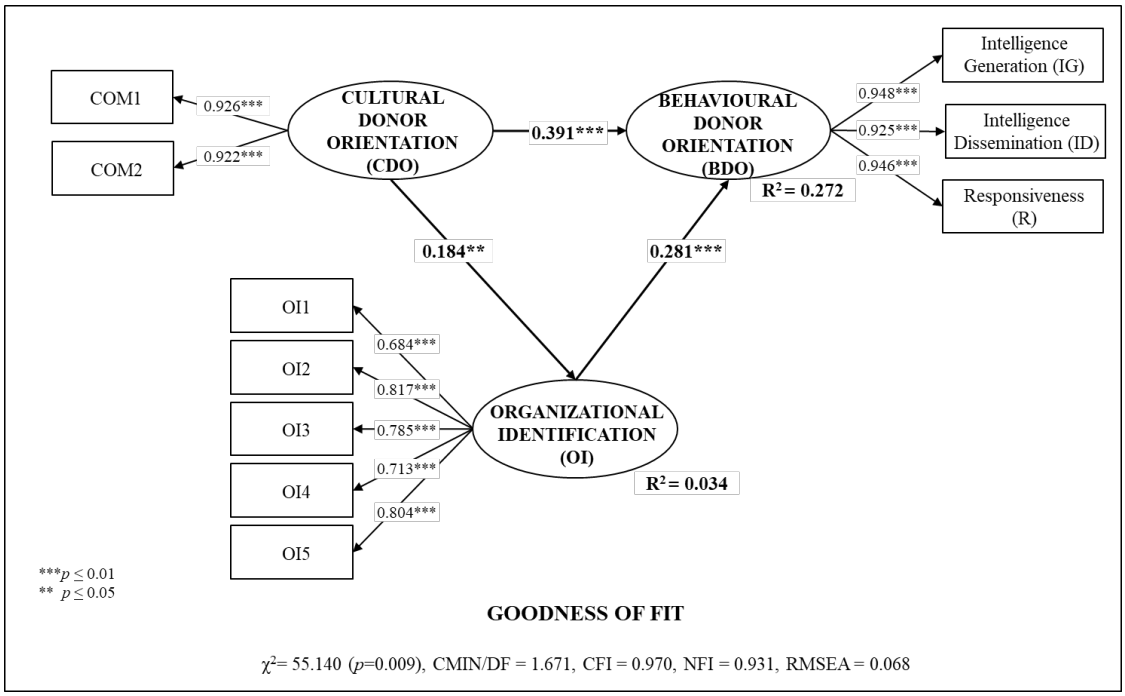
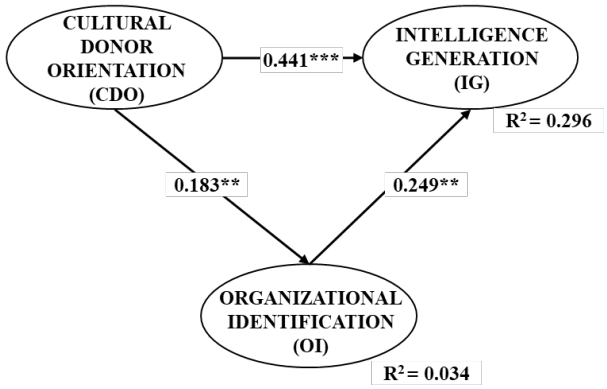


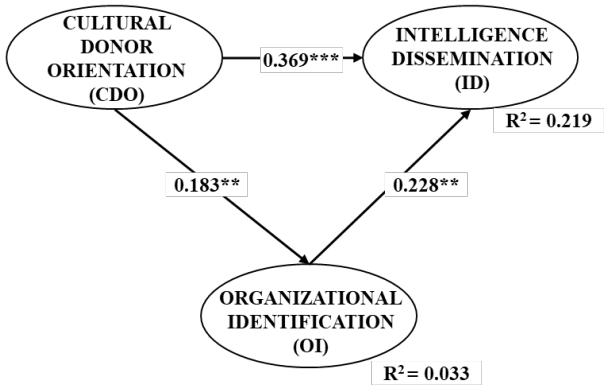
Figure 3. Results of the additional models



***$p \leq 0.01$
** $p \leq 0.05$

GOODNESS OF FIT

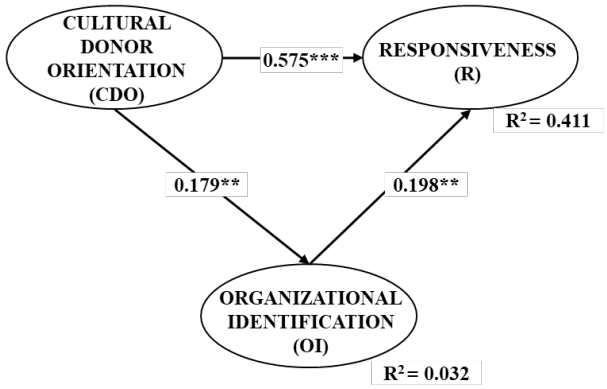
χ^2= 55.182 (p=0.009), CMIN/DF = 1.672, CFI = 0.970, NFI = 0.931, RMSEA = 0.068



***$p \leq 0.01$
** $p \leq 0.05$

GOODNESS OF FIT

χ^2= 77.717 (p=0.012), CMIN/DF = 1.495, CFI = 0.971, NFI = 0.919, RMSEA = 0.058



***$p \leq 0.01$
** $p \leq 0.05$

GOODNESS OF FIT

χ^2= 175.314 (p=0.000), CMIN/DF = 1.719, CFI = 0.940, NFI = 0.871, RMSEA = 0.070

Figure 4. Results of the model according to group of employees (medical vs non-medical staff)