LMX as a negative predictor of presenteeism climate

A cross-cultural study in the financial and health sectors

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Abstract

Purpose – Some underlying mechanisms regarding presenteeism still remain unclear, namely, the construct of "presenteeism climate" and the importance of "leadership" Leader-Member Exchange (LMX) for presenteeism. In order to shed some light into this phenomenon, the purpose of this paper is to develop and apply a new scale of presenteeism climate.

Design/methodology/approach – In Study 1, the authors identified a pool of items from the literature and, in Study 2 ($n = 147$) the authors tested 26 items that were pilot studied with exploratory factor analysis. In Study 3 ($n = 293$) the authors tested a three-factor model – extra-time valuation, supervision distrust and co-workers competitiveness – with confirmatory factor analysis.

Findings – Results showed that LMX has a negative correlation with presenteeism climate. Study 3 also showed that this structure remained invariant with additional samples from employees working in hospitals from Ecuador ($n = 90$) and China ($n = 237$). Finally, the authors included suggestions for future studies to overcome the limitations of this research.

Practical implications – This study has implications for managers and academics, as it emphasizes the importance of favorable behaviors between leaders and employees in order to decrease presenteeism and its adverse consequences.

Originality/value – The main contribution consists of identifying dimensions of presenteeism climate and developing measures. Additionally, the authors contribute to the literature on leadership by studying the influence of LMX on presenteeism climate.

Keywords Leadership, Absenteeism, Organization citizenship behaviour, Organization health and well-being, International HRM

Paper type Research paper

Introduction

Although presenteeism is a well-known topic in health research, it is still regarded as a new concept in organizational behavior. Basically, presenteeism relates to employees who are present at the workplace but, due to physical or psychological problems, are

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unable to deliver a full performance (Hemp, 2004). It's relevance for management comes from the fact that presenteeism is associated with significant productivity loss (Hemp, 2004; Lofland *et al.*, 2004). At present, there is still no consensus regarding the measurement of the construct and its dimensions (Johns, 2010). We will address presenteeism as being legitimately unfit for work due to ill health (e.g. Johns, 2010), although there are other approaches in the literature – some researchers consider presenteeism as the behavior of employees who engage in personal activities (non-work-related presenteeism) (e.g. D'Abate and Eddy, 2007). For example, various authors point out related concepts – such as "presenteeism climate" – but in most cases at an abstract level, as there is a noticeable absence of psychometric instruments and more deep routed conceptualization.

The primary focus of this research is on the "climate of presenteeism," a topic which is growing in the literature (e.g. Gosselin *et al.*, 2013; Taloyan *et al.*, 2012). Due to the recent financial crisis, a large number of organizations are downsizing or closing down. In this context, presenteeism has a tendency to increase, due to the reduced resources and job insecurity (Lu *et al.*, 2013). At the same time, companies are increasingly seeking cost efficiency and pressured to reduce employees' benefits and career opportunities (Böckerman and Laukkanen, 2010). As a consequence, companies are persistently developing climates of presenteeism, by stimulating competition from within, obsessive productivity increases and organizational development (Simpson, 1998).

We aimed to assess the individual perceptions of employees in the banking and health sectors with respect to the existence of a climate of presenteeism in their organizations, including the legitimacy given to absenteeism, and its various manifestations, as well as their opinion about the concept itself. As the financial crisis was highly prominent in Portugal and in line with previous studies in the financial sector (e.g. Hemp, 2004), we ought to assess the presenteeism culture in a sample of employees working in several banking institutions. Moreover, as the health sector is considered particularly relevant to develop presenteeism (Aronsson *et al.*, 2000; Elstad and Vabø, 2008) and in order to confirm the factorial structure with a sample from another sector, we will also conduct a study in the health sector. Also, as we believe that the quality of exchange between leaders and subordinates may influence the climate of presenteeism, we relate these two topics. In our view, the present study expands the current literature on presenteeism and Leader-Member Exchange (LMX) in at least two different ways: first, by developing a specific scale for measuring presenteeism climate, and by showing its psychometric evidences; and second by relating LMX to presenteeism climate.

This paper is structured as follows: first, we present a theoretical framework section, where we include the presenteeism conceptualization and definition, followed by the climate of presenteeism and its social dimensions. Next, we aim to integrate the well-studied construct of LMX into the presenteeism literature, and we posit our research hypothesis, that is, the relationship between these two constructs. Second, we introduce the three studies of the presenteeism climate scale development and validation. The first study consists of generating a pool of items for a presenteeism climate scale, based on the literature. The second and third study involves the exploratory and confirmatory factor analysis (CFA), respectively. At the end of the section, we test the research hypothesis with structural equation modeling and also test the structural invariance for employees in the health sector working in different countries (Ecuador and China). Finally, we discuss the implications of the results and suggest avenues for future research.

Presenteeism

Presenteeism has gained some prominence in recent years due to the growing awareness of its impact on business performance. As a new construct in organizational literature, presenteeism has several – and sometimes conflicting – definitions (see Johns, 2010). We adopt the basic definition recommended by Aronsson *et al.* (2000) and Dew *et al.* (2005) – "to decide to go to work despite feeling unhealthy." Yet, we supplement this definition with another explanation advanced by Simpson (1998) – "to choose to continue working beyond the time necessary for an efficient performance of the task." Thus, the act of presenteeism can manifest itself both in the choice of attending work despite having a health problem, and in the decision to continue working for extra hours when productivity is already compromised. The presenteeism is thus a compromise between absenteeism and full work, as it involves working without being fully operational. Among the physical causes of presenteeism, the most common are musculoskeletal, such as lower back pain (Prasad *et al.*, 2004) and arthritis (Allen *et al.*, 2005), as well as lung infections (Martinez and Ferreira 2012). In the psychological field, they are anxiety and depression (Wang *et al.*, 2003), stress (Ferreira and Martinez 2012; Goetzel *et al.*, 2003), as well as attention deficit disorder (Kessler *et al.*, 2005).

The study of this topic in management has focussed on the measurement of the frequency of the practice of presenteeism, its consequences (especially on productivity) and also seeking to understand the factors that lead workers to choose to be "present" in workplace conditions that would normally lead to absenteeism. In this sense, presenteeism has also been widely studied by researchers in health, whose focus has primarily resided in the association between several health conditions and productivity losses (Johns, 2011).

One of the main consequences of presenteeism is a decrease in worker productivity. This impact manifests itself not only in terms of the amount of work but also in its quality (Hemp, 2004; Shamansky, 2002). Additionally, presenteeism can exacerbate existing health problems and hinder the quality of working life, thus multiplying the initial effect in the long run and generating a spiral of decreased productivity, increased absenteeism and even dismissal (Johns, 2010). There is evidence that presenteeism causes higher aggregate losses of productivity than absenteeism (e.g. Mushet *et al.*, 1996). However, individual productivity losses are smaller in the case of presenteeism, as the employee produces some amount work (although limited), whereas as far as absenteeism is concerned the employee's production is null. Even though individual productivity losses associated with presenteeism are hard to measure, combating this practice may turn out to be a source of competitive advantage for a company (Hemp, 2004). It is estimated that the economic cost of presenteeism in the USA reached 150 b a year (see also, Hemp, 2004). As mentioned above, health problems have a detrimental role on employees' productivity levels. Although suffering from mischievous health conditions, employees may force (or be forced to) their presence at work. Attending work while being out of sorts could also be due to work-family conflicts (Allen *et al.*, 2014). According to Hammer *et al.* (2003), work-family conflict was found to have cross-over effects on organizational withdrawal outcome, which is indeed harmful to productivity levels.

The antecedents of presenteeism consist of all psychological and behavioral constraints that limit the choice of absenteeism, and force employees to opt to attend work (Koopmanschap *et al.*, 2005). Johns (2010) explains this thusly: a fully productive regular attendance is interrupted by a health problem, which can be acute (e.g. influenza), occasional (e.g. headache) or chronic (e.g. diabetes). To some extent,

it is the nature of the health problem that will dictate the choice between absenteeism and presenteeism. However, in these cases, context and personal factors come into action. This view contradicts the assumption of most medical research on this subject, that behavior is only due to the health problem and that all productivity losses attributed to behavioral factors are due to objective indicators of health. Accepting that presenteeism also depends on behavioral factors implies the recognition that dealing with this phenomenon should not be merely by medical intervention (Johns, 2011). Moreover, Johns (2011) showed that much of the variance in productivity losses reported by the workers themselves is affected by other factors than merely health conditions.

Accordingly, Johns (2010) proposed a model that divides the antecedents of presenteeism into three types: first, type of occupation: regarding job requirements, need for teamwork, interdependence levels, ease of substitution by another worker in the task, among others. In this case, workers can be forced into presenteeism due to a technical impossibility of absence or a lack of sense of responsibility; second, policies of the company: in relation to wages, salaries paid in case of absence, existence of absence control and job stability. The latter may be especially evident in countries where unemployment is rising and companies have difficulties in maintaining jobs; third, climate of presenteeism: in line with the "culture of absenteeism" reviewed extensively in the literature (Chadwick-Jones *et al.*, 1982; Johns and Nicholson, 1982; Nicholson and Johns, 1985). In the next section, we will elaborate on the implications of the climate of presenteeism.

Climate of presenteeism

As presenteeism is a relatively new topic in the organizational behavior literature, studies that use the expression "climate" or "culture" of presenteeism are still scarce. However, the culture of absenteeism has been studied for decades. It is the employee's perception, directly or indirectly, of the situation in which absenteeism is seen as legitimate by other workers (Johns and Nicholson, 1982). In situations that justify absence from work but the company's culture regards that as illegitimate, the employees opt for presenteeism. Although the literature has mostly mentioned the term "presenteeism culture" (Gellatly, 1995; Gellatly and Luchak, 1998; Markham and McKee, 1995; Martocchio, 1994; Mathieu and Kohler, 1990; Xie and Johns, 2000), we opted to focus on the concept of "presenteeism climate" (and label it accordingly). In contrast to the organizational culture literature, where the level of analysis emphasis values and assumptions, the climate literature reinforces the surface-level manifestations and puts more relevance on psychological variables (Asif, 2011; Denison, 1996). In our view, as the presenteeism literature has underlined the contextual and individual variables of presenteeism (e.g. Johns, 2009, 2010), the psychological-related approach of the "presenteeism climate" seems more adequate than the sociological and anthropological-related approach of the "presenteeism culture."

In this sense, we are strongly convinced that the influence of the climate of presenteeism on the employees' behavior remains to be explained. According to Nicholson and Johns (1985), this role is due to the "psychological contract," consisting of the set of implied reciprocal expectations between an employee and the organization or, in other words, the psychological mechanism by which the collective influence is translated into individual behavior (Schein, 1992). The psychological contract will depend on the employee's social status, as well as gender and position held in the organization.

There is a growing evidence base linking the cultures/climates of absenteeism/presenteeism to the practice of absenteeism/presenteeism (Gellatly, 1995; Gellatly and

Luchak, 1998; Markham and McKee, 1995; Martocchio, 1994; Mathieu and Kohler, 1990; Xie and Johns, 2000). Several surveys carried out also point out the existence of "competitive presenteeism" among managers, with the results showing that they recognize they work too much, and that work overwork is associated with strong decreases in productivity (Knight, 1995). McKevitt *et al.* (1997) found that 48 percent of people feel guilty for missing work, 20 percent fear a hostile attitude of managers and 18 percent fear the negative consequences of productivity losses at work.

The formation of a climate of presenteeism – and the characteristics of a related psychological contract – results, in each ecosystem (group, department, company), from the aggregation of two distinct but complementary spheres: the values and beliefs of society and the specific set of beliefs of a particular sector, department or organization (Nicholson and Johns, 1985). These results postulate that climate tends to influence most employees' choices regarding the practice of presenteeism (Chadwick-Jones *et al.*, 1982). In this regard, it is noted that the legitimacy of presenteeism is not clear, as it may be seen as counterproductive, in terms of contagion for other workers, or, on the other hand, it can also be interpreted as a prime example of organizational citizenship, particularly in interdependent environments (Johns, 2010). Thus, the legitimacy for presenteeism and, similarly, absenteeism, will depend on how society and the organization admit (or not) that the occurrences of certain health conditions are acceptable for being absent or present at work (Nicholson and Johns, 1985).

The perception about the legitimacy of absenteeism – and indeed absenteeism levels – vary deeply between countries. For example, Steers and Rhodes (1984) found absenteeism roles of 1 percent in Switzerland, 3 percent in the USA and 14 percent in Italy. Johns and Xie (1998) found that Chinese workers were more protective of their groups, and reported the attendance levels of their colleagues as higher than the real values; as opposed to Canadian workers – these results are consistent with the distinct cultural individualism-collectivism dimension orientations in both countries (Hofstede, 2001). They also found that Chinese workers tended to support personal/domestic issues and home maintenance as legitimate reasons for absenteeism, rather than health reasons such as illness, stress and depression. Additionally, Harvey and Nicholson (1999) found considerable variations in the perceptions of the legitimacy of absenteeism due to various diseases, depending on age and social status of respondents. In sum, Addae and Johns (2002) proposed a model in which the following variables influence the perceptions about the legitimacy of absenteeism: the weight of the work, norms of time, locus of control, perceptions about gender roles and perceptions about the effectiveness of social support systems. The authors suggest, for example, that in countries where work is more valued (compared to leisure), absenteeism should be seen as a less legitimate.

The organizational dimension of the presenteeism climate is also well documented (Chadwick-Jones *et al.*, 1982; Johns and Nicholson, 1982). The perception of the legitimacy of absenteeism tends to be more uniform within an ecosystem (organization, department, workgroup) than in society as a whole, tending thus to dominate social norms and individual workers' characteristics. A culture of absenteeism is likely to be more homogeneous as workers are more interdependent. Nicholson and Johns (1985) propose a typology of absenteeism cultures, trying to predict how organizations and levels within organizations differ in their cultures of absenteeism. According to their study, a greater homogeneity will exist in cultures with higher levels of horizontal integration (more interdependent and/or informal communication) and also vertical integration (connection to hierarchy).

Rentsch and Steel (2003) investigated the factors behind the formation of a culture of absenteeism in an organization, department or workgroup. According to their research, three distinct components shape the culture of absenteeism. First, the individual characteristics of each worker, such as personality, social and cultural values. Second, the characteristics of the job, such as responsibilities, workload, interdependence and inherent goals. Third, contextual characteristics – factors specific to the ecosystem in question, such as the company's communication system, human resource management practices, threats of layoff, competition among workers and pressure from supervisors.

Social dimensions of the climate of presenteeism

The antecedents proposed by Rentsch and Steel (2003) shape the culture of absenteeism-presenteeism. Thus, social dimensions, such as gender and the hierarchical position may dictate the existence of specific psychological contracts to each social class (Addae and Johns, 2002). The hierarchical position of the employee in the ecosystem in which s/he operates will certainly influence the shared vision regarding the legitimacy of her/his absenteeism. Differences such as wages, benefits, responsibilities, pressure from co-workers and superiors may play a significant role on presenteeism.

Both theory and evidence point out to the existence of a stronger climate of presenteeism in leadership positions. Nicholson and Johns (1985) posited that individuals in more senior positions tend to presenteeism, as they regard "being present" as part of their duties (i.e. the psychological contract is seen as more inclusive to people in positions of seniority). In positions of higher status and expertise, self-control may even force people to blame themselves for legitimate health problems. This dimension was found by Simpson (1998), who highlighted a climate of "competitive presenteeism" among British managers, which is intrinsically connected to the symbolism of "presence in the workplace" in order to demonstrate a visible commitment, especially in both the financial and retail sector. This visible commitment was more prevalent in people in senior executive roles, as about three quarters of leaders revealed the pressure to stay for longer hours at the office (Simpson, 1998). Although the literature points to the existence of a stronger climate of presenteeism in senior management roles, it is noted that in redundancy or job loss, people in further down hierarchy will feel more pressured, as these people tend to be the most vulnerable to job loss.

Gender is also relevant in accounting for the differences in the climate of presenteeism. Generally, it is anticipated that women present higher levels of absenteeism than men (Addae and Johns, 2002). Patton and Johns (2007) analyzed journal articles published in the *New York Times* in a period of more than 100 years and confirmed this, due to the common belief that women are more prone to certain underlying causes of absenteeism (e.g. caring for children, responsibility for domestic affairs, stress, less job satisfaction, eldercare, etc.). However, hard evidence does not confirm the existence of causality between these factors typically associated with women and absenteeism levels (Johns, 2003). In fact, research shows that US women exhibit, on average, scarcer sick leave (Lovell, 2004) and higher prevalence of migraines and mental illnesses – such as depression – associated with the practice of presenteeism (Burton *et al.*, 2002).

The role of the "climate of presenteeism" is thus extremely important in encouraging the practice of presenteeism, as the pressure to be present in the workplace may generate some side effects – such as increased stress levels – that are detrimental to productivity (e.g. Brockner *et al.*, 1993). In periods of crisis, the symbolic role of commitment transmitted by presenteeism becomes especially important, as the opportunities to excel due to tangible achievements tend to decrease.

In sum, presenteeism climate is a multidimensional construct that integrates different aspects, such as preoccupation with working more hours than expected (e.g. Nicholson and Johns, 1985), distrust and lack of support from supervisors (e.g. Rentsch and Steel, 2003), preoccupations with performance (e.g. Brockner *et al.*, 1993; Koopman *et al.*, 2002), task specificity and major responsibilities at work (Johns, 2010) and career preoccupations and competitiveness (e.g. Addae and Johns, 2002; Nicholson and Johns, 1985; Simpson, 1998). All these factors contribute to being present, although still risk factors to health. As previously mentioned, presenteeism climate is often discussed in literature although no formal instrument of its assessment exists. Thus, our first aim here is to construct and validate an instrument for measuring all those dimensions of presenteeism climate. Accordingly, the following hypothesis is considered:

H1. Presenteeism climate reveals construct validity with extra-time valuation, supervision distrust and co-workers competitiveness as independent factors.

LMX

Social exchange theory (Blau, 1964) explains how people have unspecified obligations as recompense for favors previously received. In organizational contexts, leaders provide favorable behaviors toward certain employees, which in turn reciprocally benefit the leader with positive attitudes and behaviors (Rockstuhl *et al.*, 2012). The quality and intensity of these behaviors depend on how leaders treat them (Liden *et al.*, 2006). These positive effects gave rise to the LMX theory (Graen and Uhl-Bien, 1995). According to the theory, supervisors and employees share a dual relationship characterized by mutual obligations, such as liking each other, interaction, respect, trust and support.

Hence, LMX has been associated with several organizational outcomes, such as turnover intention (Dulebohn *et al.*, 2012), satisfaction (Volmer *et al.*, 2011), performance (Gerstner and Day, 1997) and citizenship behavior (Ilies *et al.*, 2007). Moreover, Thomas and Lankau (2009) showed that high LMX supervisors tend to reduce emotional exhaustion by decreasing role stress and increasing socialization roles. Despite these studies, we still know little about the relationship between LMX and other variables such as presenteeism. In this sense, research has shown that LMX appears significantly correlated with important antecedents of presenteeism such as job insecurity and family interference (see Johns, 2009, 2010). For example, it was found that the effect of LMX on altruism variables was higher for members who perceived job insecurity (Loi *et al.*, 2011). Another study showed that family interference with work had a negative significant correlation with LMX quality (Lapierre *et al.*, 2006). In accordance with social exchange theory, leaders who form a positive impression of their members would provide more job or career counterparts. If there is low-quality LMX relationship, the exchange between leaders and members will be more instrumental (e.g. standardized payments, formal relationships) in exchange for required formal job performance. Thus, these employees will be afraid of losing their jobs and be forced to stay long hours working despite having a physical or a psychological health-related problem. According to this, we hypothesize that:

H2. LMX quality is negatively associated to presenteeism climate.

H3. The relationship between LMX and presenteeism climate reveals cross-cultural invariance.

Study 1

This first study consists in the development of a pool of items for the presenteeism climate scale.

Method

Sample and procedures. Initially, we identified a pool of items based on the previous empirical evidence on the presenteeism and absenteeism literature. For this purpose, a focus group meeting was conducted with the presence of three researchers familiar with the presenteeism literature. Hence, we developed and selected 31 items linked to the concepts of "presenteeism climate" and "competitiveness presenteeism" (Simpson, 1998), as well as on the concepts of volunteer and non-volunteer presenteeism conceived by Johns (2010) and Gosselin and Lauzier (2010). Accordingly, five constructs were obtained from an in-depth literature review of the presenteeism literature. These conceptual dimensions were used to generate the initial pool of items addressing presenteeism climate. We identified a list of negative effects that employees would expect to experience during presenteeism, at the personal, supervisor, co-worker, productivity and task characteristics levels. We avoided double negatives (i.e. meaning absence of presenteeism climate) and complex items, using simple and straightforward language. These items were then subjected to expert reviewing by three university professors also familiar with the literature of presenteeism (DeVellis, 2003). Each item's contribution to the conceptualization and operationalization of the descriptor was evaluated in a scale ranging from 1 (totally inappropriate) to 7 (totally appropriate). Items with values below 5 were deleted, which resulted in 26 statements that represented the pilot version of the presenteeism climate questionnaire (PCQ) used in Study 2. Following Lawshe's (1975) assumptions regarding content validity, all three panelists agreed on this version, as all 26 statements were rated as essential items for measurement purposes of presenteeism climate.

Study 2

In study 2, we tested the previous obtained items in an exploratory factor analysis (EFA).

Method

Sample and procedures. The initial 26-item PCQ pilot study was conducted with a sample of 147 employees (76 male) recruited from different one public and seven Portuguese private bank institutions. From these employees, 36.1 percent had supervising duties. The mean age was 37.3 years (SD = 8.0) and, on average, employees had 15 years of professional experience and worked 40.2 hours per week. The majority of the employees (49.7 percent) reported their perceived health status as good (28.6 percent reported a very good health status; 16.3 percent reasonable; 4.1 percent excellent and 1.4 percent bad). About 38.8 percent of the sample reported physical problems (e.g. articulation, migraines and ophthalmologic problems), whereas 44.2 percent reported psychological problems (e.g. anxiety, stress and depression) that may have affected their performance at work. Participants were invited to participate in an online assessment of each of the PCQ statements on a seven-point scale from 1 (completely disagree) to 7 (totally agree). The link was sent by e-mail to a convenience sample of employees from different bank institutions. The average response rate for this online survey was 58.8 percent. Online surveys

result in more response rates than traditional paper and pencil or mailed surveys (McCabe, 2004), and have the advantages of reducing costs and enabling quicker data analysis (Kaplowitz *et al.*, 2004). Moreover, this methodological approach usually provides reliable data that results in minimal differences when compared with data obtained from traditional methods such as paper and pencil questionnaires (McCabe, 2004). Other studies revealed no differences when compared to demographic data provided form traditional questionnaires and web-based surveys (Ballard and Prine, 2002).

Results

Inter-item correlations were calculated aiming to eliminate highly correlated items (> 0.8) to avoid redundant information. In general, we found acceptable inter-total correlations between 0.3 and 0.8, indicating that items may cluster together in a subsequent factor analysis and that the factors may have sufficient internal consistency for the distinct constructs studied.

EFA. In order to obtain the construct validity, an EFA, (Maximum-Likelihood estimation) was used with varimax rotation, carried out in the IBM SPSS 20 software. The option for varimax rotation assumes that the factors should be inherently independent or uncorrelated at a first level of analysis. Our EFA revealed an interpretable matrix (see Table I for details) with a Kaiser-Meyer-Olkin (KMO) indicator (KMO = 0.87; $\chi^2 = 1{,}592.56$, df = 210), which revealed no identity problems in the data and a sufficient

Items/ Components	Extra-time valuation	Supervision distrust	Productivity concerns	Difficulty of replacement	Co-workers competitiveness	Communalities
Item 16	0.77					0.71
Item 26	0.76	0.35				0.74
Item 15	0.75					0.70
Item 14	0.74	0.39				0.75
Item 9	0.70					0.60
Item 11	0.67					0.56
Item 8	0.58					0.46
Item 23		0.86				0.84
Item 12		0.82				0.78
Item 24		0.80				0.76
Item 4		0.76				0.72
Item 3			0.73			0.64
Item 21			0.72			0.59
Item 7			0.69			0.50
Item 6			0.64			0.57
Item 5				0.81		0.70
Item 1				0.75		0.64
Item 17				0.52		0.41
Item 19					0.76	0.73
Item 18					0.75	0.69
Item 20	0.40				0.72	0.77
Eigenvalue	4.20	3.42	2.15	2.04	2.03	
% of explained variance	19.99	16.27	10.26	9.73	9.69	
Cronbach α	0.89	0.90	0.69	0.66	0.80	

Table I.
PCQ items and exploratory factor analysis (after varimax rotation)

and adequate correlation between items. A combination of methods was used for determining the number of factors to retain (Fabrigar *et al.*, 1999), including: the Kaiser-Guttmann method; scree plots test analysis; and the Velicer test (Minimum Average Partial Test; O'Connor, 2000). Factors loaded by only one or two items, and items with loadings greater than 0.40 on two or more factors were deleted. As a result of these procedures, five items were removed from the initial pool of 26 items. The percentage of explained variance for the five factors obtained was of 65.94 percent – an acceptable value according to Field (2004), considering it is higher than 40 percent. We then proceeded to analyze the component matrix of the scale with the intention of identifying the items associated to the extracted factors. In Table I, we identify five factors that were labeled as follows: extra-time valuation, supervision distrust, productivity concerns, difficulty of replacement and co-workers competitiveness. The first factor consisted of seven items, and had an eigenvalue of 4.20, explaining 19.99 percent of the variance. By analyzing the content of each item, we found a common variance associated to a common content, where employees' productivity was directly related to time spent at work. Consequently, this dimension was labeled as "extra-time valuation." The second factor, with an eigenvalue of 3.42, made up of four items (items 4, 12, 23 and 24), which explained 16 percent of the variance of the results. Considering a deep item analysis, we identified workers' perception that leaders see absenteeism as illegitimate, thus we decided to label this dimension as a type of involuntary presenteeism related to "supervision distrust." The third factor had four items (items 3, 6, 7 and 21) with loadings higher than 0.60, and an eigenvalue of 2.155, which was responsible for 10.26 percent of the variance. These items reflected the awareness of workers about the impact of a health problem on their productivity at work, thus we labeled the factor as "productivity concerns." The fourth factor had an eigenvalue of 2.042, explaining 9.73 percent of the total variance of the results. This dimension was comprised of three items (1, 5 and 17), related to the decision to go to work due to a sense of responsibility and awareness that one's work cannot be easily replaced. This factor was labeled as "difficulty of replacement." Finally, the fifth factor had an eigenvalue of 2.05 and was responsible for 9.69 percent of the variance. A set of three items explained employees' perception in relation to the existence of a climate of presenteeism competitiveness adopted by peers that stay long hours after the working hours (colleagues pressure), thus we labeled the factor as "co-workers competitiveness." Moreover, we found internal consistency with Cronbach's α values ranging from 0.66 to 0.90 for the five dimensions of PCQ. Considering that "productivity concerns" and "difficulty of replacement" had internal consistency values below 0.70, we will only consider the factors of "extra-time valuation," "supervision distrust" and "co-workers competitiveness" for the next study.

Study 3

Study 3 was designed to confirm the previous PCQ by testing a structural model with three independent components (*H1*). Moreover, we aimed to test our research hypothesis and to assess the potential latent factor structure of the PCQ in a financial sector based sample. Also, we aimed to test the model structural invariance across countries (Ecuador and China) using a sample from the health sector.

Method

Sample 1. The first sample consisted of 293 participants (158 females) from seven private bank institutions and one public bank institution all from Portugal. The average response

rate was 58.6 percent. The sample mean age was 39.20 years (SD = 9.94), had 17.01 years of professional experience (SD = 10.45) and 14.72 years of seniority (SD = 14.15) with a mean of 41.38 working hours (SD = 10.83) per week. About 30 percent of the sample had supervision roles ($n = 89$). In what concerns the perceived health status, 19.1 percent consider their health as being bad or reasonable. The remaining participants consider their health as being good (49.5 percent), very good (27 percent) or excellent (5.5 percent).

Sample 2. The second sample consisted of 327 participants from two countries (Ecuador: $n = 90$, 45 males; China: $n = 237$, 140 females) belonging to the health sector. The employees belong to one public hospital from each country and the average response rate was 23.4 percent for the Ecuador sample and 37.9 percent for the Chinese sample. Considering the sample characteristics, we found that the sample mean age was 28.09 years (SD = 11.08) for Ecuador and 33.77 years (SD = 19.52) for China. The Ecuadorian employees had 7.03 years of professional experience (SD = 7.15) and 4.67 years of seniority (SD = 6.45). Regarding the Chinese employees, our sample had 8.00 years of professional experience (SD = 7.64) and 4.78 years of seniority (SD = 4.73). About 36 percent of the Ecuadorian sample had supervision roles, whereas 8 percent of the Chinese sample had supervision roles. In what concerns the perceived health status, about 60 percent of the Ecuadorian employees consider their health as being very good or excellent. As for the Chinese sample, 57.7 percent of the participants consider their health as being reasonable.

Procedures

Participants completed a seven-point scale from 1 (completely disagree) to 7 (totally agree) web-based survey. The link was sent by e-mail to a convenience sample of employees from seven private bank institutions and one public bank institution (sample 1) and one hospital from Ecuador and China (sample 2). Translation/back translation was used to obtain the various language versions that were semantically equivalent to the basic questionnaire in English (Brislin, 1986).

Instruments

(LMX-7). We used the LMX-7 to assess subordinate perceptions of LMX quality (Graen *et al.*, 1982). This measure consists of seven items with a seven-point response scale. Higher scores represent higher quality of exchange relationships. A sample item is: "How well does your immediate supervisor understand your problems and needs." Meta-analytical studies revealed that the LMX-7 provides very good psychometric properties (Gerstner and Day, 1997). Cronbach's α varied from 0.81 in China to 0.94 in Ecuador.

Presenteeism climate questionnaire (PCQ). We used the three dimensions obtained in study 2: "extra-time valuation" (five items), "supervision distrust" (four items) and "co-workers competitiveness" (three items). The scale presented good internal consistency, with Cronbach's α ranging from 0.75 ("supervision distrust," Portugal) to 0.91 ("extra-time valuation," China).

Common method variance

This study uses self-reported data with a cross-sectional research, which tends to be associated with common method variance. This is attributed to the measurement method rather than the constructs studied. Common method variance may affect the relationship between variables, meaning that the empirical conclusions are devoted to

method and not to the constructs' attributes. In order to detect possible common method variance effects, the Harman's single factor test was conducted (e.g. Podsakoff *et al.*, 2003). According to this procedure, if there is common method variance, one factor will emerge from EFA, accounting for the majority of the covariance among all of the studied variables. What's more, all 19 items were entered into an EFA (with Maximum-Likelihood estimation and varimax rotation) and the analysis revealed the hypothesized four-factor structure, with eigenvalues higher than 1.0 and 51.34 percent of the total explained variance. This structure replicates the four studied variables, showing that the first factor (the largest) accounted for 21.39 percent, which is far from the majority of the variance (51.34 percent).

Results

CFA. In Study 3, we evaluated the hypothesized three-factor PCQ model. Thus, using sample 1, we will test the latent constructs found in Study 2 with CFA), and with the covariance matrix as input (AMOS software). The model was tested with maximum-likelihood estimation, with the root-mean square error of approximation (RMSEA) (Browne and Cudeck, 1993) evaluated for model fit. Moreover, the fit of the model was also evaluated using comparative fit index (CFI) (Bentler, 1990) and standardized root-mean square residual (SRMR) (Jöreskog and Sörbom, 1996). RMSEA values less than 0.05 indicated a good fit, and values between 0.05 and 0.08 indicated a reasonable fit. An acceptable fit was determined if CFI was higher than 0.90. SRMR values equal to or less than 0.08 were considered to be reasonable (Hu and Bentler, 1999). The PCQ model had satisfactory fit values [$\chi^2 = 142.058$, df = 51; CFI = 0.949; RMSEA = 0.078, LO = 0.063, HI = 0.094; SRMR = 0.050]. Regarding the internal consistency, the reliability estimates for the PCQ factors ranged from 0.81 to 0.88, indicating sufficient construct reliability. The average variance extracted (AVE) for the three constructs was higher than 0.80, a value above the cut-off of 0.50 suggested by Diamantopoulos and Siguaw (2000). According to the authors, the square root of the AVE for each construct should be higher than the correlation between the specific construct and other presenteeism climate constructs. Data suggested discriminant validity, as the items belonging to the construct explained more variance than other items of other constructs. Additionally, we found composite reliability scores of 0.97 for "extra-time valuation," 0.98 for both "supervision distrust" and "co-workers competitiveness." Overall, the results support the factorial independence of the three constructs studied (*H1*). Descriptive statistics for the LMX, and PCQ dimensions are presented in Table II. Only LMX scale represents total scores ranging from 7 to 35 ($M = 26.91$, $SD = 5.81$). The remaining scores of presenteeism climate values represent mean scores ranging between 1 and 7 for PCQ. Regarding the correlation scores, the three PCQ presenteeism climate dimensions presented a negatively correlation with LMX. These results suggest

	M	SD	1	2	3
1. LMX	26.91	5.81			
2. Extra-time valuation	3.61	1.40	−0.347**		
3. Supervision distrust	2.58	1.36	−0.371**	0.617**	
4. Co-workers competitiveness	3.79	1.59	−0.306**	0.669**	0.535**

Notes: *M*, Mean; SD, Standard deviation. **$p < 0.01$

Table II. Descriptive statistics and correlations between LMX and presenteeism climate dimensions

that participants that perceive a higher presenteeism climate (due to extra-time valuation, supervision distrust and co-workers competitiveness) tend to perceive a lower "LMX" ($r = -0.306$, $p < 0.01$).

In our next analysis we tested a structural equation model to verify the possible relation between a hierarchic presenteeism climate construct and its correlation with the outcome variable of LMX (*H2*). In order to study the relationship between variables, we obtained the model shown in Figure 1, which reflects the influence of LMX regarding the three dimensions of presenteeism climate measured in the PCQ scale. This model shows acceptable adjustment [χ^2 (149) = 324.429, $p < 0.01$, χ^2/df = 2.19, CFI = 0.940, RMSEA = 0.064, LO = 0.054, HI = 0.073; SRMR = 0.070] with factor loadings ranging from 0.53 to .88 (all p's < 0.01), with the majority of items showing factor loadings well above 0.70. Regarding the relationship between LMX and presenteeism climate, we found a negative and significant correlation ($r = -0.41$, $p < 0.01$). Thus, higher quality exchange relationships between employees and leaders result in lower levels of a presenteeism climate.

Structural invariance across countries

Lastly, we studied the measurement invariance for the model presented in Figure 1 (*H3*). We specified a Multi-Group Confirmatory Factor Analysis (MGCFA) to test for the structural invariance across countries (Ecuador vs China). Moreover, we aimed to test if the hypothesized relationships remained invariant considering different samples with employees from other countries (Ecuador and China) and a different sector (health sector). The MGCFA allowed us to assess the measurement invariance by using the same factorial structure across different groups and to test fitted models with incremental invariance properties. Changes in CFI (ΔCFI) values were used to compare nested values. As the models became more restrictive, ΔCFI < 0.01, the fit of the data did not change considerably (Cheung and Rensvold, 2002). Model 1 reflects the initial model (Figure 1), in which no constraint was imposed across the studied samples (Ecuador vs China). Modification indexes suggested theoretically supported covariances among error terms within the same construct. Thus, when constraining the measurement weights variance to be equal in both groups (Model 2), this caused a reduced decrease in fit for the studied samples (ΔCFI = 0.009). When constraining the structural covariance invariance to be similar (Model 3), the CFI was still unaffected (ΔCFI = 0.002). Finally,

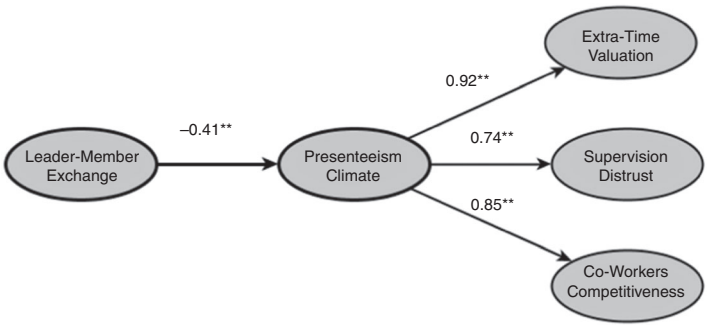

Figure 1.
Structural equation modeling of the relationship between leader-member exchange and presenteeism climate

Note: $^{**}p < 0.01$

when adding measurement residual constraints (Model 4), we found a non-significant change of the CFI value ($\Delta CFI = 0.000$). The results supported the structural invariance across countries (*H3*) (Table III).

Discussion

The goal of the current research was to develop and provide initial validity evidence for a new self-report instrument designed to measure presenteeism climate. We aimed to conceptualize presenteeism climate, as well as its dimensions. Accordingly, by integrating literature on leadership, we aimed to recognize the possible influence of LMX variables on a "presenteeism climate," a topic that has rarely been explored.

Our results suggest that presenteeism climate is a multidimensional construct. This finding results from three independent studies that started with the generation of a pool of 31 items, and were validated through different phases (exploratory and CFA), which resulted in a final version of the PCQ with 12 items and three dimensions. These dimensions revealed good psychometric properties for measuring "presenteeism climate" considering the following dimension: extra-time valuation, supervision distrust and co-workers competitiveness. Accordingly, "extra-time valuation" refers to the perception that careers depends on the number of hours per day people stay at work (e.g. Nicholson and Johns, 1985). "Supervision distrust" denotes a suspicion that the reasons of employee's absences from work are not real (Rentsch and Steel, 2003). Finally, the dimension of co-workers appears to be related to rivalry between colleagues in order to see who stays longer at work and adulate the boss (Addae and Johns, 2002; Nicholson and Johns, 1985; Simpson, 1998).

Another aim of the present study was to contribute to the presenteeism literature by integrating the LMX construct. Our research hypothesis was supported by showing a negative significant correlation ($r = -0.41$, $p < 0.01$) between LMX and presenteeism climate. This corroborates evidences that show that higher quality LMX levels are associated with perceptions of higher job security (Loi *et al.*, 2011) and less family interference (Lapierre *et al.*, 2006). Although these studies did not measure presenteeism climate, both job insecurity and family interference are antecedents of presenteeism (Johns, 2010, 2011). Overall, a good leader-member relationship nurtures security and confidence at work, which result in the focus on results rather than the number of hours spent at work regardless of productivity levels. Moreover, employees will have a higher degree of trust regarding their supervisors and will not fear being replaced or considered as less important to their organizations. This evidence was also supported with MGCFA, revealing that the model remained invariant across employees from the health sector working in Ecuador and China (*H3*).

		X^2	df	X^2/df	Contrasts	ΔX^2	TLI	CFI	ΔCFI	RMSEA (LO; HI)
Ecuador vs China	Model 1	500.128	286	1.749	–	–	0.902	0.927	–	0.048 [0.041; 0.055]
	Model 2	547.354	300	1.825	2 vs 1	47.226	0.903	0.918	0.009	0.050 [0.044; 0.057]
	Model 3	549.220	303	1.813	3 vs 2	1.866	0.905	0.916	0.002	0.050 [0.043; 0.057]
	Model 4	549.402	304	1.907	4 vs 3	0.182	0.906	0.916	0.000	0.050 [0.043; 0.056]

Notes: Model 1 = Configural invariance; Model 2 = M1 + Measurement weights invariance; Model 3 = M2 + Structural covariance invariance; Model 4 = M3 + Measurement residuals invariance

Table III. Fit for the cross-cultural multi-group CFA of the relationship between presenteeism climate and LMX

This study has a few limitations. First, the conceptual limitation of the definition of presenteeism climate: in our study, we emphasize presenteeism as being legitimately unfit for work due to ill health instead of focussing on the long hours culture and non-work-related activities (D'Abate and Eddy, 2007). Second, the use of self-report data collected at a single point in time, limits its generalizability. Third, our study's sample consisted of employees in the financial and health sectors, which may not apply to other sectors, although there is no existing research to confirm this (Aronsson *et al.*, 2000). Fourth, the correlational nature of our study did not allow us to test cause-effect relationships. Fifth, we are measuring presenteeism climate at the individual level. Considering the importance of advancing in the field by studying presenteeism at the organizational level and, perhaps, introducing the more in-depth concept of presenteeism culture, further studies should consider different level analysis through hierarchical linear modeling approaches. Otherwise, LMX behaves differently for individual and group performance (Liden *et al.*, 2006), thus we should consider future multi-level approaches regarding the studied variables of LMX and presenteeism climate.

Future studies are needed in order to shed more light into this field, specifically by collecting data in a wider range of sectors and using alternative methodological approaches. For example, it was found a *U*-shaped form to represent the LMX and job-tension relationship (Hochwarter and Byrne, 2005), suggesting that it should be interesting to study the relationship between LMX and presenteeism climate in a longitudinal study. Finally, additional sorts of validation tests would be desirable, as well a deeper integration of absenteeism and presenteeism literature (cf. Bierla *et al.*, 2013). Thus, future researchers should determine how the PCQ performs within other types of samples (e.g. educational sectors). Although present in most professions, presenteeism ranks particularly high among the health and educational sectors (Aronsson *et al.*, 2000; Elstad and Vabø, 2008). Additionally, the PCQ should be subjected to further validity testing through multitrait-multimethod validation (Campbell and Fiske, 1959) or nomological nets (Cronbach and Meehl, 1955).

Overall, the results from this study provide an interesting contribution for the measurement of presenteeism climate – a concept that often appears in the literature, but that has not been systematically measured. In our view, this paper broadens the understanding of the presenteeism phenomenon by designing an instrument to assess its climate, and by extending its literature with leadership-related consequences. This study has implications for managers and academics, as it emphasizes the importance of favorable behaviors between leaders and employees in order to decrease presenteeism and its adverse consequences. In line with this, organizations should provide structured leadership programs in order to increase the proximity between leaders and subordinates. Also, leaders should value transformational leadership dimensions, namely, proximity and empathic support. Additionally, PCQ should be considered an important tool for organizational change, as it measures organizational climate, allowing consultants and managers to diagnose and implement behavioral modifications that might affect employees' productivity levels. Lastly, managers should be aware of "[…] the need to consider a broad array of indicators of [HRM and] organizational effectiveness that reflect the perspectives of a firm's multiple internal and external stakeholders" (Schuler and Jackson, 2014, p. 52). Thus, the scale developed in the paper provides important insight to measure and manage an important HRM indicator: presenteeism climate.

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Appendix

Extra-time valuation	8 – I feel that "living in the workplace" is highly valued in my company
	9 – I feel that I am judged by the number of hours I stay at work
	11 – I benefit from staying for longer hours at work
	15 – My career depends on the number of hours (per day) I stay at work
	16 – I feel more admired if I leave work late without completing my tasks rather than if I leave early with my tasks completed
Supervision distrust	4 – When I call my supervisor to say I am sick, I feel misunderstood
	12 – My supervisor suspects that the reasons of my absences from work are not real
	23 – I think my supervisor distrusts me if I am absent from work due to a health problem
	24 – I fear that my absence due to a health problem makes my supervisor believe I am less important at work
Co-workers competitiveness	18 – Some of my colleagues stay for longer hours at work just for the sake of being noticed
	19 – Some of my colleagues stay for longer hours at work because they are afraid of losing their jobs
	20 – Some of my colleagues compete among themselves in order to see who stays longer at work

Table AI.
Items of the presenteeism climate questionnaire (final version)

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