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ARTICLE

Whose lips are sealed? Gender differences in knowledge hiding at work

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Abstract

Knowledge hiding – intentionally concealing knowledge from a colleague who requested it – is often damaging for individuals and organizations. Amongst the factors explaining knowledge hiding, one has been overlooked, despite being an important lens for understanding employee behaviours: gender. In this article, we investigate its relevance by examining whether and how gender shapes two complementary aspects of knowledge hiding behaviour: frequency of hiding, and the approaches that knowledge hiders employ to do so. Building on extant literature about gender roles at the workplace, we suggest that the social roles into which women and men are socialized, and the sanctions they face if they behave incongruently with these roles affect both aspects of knowledge hiding. We explore these ideas in a multi-wave study of full-time employees based in the United Kingdom ($n = 449$). Our findings suggest that men hide their knowledge from colleagues more frequently. In addition, both women and men hide knowledge in a way that is congruent with the expectations of others regarding their social role: that is, women use evasive hiding and playing dumb more than men, while men use rationalized hiding more than women. A male-dominated context reduces these differences between genders.

KEYWORDS

gender, gender role, knowledge hiding, knowledge management, role congruity theories, social role theory

Both the authors have contributed equally to this work.

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Practitioner points

- Women are less likely than men to engage in knowledge hiding at work. When they decide to hide knowledge, women are more likely than men to choose playing dumb and evasive hiding and less likely to choose rationalized hiding.
- When they work in female-dominated environments, men hide knowledge more frequently, and both women and men use playing dumb and evasive hiding more often. Managers working in female-dominated environments should pay particular attention to preventing knowledge hiding.
- To minimize knowledge hiding, practitioners should ensure that employees would not feel entitled to do so. Managers should exercise caution when using practices (e.g., emphasizing competition and goal achievement) that foster behaviour fitting with male social role expectations, as such practices may further encourage and legitimize knowledge hiding by men.
- Practitioners should counteract gendered stereotypes at work and thus decrease the social pressure on female employees to avoid rationalized hiding when it is legitimate and instrumental to protect their knowledge. Managers can achieve this by openly acknowledging the expertise of their female employees and the value of the knowledge they possess.

BACKGROUND

Knowledge hiding is deliberate withholding or concealing of one's knowledge – that is, work-related information, ideas, expertise, advice and lessons learnt (Sergeeva & Andreeva, 2016) – in response to requests from colleagues at work (Connelly et al., 2012). While this behaviour can bring short-term benefits for individuals (e.g., Venz & Nesher Shoshan, 2022), it is seen typically as counterproductive for contemporary organizations as their efficiency and innovativeness depend on knowledge being actively shared amongst employees (Grant, 1996; Waring et al., 2018). Indeed, knowledge hiding has been found to have severe detrimental effects for individuals and organizations alike in terms of relationships (Connelly & Zweig, 2015), attitudes (Offergelt et al., 2019) and performance (Evans et al., 2015; Singh, 2019).

To understand how this potentially damaging behaviour can be prevented, a wide range of factors that may lead employees to intentionally conceal their knowledge from co-workers have been explored and summarized in several recent reviews (He et al., 2021; Strik et al., 2021; Xiao & Cooke, 2019). Yet, amongst the potential antecedents of knowledge hiding, one appears to have been overlooked – gender – despite being salient at the workplace. We believe that exploring the role of gender in knowledge hiding is important for two reasons.

First, gender differences have been found in a range of behaviours that are similar in some aspects to knowledge sharing or knowledge hiding at work. For instance, we know that, depending on their gender, individuals tend to help (or not) others differently (Eagly & Crowley, 1986), engage in organizational citizenship (Kidder, 2002) and counterproductive (Ng et al., 2016) work behaviours to different degrees, set different ethical standards (Kray & Haselhuhn, 2012), control the sharing of resources amongst others differently (Fang et al., 2020) and differ in their motivations for knowledge sharing (Nguyen et al., 2019).

Second, there is abundant evidence that men and women experience to a different extent and react differently to a range of workplace factors that have been identified as important predictors of knowledge hiding (He et al., 2021; Kumar Jha & Varkkey, 2018), such as workplace incivility, competitive work environment, abusive supervision or lack of trust (e.g., Haselhuhn et al., 2015; Pradhan et al., 2018; Schilpzand et al., 2014). In other words, these widely accepted predictors of knowledge hiding are likely to apply differently to men and women. Therefore, without understanding the gender aspects of knowledge hiding, organizational interventions designed to prevent knowledge hiding and its detrimental effects by influencing these workplace factors are likely not only to fail but also to have negative side

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effects for gender equity at the workplace. In sum, our lack of knowledge about the effects of gender on knowledge hiding both limits our understanding of how this behaviour happens in organizations and inhibits the development of effective interventions to minimize it.

We aim to advance our understanding of this topic by investigating *whether* women and men differ in their tendency to hide knowledge from colleagues and *how* they manifest this behaviour. To do so, we build on the extant literature on gender roles at the workplace and their impact on employee behaviours (Heilman, 2012). Specifically, we draw on social role (Eagly, 1987; Eagly & Wood, 2012) and backlash (Rudman & Phelan, 2008) theories to describe the theoretical rationale for why women and men may differ in the frequency of their knowledge hiding at work and in their approaches to do so. Next, we build on congruity theories (Eagly & Karau, 2002; Heilman, 1983) to theorize what contextual factors might influence these gender differences in knowledge hiding. We test our hypotheses in a multi-wave survey of 449 full-time employees across a wide range of industries in the United Kingdom.

Our research makes several contributions to the literatures on knowledge hiding, on knowledge management more broadly and on role congruity. First, we theorize about gendered aspects of knowledge hiding at work by extending the application of the theories that explain gender effects at the workplace (Eagly, 1987; Eagly & Karau, 2002; Heilman, 1983; Rudman & Phelan, 2008) to this field. To the best of our knowledge, this is the first study to focus on the role of gender in knowledge hiding. Second, we offer a more fine-grained understanding of knowledge hiding by conceptualizing and empirically demonstrating differential relationships between gender and various aspects of knowledge hiding: namely, frequency (Serenko & Bontis, 2016) and approaches to hiding (Connelly et al., 2012). Although potential differences in approaches to knowledge hiding have been well conceptualized (Connelly et al., 2012), only a few studies have investigated them in any depth (Burmeister et al., 2019; Connelly & Zweig, 2015; Gagné et al., 2019; Khoreva & Wechtler, 2020; Venz & Nesher Shoshan, 2022). Third, by demonstrating that the approach to measuring knowledge hiding matters for unveiling gender differences – as the widely used aggregated measure (e.g., Batistič & Poell, 2022; Černe et al., 2014; Jiang et al., 2019) masks these differences – we highlight important methodological implications for future empirical studies of this behaviour. Fourth, we identify a boundary condition – male-dominated environment – that limits the effects of gender on knowledge hiding, thus highlighting that the gender of knowledge seeker is also important to consider. Our findings on boundary conditions also suggest some avenues for further development of role congruity theories, such as exploration of the relevance of the gender of those who evaluate the (in)congruence between one's roles and of the choices women make when faced with competing role demands. Finally, we contribute to the literature on knowledge management in general by introducing stereotyped gender roles (e.g., Eagly, 1987; Heilman, 1983) as a potential theoretical lens through which to uncover gender aspects of knowledge behaviours and thus lay theoretically grounded foundations for the inclusion of gender in knowledge management research, something that has been called for recently (Heisig & Kannan, 2020). From a practical perspective, our findings matter because disregarding these gender differences might lead practitioners to unintentionally encourage and legitimize knowledge hiding by male employees and push female employees to employ particularly detrimental approaches to hiding.

THEORETICAL BACKGROUND

Knowledge hiding in organizations

Extant studies on knowledge hiding suggest that individuals vary in the frequency with which they hide knowledge at work (e.g., Malik et al., 2019; Serenko & Bontis, 2016). When they do practice it, individuals employ one of three ways or approaches to hide knowledge (Connelly et al., 2012): *evasive hiding* (providing incorrect or incomplete information to the person who requested it), *playing dumb* (pretending that one does not know the answer to a question) or *rationalized hiding* (providing a reasonable excuse for declining the knowledge request). Of the three, the last is the only approach where concealing knowledge is made explicit; in the other two, knowledge hiding is meant to be hidden from the knowledge seeker. Rationalized

hiding is also the only type of hiding that does not necessarily involve deception, as the reasons for declining a request for knowledge may be genuine. In sum, to comprehensively describe knowledge hiding at the workplace, we need to understand both how frequently an employee engages in knowledge hiding (Serenko & Bontis, 2016), and what approach they use to hide knowledge when they do so (Connelly et al., 2012).

Extant literature has explored a wide range of predictors of knowledge hiding (Strik et al., 2021), including individuals' motivational dispositions (e.g., Gagné et al., 2019; Zhu et al., 2019), workplace status (Liu et al., 2020), personality traits such as competitiveness (Hernaus et al., 2019; Hernaus & Černe, 2022), abusive supervision (Feng & Wang, 2019; Offergelt & Venz, 2023), workplace incivility (Arshad & Ismail, 2018; Irum et al., 2020; Venz & Mohr, 2022), and a competitive work climate (Černe et al., 2017; Kumar Jha & Varkkey, 2018). Interestingly, most of these predictors share a common denominator – gender. Indeed, extant research has demonstrated that men and women may possess to varying degrees a number of the individual characteristics listed above (e.g., Nguyen et al., 2019), and that they may experience to different degrees and react differently to interpersonal and organizational predictors of knowledge hiding (e.g., Haselhuhn et al., 2015; Pradhan et al., 2018; Schilpzand et al., 2014). Nevertheless, our understanding of the role of gender in knowledge hiding, and knowledge processes more broadly, remains very limited.

Gender and knowledge behaviours

The few papers that have examined gender aspects of knowledge behaviours have found that female employees tend to be excluded from knowledge exchange networks (Durbin, 2011; Ibarra, 1992), and that the knowledge they possess is seen as less valuable and less legitimate (Styhre et al., 2001). Despite these indications that gender matters in knowledge processes, Heisig and Kannan (2020) concluded in their recent literature review that existing evidence on the effect of gender on knowledge behaviours is too scant and mixed to provide sufficient understanding of the issue.

Several studies on knowledge hiding have mentioned that gender may matter, but they do not place it centre stage. Rather, they tend to treat gender merely as a control variable whose effects are neither theorized nor explicitly investigated (e.g., Offergelt et al., 2019; Peng, 2013; Zhao et al., 2019; Zhu et al., 2019). The only exception, to the best of our knowledge, is Irum et al.'s (2020) conceptual work in which the authors theorized (but did not provide empirical evidence) that gender moderates the relationship between workplace incivility and knowledge hiding, such that men will retaliate against incivility by hiding knowledge more frequently. Extant empirical work provides conflicting and inconclusive evidence for the potential relationship between gender and knowledge hiding. In some studies, gender did not correlate with or predict knowledge hiding (e.g., Jiang et al., 2019; Zhao et al., 2019; Zhu et al., 2019), while in others it did (e.g., Burmeister et al., 2019; Feng & Wang, 2019; Offergelt et al., 2019; Peng, 2013). Moreover, and more importantly, most of these studies disregard *how* gender may influence knowledge hiding.

To advance our knowledge on the effect of gender on knowledge hiding, we build on the abundant literature on gender stereotypes and their effects in the workplace (Eagly, 1987; Eagly & Karau, 2002; Heilman, 1983, 2012; Rudman & Phelan, 2008). Specifically, we build on social role theory (Eagly, 1987), backlash theory (Rudman & Phelan, 2008), and role congruity theories (Eagly & Karau, 2002; Heilman, 1983). These theories are the key in the literature on gender differences at the workplace, and they have been used to explain gender effects in a range of workplace behaviours that are similar in some aspects to knowledge hiding (or its' absence), such as helping (Eagly & Crowley, 1986), organizational citizenship (Kidder, 2002), counterproductive (Ng et al., 2016) and (un)ethical (Franke et al., 1997) behaviours. Hence, we consider these theories to be well-suited and relevant to our exploration of gender differences in knowledge hiding at work.

Gender stereotypes and their role at the workplace

Gender stereotypes, or gender role beliefs, have been acknowledged as a crucial determinant of employee experiences and behaviours in the workplace (Heilman, 2012). Social role theory (Eagly, 1987;

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Eagly & Wood, 2012) suggests that these gender role beliefs stem from the historical division of labour between women and men and the roles they have typically occupied, thus creating expectations of what women or men are like (descriptive stereotypes), and how they should behave (prescriptive stereotypes). Specifically, researchers have observed (Diekman & Eagly, 2000; Eagly, 1987; Kidder & Parks, 2001) that women are expected to be communal, that is caring, helping, attuned to communal needs or the needs and feelings of others, and deriving emotional satisfaction and fulfilment from these behaviours. In contrast, men are expected to be agentic, that is assertive, independent, competitive and achievement oriented. Evidence suggests that, with women participating more actively in the workforce, descriptive stereotypes may change but prescriptive stereotypes are likely to remain stable (Diekman & Eagly, 2000).

Social role theory posits that these gender role beliefs influence employee experiences and behaviours through two mechanisms (Eagly & Wood, 2012). First, men and women internalize gender role expectations through the socialization process that starts early in their life, and hence tend to choose different behaviours as 'normal' or 'natural' to their gender. In other words, men and women self-regulate their behaviours to fit with their internalized gender role identity. The second mechanism involves social regulation: individuals are aware that others typically expect them to behave in congruence with gender roles, and that conforming to these expectations is rewarded while violating them can be penalized. The penalties for behaving counter-stereotypically, also called backlash effects, are well documented in extant research (Akinola et al., 2018; Rudman & Phelan, 2008). Hence, people choose to comply with social expectations of gender roles even if they do not internalize gender stereotypes.

Focusing on workplace dynamics, Eagly and Wood (2012) argued that at work, 'gender roles may have their primary influence on discretionary behaviours that are not required by the occupational role' (p. 470). Knowledge sharing is an example of such behaviours as it is mostly discretionary and extra-role (Kelloway & Barling, 2000). Thus we propose that stereotyped gender roles are likely to be a particularly influential factor that drives employee decisions to either engage in this extra-role behaviour, or intentionally decline to do so and hide their knowledge instead.

Knowledge hider's gender and knowledge hiding frequency

Employees often see their value and bargaining power in the job market as directly related to the knowledge they possess (Husted & Michailova, 2002). Knowledge is often accumulated over a long period through a process of trial and error, creating a strong feeling of personal ownership and increasing perceived value of this knowledge (Ford & Staples, 2006). Knowledge can be also considered a source of power and superiority (Wang & Noe, 2010). Both views of knowledge imply that individuals may act protectively of this resource (Guo et al., 2022; Singh, 2019), especially if they fear losing it (Renzl, 2008). For example, individuals who are more competitive – and therefore more concerned with preserving their unique resources – have been found to engage more in knowledge hiding (Hernaus et al., 2019; Zhu et al., 2019). In addition, knowledge as a resource has been equated to a public good, in that the decision to share it (or not) involves a social dilemma in which costs are often individual while benefits are communal (Cabrera & Cabrera, 2002). From this perspective, individuals who prioritize their own interests over communal interests may engage more frequently in knowledge hiding.

Social role theory suggests that men are socialized to behave in a more competitive and assertive way (Diekman & Eagly, 2000) and to put their own interests first (Kray & Haselhuhn, 2012). Therefore, we anticipate that men will be more protective of their knowledge than women. In contrast, women are socialized to prioritize communal interests and to help others (Diekman & Eagly, 2000), and thus may find that providing a colleague with the knowledge requested is more in line with their identity than hiding their knowledge. Furthermore, men's competitive behaviour is more socially acceptable because it is both expected and regarded as appropriate by others (Eagly & Wood, 2012). In contrast, women's knowledge hiding may be perceived as contradicting expected female role behaviour due to being an absence of help (Kidder & Parks, 2001). The fear of backlash – that is, trepidation of potentially incurring social

and economic repercussions for disconfirming prescriptive stereotypes (Rudman & Phelan, 2008) – will thus prevent female employees from engaging regularly in knowledge hiding. Indeed, studies have found that women were penalized when they did not engage in helping behaviours (Heilman & Chen, 2005). In sum, we expect that both mechanisms posited by social role theory – self-regulation and social regulation – encourage female employees to avoid knowledge hiding more than male employees. Empirical evidence on other workplace behaviours that are related to knowledge hiding (Connelly et al., 2012) supports these propositions: e.g., Haas and Park (2010) and Campbell et al. (2002) found that men tended to withhold information from colleagues more than women. Therefore, we hypothesize that:

H1. Women hide knowledge from others at work less frequently than men.

Knowledge hider's gender and approach to knowledge hiding

Knowledge hiding is a behaviour that is meant to be concealed from others (Connelly et al., 2012) because, if discovered, it may damage a knowledge hider's relationships at work and career prospects. Therefore, we propose that when individuals choose to hide knowledge, they will try to do so in a way that is less likely to be discovered. Social role (Eagly & Wood, 2012) and backlash (Rudman & Phelan, 2008) theories suggest that individuals are likely to draw more attention to themselves and face sanctions if they behave incongruently with their gender roles. Building on this, we propose that when employees decide to hide knowledge, driven by social regulation they will choose those approaches or ways to do so that best correspond to the social expectations of their gender and thus minimize potential social sanctions.

A first approach to hiding knowledge is playing dumb, or pretending that one does not know the answer to the question when asked for knowledge (Connelly et al., 2012). Previous studies have painted a nuanced picture of the relationship between gender and playing dumb, observing that – depending on the impression they want to make – women tend to use this behaviour less (Gove et al., 1980), as much as (Soltz, 1978) or more than men (McLuhan et al., 2014). In the context of knowledge hiding, the playing dumb approach is seen as a safe way to reject an explicit request for knowledge and remain undiscovered. Because women are often perceived as less competent or knowledgeable than men (Fiske et al., 2002; Kray et al., 2014; Truss et al., 2013), playing dumb as a reaction to a request for knowledge is more likely to be deemed by others as authentic behaviour for a woman, congruent with gender stereotypes. In contrast, for male employees, playing dumb might go against the stereotypical expectation of their competence (Fiske et al., 2002).

Evasive hiding involves providing incorrect information or making a promise to provide the answer in the future with no intention to fulfil it (Connelly et al., 2012). Hence, evasive hiding allows the knowledge hider to imitate collaborative behaviour. Such an approach fits the social role expectation that females are helpful colleagues (Kidder & Parks, 2001). At the same time, men experience less social pressure to exhibit, or imitate, collaborative behaviours (e.g., Heilman & Chen, 2005).

Rationalized hiding is an approach that explicitly communicates to others that the hider has the knowledge requested but is not in a position to share it (Connelly et al., 2012). For female employees, openly stating that they are hiding knowledge may be perceived as going against the gender role stereotype of a helping colleague (Kidder & Parks, 2001). For male employees, the situation may be the opposite. Indeed, the reasonable explanations given for hiding knowledge often imply a more senior status of the hider, or access to sensitive or critical knowledge that should not be available to all (Connelly et al., 2012). Men are more likely to hold such positions in organizations (e.g., Truss et al., 2013), and therefore their use of rationalized hiding is more likely to be perceived by others as legitimate behaviour.

Based on these considerations, we anticipate that:

H2a. Women are more likely than men to choose the playing dumb approach to knowledge hiding;

H2b. Women are more likely than men to choose the evasive hiding approach;

H2c. Women are less likely than men to choose the rationalized hiding approach.

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Contextual characteristics and the relationship between gender and knowledge hiding

The literature on the effects of stereotyped gender roles has highlighted that the social pressure to conform to one's gender role may vary depending on a range of contextual factors (Eagly & Karau, 2002; Heilman, 1983; Rudman & Phelan, 2008). First, congruity theories (Eagly & Karau, 2002; Heilman, 1983) have noted that, in addition to their gender role, individuals have job or professional role, and suggested that social evaluations of individual behaviours are influenced by the congruity (or the lack thereof) of the expectations between these two roles. Second, when an individual is in minority gender-wise in their group, their gender becomes more visible to others, so they are perceived more stereotypically (Kanter, 1977) and hence are evaluated more strictly against gendered role expectations, increasing the pressure on them to conform to their gender role (Eagly & Karau, 2002). Two contextual factors that may induce both mechanisms – related to role incongruity and gender minority – are the individual's position in the organizational hierarchy and the gender composition of the environment in which they work.

Position in the organizational hierarchy

Roles at the top of the organizational hierarchy are an example of a job role that is strongly male-typed, thus women in these roles experience high role incongruity (Eagly & Karau, 2002) and backlash for disconfirming the stereotype (Phelan & Rudman, 2010). Furthermore, as men occupy the majority of the leadership positions in many organizations (Hoyt & Murphy, 2016), female managers are more conspicuous by gender and tend to be held more strongly to a gender stereotype (Eagly & Karau, 2002). These factors put additional pressure on women who climb the organizational hierarchy to conform to the expected gender role and hence avoid knowledge hiding. In contrast, for men, being assertive and competitive are parts of both their gender (Eagly, 1987) and leadership (Offermann & Coats, 2018) role scripts. Hence, male leaders are likely to think that it is legitimate to protect their knowledge by hiding it.

Of the various approaches to hiding, rationalized hiding is likely to be perceived as legitimate and appropriate for someone occupying a leadership role, as it refers to openly declining a request for knowledge based on the reasonable excuse, such as the need to maintain confidentiality or because the knowledge requested is sensitive; and the scope of leadership roles typically requires dealing with such issues. Therefore, male leaders may feel entitled to use rationalized hiding while female leaders may not for fear of being judged as gender role-incongruent, due to being openly unhelpful (Heilman & Chen, 2005; Kidder & Parks, 2001). Furthermore, the legitimacy of women in leadership roles is often challenged (Vial et al., 2016), so women may find it hard to persuade their colleagues that their reasons for rationalized hiding are valid. Evasive hiding, which imitates helping (communal behaviour), is likely to be seen as optional for male leaders but required for female leaders (Heilman & Chen, 2005; Kidder & Parks, 2001).

Playing dumb goes against competency expectations inherent in both leadership and male gender roles (Eagly & Karau, 2002; Fiske et al., 2002; Offermann & Coats, 2018). Hence, male leaders are likely to avoid this approach as being twofold role-incongruent for them. For female leaders, the situation is different: while playing dumb conforms to female gender role expectations, it contradicts their leadership role. Therefore, as they climb the organizational hierarchy, women are likely to suffer from competing social expectations (or "double bind", Eagly & Carli, 2007), that will pressure them to use playing dumb more (to fit with their gender role) and less (to fit with their leadership role) at the same time. Hence, the pressure to avoid playing dumb is likely to be higher for male than for female leaders.

In sum, we anticipate that differences between genders in approaches employed to hide knowledge increase with seniority in the organizational hierarchy:

H3. The more senior their position in the organizational hierarchy, the less frequently

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women will hide knowledge compared with men.

H4. The more senior their position in the organizational hierarchy, the more likely women are to choose (a) playing dumb and (b) evasive hiding, and the less likely they are to choose the (c) rationalized hiding approach compared with men.

Gender composition of the environment

Similar dynamics may occur when an industry or occupation is dominated by one gender (Joshi et al., 2015; Reskin et al., 1999). First, gender-dominated environments create social expectations that jobs in them are gender-typed, hence employees of the opposite gender are perceived as role-incongruent in these jobs (Heilman, 1983). Second, irrespective of whether the job they hold is perceived as gender-typed, an employee's gender is more salient in environments where their gender is in minority, and thus more strongly stereotyped (Kanter, 1977). However, the pressures these mechanisms create do not fully mirror each other in male- and female-dominated environments, for two reasons. First, male observers were found to stereotype others more strongly than female observers, who are likely to have more androgynous views on gender roles (Eagly & Karau, 2002). Second, the backlash for nonconformity with the gender role has been found to be more problematic for women than men in general, and to be further amplified in male-dominated environments because women can be viewed as a threat to male culture (Rudman & Phelan, 2008).

Therefore, in male-dominated environments, women experience particularly strong pressure to comply with female gender role expectations – and hence will avoid hiding knowledge, and if they do so, choose playing dumb or evasive hiding as more congruent with their gender role. In this context, men will find it easy to be competitive and focused on their own interests, for example, to hide knowledge and use rationalized hiding, as these behaviours fit with both their gender and job roles. In contrast, in female-dominated environments women may feel pressure to be communal and helpful as a part of their female-typed jobs, but the strength of this pressure is likely to be lower than in male-dominated environments as female observers may be more lenient in their evaluations. As for men, they also face less pressure to conform with their gender role in this context (Simpson, 2004), despite being in minority and having potential incongruence between their gender and job role. Indeed, women observers tend to demonstrate a preferential treatment of men (Williams, 1992) and be lenient towards others' flaws – and possibly of counterproductive behaviours, an attitude which results in not changing their judgment of others even after they are found to commit serious mistakes (Thoroughgood et al., 2013).

Based on these considerations, we anticipate that both men and women will tend to conform more with their stereotyped gender roles in male-dominated environments than in female-dominated ones. Therefore, gender differences in knowledge hiding behaviours will be higher in male-dominated environments:

H5. The more male-dominated an environment is, the less frequently women will hide knowledge from others at work compared with men.

H6. The more male-dominated an environment is, the more likely women are to choose (a) playing dumb and (b) evasive hiding, and the less likely they are to choose (c) rationalized hiding compared with men.

METHODS

Sample and data collection procedures

We collected the data using Prolific (Palan & Schitter, 2018), an online platform designed explicitly for the recruitment of participants in research studies (Peer et al., 2017) and used repeatedly for research

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in organizational behaviour (e.g., Ellis et al., 2021; Kim et al., 2020). Prolific offers several advantages over other data collection options. First, it offers 'at-scale recruitment of participants in a short time and […] access to a broader population' (Palan & Schitter, 2018, p. 22). According to a recent meta-analysis, results from online platforms such as Prolific are consistent with results obtained from more conventional surveys, while being based on large samples of participants whose responses are collected almost simultaneously and are therefore directly comparable (Walter et al., 2019). Second, unlike other platforms, the Prolific platform is designed explicitly for research, hence it has highly rigorous recruitment standards for participants, detailed rules regarding the treatment of subjects on the platform (Peer et al., 2017) and appears to include respondents who 'are more naïve to common experimental research tasks, and a more diverse population in terms of geographical location, ethnicity, etc.' than other survey platforms (Palan & Schitter, 2018, p. 23).

Finally, Prolific fully anonymizes respondents. This represents a significant advantage compared to data collection in an organizational setting – where anonymity concerns could be higher – because knowledge hiding is a behaviour that may be relatively underreported (Connelly et al., 2012), arguably more by women if they fear social sanctions (Rudman & Phelan, 2008).

We followed methodological recommendations on online platform data collection to ensure a high quality of the data (Aguinis et al., 2021). To reach potential respondents with relevant work experience, we used pre-screen filters to invite to our study individuals who were in full-time employment and who were 25 years old or above. We limited our sample to respondents currently residing in the United Kingdom to minimize potential cultural or contextual differences in respondents' work arrangements and work-related attitudes and to ensure respondents' fluency in English, the language of our survey. Our description of the study introduced the task, expected time commitment and compensation rules, while avoiding cues about the study's aims that might influence respondents' answers and introduce bias. We used several attention and data quality checks within the survey in the form of Likert scale questions, repeated questions, open-ended questions and tracking response time for each section of the survey (Aguinis et al., 2021).

The data were collected in three waves with a lagged panel design, separating measurement of the dependent variables from measurement of the independent, control and moderator variables by a defined time span. Hence, we paired the observations of independent, moderator and control variables at $T = 1$ with the dependent variables at $T = 2$, and then independent, moderator and control variables at $T = 2$ (except for time-invariant variables, which were collected at $T = 1$ only) with the dependent variables at $T = 3$. This data collection and analytical strategy has two main advantages. First, time-lagged panel surveys have proven superior to alternative survey designs when assessing causality (Zyphur et al., 2020). While our key variable – gender – is a stable individual attribute, most control variables refer to self-reported individual attitudes and behaviours. Separating the measurement of dependent variables from independent and control variables allowed to address common method bias (Podsakoff et al., 2012).

Second, our survey design with lagged-data and $T = 3$ allowed collecting two repeated observations of the same variables for each respondent, and thus enabled us to control for within-person variability (Hausman & Taylor, 1981; McCormick et al., 2020) and mitigate risks of biased results for the relationship between relevant variables when the investigated behaviour is rare, as in the case of knowledge hiding. For this reason, a similar approach has already been adopted in this domain (Venz & Mohr, 2022; Venz & Nesher Shoshan, 2022).

Following Gagné et al. (2019), we set a three-month timespan between waves. The first wave of data collection occurred in November 2020, the second wave in February and March 2021, and the third and final wave in June 2021. In Wave 1, respondents were invited to answer the questions about their work attitudes and demographics. We received 790 responses and screened the data by checking the response time, answers to attention-check questions, consistency between open-ended questions and Likert scale questions. We also used statistical analysis to check for repeated response patterns and low level of respondent engagement (Gaskin, 2016). After screening for data quality, 17 responses were discarded. In Wave 2, respondents were administered again the questions on their work attitudes and their knowledge hiding behaviour at work. 638 respondents took the survey. After screening the responses to control

for quality, 612 respondents were retained. Finally, in Wave 3, respondents were administered only the questions on knowledge hiding. Of the 527 respondents who completed the survey, 516 were retained. Participants who completed all three surveys received £5 for their participation, which is equivalent to £11.87 per hour based on median response time.

The transgender group (1 respondent) was excluded from further analysis as it was not comparable in size to other gender-based groups. We also removed participants who changed employers (34) or job role (28) in between the waves of data collection, because their answers on work attitudes and knowledge hiding were unrelated by default across waves (e.g., Gagné et al., 2019), as well as those who did not answer some demographic or work-related questions (4). This resulted in a final sample of 449 respondents (58.1% retention rate). Pairwise t-test comparisons ensured that they did not differ from the removed respondents in respect to any relevant characteristics. Of these 449 respondents, 47.8% had a Bachelor's degree, 23.7% had a Master's degree or higher and 79.3% had worked for their current organization for three or more years. The largest age group was 25–34 years (39.4%), followed by 35–44 years (29.1%). The respondents were distributed across the 16 industries of the official UK classification (UK Office for National Statistics, 2021). The largest percentage of respondents were employed in 'Human health & social work activities' (13.2%) followed by 'Education' (11%), 'Professional, scientific & technical activities' (10.5%) and 'Information & communication' (10.4%).

Scales

Dependent variables

Knowledge hiding was measured in two complementary ways. First, we used Serenko and Bontis' (2016) three-item scale for frequency of engaging in knowledge hiding to capture how typical this behaviour is for an employee (i.e. *Hiding frequency*). Sample item is "I often communicate only part of the whole story to my fellow colleagues". Second, we used Connelly et al.'s (2012) 12-item incident-based scale to identify specific ways of hiding knowledge used by a respondent when they decided to do so. Respondents were asked to think of a recent episode in which a specific co-worker requested knowledge from them, and they declined to share. The scale distinguishes between the three approaches to hiding described in the theory section – *Evasive hiding*, *Playing dumb* and *Rationalized hiding* – each measured by four items. Sample items are respectively "Agreed to help him/her but never really intended to", "Pretended that I did not know the information" and "Explained that I would like to tell him/her, but was not supposed to". All scale items were anchored on a 5-point Likert-type scale, where 1 (strongly disagree) and 5 (strongly agree). As is standard practice for knowledge hiding, both measures were self-reported. First, by definition, knowledge hiding is meant to be concealed from the knowledge seeker so other reported measures would be less accurate (Connelly et al., 2012; Connelly & Zweig, 2015). Second, self-reported measures of counterproductive behaviour capture a broader subset of this behaviour than other reported measures (Berry et al., 2012). The scores of the knowledge hiding variables were in line with previous studies (e.g., Zhu et al., 2019) and covered the full 1–5 range of the Likert scale ($M = 1.81$, $SD = .84$ for frequency; $M = 1.94$, $SD = .88$ for evasive hiding, $M = 2.04$ $SD = 1.01$ for playing dumb and $M = 1.73$ $SD = .91$ for rationalized hiding).

Independent variables

Gender of the respondent was self-reported and coded as a categorical variable with 1 for 'female' and 0 for 'male'. 44.9% of the sampled respondents were female ($M = .449$, $SD = .50$).

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Moderating variables

The first moderator is the respondent's *Hierarchical position* (Eagly & Karau, 2002). It takes value 1 for 'regular staff member', 2 for 'line, middle or team manager' and 3 for 'top manager' ($M = 1.62$, $SD = .68$). Notably, the distribution of *Hierarchical position* was very similar across genders ($M = 1.67$, $SD = .68$ for male workers, $M = 1.57$, $SD = .68$ for female workers).

The second moderator is the *Gender composition* of the work environment in which a respondent is employed (Reskin et al., 1999), capturing the tendency for a workplace to employ, typically, female or male workers. As a proxy for this variable, we used the gender composition of the whole industry (Cortes & Pan, 2018), as it correlates strongly with the gender composition of the respondent's immediate workplace (Martin & Phillips, 2017). We retrieved from the Office for National Statistics website the data for gender split by industry in the UK workforce in those quarters of 2020 and 2021 when we collected our data (UK Office for National Statistics, 2021). The high correlation of the gender split in the official statistics with our sample ($r = .75$) suggests that the latter is representative of the gender split in the UK workforce. We treated *Gender composition* as a continuous variable that specifies the percentage of men in the industry (e.g., Joshi et al., 2015). This variable takes value 0 if an industry is fully dominated by female workers and 100 if it is fully dominated by male workers. The observed values range between 24.1 (for "Human health & Social work activities") and 86.7 (for "Construction"). *Gender composition* has $M = 51.87$, $SD = 18.12$ and is slightly left-skewed. In 11 industries the value was higher than 50 – ranging between 52.3 and 86.7 – to indicate that male workers are more than 50% of the industry workforce. As some of the previous studies treated this variable as binary (Gardiner & Tiggemann, 1999; Kanter, 1977; Martin & Phillips, 2017), we run robustness checks, in which we re-coded gender composition as a binary variable, using various thresholds for dichotomization proposed in the literature. First, we defined an industry as 'male dominated' if at least 51% of the workforce are men (Martin & Phillips, 2017). Then, we repeated the analysis, setting the threshold value at 85% (Gardiner & Tiggemann, 1999; Kanter, 1977). These alternative specifications yielded similar results to those reported for the main models.

Control variables

Following best practices (Bernerth & Aguinis, 2016), we included control variables that extant literature has found to affect knowledge hiding, which means they are likely to provide alternative explanations for the relationship between gender and knowledge hiding. Studies have suggested that employee behaviours – including hiding knowledge – depend on a combination of individual motivations, abilities and opportunities to engage in these behaviours (Jiang et al., 2012). Despite knowledge sharing and knowledge hiding being two distinct behaviours, Gagné et al. (2019) indicated that the motivations to share knowledge are key individual predictors of knowledge hiding. Indeed, intrinsic motivation yields low levels of knowledge hiding as it leads individuals to spontaneously discuss their work passionately, engaging in this activity out of enjoyment and interest. In contrast, extrinsic motivation – specifically, external regulation, which represents engaging in an activity for material or social reward – encourages individuals to be protective of their knowledge, hiding more and using evasive manoeuvres and pretending not to know. We controlled for motivations using Foss et al. (2009) scale that distinguishes between *Intrinsic* (three items) and *Extrinsic motivation* (four items) to share knowledge. Sample items include, respectively, "I like sharing knowledge" and "I share knowledge because I want to get a reward". Ability is captured by *Self-efficacy*, defined as one's beliefs in their capabilities to organize and execute the courses of action required to produce given levels of attainments (Bandura, 1997). Because a high level of self-efficacy makes individuals feel confident in their abilities, it also decreases their tendency to protect their knowledge and, therefore, their willingness to hide it (Arain et al., 2019). We controlled for self-efficacy using Bandura's (1997) three-item scale. Sample item is "I am confident about my ability to do my job".

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Elements of work design may also affect knowledge hiding by presenting employees with opportunities – frequently in the form of contextual conditions – to conceal their knowledge from colleagues. Initiated *Task interdependence*, defined as the extent to which someone perceives that their colleagues depend on them to get their work done, has been found to be positively related to knowledge hiding, as it may generate untenable job demands that create excessive pressure and lead individuals to prioritize the completion of their tasks over helping others (Gagné et al., 2019). We measured initiated task interdependence using Morgeson and Humphrey's (2006) three-item scale. Sample item includes "Other jobs depend directly on my job". Again, all scale items were anchored on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Appendix 1 presents all scale-based items for dependent and control variables.

Because each respondent appeared in the dataset twice, we included individual fixed effects. This allowed to control for any time-constant unobserved heterogeneity amongst respondents and address the potential issue of artificially deflated standard errors of the estimates, which may result from violating the key assumption of independent observations in standard regression (Halaby, 2004). Likewise, we included time dummies to control for time-specific unobserved heterogeneity. Analyses were performed using STATA 17.0.

RESULTS

Descriptive statistics and scale validity and reliability

Table 1 reports descriptive statistics, scale reliability measures and correlations for the variables included in our empirical models. Consistently with our predictions, knowledge hiding correlates – or marginally correlates, in the case of rationalized hiding – with gender.

We conducted a series of confirmatory factor analyses on all items to validate the structure of the variables of the study. First, a test was conducted to assess the fit of our theorized eight-factor model (*Knowledge hiding frequency*, *Evasive hiding*, *Playing dumb*, *Rationalized hiding*, *Extrinsic motivation*, *Intrinsic motivation*, *Self-efficacy*, *Task interdependence*). Results indicated that the model fits the data fairly well (Kline, 2005): $\chi^2 = 1324.74$, $df = 346$, comparative fit index (CFI) = .929, Tucker-Lewis index (TLI) = .922, root mean square error of approximation (RMSEA) = .06. Next, we compared this model with a set of alternative models: a seven-factor model obtained by combining *Extrinsic* and *Intrinsic motivation* ($\Delta\chi^2 = 1869.37$ with $p < .05$, CFI = .793, TLI = .775, RMSEA = .09), a six-factor model obtained by combining *Evasive hiding*, *Playing dumb*, *Rationalized hiding* ($\Delta\chi^2 = 2372.63$ with $p < .05$, CFI = .757, TLI = .737, RMSEA = .10), a five-factor model obtained by combining *Extrinsic* and *Intrinsic motivation* in one factor and *Evasive hiding*, *Playing dumb*, *Rationalized hiding* in another ($\Delta\chi^2 = 4242$ with $p < .05$, CFI = .621, TLI = .591, RMSEA = .13), and a four-factor model obtained by combining *Extrinsic* and *Intrinsic motivation* in one factor and *Knowledge hiding frequency*, *Evasive hiding*, *Playing dumb*, *Rationalized hiding* in another one ($\Delta\chi^2 = 5207.24$ with $p < .05$, CFI = .551, TLI = .515, RMSEA = .14). The eight-factor model displayed a better fit than any alternative models. As displayed in Table 1, Cronbach's alphas were equal to or higher than .80 for all eight latent factors, and average variance extracted (AVE) and composite reliability (CR) values exceeded the recommended thresholds of .5 and .7, respectively (Fornell & Larcker, 1981). Together, these results confirm convergent and discriminant validity of our measures.

Testing of hypotheses

We tested our hypotheses using linear regression. To aid model interpretation, all variables – apart from gender which is binary – were standardized (Aiken et al., 1991). As a preliminary step, we specified a baseline model that includes only gender as predictor. The model coefficients ($B = -2.49$, $SE = .16$, $p = .000$ for knowledge hiding frequency, $B = 2.02$, $SE = .03$, $p = .000$ for evasive hiding, $B = .76$, $SE = .02$,

TABLE 1 Descriptive statistics, scale reliability measures and correlations between variables.

	Mean	SD	Cronbach's alpha	Composite reliability	Average variance extracted	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hiding frequency	1.81	.84	.85	.91	.78										
Evasive hiding	1.94	.88	.82	.89	.66	.33									
Playing dumb	2.04	1.01	.88	.92	.73	.30	.62								
Rationalized hiding	1.73	.91	.88	.92	.74	.16	.38	.32							
(5) Extrinsic motivation	2.41	1.01	.88	.92	.74	.19	.15	.08	.11						
(6) Intrinsic motivation	4.40	.65	.84	.90	.76	−.18	−.07	−.11	.01	.10					
(7) Self-efficacy	4.40	.65	.87	.92	.79	−.15	−.10	−.13	−.05	−.08	.16				
(8) Task interdependence	3.44	1.03	.80	.88	.72	.01	.03	−.01	.06	.10	.007	−.01			
(9) Gender[a]	.45	.50	–	–	–	−.08	.06	.05	−.03	.07	.09	.06	−.04		
(10) Gender composition	51.87	18.12	–	–	–	.08	.00	.03	.003	−.02	−.14	.02	.16	−.27	
(11) Hierarchical position	1.62	.68	–	–	–	.09	−.003	−.05	.06	−.02	−.07	.12	.00	−.08	.06

Note: Correlations ≥ |.06| are significant at $p < .05$.

[a]Binary coded, 1 for 'female', 0 for 'male'.

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$p = .000$ for playing dumb and $B = -1.47$, $SE = .30$, $p = .000$ for rationalized hiding) confirmed our predictions on the differences in knowledge hiding behaviour between genders.

Next, we specified the models testing our hypotheses in increasing order of complexity. For each model, the variance inflation factors (VIF) displayed a value lower than 1.06, well below the threshold of 10. Table 2 shows the results of our tested models for *Knowledge hiding frequency*, while Table 3 shows the results for *Evasive hiding*, *Playing dumb* and *Rationalized hiding*. For brevity, we comment on the final model specified for each dependent variable, with all independent and control variables in place.

Hypothesis 1, that women hide knowledge from others at work less frequently than men, is supported. The coefficient of *Gender* is negative and significant ($B = -2.70$, $SE = 1.00$, $p = .007$; Model 5 in Table 2).

Hypotheses 2a–b, that women are more likely than men to choose the playing dumb and evasive hiding approaches, are supported. As shown in Table 3, the coefficient of *Gender* is positive and significant for both playing dumb ($B = 4.62$, $SE = 2.09$, $p = .028$; Model 10) and evasive hiding ($B = 4.79$, $SE = 2.03$, $p = .019$; Model 15). Finally, H2c, stating that women are less likely than men to choose rationalized hiding, is supported too ($B = -1.13$, $SE = .33$, $p = .000$; Model 20).

Hypothesis 3, which the relationship between gender and frequency of knowledge hiding is also moderated by the hider's hierarchical position, is not supported. The coefficient of the interaction *Gender* × *Hierarchical position* is non-significant ($B = .83$, $SE = .62$, $p = .182$ in Model 5). Contrary to our prediction, the frequency with which individuals hide knowledge is driven by their gender regardless of the requirements and opportunities of their position in the organizational hierarchy (Ridgeway & Smith-Lovin, 1999).

Similar considerations extend to Hypothesis 4a–c, positing that hierarchical position also moderates the relationship between gender and the approaches adopted to hide knowledge. Again, these hypotheses are not confirmed as the coefficients of the interaction were non-significant for all

TABLE 2 Linear regression for the influence of gender on knowledge hiding frequency.

	Knowledge hiding frequency				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Task interdependence	.61 (.20)**	.56 (.22)*	.57 (.17)***	1.27 (.25)***	.97 (.23)***
Extrinsic motivation		−.04 (.06)	−.04 (.06)	−.04 (.06)	−.04 (.06)
Intrinsic motivation		.02 (.04)	.01 (.04)	.01 (.04)	.01 (.04)
Self-efficacy		.02 (.04)	−.02 (.04)	.02 (.04)	.02 (.04)
Hierarchical position			.25 (.12)*	−.15 (.16)	.06 (.14)
Gender composition			.02 (.20)	−1.13 (.41)**	−1.37 (.48)**
Gender (female)				−.53 (.18)**	−2.70 (1.00)**
Gender × Hierarchical position					.83 (.62)
Gender × Gender composition					2.04 (.68)**
Individual fixed effect	Included	Included	Included	Included	Included
Time fixed effect	Included	Included	Included	Included	Included
R^2	.83	.84	.84	.85	.86
adjusted R^2	.66	.67	.67	.69	.71
ΔR^2		.01	.00	.01	.01
F		9.21**	1.38	29.27***	15.61***

Note: Unstandardized coefficients. Robust standard errors in parentheses. The F statistic is used to test the significance of the increase in explained variance due to the effect block added to each nested model. Observations of independent variables at T = 2 were regressed on dependent, moderator and control at T = 1 and observations of the dependent variables at T = 3 were regressed on independent, moderator and control variables at T = 2 (time-invariant variables collected at T = 1 only). $n = 449$. $^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

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three approaches: −1.39 ($SE = 2.68$, $p = .604$ in Model 10) for playing dumb (H4a), −2.49 ($SE = 3.23$, $p = .443$ in Model 15) for evasive hiding (H4b) and − 4.08 ($SE = 2.85$, $p = .152$ in Model 20) for rationalized hiding (H4c).

Hypothesis 5 posits that the gender composition of the work environment – specifically, how male-dominated an environment is – moderates the relationship between gender and frequency of knowledge hiding. Contrary to our expectation of a negative and significant interaction, the coefficient of *Gender* × *Gender composition* is positive ($B = 2.04$, $SE = .68$, $p = .003$ in Model 5). To probe the significant interaction effect between the level of male dominance in an industry and hider's gender in predicting frequency of knowledge hiding, we plotted the frequency of knowledge hiding that corresponds to 1 *SD* below and 1 *SD* above the mean of *Gender composition* in the industry for women and men (Aiken et al., 1991), setting all other covariates to their mean values. Since ($M - 1SD$) and ($M + 1SD$) values were, respectively, 33% and 71% of men in an industry, our analysis contrasted 'female-dominated' versus 'male-dominated' work environments. Figure 1 displays the slopes for women and men, showing that the frequency with which women hide knowledge does not change significantly between environments, while men tend to hide their knowledge less often in a male-dominated environment. The more male dominated the environment, the smaller the difference between the frequency with which women and men hide knowledge from colleagues. The slope difference test showed that in female-dominated environments men tend to hide knowledge significantly more often than women (t-test = 1.99, $p = .046$). In contrast, in male-dominated environments, the difference between the frequency with which men and women hide is not statistically significant (t-test = .207, $p = .787$).

Hypothesis 6a–c posits that gender composition of the work environment also moderates the relationship between gender and the approaches adopted to hide knowledge. For playing dumb and evasive hiding, the interaction coefficient is negative and significant, the opposite of what we predicted: $B = -4.09$ ($SE = 1.61$, $p = .012$ in Model 10) for the likelihood to use playing dumb (H6a) and $B = -3.21$ ($SE = 1.19$, $p = .007$ in Model 15) for evasive hiding (H6b). In contrast, the coefficient for rationalized hiding (H6c) is negative but non-significant ($B = 1.57$, $SE = 2.39$, $p = .510$ in Model 20). Interpreted together with the significant gender coefficient, this suggests that women are less likely than men to use rationalized hiding to protect their knowledge, irrespective of the gender composition of their workplace environment. Again, we probed the significant interactions by plotting the knowledge hiding variable at low and high values of male dominance in the industry for women and men.

Figure 2 displays the slopes for adopting a playing dumb approach. Contrary to our prediction, the more male dominated the environment, the less women tend to play dumb. Interestingly, men exhibited a similar tendency. Again, we computed a t-test, which confirmed that the difference between women's and men's playing dumb behaviour is statistically significant in female-dominated work environments (t-test = 2.18, $p = .029$), yet non-significant in male-dominated ones (t-test = .13, $p = .896$).

Finally, Figure 3 shows the slopes for evasive knowledge hiding. Again, the figure displays that both women and men exhibit a lower tendency to adopt this behaviour in a male-dominated work environment than in a female-dominated work environment. Indeed, a t-test confirmed that the difference in the usage of evasive hiding between genders is statistically significant in the second type of work environment (t-test = 2.85, $p = .004$), but not in the first one (t-test = .43, $p = .670$). Interpreted together, our results suggest that a male-dominated environment decreases women's tendency to conform with their stereotypical gendered role (on the contrary to our Hypothesis 6), thus reducing the difference in knowledge hiding behaviours between genders.

DISCUSSION

In this study we bridge the literature on knowledge hiding (Connelly et al., 2012) and the literature on gender roles at work (Eagly & Wood, 2012; Heilman, 2012) to examine the role of gender in explaining

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TABLE 3 Linear regression for the influence of gender on approaches to hiding knowledge.

	Playing dumb					Evasive hiding					Rationalized hiding				
	Model 6	**Model 7**	**Model 8**	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**	**Model 14**	**Model 15**	**Model 16**	**Model 17**	**Model 18**	**Model 19**	**Model 20**
Task interdependence	2.28 (1.05)*	2.40 (1.08)*	1.87 (.79)**	1.30 (.87)	1.98 (1.69)	2.01 (1.22)†	1.77 (1.18)	1.42 (.90)	.65 (.95)	.75 (1.79)	−.84 (1.27)	−1.06 (1.17)	−.63 (.85)	−.21 (1.06)	−1.93 (1.79)
Extrinsic motivation		−.01 (.06)	−.002 (.06)	−.002 (.06)	−.002 (.06)		−.06 (.06)	−.05 (.06)	−.05 (.06)	−.05 (.06)		−.16 (.06)*	−.15 (.06)**	−.15 (.06)*	−.15 (.06)*
Intrinsic motivation		−.02 (.06)	−.02 (.05)	−.02 (.05)	−.02 (.05)		.07 (.05)	.07 (.05)	.07 (.05)	.07 (.05)		.12 (.05)**	.12 (.05)**	.12 (.05)**	.12 (.05)**
Self-efficacy		−.10 (.06)†	−.11 (.06)†	−.11 (.06)†	−.11 (.06)†		.07 (.08)	.06 (.08)	.06 (.08)	.06 (.08)		−.11 (.06)†	−.11 (.06)†	−.11 (.06)†	−.11 (.06)†
Hierarchical position			−1.03 (.16)***	−.69 (.33)*	−1.18 (.79)			−.71 (.31)**	−.27 (.48)	−.34 (.84)			.49 (.30)†	.25 (.63)	1.47 (.89)†
Gender composition			−1.65 (.96)†	−.71 (1.12)	−.14 (.79)			−1.11 (1.31)	.15 (1.09)	.24 (.66)			1.29 (1.00)	.60 (1.63)	−.82 (1.69)
Gender (female)				.43 (.17)**	4.62 (2.09)*				.58 (.28)*	4.79 (2.03)*				−.32 (.06)***	−1.13 (.33)***
Gender × Hierarchical position					−1.39 (2.68)					−2.49 (3.23)					−4.08 (2.85)
Gender × Gender composition					−4.09 (1.61)*					−3.21 (1.19)**					1.57 (2.39)
Individual fixed effect	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Time fixed effect	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
R^2	.71	.72	.72	.74	.76	.71	.73	.74	.76	.79	.73	.75	.75	.77	.79
adjusted R^2	.42	.43	.43	.46	.51	.42	.45	.47	.51	.57	.46	.49	.50	.53	.56
ΔR^2		.01	.00	.02	.02		.02	.01	.02	.03		.02	.00	.02	.02
F		5.26**	.79	33.77***	18.21***		10.91**	8.46**	36.58***	31.21***		11.79**	.88	36.27***	20.81***

Note: Unstandardized coefficients. Robust standard errors in parentheses. The *F* statistic is used to test the significance of the increase in explained variance due to the effect block added to each nested model. Observations of independent variables at T = 2 were regressed on dependent, moderator and control at T = 1 and observations of the dependent variables at T = 3 were regressed on independent, moderator and control variables at T = 2 (time-invariant variables collected at T = 1 only). $n = 449$. †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

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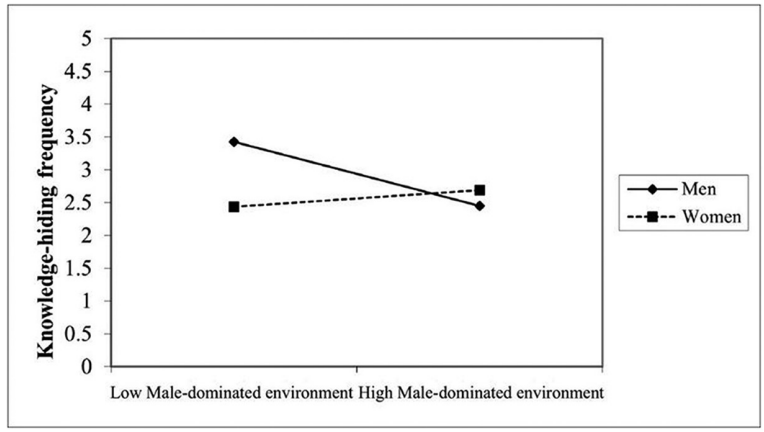

FIGURE 1 Simple slopes for frequency of hiding knowledge for low and high values of male dominance in the environment for women and men.

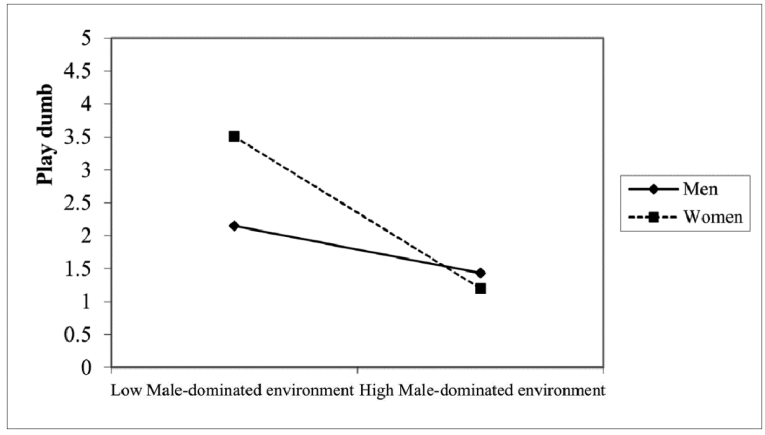

FIGURE 2 Simple slopes for likelihood of using a playing dumb approach to knowledge hiding for low and high values of male dominance in the environment for women and men.

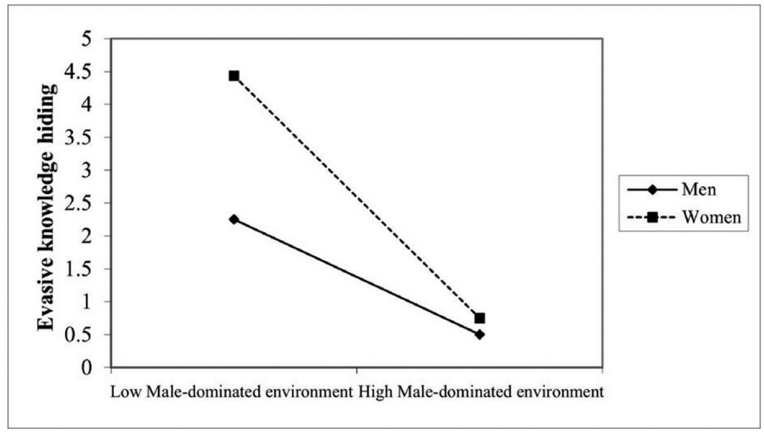

FIGURE 3 Simple slopes for likelihood of using an evasive approach to knowledge hiding for low and high values of male dominance in the environment for women and men.

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whether and *how* individuals engage in knowledge hiding. Building on social role theory, we argue that men and women differ significantly in their tendency to hide knowledge at work as a consequence of the different social roles into which individuals are socialized and thus form their gender self-identity, and the social pressure to conform to those roles (Eagly, 1987; Eagly & Wood, 2012). Furthermore, we suggest that female and male employees tend to hide knowledge in different ways, by choosing approaches that best fit with others' expectations of their social role (Eagly & Karau, 2002; Rudman & Phelan, 2008). The findings from our multi-wave survey support these hypotheses. We find that men hide knowledge at work more frequently than women and tend to use rationalized hiding more, while women tend to adopt playing dumb and evasive hiding approaches more than men.

Our findings on how gender influences choice of approach to hiding knowledge are particularly interesting in light of the research on the consequences of the different approaches. Rationalized hiding leads to lower turnover intentions and higher job satisfaction, while the other two approaches have opposite outcomes (Offergelt et al., 2019). It also appears unrelated to negative emotional consequences (feelings of guilt and shame), while playing dumb evokes them (Burmeister et al., 2019). Playing dumb has been suggested to be the most severe and riskiest of the approaches to knowledge hiding, for instance predicting same-day incivility towards the hider (Venz & Mohr, 2022).

Moreover, playing dumb and evasive hiding may have other longer-term detrimental implications. For instance, by pretending that they do not know the answer to a request for help from colleagues (i.e. by playing dumb), women might reinforce the gender stereotype of not being competent (Fiske et al., 2002; Kray et al., 2014) and may even be perceived as less competent than before, thus harming their reputation within the company. Evasive hiding may also backfire as this approach includes a promise to provide information in the future and thus comes at a cost. First, such a promise can be perceived as a deliberate delay to exchange information, which itself may have a range of negative effects on workplace relationships (Guenter et al., 2014). Second, evasive hiders may need to spend additional time or effort on the knowledge request by sharing (or pretending to) some other information, hence this approach may lead to exhaustion or stress (Venz & Nesher Shoshan, 2022). Finally, a promise of help that is not fulfilled is likely to be discovered in the future, and this will explicitly violate the social role expectation that women are helpful (e.g., Kidder & Parks, 2001).

Taken together, these considerations indicate that men are likely to benefit from the social expectations of their gendered behaviour beyond the benefits of meeting these expectations, as they have the opportunity to hide – and therefore protect – their knowledge by selecting the most inconsequential or safest way to do so. Meanwhile, driven by gendered social expectations, women choose approaches that may be detrimental to them both in the short and long term.

We also hypothesized that contextual factors – being in a leadership position and working in a male-dominated environment – will further increase the social pressure to conform to gender roles. However, we found that seniority in the organizational hierarchy does not change knowledge hiding tendencies, but a male-dominated environment does, just not in the way we expected. There may be several reasons for these results. First, congruity theories (Eagly & Karau, 2002; Heilman, 1983) suggest that women who occupy male-typed roles experience 'double-bind' (Eagly & Carli, 2007), where neither of two potential reactions to the social pressures they face are beneficial: either they risk not fitting with their gender role, or they undermine their competence and legitimacy in their job role. Extant research has found that women attract penalties from others for either reaction (Heilman, 2012). However, role congruity theories do not provide a clear-cut prediction on which choices women themselves make when faced with such competing pressures. On the one hand, women are expected to avoid counter-stereotypical behaviour and conform to the prescribed gender role (Heilman, 1983; Eagly & Karau, 2002). On the other hand, there is some evidence to suggest that women would act more like men to counteract the stereotypes, blend in and increase perceptions of legitimacy (Eagly & Johnson, 1990; Gardiner & Tiggemann, 1999), and that downplaying gender differences may be a particularly effective strategy for women in male-dominated environments (Martin & Phillips, 2017). In sum, increased social pressure on women occupying male-typed jobs to conform to their gender roles – that we hypothesized is a driver of female behaviour – may be counteracted by the increased risks associated with conforming to

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their gender role. This can explain why women, contrary to our hypotheses, did not change their knowledge hiding behaviours depending on their position in the organizational hierarchy, and why they did not hide knowledge more frequently in male-dominated environments.

However, our findings indicate that gender composition of the environment does matter: in male-dominated contexts, men hide knowledge less frequently; and women and men use playing dumb and evasive hiding less. Taken together, these tendencies reduce differences between the genders in knowledge hiding in male-dominated environments. While the arguments of role congruity theories apply to the gender of the knowledge *hider*, we suggest that these findings can be driven by the mechanisms related to the gender of potential knowledge *seekers*, to which the hider may adjust their behaviour. Indeed, in male-dominated environments the knowledge seekers are most likely men, and in female-dominated environments they are most likely women. Men are less likely to be the target of workplace incivility (Schilpzand et al., 2014) and more likely to retaliate against such behaviour (Irum et al., 2020). At the same time, women are perceived to be easier to mislead and are deceived more frequently (Kray et al., 2014). Hence, our findings may indicate that our respondents (men in particular) minimized their knowledge hiding in male-dominated environments for fear of retaliation from the knowledge seekers, and that they felt that deceitful approaches to knowledge hiding (playing dumb and evasive hiding) would more easily go undiscovered or unpenalized if directed towards women. In addition, men are less likely to seek information, advice and help from colleagues at work (Lim et al., 2020). Hence, there are likely to be fewer requests for knowledge in male-dominated environments and therefore fewer opportunities to hide knowledge.

Theoretical implications

This study makes several contributions to the literature on knowledge hiding, on knowledge management more broadly, and on role congruity.

First, this study represents a first attempt to theorize about gendered aspects of knowledge hiding at the workplace. To date, the existing literature has predominantly overlooked the potential gender effects in knowledge behaviours (Heisig & Kannan, 2020), while our findings demonstrate that gender aspects need to be brought to the fore in studies of knowledge hiding. Furthermore, while the existing literature has relied mainly on social exchange theory (Blau, 1964) and conservation of resources theory (Hobfoll, 1989) to explain why knowledge hiding happens (He et al., 2021), our study suggests that the theories that explore gender roles at work – social role theory (Eagly, 1987) and backlash theory (Rudman & Phelan, 2008) – can help to explain the nuances of knowledge hiding behaviours.

Second, we contribute to a more fine-grained understanding of knowledge hiding by conceptualizing and empirically demonstrating the differentiated relationships between gender and various dimensions of knowledge hiding. With this, we add to a growing body of literature that highlights that different aspects of knowledge hiding are distinct from each other both in their antecedents and consequences (e.g., Burmeister et al., 2019; Gagné et al., 2019; Khoreva & Wechtler, 2020; Venz & Nesher Shoshan, 2022). We also extend this literature by suggesting that frequency of hiding (Serenko & Bontis, 2016) needs to be explored more extensively for a better understanding of knowledge hiding.

Third, our study improves our understanding of contextual factors that may amplify or inhibit knowledge hiding by demonstrating that gender composition of a workplace matters (Joshi et al., 2015). This finding highlights the need to explore characteristics of the knowledge seeker – an overlooked aspect to date – to better understand why knowledge hiding happens and how it can be prevented. It also points to the need to further elaborate role congruity theories that we used to hypothesize about the role of two contextual factors we explored. Our findings are not in line with the predictions of the role congruity theories for both factors. The irrelevance of hierarchical position points to the questions that role congruity theories do not currently address: what choices women make when faced with competing pressures ("double-bind") and what additional factors may drive such choices. The unpredicted effect of gender composition suggests that role congruity theories should take in consideration not only the

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gender of the person who has multiple roles but also the gender of others – those who evaluate the (in) congruence between these roles.

Our study also helps to explain inconsistent correlations between gender and knowledge hiding reported in extant literature and offers important methodological implications for future research in this area. Indeed, most of the previous studies that did not find a significant correlation between gender and knowledge hiding used only the episode-based measure of knowledge hiding and aggregated different approaches to hiding into one summative construct (e.g., Batistič & Poell, 2022; Černe et al., 2014, 2017; Jiang et al., 2019; Zhu et al., 2019). Our findings indicate that the countervailing effects of gender on different approaches to hiding are likely to cancel each other out in any aggregated measure. Therefore, our study suggests that a more nuanced approach to measuring knowledge hiding needs to be used to unveil the effects of gender and, potentially, other predictors of knowledge hiding. Specifically, we suggest that the three approaches to hiding should be examined separately rather than in an aggregated way, and that they should be complemented by measuring hiding frequency.

Finally, we also contribute to the literature on knowledge management in general by proposing that gender is a potential antecedent of other knowledge behaviours, and that gender role expectations represent a theoretical lens that could be used to uncover the effects of gender (e.g., Eagly, 1987). For example, although knowledge hiding and knowledge sharing are not opposites (Connelly et al., 2012), some of the theoretical arguments that we used to explain gender differences in knowledge hiding behaviours could be extended to better illuminate the gender effects on knowledge sharing as well. Moreover, gender role theories could also be applied to explain other knowledge behaviours such as knowledge seeking (Borgatti & Cross, 2003; Lim et al., 2020), knowledge manipulation (Rhee & Choi, 2017) and knowledge creation (Luksyte et al., 2018). Therefore, with this study we lay the foundations for a more comprehensive and theoretically grounded inclusion of gender in knowledge management research, something that has been called for recently (Heisig & Kannan, 2020).

Practical implications

Our study has important practical implications for both managers and employees. In designing the interventions aimed at minimizing knowledge hiding and supporting knowledge sharing, managers need to be aware that their employees engage in these behaviours differently depending on their gender and the gender composition of the workplace, and hence may react to such managerial interventions differently as well. For example, previous research has demonstrated that the emphasis on individual performance, competition and goal achievement stimulates knowledge hiding and has potential drawbacks for the organization, such as missed opportunities for collaboration, for effective problem-solving, and for creativity and innovation (e.g., Černe et al., 2014; Zhu et al., 2019). While we know that these competition-inducing management practices are detrimental in general, the results of our study allow to propose that these practices influence genders differently. As these practices enforce the behaviours that fit with expectations of the male social role, they may encourage and legitimize knowledge hiding specifically for men rather than for women.

Another practical implication of this study concerns female employees who find themselves in a situation where they have to hide knowledge for legitimate reasons, such as protecting the confidentiality or interests of a third party. Our findings indicate that women may feel less comfortable than men in choosing rationalized hiding in such a situation and hence decide either not to hide knowledge or resort to other ways of hiding knowledge. Neither option is recommendable. On the one hand, not hiding knowledge when there are valid reasons to do so may be damaging for organizations, as some knowledge has to be protected (e.g., Ritala et al., 2015). On the other hand, playing dumb and evasive hiding are much more damaging for the hider than rationalized hiding (e.g., Burmeister et al., 2019; Offergelt et al., 2019), so choosing these approaches when rationalized hiding would have been appropriate and legitimate may harm female employees in the long run. Therefore, when considering the potential benefits and costs of conforming to expected gendered social roles, female employees should

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also consider the long-term risks of playing dumb and evasive hiding, despite their potential fit with social expectations.

Managers also need to be aware that female employees may be reluctant to choose a rationalized hiding approach when they can legitimately hide knowledge, to either the organization's or their personal disadvantage. Therefore, managers should intervene by legitimizing rationalized hiding as an appropriate behaviour for female employees when this type of hiding is indeed appropriate in general. While directly encouraging any type of knowledge hiding may seem counterproductive, managers can influence this situation by openly acknowledging the expertise of female employees and the value of the knowledge they have. This will help to combat the stereotype that women are not knowledgeable or competent enough (e.g., Kray et al., 2014; Styhre et al., 2001; Truss et al., 2013), and thus decrease the social pressure on female employees to avoid rationalized hiding.

Limitations and future research directions

Like any study, this paper has some limitations, which also indicate potential areas for future research. First, we focused only on the gender of one side of the knowledge hiding interaction: the knowledge hider. Yet, knowledge sharing and hiding are inherently dyadic (Connelly et al., 2012); hence, characteristics of the other side of the interaction – of which gender is an example – also play a role (Burmeister et al., 2018; Husted & Michailova, 2002). Indeed, research on workplace relationships has suggested that the gender of both individuals involved in the interaction matters (e.g., Callan, 1993; Ibarra, 1992; Kray & Thompson, 2004). It is thus possible that the differences in the approaches to hiding knowledge between women and men that we observe in this paper are partially due to the gender of the knowledge seeker. Our findings regarding the differences in knowledge hiding between male- and female-dominated environments also suggest that gender of the knowledge seeker may matter. Therefore, future research might explore how the gender of the knowledge seeker and the gender composition of the knowledge hider–seeker dyad influence knowledge hiding behaviours.

Second, while we offer theory-grounded explanations of why men and women may hide knowledge differently, the nature of our data limits our capacity to dig deeper into the reasons why our respondents behaved in a particular way. Indeed, while we postulate, based on existing research, that gender differences in knowledge hiding can emerge from both self-regulation to fit internalized gender identity and external social pressures to demonstrate gender-congruent behaviour (Eagly & Karau, 2002; Eagly & Wood, 2012; Heilman, 1983, 2012), our data do not show which of these mechanisms were at play – or exerted a stronger influence – in a particular situation. Future research might attempt to disentangle the two mechanisms and explore *why* female and male employees act differently. Qualitative research designs (e.g., drawing on Xiong et al., 2021) might be particularly appropriate to provide more nuanced insights into these questions, and into gendered aspects of knowledge hiding more broadly. The mechanisms that drive choices of men and women can be also explored in the future by using experimental design and manipulating social pressure conditions, drawing on previous experimental studies of knowledge hiding (Černe et al., 2014; Škerlavaj et al., 2018).

Third, as we theorize that men and women may experience different reactions from others to their knowledge hiding, it would be important for future research to explore whether the short- and long-term consequences of different approaches to knowledge hiding also differ by gender. Finally, while we have explored some contextual factors that may influence whether the knowledge hiding behaviours of men and women differ, we cannot ignore that other factors or boundary conditions could be in place at the same time or that there may be idiosyncrasies in our data. For instance, we collected our data in a single country context (United Kingdom). Social role theory highlights that gender role beliefs are formed within a particular society's circumstances and culture (Eagly & Wood, 2012). Indeed, empirical evidence has suggested that contemporary cultural gender roles, expectations and state of gender equality may influence workplace behaviours differently in different countries (Kmec & Gorman, 2010). Therefore, future research might explore whether gender-related effects on knowledge hiding apply similarly across different cultural contexts.

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CONCLUSIONS

In this paper we have focused on gender as an overlooked attribute that could explain whether, why and how individuals engage in knowledge hiding. Through a multi-wave empirical study of a large sample of employees in a variety of industries, we have shown that the different social roles that women and men internalize and the penalties they face if they behave incongruently with these roles make women less likely than men to engage in knowledge hiding at work. The expectation to conform with these different social roles also influences the approaches that employees adopt when they decide to hide their knowledge: namely, women are more likely than men to choose playing dumb and evasive hiding, and less likely than men to choose rationalized hiding. A male-dominated context reduces these differences between genders.

AUTHOR CONTRIBUTIONS

Tatiana Andreeva: Conceptualization; data curation; formal analysis; funding acquisition; methodology; project administration; writing – original draft; writing – review and editing. **Paola Zappa:** Conceptualization; data curation; formal analysis; funding acquisition; methodology; project administration; writing – original draft; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

None to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REFERENCES

Aguinis, H., Villamor, I., & Ramani, R. S. (2021). MTurk research: Review and recommendations. *Journal of Management*, *47*(4), 823–837. https://doi.org/10.1177/0149206320969787

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Akinola, M., Martin, A. E., & Phillips, K. W. (2018). To delegate or not to delegate: Gender differences in affective associations and behavioral responses to delegation. *Academy of Management Journal*, *61*(4), 1467–1491. https://doi.org/10.5465/amj.2016.0662

Arain, G. A., Bhatti, Z. A., Hameed, I., & Fang, Y.-H. (2019). Top-down knowledge hiding and innovative work behavior (IWB): A three-way moderated-mediation analysis of self-efficacy and local/foreign status. *Journal of Knowledge Management*, *24*(2), 127–149. https://doi.org/10.1108/JKM-11-2018-0687

Arshad, R., & Ismail, I. R. (2018). Workplace incivility and knowledge hiding behavior: Does personality matter? *Journal of Organizational Effectiveness: People and Performance*, *5*(3), 278–288. https://doi.org/10.1108/JOEPP-06-2018-0041

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Batistič, S., & Poell, R. F. (2022). Do HR systems and relational climates affect knowledge hiding? An experiment and two-source multi-level study. *Journal of Business Research*, *147*, 82–96. https://doi.org/10.1016/j.jbusres.2022.04.016

20448325, 0, Downloaded from https://bpspsychub.onlinelibrary.wiley.com/doi/10.1111/joop.12444 by Health Research Board, Wiley Online Library on [24/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Bernerth, J. B., & Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology*, *69*(1), 229–283.

Berry, C. M., Carpenter, N. C., & Barratt, C. L. (2012). Do other-reports of counterproductive work behavior provide an incremental contribution over self-reports? A meta-analytic comparison. *Journal of Applied Psychology*, *97*, 613–636. https://doi.org/10.1037/a0026739

Blau, P. M. (1964). *Exchange and power in social life*. Wiley.

Borgatti, S. P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science*, *49*(4), 432–445. https://doi.org/10.1287/mnsc.49.4.432.14428

Burmeister, A., Fasbender, U., & Deller, J. (2018). Being perceived as a knowledge sender or knowledge receiver: A multistudy investigation of the effect of age on knowledge transfer. *Journal of Occupational and Organizational Psychology*, *91*, 518–545. https://doi.org/10.1111/joop.12208

Burmeister, A., Fasbender, U., & Gerpott, F. H. (2019). Consequences of knowledge hiding: The differential compensatory effects of guilt and shame. *Journal of Occupational and Organizational Psychology*, *92*(2), 281–304. https://doi.org/10.1111/joop.12249

Cabrera, A., & Cabrera, E. F. (2002). Knowledge-sharing dilemmas. *Organization Studies*, *23*(5), 687–710. https://doi.org/10.1177/0170840602235001

Callan, V. J. (1993). Subordinate–manager communication in different sex dyads: Consequences for job satisfaction. *Journal of Occupational and Organizational Psychology*, *66*, 13–27. https://doi.org/10.1111/j.2044-8325.1993.tb00513.x

Campbell, E. G., Clarridge, B. R., Gokhale, M., Birenbaum, L., Hilgartner, S., Holtzman, N. A., & Blumenthal, D. (2002). Data withholding in academic genetics: Evidence from a national survey. *Journal of American Medical Association*, *287*(4), 473–480. https://doi.org/10.1001/jama.287.4.473

Černe, M., Hernaus, T., Dysvik, A., & Škerlavaj, M. (2017). The role of the multilevel synergistic interplay among team mastery climate, knowledge hiding, and job characteristics in stimulating innovative work behaviour. *Human Resource Management Journal*, *27*(2), 281–299. https://doi.org/10.1111/1748-8583.12132

Černe, M., Nerstad, C. G., Dysvik, A., & Škerlavaj, M. (2014). What goes around comes around: Knowledge hiding, perceived motivational climate, and creativity. *Academy of Management Journal*, *57*(1), 172–192. https://doi.org/10.5465/amj.2012.0122

Connelly, C. E., & Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work and Organizational Psychology*, *24*(3), 479–489. https://doi.org/10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior*, *33*(1), 64–88. https://doi.org/10.1002/job.737

Cortes, P., & Pan, J. (2018). Occupation and gender. In S. L. Averett, L. M. Argys, & S. D. Hoffman (Eds.), *The Oxford handbook of women and the economy*. Oxford Handbooks.

Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin*, *26*, 1171–1188. https://doi.org/10.1177/0146167200262001

Durbin, S. (2011). Creating knowledge through networks: A gender perspective. *Gender, Work and Organization*, *18*(1), 90–112. https://doi.org/10.1111/j.1468-0432.2010.00536.x

Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Lawrence Erlbaum Associates, Inc.

Eagly, A. H., & Carli, L. L. (2007). Women and the labyrinth of leadership. *Harvard Business Review*, *85*(9), 62–71.

Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin*, *100*, 283–308. https://doi.org/10.1037/0033-2909.100.3.283

Eagly, A. H., & Johnson, B. T. (1990). Gender and leadership style: A meta-analysis. *Psychological Bulletin*, *108*(2), 233–256. https://doi.org/10.1037/0033-2909.108.2.233

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*(3), 573–598. https://doi.org/10.1037//0033-295X.109.3.573

Eagly, A. H., & Wood, W. (2012). Social role theory. In P. van Lange, A. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories in social psychology* (pp. 458–476). Sage Publications. https://doi.org/10.4135/9781446249222.n49

Ellis, A. P. J., Porter, C. O. L. H., & Mai, K. M. (2021). The impact of supervisor–employee self-protective implicit voice theory alignment. *Journal of Occupational and Organizational Psychology*, *95*, 155–183. https://doi.org/10.1111/joop.12374

Evans, J. M., Hendron, M. G., & Oldroyd, J. B. (2015). Withholding the ace: The individual- and unit-level performance effects of self-reported and perceived knowledge hoarding. *Organization Science*, *26*(2), 494–510. https://doi.org/10.1287/orsc.2014.0945

Fang, R., Zhang, Z., & Shaw, J. D. (2020). Gender and social network brokerage: A meta-analysis and field investigation. *Journal of Applied Psychology*, *106*(11), 1630–1654. https://doi.org/10.1037/apl0000841163O2

Feng, J., & Wang, C. (2019). Does abusive supervision always promote employees to hide knowledge? From both reactance and COR perspectives. *Journal of Knowledge Management*, *23*(7), 1455–1474. https://doi.org/10.1108/JKM-12-2018-0737

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*, 878–902. https://doi.org/10.1037/0022-3514.82.6.878

Ford, D., & Staples, D. (2006). Perceived value of knowledge: The potential informer's perception. *Knowledge Management Research & Practice*, *4*(1), 3–16. https://doi.org/10.1057/palgrave.kmrp.8500079

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Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Foss, N. J., Minbaeva, D. B., Pedersen, T., & Reinholt, M. (2009). Encouraging knowledge sharing among employees: How job design matters. *Human Resource Management*, *48*(6), 871–893. https://doi.org/10.1002/hrm.20320

Franke, G. R., Crown, D. F., & Spake, D. F. (1997). Gender differences in ethical perceptions of business practices: A social role theory perspective. *Journal of Applied Psychology*, *82*(6), 920–934. https://doi.org/10.1037/0021-9010.82.6.920

Gagné, M., Tian, A. W., Soo, C., Zhang, B., Ho, K. S. B., & Hosszu, K. (2019). Different motivations for knowledge sharing and hiding: The role of motivating work design. *Journal of Organizational Behavior*, *40*, 783–799. https://doi.org/10.1002/job.2364

Gardiner, M., & Tiggemann, M. (1999). Gender differences in leadership style, job stress and mental health in male-and female-dominated industries. *Journal of Occupational and Organizational Psychology*, *72*(3), 301–315. https://doi.org/10.1348/096317999166699

Gaskin, J. (2016). Data screening. *Stats Tools Package*. http://statwiki.kolobkreations.com

Gove, W. R., Hughes, M., & Geerken, M. R. (1980). Playing dumb: A form of impression management with undesirable side effects. *Social Psychology Quarterly*, *43*(1), 89–102. https://doi.org/10.2307/3033751

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, *17*(S2), 109–122. https://doi.org/10.1002/smj.4250171110

Guenter, H., van Emmerik, I. J. H., & Schreurs, B. (2014). The negative effects of delays in information exchange: Looking at workplace relationships from an affective events perspective. *Human Resource Management Review*, *24*(4), 283–298. https://doi.org/10.1016/j.hrmr.2014.02.001

Guo, M., Brown, G., & Zhang, L. (2022). My knowledge: The negative impact of territorial feelings on employee's own innovation through knowledge hiding. *Journal of Organizational Behavior*, *43*(5), 801–817. https://doi.org/10.1002/job.2599

Haas, M., & Park, S. (2010). To share or not to share? Professional norms, reference groups, and information withholding among life scientists. *Organization Science*, *21*(4), 873–891. https://doi.org/10.1287/orsc.1090.0500

Halaby, C. N. (2004). Panel models in sociological research: Theory into practice. *Annual Review of Sociology*, *30*, 507–544. https://doi.org/10.1146/annurev.soc.30.012703.110629

Haselhuhn, M. P., Kennedy, J. A., Kray, L. J., Van Zant, A. B., & Schweitzer, M. E. (2015). Gender differences in trust dynamics: Women trust more than men following a trust violation. *Journal of Experimental Social Psychology*, *56*, 104–109. https://doi.org/10.1016/j.jesp.2014.09.007

Hausman, J. A., & Taylor, W. E. (1981). Panel data and unobservable individual effects. *Econometrica: Journal of the Econometric Society*, *49*, 1377–1398. https://doi.org/10.2307/1911406

He, P., Jiang, C., Xu, Z., & Shen, C. (2021). Knowledge hiding: Current research status and future research directions. *Frontiers in Psychology*, *12*, 748237. https://doi.org/10.3389/fpsyg.2021.748237

Heilman, M. (2012). Gender stereotypes and workplace bias. *Research in Organizational Behavior*, *32*, 113–135. https://doi.org/10.1016/j.riob.2012.11.003

Heilman, M. E. (1983). Sex bias in work settings: The lack of fit model. *Research in Organizational Behavior*, *5*, 269–298.

Heilman, M. E., & Chen, J. J. (2005). Same behavior, different consequences: Reactions to men's and women's altruistic citizenship behaviour. *Journal of Applied Psychology*, *90*(3), 431–441. https://doi.org/10.1037/0021-9010.90.3.431

Heisig, P., & Kannan, S. (2020). Knowledge management: Does gender matter? A systematic review of literature. *Journal of Knowledge Management*, *24*(6), 1315–1342. https://doi.org/10.1108/JKM-08-2018-0472

Hernaus, T., & Černe, M. (2022). Trait and/or situation for evasive knowledge hiding? Multiple versus mixed-motives perspective of trait competitiveness and prosocial motivation in low- and high-trust work relationships. *European Journal of Work and Organizational Psychology*, *31*(6), 854–868. https://doi.org/10.1080/1359432X.2022.2077197

Hernaus, T., Černe, M., Connelly, C., Poloski Vokic, N., & Škerlavaj, M. (2019). Evasive knowledge hiding in academia: When competitive individuals are asked to collaborate. *Journal of Knowledge Management*, *23*(4), 597–618. https://doi.org/10.1108/JKM-11-2017-0531

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, *44*(3), 513–524. https://doi.org/10.1037/0003-066X.44.3.513

Hoyt, C. L., & Murphy, S. E. (2016). Managing to clear the air: Stereotype threat, women, and leadership. *The Leadership Quarterly*, *27*(3), 387–399. https://doi.org/10.1016/j.leaqua.2015.11.002

Husted, K., & Michailova, S. (2002). Diagnosing and fighting knowledge-sharing hostility. *Organizational Dynamics*, *31*(1), 60–73. https://doi.org/10.1016/S0090-2616(02)00072-4

Ibarra, H. (1992). Homophily and differential returns: Sex differences in network structure and access in an advertising firm. *Administrative Science Quarterly*, *37*(3), 422–447. https://doi.org/10.2307/2393451

Irum, A., Ghosh, K., & Pandey, A. (2020). Workplace incivility and knowledge hiding: A research agenda. *Benchmarking: An International Journal*, *27*(3), 958–980. https://doi.org/10.1108/BIJ-05-2019-0213

Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of Management Journal*, *55*(6), 1264–1294. https://doi.org/10.5465/amj.2011.0088

20448325, 0, Downloaded from https://bpspsychub.onlinelibrary.wiley.com/doi/10.1111/joop.12444 by Health Research Board, Wiley Online Library on [24/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Jiang, Z., Hu, X., Wang, Z., & Jiang, X. (2019). Knowledge hiding as a barrier to thriving: The mediating role of psychological safety and moderating role of organizational cynicism. *Journal of Organizational Behaviour*, *40*, 800–818. https://doi.org/10.1002/job.2358

Joshi, A., Son, J., & Roh, H. (2015). When can women close the gap? A meta-analytic test of sex differences in performance and rewards. *Academy of Management Journal*, *58*(5), 1516–1545. https://doi.org/10.5465/amj.2013.0721

Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, *82*(5), 965–990.

Kelloway, K., & Barling, J. (2000). Knowledge work as organizational behavior. *International Journal of Management Reviews*, *2*(3), 287–304. https://doi.org/10.1111/1468-2370.00042

Khoreva, V., & Wechtler, H. (2020). Exploring the consequences of knowledge hiding: An agency theory perspective. *Journal of Managerial Psychology*, *35*(2), 71–84. https://doi.org/10.1108/JMP-11-2018-0514

Kidder, D. L. (2002). The influence of gender on the performance of organizational citizenship behaviors. *Journal of Management*, *28*, 629–648. https://doi.org/10.1177/014920630202800504

Kidder, D. L., & Parks, J. M. (2001). The good soldier: Who is s(he)? *Journal of Organizational Behavior*, *22*, 939–959. https://doi.org/10.1002/job.119

Kim, J. K., Holtz, B. C., & Hu, B. (2020). Rising above: Investigating employee exemplification as a response to the experience of shame induced by abusive supervision. *Journal of Occupational and Organizational Psychology*, *93*, 861–886. https://doi.org/10.1111/joop.12327

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford.

Kmec, J. A., & Gorman, E. H. (2010). Gender and discretionary work effort: Evidence from the United States and Britain. *Work and Occupations*, *37*(1), 3–36. https://doi.org/10.1177/0730888409352064

Kray, L. J., & Haselhuhn, M. P. (2012). Male pragmatism in negotiators' ethical reasoning. *Journal of Experimental Social Psychology*, *48*, 1124–1131. https://doi.org/10.1016/j.jesp.2012.04.006

Kray, L. J., Kennedy, J. A., & Van Zant, A. B. (2014). Not competent enough to know the difference? Gender stereotypes about women's ease of being misled predict negotiator deception. *Organizational Behavior and Human Decision Processes*, *125*(2), 61–72. https://doi.org/10.1016/j.obhdp.2014.06.002

Kray, L. J., & Thompson, L. (2004). Gender stereotypes and negotiation performance: An examination of theory and research. *Research in Organizational Behavior*, *26*, 103–182. https://doi.org/10.1016/S0191-3085(04)26004-X

Kumar Jha, J., & Varkkey, B. (2018). Are you a cistern or a channel? Exploring factors triggering knowledge-hiding behavior at the workplace: Evidence from the Indian R&D professionals. *Journal of Knowledge Management*, *22*(4), 824–849. https://doi.org/10.1108/JKM-02-2017-0048

Lim, J. H., Tai, K., Bamberger, P. A., & Morrison, E. W. (2020). Soliciting resources from others: An integrative review. *Academy of Management Annals*, *14*, 122–115. https://doi.org/10.5465/annals.2018.0034

Liu, Y., Zhu, J. N. Y., & Lam, L. W. (2020). Obligations and feeling envied: A study of workplace status and knowledge hiding. *Journal of Managerial Psychology*, *35*(5), 347–359. https://doi.org/10.1108/JMP-05-2019-0276

Luksyte, A., Unsworth, K. L., & Avery, D. R. (2018). Innovative work behavior and sex-based stereotypes: Examining sex differences in perceptions and evaluations of innovative work behavior. *Journal of Organizational Behavior*, *39*, 292–305. https://doi.org/10.1002/job.2219

Malik, O. F., Shahzad, A., Raziq, M. M., Khan, M. M., Yusaf, S., & Khan, A. (2019). Perceptions of organizational politics, knowledge hiding, and employee creativity: The moderating role of professional commitment. *Personality and Individual Differences*, *142*, 232–237. https://doi.org/10.1016/j.paid.2018.05.005

Martin, A. E., & Phillips, K. W. (2017). What "blindness" to gender differences helps women see and do: Implications for confidence, agency, and action in male-dominated environments. *Organizational Behavior and Human Decision Processes*, *142*, 28–44.

McCormick, B. W., Reeves, C. J., Downes, P. E., Li, N., & Ilies, R. (2020). Scientific contributions of within-person research in management: Making the juice worth the squeeze. *Journal of Management*, *46*(2), 321–350. https://doi.org/10.1177/0149206318788

McLuhan, A., Pawluch, D., Shaffir, W., & Haas, J. (2014). The cloak of incompetence: A neglected concept in the sociology of everyday life. *The American Sociologist*, *45*(4), 361–387. https://doi.org/10.1007/s12108-014-9240-y

Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321

Ng, T. W. H., Lam, S. K. S., & Feldman, D. C. (2016). Organizational citizenship behavior and counterproductive work behavior: Do males and females differ? *Journal of Vocational Behavior*, *93*, 11–32. https://doi.org/10.1016/j.jvb.2015.12.005

Nguyen, T.-M., Nham, T. P., Froese, F. J., & Malik, A. (2019). Motivation and knowledge sharing: A meta-analysis of main and moderating effects. *Journal of Knowledge Management*, *23*(5), 998–1016. https://doi.org/10.1108/JKM-01-2019-0029

Offergelt, F., Spörrle, M., Moser, K., & Shaw, J. D. (2019). Leader-signaled knowledge hiding: Effects on employees' job attitudes and empowerment. *Journal of Organizational Behavior*, *40*, 819–833. https://doi.org/10.1002/job.2343

Offergelt, F., & Venz, L. (2023). The joint effects of supervisor knowledge hiding, abusive supervision, and employee political skill on employee knowledge hiding behaviors. *Journal of Knowledge Management*, *27*(5), 1209–1227. https://doi.org/10.1108/JKM-08-2021-0655

20448325, 0, Downloaded from https://bpspsychub.onlinelibrary.wiley.com/doi/10.1111/joop.12444 by Health Research Board, Wiley Online Library on [24/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Offermann, L., & Coats, M. R. (2018). Implicit theories of leadership: Stability and change over two decades. *The Leadership Quarterly*, *29*(4), 513–522. https://doi.org/10.1016/j.leaqua.2017.12.003

Palan, S., & Schitter, C. (2018). Prolific. ac—A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*, *17*, 22–27. https://doi.org/10.1016/j.jbef.2017.12.004

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, *70*, 153–163. https://doi.org/10.1016/j.jesp.2017.01.006

Peng, H. (2013). Why and when do people hide knowledge? *Journal of Knowledge Management*, *17*(3), 398–415. https://doi.org/10.1108/JKM-12-2012-0380

Phelan, J. E., & Rudman, L. A. (2010). Prejudice toward female leaders: Backlash effects and Women's impression management dilemma. *Social and Personality Psychology Compass*, *4*, 807–820. https://doi.org/10.1111/j.1751-9004.2010.00306.x

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*, 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Pradhan, S., Jena, L. K., & Mohapatra, M. (2018). Role of gender on the relationship between abusive supervision and employee's intention to quit in Indian electricity distribution companies. *Gender in Management*, *33*(4), 282–295. https://doi.org/10.1108/GM-01-2017-0008

Renzl, B. (2008). Trust in management and knowledge sharing: The mediating effects of fear and knowledge documentation. *Omega*, *36*(2), 206–220. https://doi.org/10.1016/j.omega.2006.06.005

Reskin, B. F., McBrier, D. B., & Kmec, J. A. (1999). The determinants and consequences of workplace sex and race composition. *Annual Review of Sociology*, *25*, 335–361. https://www.jstor.org/stable/223508

Rhee, Y. W., & Choi, J. N. (2017). Knowledge management behavior and individual creativity: Goal orientations as antecedents and in-group social status as moderating contingency. *Journal of Organizational Behavior*, *38*, 813–832. https://doi.org/10.1002/job.2168

Ridgeway, C. L., & Smith-Lovin, L. (1999). The gender system and interaction. *Annual Review of Sociology*, *25*(1), 191–216. https://doi.org/10.1146/annurev.soc.25.1.191

Ritala, P., Olander, H., Michailova, S., & Husted, K. (2015). Knowledge sharing, knowledge leaking and relative innovation performance: An empirical study. *Technovation*, *35*, 22–31. https://doi.org/10.1016/j.technovation.2014.07.011

Rudman, L., & Phelan, J. (2008). Backlash effects for disconfirming gender stereotypes in organizations. *Research in Organizational Behavior*, *28*, 61–79. https://doi.org/10.1016/j.riob.2008.04.003

Schilpzand, P., De Pater, I. E., & Erez, A. (2014). Workplace incivility: A review of the literature and agenda for future research. *Journal of Organizational Behavior*, *37*, S57–S88. https://doi.org/10.1002/job.1976

Serenko, A., & Bontis, N. (2016). Understanding counterproductive knowledge behavior: Antecedents and consequences of intra-organizational knowledge hiding. *Journal of Knowledge Management*, *20*(6), 1199–1224. https://doi.org/10.1108/JKM-05-2016-0203

Sergeeva, A., & Andreeva, T. (2016). Knowledge sharing: Bringing the context back in. *Journal of Management Inquiry*, *25*, 240–261. https://doi.org/10.1177/1056492615618

Simpson, R. (2004). Masculinity at work: The experiences of men in female dominated occupations. *Work, Employment and Society*, *18*, 349–368.

Singh, S. K. (2019). Territoriality, task performance, and workplace deviance: Empirical evidence on role of knowledge hiding. *Journal of Business Research*, *97*, 10–19. https://doi.org/10.1016/j.jbusres.2018.12.034

Škerlavaj, M., Connelly, C. E., Cerne, M., & Dysvik, A. (2018). Tell me if you can: Time pressure, prosocial motivation, perspective taking, and knowledge hiding. *Journal of Knowledge Management*, *22*(7), 1489–1509. https://doi.org/10.1108/JKM-05-2017-0179

Soltz, D. F. (1978). On sex and the psychology of 'playing dumb': A reevaluation. *Psychological Reports*, *43*(1), 111–114. https://doi.org/10.2466/pr0.1978.43.1.111

Strik, N. P., Hamstra, M. R. W., & Segers, M. S. R. (2021). Antecedents of knowledge withholding: A systematic review & integrative framework. *Group & Organization Management*, *46*(2), 223–251. https://doi.org/10.1177/1059601121994379

Styhre, A., Ingelgard, A., & Roth, J. (2001). Gendering knowledge: The practices of knowledge management in the pharmaceutical industry. *Knowledge and Process Management*, *8*(2), 65–74. https://doi.org/10.1002/kpm.107

Thoroughgood, C. N., Sawyer, K. B., & Hunter, S. T. (2013). Real men don't make mistakes: Investigating the effects of leader gender, error type, and the occupational context on leader error perceptions. *Journal of Business and Psychology*, *28*, 31–48. https://doi.org/10.1007/s10869-012-9263-8

Truss, C., Conway, E., D'Amato, A., Kelly, G., Monks, K., Hannon, E., & Flood, P. (2013). Knowledge work: Gender-blind or gender-biased? *Work, Employment and Society*, *26*(5), 735–754. https://doi.org/10.1177/0950017012451675

UK Office for National Statistics. (2021). EMP13: Employment by industry dataset. https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyindustryemp13/current. Accessed 13 October, 2022.

Venz, L., & Mohr, M. (2022). The social dynamics of knowledge hiding: A diary study on the roles of incivility, entitlement, and self-control. *European Journal of Work and Organizational Psychology*, *32*, 47–59. https://doi.org/10.1080/1359432X.2022.2089562

Venz, L., & Nesher Shoshan, H. (2022). Be smart, play dumb? A transactional perspective on day-specific knowledge hiding, interpersonal conflict, and psychological strain. *Human Relations*, *75*(1), 113–138. https://doi.org/10.1177/0018726721990438

20448325, 0, Downloaded from https://bpspsychub.onlinelibrary.wiley.com/doi/10.1111/joop.12444 by Health Research Board, Wiley Online Library on [24/05/2023]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Vial, A. C., Napier, J. L., & Brescoll, V. L. (2016). A bed of thorns: Female leaders and the self-reinforcing cycle of illegitimacy. *The Leadership Quarterly*, *27*(3), 400–414. https://doi.org/10.1016/j.leaqua.2015.12.004

Walter, S. L., Seibert, S. E., Goering, D., & O'Boyle, E. H. (2019). A tale of two sample sources: Do results from online panel data and conventional data converge? *Journal of Business and Psychology*, *34*(4), 425–452. https://doi.org/10.1007/s10869-018-9552-y

Wang, S., & Noe, R. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, *20*(2), 115–131. https://doi.org/10.1016/j.hrmr.2009.10.001

Waring, S., Alison, L., Carter, G., Barrett-Pink, C., Humann, M., Swan, L., & Zilinsky, T. (2018). Information sharing in interteam responses to disaster. *Journal of Occupational and Organizational Psychology*, *91*, 591–619. https://doi.org/10.1111/joop.12217

Williams, C. L. (1992). The glass escalator: Hidden advantages for men in the "female" professions. *Social Problems*, *39*, 253–267. https://doi.org/10.2307/3096961

Xiao, M., & Cooke, F. L. (2019). Why and when knowledge hiding in the workplace is harmful: A review of the literature and directions for future research in the Chinese context. *Asia Pacific Journal of Human Resources*, *57*, 470–502. https://doi.org/10.1111/1744-7941.12198

Xiong, C., Chang, V., Scuotto, V., Shi, Y., & Paoloni, N. (2021). The social-psychological approach in understanding knowledge hiding within international R&D teams: An inductive analysis. *Journal of Business Research*, *128*, 799–811. https://doi.org/10.1016/j.jbusres.2019.04.009

Zhao, H., Liu, W., Li, J., & Yu, X. (2019). Leader–member exchange, organizational identification, and knowledge hiding: The moderating role of relative leader–member exchange. *Journal of Organizational Behavior*, *40*, 834–848. https://doi.org/10.1002/job.2359

Zhu, Y., Chen, T., Wang, M., Jin, Y., & Wang, Y. (2019). Rivals or allies: How performance-prove goal orientation influences knowledge hiding. *Journal of Organizational Behavior*, *40*, 849–868. https://doi.org/10.1002/job.2372

Zyphur, M. J., Voelkle, M. C., Tay, L., Allison, P. D., Preacher, K. J., Zhang, Z., Hamaker, E. L., Shamsollahi, A., Pierides, D. C., Koval, P., & Diener, E. (2020). From data to causes II: Comparing approaches to panel data analysis. *Organizational Research Methods*, *23*(4), 688–716. https://doi.org/10.1177/1094428119847280

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APPENDIX 1

STUDY CONSTRUCTS AND MEASUREMENT SCALES

Dependent variables

Frequency of knowledge hiding (Serenko & Bontis, 2016)

Please indicate your agreement with the following statements:

Upon receiving a knowledge request:

- I often communicate only part of the whole story to my fellow colleagues;
- I often twist the facts to suit my needs when communicating with my fellow colleagues;
- I often leave out pertinent information or facts when communicating with my fellow colleagues.

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Approaches to knowledge hiding (Connelly et al., 2012)

Please think of a recent episode in which a specific co-worker in your company requested knowledge from you and you declined to share your knowledge or expertise with him/her or did not give all of the information needed. In this specific situation, I …

Please indicate your agreement with the following statements:

- Agreed to help him/her but never really intended to
- Agreed to help him/her but instead gave him/her information different from what s/he wanted
- Told him/her that I would help him/her out later but stalled as much as possible
- Offered him/her some other information instead of what he/she really wanted
- Pretended that I did not know the information
- Said that I did not know, even though I did
- Pretended I did not know what s/he was talking about
- Said that I was not very knowledgeable about the topic
- Explained that I would like to tell him/her, but was not supposed to
- Explained that the information is confidential and only available to people on a particular project
- Told him/her that my boss would not let anyone share this knowledge
- Said that I would not answer his/her questions

Control variables

Knowledge sharing motivations (Foss et al., 2009)

Please indicate your agreement with the following statements:

Intrinsic motivation

- I like sharing knowledge
- I think sharing knowledge is an important part of my job
- I find it personally satisfying

Extrinsic motivation

- I share knowledge because I want my supervisor to praise me
- I share knowledge because I want my colleagues to praise me
- I share knowledge because I want get a reward
- I share knowledge because it might help me get promoted

Self-efficacy (Bandura, 1997)

Please indicate your agreement with the following statements:

- I am self-assured about my capabilities to perform my work activities
- I am confident about my ability to do my job
- I have mastered the skills necessary for my job

Job interdependence (Morgeson & Humphrey, 2006)

To what extent do the following statements describe your job?

Please indicate your agreement with these statements:

- The job requires me to accomplish my job before others complete their job.
- Other jobs depend directly on my job
- Unless my job gets done, other jobs cannot be completed
- My job activities are greatly affected by the work of other people
- My job depends on the work of many different people for its completion
- My job cannot be done unless others do their work

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