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Invisible, therefore isolated: Comparative effects of team virtuality with task virtuality on workplace isolation and work outcomes

Mehmet A. Orhan*, John B. Rijsman, Gerda M. van Dijk

Tilburg University, The Netherlands

A B S T R A C T

The new standards of technological and flexible arrangements have made virtual work prevalent for almost everyone in all levels of an organization. Whether in a virtual or traditional setting, current working conditions allow anyone to collaborate, work and interact with others through electronic means of communication, thereby creating a lack of face-to-face contact. Even though the dynamics of virtuality have been widely elaborated at the team level, there are still many unknowns about the impacts of virtuality experienced at an individual level. This paper aims to shed light on the relationship between workplace social isolation, job satisfaction, perceived performance and turnover intention comparing individual responses to team virtuality and task virtuality. Our findings propose that there are statistically significant relations between individual task virtuality, workplace social isolation, satisfaction, perceived performance and turnover intention in organizations. The results also reveal that task virtuality is a better predictor than team virtuality in estimating workplace social isolation and turnover intention.

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Invisible, luego aislado. Efectos comparativos de la virtualidad del equipo y de la tarea en el aislamiento en el trabajo y los resultados laborales

Palabras clave:
Virtualidad de la tarea
Virtualidad del equipo
Aislamiento en el trabajo
Satisfacción laboral
Percepción del desempeño
Intención de abandono

R E S U M E N

Los nuevos criterios de disposición flexible han conseguido la predominancia del trabajo virtual para casi todos en todos los niveles de la organización. Ya sea en un contexto virtual o en uno tradicional, las actuales condiciones de trabajo permiten que cualquiera colabore, trabaje e interactúe con los demás por medio de sistemas de comunicación electrónicos, lo que da lugar a una falta de contacto cara a cara. A pesar de que la dinámica de la virtualidad se ha elaborado mayormente al nivel de equipo, se desconoce mucho sobre la repercusión de la virtualidad experimentada a un nivel individual. Este trabajo pretende arrojar luz sobre la relación entre aislamiento social en el trabajo, satisfacción laboral, percepción del desempeño e intención de abandono, al comparar respuestas individuales con la virtualidad del equipo y de la tarea. Los resultados apuntan a que hay relaciones estadísticamente significativas entre la virtualidad individual de la tarea, aislamiento social en el trabajo, satisfacción, percepción de desempeño e intención de abandono en las empresas. También los resultados muestran que la virtualidad de la tarea predice mejor que la virtualidad del equipo el nivel de aislamiento social en el trabajo y la intención de abandono.

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Technological integration in business has changed workplace dynamics over the last few decades. With the new forms of organizations and sub-units, both jobs and methods of communication have become more dependent on information technology. This shift has resulted in the drastic change of many facets of a variety of jobs

* Corresponding author. Tilburg University. School of Humanities. Warandelaan 2. Tilburg, 5037. The Netherlands.
  E-mail address: m.a.orhan@uvt.nl (M.A. Orhan).

in organizations. From an organizational design point of view, more flexible structures such as virtual teams have emerged (Curseu, Schalk, & Wessel, 2008). However, numerous studies on behavioral perspectives have illustrated that greater technology dependence and consequently less face-to-face contact detrimentally impact work-related outcomes (Gibson & Gibbs, 2006; Martins, Gilson, & Maynard, 2004). One recent study reported that jobs at the macro level in Europe have become more monotonous in the face of increasing technology involvement and intensity (Greenan, Kalugina, & Walkowiak, 2014). At the micro level, in virtual settings where the dependency on technology is high and physical face-to-face contact is low, decreased job satisfaction, commitment, and identification as well as increased workplace social and physical isolation have been detected (Bartel, Wrzesniewski, & Wiesenfeld, 2012; Kurland & Egan, 1999; Mulki, Locander, Marshall, Harris, & Hensel, 2008). The evidence from previous studies has also shown that virtuality in teams detrimentally impacts the performance of both the team and the individual (Arling & Subramani, 2011; Lu, Watson-Manheim, Chudoba, & Wynn, 2006; Schweitzer & Duxbury, 2010).

Since the focus of research has shifted from virtual teams to the virtuality *in* teams, greater attention has been paid to the impacts of virtuality in team settings (Dixon & Panteli, 2010; Hosseini, Zuo, Chileshe, & Baroudi, 2015). By the same token, researchers have started studying the individual and behavioral effects influenced by virtuality (Arling & Subramani, 2011; Orhan, 2014; Suh, Shin, Ahuja, & Kim, 2011). Social support and the need for affiliation are often considered the missing elements in virtual work settings (Wiesenfeld, Raghuram, & Garud, 2001). Kenyon, Lyons, and Rafferty's (2002) study suggested that due to the absence of physical, face-to-face contact, increased virtuality leads to a higher degree of social isolation. These findings are corroborated by the conclusion of Golden, Veiga, and Dino (2008) that there is a negative correlation between isolation and the degree of face-to-face interactions. A recent experiment performed by Bloom, Liang, Roberts, and Ying (2015) revealed that home-office applications, one of the most frequently used flexible working arrangements in organizations, appeared to be increasing individuals' work performance. However, they also reported that working from home caused increased feelings of loneliness and worries that one's performance was not visible. Visibility is a factor that plays a crucial role in both performance and job satisfaction (Allen & Griffeth, 2001). Jobs in virtual settings vary greatly in terms of visibility. In extreme virtuality contingencies, where no physical contact with others takes place, lack of visibility in addition to social, physical, and informational isolation negatively impact work outcomes (Bartel et al., 2012; Mulki & Jaramillo, 2011). As a result, there is a need to distinguish individual exposure to the impacts of virtuality.

The majority of studies relating social isolation to virtuality, however, have focused on interactions within a team. Our knowledge about the impacts of virtuality outside of teams is therefore limited. When studying isolation, emphasis is mostly placed on the individual's interactions with colleagues, supervisors, and team members (Golden et al., 2008). One of the main reasons for this specificity is that virtuality is usually referred to as a team or organizational-level phenomenon. Given the design differences in organizations, the feelings of an employee who has no physical interaction with another person will not be the same as those of one having a certain level of interaction with people outside of the team. However, the nature of interactions beyond team members is often neglected. In contrast to previous studies, we investigated the role of face-to-face interaction with parties that are separate from team members, such as colleagues outside teams, clients, or suppliers.

Theory and Hypotheses

Virtuality and Isolation

It has long been argued that virtuality in teams causes distinct challenges compared to traditional team settings, where co-workers are centralized in one location. One of the most apparent difficulties is the isolation of virtual employees because of the lack of frequent face-to-face contact with team members (Furst, Reeves, Rosen, & Blackburn, 2004; Hertel, Geister, & Konradt, 2005; Kirkman, Rosen, Gibson, Tesluk, & McPherson, 2002; Malhotra, Majchrzak, & Rosen 2007; Mulki et al., 2008; Shachaf, 2008). On the other hand, due to differing approaches and definitions, "virtuality in organizations" is one of the last decade's most highly debated concepts in organization research (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2014). The term "virtuality" is notoriously ambiguous because disagreements still exist as to whether electronic communication, geographic dispersion, or other dimensions make a team more virtual (Schweitzer & Duxbury, 2010). Gibson and Cohen (2003) identified task interdependence as an important characterisitc of virtual teams, thus helping to create a distinction between virtual teams and other groups and network structures that also communicate via information and communication tools (ICT). Task interdependence is defined as "the extent to which an individual needs information, materials and support from others to be able to carry out his or her job" (Vegt, Van de Vliert, & Oosterhof, 2003, p. 717). Depending on the job, different task interdepencies result in a fluctuating mixture of interfaces with others. As a result, the degree of information received face to face or via electronic communication varies as well. The degree is critical from an organizational effectiveness point of view because task interdependence also affects employee performance (Ganesh & Gupta, 2010). Shekhar (2006) proposed a multidimensional virtuality measure that allows all potential technological interfaces with others to be taken into account, including customers, suppliers, and employees; all have an impact on the magnitude of virtuality. While this approach carries its own merits to evaluate virtuality from a broader perspective, it does not fully detect the actual influence of virtuality at the individual level. To illustrate with an example, let us consider a virtual team composed of salespeople working in the field. Since their task is to go out and sell to potential customers in their environment, face-to-face contact is required. Although the team is virtual, the impacts of virtuality will not be felt as heavily as it would be by a telesales representative. On the other hand, a call center agent working in a traditional team setting has more exposure to virtuality because customers are contacted via electronic means of communication. If task interdependence within a team declines, the virtuality of the team becomes a less critical element. Contrarily, if a task becomes more dependent on other parties contacted via communication tools, the virtuality becomes critical. Orhan (2014) introduced the task virtuality concept to address virtuality as a phenomenon that can be experienced by individuals not necessarily belonging to a virtual team. The ultimate determinant of task virtuality relies on the lack of face-to-face communication with all people on whom tasks are dependent. This approach identifies virtuality as a salient characteristic that can be present in all kind of jobs, if the tasks are contingent on non-face-to-face contact regardless if there is a team or another setup. We have therefore focused on the impacts of task virtuality on job outcomes and testing the hypotheses discussed in this section.

The extent of face-to-face interaction has a strong impact on the social support received in the workplace (Marshall, Michaels, & Mulki, 2007; Mulki & Jaramillo, 2011; Wiesenfeld et al., 2001). Especially for virtual workers, lack of face-to-face contact creates threatening conditions that cause isolation in the workplace and