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Fighting Technostress: A Multiple Case Study of Three French Companies

Completed Research Paper Min Feng^{a*} and Driss Bourazzouq^b

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Introduction

This study examined the adaptive behaviors of team managers (TMs) in the fight against technostress in the information and communication technology (ICT) environment. Based on the opinions of employees and experts, companies use exchanges, coordination, cooperation, and communications between employees and TMs as strategies for dealing with complex and stressful situations. These strategies are communicated to TMs as adequate and operational adaptive strategies, and employees then apply them.

We focused on socio-technical (ST) theory, which is “an approach to complex organizational work design that recognizes the interaction between people and technology in the workplace” (Hughes et al. 2017). Long (2013) defines “socio-technics” as the interdependence of an organization or society’s social and technical aspects. Thus, “contextual dependencies inherent in [an] ST system mean that interactions among all elements within that system contribute to shaping the whole” (Sadok and Bednar 2017). Although many studies explore certain organizational aspects of the impact of work tasks and the effects of job roles, cultural deference, volition, and responsibility within an organization, the stakeholder perspective is largely ignored. Therefore, this study focused on a certain class of stakeholders (Coakes and Elliman 1999)—TMs—to bridge this literature gap. Primarily, this study answered the following questions regarding TMs: (1) What adaptive strategies do TMs adopt to manage technostress levels in an interactional environment? and (2) What coping strategies do TMs choose, given the type of coping identified?

Theoretically, the study was conducted in the context of ICT management using “interdependence” (Deutsch 1973) and leader-member exchange (LMX) concepts, where information overload and technostress affect TMs (Graen and Cashman 1975). Subordinates also influence their superiors in the hierarchy of power (Blackburn, 1981); theirs is an interpersonal power relationship wherein TMs and employees depend on each other. This allowed us to describe the processes used by TMs and employees to develop various behavioral interdependencies in their respective roles. Rather than a single common type of relationship or exchange, managers develop different ones with each subordinate (Graen and Cashman 1975; Liden and Graen 1980). To express the differential relationships stemming from resource restrictions within a company, Dansereau et al. (1975) employed the vertical dyad linkage approach, a theory that deals with the individual and dyadic relationships formed between leaders and their subordinates.

We conducted an empirical multiple case study to identify types of coping strategies and adopt interactional analysis, as we were interested not only in the individuals but also the interactions of this dyad’s elements that help managers address technostress’s negative effects.

Literature Review

Coping Strategies for Technostress

Although ICT is beneficial for improving human and organizational performance (Liang and Xue 2009), it can pose a threat to individuals, organizations, and society when exploited for malicious reasons. “Technostress describes the stress that users experience as a result of application multitasking, constant connectivity, information overload, frequent system upgrades and [the] consequent uncertainty, continual relearning and [its] consequent job-related insecurities, and technical problems associated with the organizational use of ICT” (Tarafdar et al. 2010).

Existing research has examined coping with work-related stress in the specific context of work and family (Major and Morganson 2011; Michel et al. 2011), including “the heavy workload, organizational constraints,

lack of autonomy at work and interpersonal conflicts” (Lu et al. 2010). It posits that “moderating coping strategies [affect] the relationship between role overload and burnout.

Coping strategies must be classified by situation. Thus, we explained the adaptive strategies of TMs in the technostress situation via the “coping dyad” approach to expand on the literature on technostress adaptive strategy.

Walsh and Renaud’s (2017) “profitable bibliometric analysis” is one relevant model for performing a literature review. In stressful situations, Skinner et al. (2003) believe that we must build a highly personal, specific set of behaviors and strategies and classify the coping process into lower and higher-level coping strategies. In our case, we considered the coping strategy for technostress to find a general format applicable to other contexts. Based on the literature, we opted for the bibliometric analysis.

Technostress inhibitors are derived from the organizational mechanism that increases job satisfaction and organizational commitment (Ragu-Nathan et al. 2008), but also enhances technological competence (Tarafdar et al. 2015) and self-efficacy. Srivastava et al. (2015) consider personality traits and interactions with the organizational environment. Similarly, Wang et al. (2008) demonstrate organizational centralization and innovation, and Ayyagari et al. (2011) discuss adaptive and non-adaptive behaviors between the person and their environment (employee and enterprise). Notably, technological features (Ayyagari et al. 2011) are the main predictors of technostress.

Based on the transaction-based approach (Lazarus 1966), Ragu-Nathan et al. (2008) explain the creation of technostress, which reduces job satisfaction and decreases organizational commitment and continuity. It is necessary to underline the concept of “[technostress] inhibitors” because managers employ it as a reference when developing adaptation strategies. Similarly, Tarafdar et al. (2010) emphasize “user involvement in the development of ICT,” which describes the “facilitation of involvement and support for innovation” as moderators to weaken techno-stressors and their results. Therefore, “technological competence [is] a potential stimulus for innovation and technology” (Tarafdar et al. 2015).

Coping as Cognitive and Behavioral Efforts

As a cognitive and behavioral effort, coping is concerned with designing direct strategic interventions (Moore 2000) for technostress. These include mastery of self-emotion (cognitive) (Beaudry and Pinsonneault 2005), appreciation for and understanding of the manager, and reducing the role of stress (ambiguity and conflict of role). Beaudry and Pinsonneault (2005) mention different adaptation strategies based on a combination of primary (assessment of the consequences expected from using ICT) and secondary assessments (a situation assessment using ICT) and identify four adaptation strategies.

Interactional (TM-employee) Coping Strategies

Technological overload is associated with several undesirable outcomes, such as high stress levels (Diaz et al. 2012), burnout, and low productivity (Harris et al. 2015). Moreover, Gaudioso et al. (2017) classify work-family conflicts in the presence of techno-invasion; that is, employees must interact to resolve problems, conflict, and stress, to avoid generating more conflicts and stress.

TMs and their team members have a group dyadic relationship, which indicates “a systemic conceptualization of the processes that partners use to deal with stressors” (Falconier et al. 2015). Similar to communication stress, technostress and individual coping strategies transform these strategies into partnerships. High-quality exchanges indicate a harmonious, confident, and respectful relationship between TMs and their subordinates, allowing them to address the root of the problem via direct measures and doubled effort (Folkman et al. 1986). The opposite is true when neither party is interested in reducing technostress, resulting in the abandoning of trying to find easy solutions (Folkman and Lazarus, 1985).

Model and Proposal Development

Illustrates the interaction and reaction process between TMs and employees.

Interdependence

TMs and employees mutually affect each other, which allows for the processes through which they develop various behavioral interdependencies in their roles.

Graen and Schiemann (1978) found that these interdependencies, which can be likened to a “partnership,” vary in quality. Thus, TMs increasingly recognize that an effective and harmonized working relationship allows them to obtain potential synergy in partnerships (manager-employee). However, a “supervisor” exerts a unidirectional downward influence with vertical control. Consequently, we refer to four categories of interactional strategies: participatory adaptation; collaboration, mutual aid, and mutual assistance; conflict resolution; and bureaucratic accommodation.

Participatory Adaptation Strategy

This strategy concerns teamwork, consultations with colleagues, collaboration, and information exchange when conducting projects and applying different skills. We posit that positive interactions can curb technostress. Teamwork, coupled with collaboration and information exchange, helps subordinates overcome technostress-related challenges, especially when implementing new software or functionalities within an information system. However, if TMs and their subordinates work in isolation, they will be more prone to technostress than employees who report challenges.

Proposition 1: Participatory interactions between TMs and subordinates lead to lower levels of technostress and increase team performance.

Collaboration Strategy, Mutual Aid, and Mutual Assistance

While TMs assist their subordinates by sharing expertise and resources, mutual assistance is useful. We posit that employees can help each other during challenges related to information systems. Thus, control and use of the system would progress as a group. TMs who refuse to help during problems consider subordinates’ technostress as a competitive opportunity, which provokes general stress and technostress.

Proposition 2: Collaborative interaction, mutual aid, and mutual assistance between TMs and their subordinates lead to lower levels of technostress and increase team performance.

Conflict Resolution Strategy

Identifying problems, looking for solutions, implementing a consensus policy, problem-solving, and participative management are suitable for harmoniously addressing TM problems in information systems. We believe that participatory problem-solving through feedback or proposals could increase the ability to resist technostress. However, refusal to discuss or identify problems is a typical reaction and can only increase technostress. Results are similar when a problem is identified, and an authoritarian TM leaves no room for dialogue.

Proposition 3: Interactions that resolve conflict between TMs and subordinates lead to lower levels of technostress and increase team performance.

Bureaucratic Accommodation Strategy

An initiative should not be procedural. The author of an initiative exhibits proactive behavior and does not hesitate to identify and solve problems. Conversely, the procedure is followed to the letter: the subordinate only knows how to passively follow TM delegations. Thus, the slightest problem can become complicated, which can increase the technostress level, since no immediate solution is sought.

Proposition 4: Bureaucratic interactions between TMs and subordinates lead to lower levels of technostress and increase team performance.

LMX

Dansereau et al. (1975) employ the Vertical Dyad Linkage (VDL) approach. However, TMs often ask firms to train a group of trustworthy employees to help in their daily tasks. They believe that time and effort are

required to maintain stable and trusting employee relationships. Often, the question is whether high-quality exchanges can generate this type of relationship, which is characterized by “a high degree of mutual trust, respect, and obligation” (Zalesny and Graen 1987). Nevertheless, a “poor quality exchange” refers to a lack of trust, respect, and obligation (Zalesny and Graen 1987). Therefore, the LMX approach is relevant. LMX theory relies heavily on role theory (Graen 1975).

LMX is built on a multidimensional foundation. Five dimensions have been identified and correspond to the dimension of mutuality between managers and their subordinates: perceived contribution to the exchange, loyalty, affect (Dienesch and Liden 1986), professional respect, and trust (Liden and Maslyn 1998).

We explain the five proposals subsequently.

Perceived Contribution to the Exchange Strategy

According to Dienesch and Liden (1986), the perceived contribution to the exchange is the “perception of the quantity, direction, quality of the work, and activity that each member puts forward for the mutual goals (explicit or implicit) of the dyad.” Subordinates with better work quality will be appreciated more and have more important positions in the team (Liden and Maslyn 1998).

Since implementing a work objective is extremely important for managers (Hollander 1980) and leadership orientation is a primary function, when TMs observe that subordinates make substantial contributions, they can communicate more information to such subordinates (Bass and Stogdill, 1990) and provide them with the necessary referrals and support. This support “includes material resources (e.g., budget support, equipment, and equipment) [...] attractive information, and task assignments” (Graen and Cashman 1975).

Proposition 5: Interactions focused on the perceived contribution to exchanges between TMs and subordinates lead to lower levels of technostress and increase team performance.

Loyalty Strategy

A loyalty strategy “is the expression of public support for the objectives and the personal character of [other members] of the LMX dyad” (Dienesch and Liden 1986). Whether TMs or subordinates, they will promote objectives together, thus maintaining good team spirit for common benefit: “TMs are more likely to entrust loyal subordinates with tasks that require independent judgment [or] responsibility” (Scandura et al. 1986).

Proposition 6: Interactions based on perceived loyalty between TMs and subordinates lead to lower levels of technostress and increase team performance.

Affect Strategy

Affective feelings should not be directed toward anything, since “a prototypical emotional element refers to a complex process that takes place over time, [it] involves causally linked sub-events” (Russell and Barrett 1999). However, Dienesch and Liden (1986) argue that “the reciprocal affection of the members of the dyad is one over the other, based mainly on interpersonal attraction rather than on work or professional values.” Thus, the interactions between TMs and subordinates often take place when they need each other’s company and are familiar with each other. Friendliness is good for stress management and increases the working group’s cohesion.

Proposition 7: Interactions of affect between TMs and subordinates lead to lower levels of technostress and increase team performance.

Professional Development Strategy

Professional respect has been defined as “the perception of the degree to which each member of the dyad has acquired a reputation, inside [and] outside the organization, for excelling in their field of work” (Liden and Maslyn 1998). Like affect, professional respect may have a negative connotation since it is largely related to power. Thus, if a person is professionally well respected, they can influence or generate results (Mintzberg, 1983). Therefore, TMs and their subordinates evaluate each other before working together or

even before meeting for the first time. This consideration can be induced by reputation, expertise, and experience.

Proposition 8: Professional development interactions between TMs and subordinates lead to lower levels of technostress and increase team performance.

Mutual Trust Strategy

Hosmer (1995) suggests that “Confidence is defined as a person’s willingness to be vulnerable to another party whose behavior is not under their control based on the belief that the other person is competent, open, and reliable,” and Gómez and Rosen (2001) note that “When TMs trust their employees, they give these employees preferential treatment.

Proposition 9: Interactions of mutual trust between TMs and subordinates lead to lower levels of technostress and increase team performance.

Method and Data Collection

Multiple Case Study

There is little research on classifying interactional reactions (dyads) between TMs and their subordinates related to technostress. A multiple case study sheds light on different behaviors. Multiple case studies are considered comparative (George 1979), meaning “the same results [may be] predicted for each of the three cases (a literal replication),” which helps prove that the approach implies the same syndrome or “gives contrasting results but for foreseeable reasons (a theoretical replication)” (Yin 2003). Thus, we examined the similarities and differences between our case study and existing studies to address how TM behavior impacts technostress. Moreover, we conducted interviews with TMs and employees, participated in company conferences, spent a day observing, and engaged in corporate events with active players.

To qualify this empirical step, we conducted a literature review on the theory of adaptation by mapping. Thus, we developed a detailed explanation and justification of the specific context of technostress, which could eventually be “testable [in] other research fields” (Strauss and Corbin 1998).

Prediction and Case Selection

We chose three companies for our multiple case study. The contributions and specificities of each are described in Table 1.

Name	Case 1	Case 2	Case 3
Activity area	Industrial	Insurance	Informatic service
Workforce	+150,000 employees	+72,00 employees	Around 20 employees
Annual turnover	25 billion euros	+4 billion euros	/
Company size	Large enterprise	Large enterprise	SME
Type of market	International	National	International
Geographical location	International	National	International
Situation in ICT adoption	Leader in ICT adoption	Delay in ICT adoption	ICT adoption is an asset policy
Common delimitation concerning technostress	<i>We studied coping strategies for technostress.</i>		

Table 1. Case Presentation

Case 1: This company is an industrial giant that manufactures electricity products and offers services for managing electricity. It is a multinational company with markets in five continents but its main market is

in France. Its operations extend to buildings, civil engineering, public works, and industrial and residential markets. This case is compelling because the company's global communications and mobilization of ICT tools remain essential.

Case 2: This company operates in the services sector as a European leader in insurance. The company was late in embracing ICT in its structure and policy. Nonetheless, the eventual introduction of different ICT tools was massive; in a few years, the company completely changed its information functions. This example is interesting because the company believes (rightly or wrongly) that introducing ICT to its operations will reduce file processing costs.

Case 3: This company is an SME, offering different e-learning services and learning applications on smartphones. It has 20 employees, and the entire workforce is constantly "bathing" in ICTs. Although at first glance, the employees seem quite familiar with ICT, it is worth considering an SME in the ICT field. Thus, including this enterprise will be both general and comparative for the problems considered in our study, despite its ease with ICT.

Our forecast in *Case 1* concerns the high intensity of technostress. The prediction is similar for *Case 2*, with the presence of high technostress but for different reasons, because it lags far behind in adopting ICT. Moreover, the initial functions may not be suitable for this situation. However, *Case 3* is a growing SME with an average employee age of 33 years; thus, we assume it will have fewer problems with technostress.

Construct Validity

In this study, we evaluated the problem of technostress via technostress situations and adaptation strategies. To guarantee the validity of a construct in qualitative research, it is essential to appreciate the research objective and review the literature. This study aimed to establish adaptation strategies related to technostress and was conducted using the conceptual frameworks of interdependence and reciprocal leadership relationships. We started with TM and subordinate interactions to determine adaptation strategies for combating technostress. We then presented the cases of the three companies in our sample and their internal interactions regarding technostress; we observed and described their adaptation strategies and analyzed their adoption strategies.

Internal Validity

To ensure internal validity and attain a "good" level, we followed Yin's (2003) proposal "to test rival hypotheses and compare the empirical diagrams highlighted in theoretical propositions from the literature." A literature review (Beaudry and Pinsonneault 2005; Ragu-Nathan et al. 2008; Wang et al. 2008) was conducted to discover a possible link between technostress and adoption of certain adaptation strategies. Yin (2003) developed the method of "differences" by "examining the differences between the results obtained and establishing contrasts and comparisons" between them (Drucker-Godard 2007) to test and reinforce the research results.

External Validation

Our study was divided into three phases. The first was the collection of data through semi-structured interviews. We then conducted a quality check by listening to the responses, followed by synthesis using keywords. We also requested ideas from the interlocutors. In the second step, we classified the responses by their main elements and translated them into proposals. A justification of the links between the TMs adaptation strategy proposals and our nine proposals made it possible to identify the adaptation strategies. Finally, we detailed the adaptation strategies, focusing on the type of adaptation (problem or emotion).

Little research classifies the interactional (dyadic) reactions between TMs and subordinates related to technostress. We investigated similarities and differences within our cases to compare them with existing studies and explain TM behavior in addressing technostress. We interviewed 13 employees (Table 2) in three representative companies: *Cases 1, 2, and 3*. Table 2 presents the interview progress.

Respondents		Position
<i>Case 1</i>	Isabelle	Director of development affairs

	Frédéric	Supply chain manager
	Olivier	Global public relationship service
<i>Case 2</i>	Éric	Assurance claims manager
	Claude	Assurance claims manager in liabilities
	Laurent	Assurance claims manager
	Stéphanie	Legal protection lawyer
<i>Case 3</i>	Zhang	General manager
	Julien	Informatique service
	Li	Education service
	Juliana	Administrative service
	Aurélie	Executive assistant
	Wang	Marketing service manager

Table 2. Respondents' Profiles

According to Yin (2014), “each case is selected either because it is assumed to find similar results (case of literal replication) or because, according to theory, it should lead to different results (case of theoretical replication) (external validity).” Thus, we assumed that Cases 1 and 2 will present similar results because the two companies focus on ICT and experience high levels of technostress. However, *Case 3* is an emerging SME; thus, we assumed it to have a much smaller technostress problem. We believe that our sample was adequate.

Data Collection and Analysis

This study employed primary documents and resources (observations and interviews), as well as secondary data (internal documents and annual reports). We also employed a pilot theoretical orientation throughout the data collection (Perry et al. 2000) to obtain interviews (Appendix B).

Data Collection

Given the study’s objective, we first collected and coded each individual interview, and specified their positions and function. We then checked whether their responses were oriented toward a problem or emotion, whether they conformed to our initial proposal, whether people had access to more interdependent interactions or reciprocal relationships between TMs and subordinates, and whether TMs chose a problem-oriented strategy. This verification required a return to the literature.

A classification of empirically collected adaptation strategies is implemented in section 4, where we explain the perspective of each interlocutor regarding their adaptive behavior related to technostress. Therefore, to correspond to a hybrid study, we established a guide based on nine propositions via two main concepts (interdependence and LMX).

Regarding *Case 1*, the first step was to understand how executive managers view the behaviors of TMs in terms of global technostress and obtain feedback from employees on the difficulty of using ICT. We appreciated the management’s perspective on the difficulties encountered using ICT, in particular the challenges of digitalization and digital information management. Here, executive managers learned about the essential elements of our study and the main problems we sought to examine. They then gathered information and organized interviews with relevant individuals.

Case 2 recently experienced a change in head office and completed a digital transition; thus, the first step was to understand the company through its organizational chart and mode of operation. We then conducted several interviews with managers from different departments; the average duration of these interviews was 1 hour and 30 minutes.

In *Case 3*, we met with manager Zhang, who explained the functions of his company’s various departments. We implemented the snowball method—once the interview was over, we requested potential respondents for our questions.

As a pragmatic detour, we began our interviews with an open perspective: “Can you describe the factors that create these difficulties for you? What reciprocal relationship exists between you and your manager in the face of technostress? What are the forms of mutual assistance between you and your manager?” The goal was to allow free discussion of their professional relationships. Second, we compared the interview with our nine propositions from the literature. Finally, the interlocutors adjusted their responses.

Data Analysis

The interviews steps are presented in Table 3.

Interview progress	Case 1	Case 2	Case 3
First step	Gain the manager’s perspective of global coping strategies managers use for technostress	Understand the organization chart and business operations	Global corporate presentation by its leader
Second step	Gain feedback from employees	Conduct semi-structured interviews with different service managers	Snowballing
Third step	Gain the leader's personal perspective on technostress		

Table 3. Interview Steps

Results Analysis

We analyzed the results in two phases; the first phase classified the links between participants' responses and the interactional coping strategies (ICS) proposed. Moreover, we translated them into keywords. The second phase detailed the coping strategies with a focus on the type of coping. We then established a synthesis of the study.

Empirical Development of Coping Strategies (First Phase)

Frédéric and Olivier talked about initiatives at work, while Stephanie spoke about the importance of participative management. However, Éric thought exchanges between colleagues or with their TMs were almost nonexistent. Julien explained employees are convinced that the current project has good potential: “Above all, the manager has allowed us to subscribe to the company's capital for employees.” This practice retains many of employees. Zhang emphasized their coping strategy to address technostress, but they felt overwhelmed regardless of interventions.

This leads to the *participative coping strategy*: “Is there mutual assistance between managers and subordinates in ICT?” Isabelle and Claude responded that “when there are difficulties, we try to help each other; it is mostly a question of time.” Li and Wang likewise painted a picture of friendly and anticipatory behavior between colleagues. Stephanie mentioned that when setting up or implementing new software, the team often shared information, methods, and achievements. On the contrary, Éric thought that there is more support between him and his colleagues than with his superiors. However, this positive trend did not prevent him from thinking that employees are isolated: “Each in his box in front of his computer.”

This comment recalls the *mutual assistance strategy*. Aurelie maintained that their software is well “disciplined” and tamed by extensive use. Isabelle stated: “I try to evaluate the level of difficulties and the change due to new technologies.” Olivier opted for a solution and considered differentiating the so-called “normal” problems and those caused by “difficult” information situations. Julianne indicated the importance of support activities. Mr. Zhang emphasized the necessity of making decisions and implementing specific recommendations to avoid or manage conflicts and disputes.

Thus, we must consider the *conflict resolution strategy*. Isabelle and Claude talked about proactive initiatives; Frédéric thought there are several such initiatives. Aurelie explained her relationship with her

supervisor as being composed of exchanges and donations. “In my opinion, if the company considers itself to be free, it must give staff some freedom” (Zhang).

These sentiments follow the *bureaucratic coping strategy*. Isabelle said that her goal of helping or collaborating with her colleagues is based on mutual team interest. Li mentioned that each member must approach work capably to enable work progression. Julien thought his subordinates show more appreciation or cooperation. Julianne said: “My manager told me that, thanks to me, the two groups are starting to communicate better; I am an outstanding member in this case.”

Hence, it is vital to consider the contribution of a *perceived exchange strategy*. Julien mentioned that his superior considers his work with benevolence. Wang stated: “I trust some managers and support them publicly; this trust develops in different contexts.”

Surely, trust is closely associated with the *loyalty strategy*. Li found that his team shares a friendly relationship. Aurelie stated: “I know the habit [and] the style of [our] director so well.” Wang mentioned that “when I talk about how to do things at work, my supervisor and I are usually synchronized with each other. A habit of work is fixed between us, and it seems to be good.”

Such expressions of affection invoke the *affect strategy*. With the introduction to and evolution of ICTs in the company, Isabelle believed that her work is valued. Éric felt that he was valued; more concretely, this valuation was based on bonuses. Claude did not think it was a good practice to be valued by financial compensation or, at least, believed that other valuation methods should be preferred. “For me, I value my employees through expertise” (Zhang). Nevertheless, Stéphanie thought that ICT helped her increase her contribution and productivity.

Moreover, with value comes the *professional respect strategy*. Isabelle found that the trust in the team that already existed was intact. Frédéric confirmed Isabelle’s opinions. However, Aurélie had enough confidence in her director: she was ready to defend him and justify his decisions even when he was absent. “I trust my employees because my employees are well selected. I believe in their skills and openness” (Zhang). Li stated that “I respect the decisions and choices he makes about work.” The strategy chain necessarily concludes with the *mutual trust strategy*.

Empirical Synthesis of the Study (Second Phase)

Below, we detail the ICSs focused on the type of coping (Appendix C) as identified by Carver et al. (1989): problem-centered coping (active coping, planning, suppression of competing activities, coping to constraint, seeking instrumental social support) and emotion-centered coping (search for emotional or social support, positive reinterpretation, acceptance, denial, use of religion).

Participative Coping Focused on the Problem

Participatory interactions between TMs and subordinates were almost exclusively problem-oriented, being based on dialogue and communication oriented toward addressing technostress. They focused on problem-solving, where the environment was participatory. Empirically, most adaptive behaviors of respondents were active coping (initiative) (p¹², p4, p5, p12, p13), planning (p1, p3, p8, p9, p10), suppression of competing activities (p7, p11), and seeking social and instrumental support (p6, p14, p15). Thus, there were participative interactions between TMs and subordinates, resulting in lower levels of technostress and enhanced team performance.

Assistance Focused on the Problem

Collaborative interactions between TMs and subordinates were problem-oriented and mainly involved participatory coping (initiative) (p17), planning (p18, p19), taking direct measures (p23, p24), requests for help (p16), seeking instrumental social support (p20, p22), and emotional (p16, p21) reasons, as well as obtaining moral support, sympathy, or understanding. Although mutual help existed, it was often limited. Moreover, it was linked to trust, which was sometimes not well established between the various protagonists.

¹ P: Witness sentence number.

It is, nonetheless, necessary that this mutual help be used wisely; otherwise, it creates productivity problems. A good policy of mutual aid and mutual assistance improves productivity and reduces technostress.

Conflict Resolution Focused on the Problem

Primarily problem-oriented coping behaviors emerged in this strategy: active coping (initiative) (p23, p24), planning (p30, p31), taking direct measures (p25, p28, p29), eliminating competing activities (p7, p11, p27), and seeking instrumental social support (p26). In terms of the importance of the manager and proximity manager, interventions with respect to problem-solving and the emotions it provokes are two-fold. Thus, supervisors play a vital role in the managing the difficulties related to technostress.

Bureaucratic Coping Focused on the Problem

The bureaucratic interactions between TMs and subordinates focused on the following behaviors: participatory coping (initiative) (p30, p33, p37, p38, p39), direct measurement (p37, p34), suppression of competing activities (p31, p33), and seeking instrumental social support (p35, p36). This strategy is fruitful on the condition that it is active, not passive. Moreover, it must be both upward and downward (superior subordinate). Thus, if there are proactive exchanges and help, technostress declines, and performance can be improved.

Perceived Contribution Focused on the Problem

This strategy applies to problem-oriented coping behaviors. It is strictly limited to competent work behaviors (p41, p43) and involves acting or following guidelines for a given situation (technostress) (p42), collaboration (p39), and seeking social support from the manager (p43). The more people contribute to the work within their teams, the more actions they take to address technostress. Interactions based on the perceived contributions to exchanges between TMs and subordinates can reduce technostress and increase team performance.

Perceived Loyalty Focused on Emotion

Empirically, the type of associated emotions should directly influence coping strategies. This strategy relies solely on emotion, whether positive or negative. Positive emotion can enable people to focus on the problem of technostress with optimism (p44, p45), knowing that a positive reinterpretation means the person positively interprets appreciation or valorization by integrating and contributing within the team. Thus, higher confidence leads a person to place more definite emphasis on supporting team members. However, negative emotion (p46) leads to harmful results, and not only fails to solve the technostress problem, but also decreases performance.

Affect Focused on Emotion

Perceived affect in the interactions between TMs and subordinates consists exclusively of emotion. Individuals try to manage the distress caused by the situation (technostress) rather than dealing directly with problems. Positive emotion instead leads to a harmonized work environment and mutual trust (p47, p48, p49, p50, p51). However, many respondents did not mention the notion of affection, suggesting the professional environment was non-affective. Relationships between TMs and subordinates were somewhat neutral.

Professional Respect Focused on the Problem and Emotion

This strategy focuses on both the problem and emotion. In the problem-oriented component, valuation through rewards represents a search for instrumental social support (p52, p55, p56) and the suppression of competing activities (p53). In the emotion-focused component, commendations from management correspond to social and emotional support (p54, p55, p56). Thus, providing high professional value enables employees to reinforce their work commitment. Otherwise, dissatisfaction or frustration exists. This frustration leads to higher levels of technostress and decreases team performance.

Mutual Trust Focused on the Problem and the Emotion

Finally, mutual trust between TMs and subordinates is assumed to lead to lower levels of technostress and increase team performance. This strategy primarily focuses on resolving technostress with emotion. Thus, we can emphasize positive emotion (p57, p58, p59, p60, p61) and the search for social support for instrumental reasons (p62). However, some respondents indicated that trust levels between colleagues are minimal.

Similarities and Contrasts

There are similarities between *Cases 1* and *2*, as they focus more on the notion of interdependence than LMX, unlike *Case 3*. Table 4 presents the analysis of the various similarities and contrasts.

	Proposal	Case 1			Case 2				Case 3					
		Isabelle	Frédéric	Olivier	Éric	Claude	Laurent	Stéphanie	Zhang	Julien	Li	Juliana	Aurélié	Wang
1	Coping participative		X	X	X			X	X	X			X	X
2	Mutual assistance	X			X	X	X	X			X			X
3	Conflict resolving	X	X	X	Note 1				X	X	X	X	X	X
4	Bureaucratic coping	X	X	X	X	X			X	X			X	
5	Perceived contribution	X	Note 2						X	X	X	X		
6	Perceived loyalty	Note 3								X		X		X
7	Affect										X	X	X	X
8	Professional respect	X	X		X	X		X	X	Note 4				
9	Mutual trust	X	X	Note 5					X		X		X	

Table 4. Case Analysis

Note 1: Absence of a Conflict Resolution Policy for Case 2

Case 1 is an international company whose ICT appears to be its key to success. None of its services can be operated without ICT support. The company tries to address technostress in a personalized way. For

example, Olivier stated: “My manager opts for a solution and stakeholders who [can] differentiate between so-called ‘normal’ problems’ and those caused by ‘difficult’ information situations.”

Case 2 does not support Proposition 3 on conflict resolution. No respondent mentioned a policy for resolving conflicts or combating technostress. This means that the company has not made great inroads into this aspect. For example, Éric said that “there is this digitalization, which sometimes gives the impression that it is an excessive digitalization. We are simply afraid of being replaced; that is to say, are robots are going to do our work tomorrow for us?” This uncertainty describes the situation in an environment where ICT is omnipresent. The company does not have an adequate policy for reassuring its employees. Moreover, its employees experience techno-uncertainty and techno-invasion.

Case 3 is a new company whose ICT is a key asset; it has good mobilization against technostress. Wang (head of the marketing department) said: “Once a new ICT has been set up or updated, it often [induces] a corresponding training (by the manager).”

Note 2: The Perceived Contribution to the Exchange is Very Low for Cases 1 and 2

As *Cases 1* and *2* involve two large companies with numerous (+5,000) employees, the level of the “perceived contribution to the exchange” is low and due, in part, to the impersonality that can exist in these companies.

In *Case 1*, Isabelle, the director of business development, stressed the importance of contributions. She counted on group members in the mutual interest of sharing, aid, and collaboration, which boils down to wishful thinking (answers sometimes seem more official than somewhat spontaneous).

Case 2 involves the interchangeability of cubicles occupied by each employee, partly due to the high number of hierarchical levels that cause information loss. Some workers believed that even if they apply significant amounts of effort, the information may not reach managers.

Compared to the previous two cases, the team in *Case 3* works together permanently with lower turnover and easier access to hierarchy. Julien explained that “if he shows his subordinates more appreciation or cooperation, he could give them more work and give them more autonomy.”

Note 3: An Absence of Loyalty and Affection for Cases 1 and 2

Based on interviews, *Case 1* does not support Proposition 3 on conflict resolution. No respondent mentioned a policy for resolving conflicts or combating technostress. Although its employees experience techno-uncertainty and techno-invasion, the company lacks an adequate policy for reassuring its employees. We believe the lack of loyalty is due to the company’s large structure, high turnover (employee turnover), and lack of mutual trust. Employees feel detached from the company’s top management. Isabella explained that “skills count a lot at work” and also stresses “the will to work.” During the interview, however, there was an indication of a lack of loyalty and affection, even if one-sided.

In *Case 2*, the problem is expressed by the information system phenomena in this study and by the difficulties that occur when implementing ICT changes. The hierarchical relationship seems to be remote, and employees work in isolation. Claude explained: “there is less and less contact with management.” Stéphanie testified that “contrary to my expectations, I am quickly disappointed with the behavior of my manager, who is passive in the face of this problem.”

Several respondents in *Case 3* agree that managers do not hesitate to demonstrate a good hierarchical relationship. The words “friends,” “friendship,” and “support each other” are repeated several times. The employees of this emerging SME understand the need for cooperation and sharing to allow the business to survive and advance. Friendships and mutual interest come first.

Note 4: A Low Level of Professional Valuation for Case 3

The feeling of low professional valuation in *Case 3* could stem, in part, from the fact that new “shoots” (new start-ups) do not have large budgets. However, as the core business of this company is IT, the slightest internal ICT problem is perceived as serious. An employee or manager who adapts to a new ICT from the start is not as valued as an employee who easily adapts to information changes. This corresponds to the normal expectations of superiors regarding the company’s core business. The general manager, however, told us, “I value my employees through expertise.” We, therefore, posit that *Case 3* emphasizes the perceived

contribution to the exchange but does not give enough value to its employees, which could lead to long-term dysfunction.

Note 5: An Absence of Mutual Trust for Case 2

The lack of mutual trust in *Case 2* is primarily due to elements related to the lack of loyalty. We also received feedback stating that integrating more information tools has increased competition among employees. However, while limited competition cannot be harmful to the company, permanent competition with, for example, recurrent publication of results and implementation of production (services and products) that are automated and oriented toward results could be harmful to the business. Regarding the lack of hierarchy in ICT-related problems, each employee often works with his or her own ICT tools, which creates even more isolation and individualism. Moreover, each person adopts a work attitude focused on their results and not those of the team or company. Finally, communication between team members is seen as increasingly impersonal. This situation translates into a decline in or even an absence of mutual trust.

Discussion and Contributions

This study identified nine coping strategies to meet the initial objective. TMs choose adaptive behaviors to address technostress, with some only interested in the emotional aspect, either in positive reinterpretation or unfavorable emotions. Positive emotions seem to bring favorable results and can decrease technostress. Negative emotions do not lead to either lower technostress or to an increase in performance. Furthermore, interactions through professional development and mutual trust are problem- and emotion-oriented because one can be valued professionally through financial and moral compensation. This double characteristic directs the strategy toward resolution by problem and emotion. Financial compensation includes bonuses, shares, and an increase in rank within the entity, while moral compensation includes social support, information sharing, and requests for advice or help. This study allowed us to reference the behaviors and decisions related to technostress connected with ICT to identify the most relevant behaviors.

Theoretical and Empirical Implications

Theoretically, classifying coping strategies can enrich the literature on technostress. Thus, we determined two other notions—interdependence and LMX—for identifying adaptation strategies. This interactional perspective broadens the research field and helps innovate the notion of “coping.” The categorization can then guide TMs in improving emotional control and, hence, resolving problems related to technostress.

Empirically, the problem of technostress cannot be denied, and the transformation of working methods and the technological evolution generates new problems. Furthermore, there are different methods of adaptation and responses to technostress. However, they do not all result in the same outcome. Even so, it is not enough to adopt a response to technostress; the response must be adapted, otherwise, it risks having a counterproductive effect.

The answers can be focused on a problem or on emotion. Moreover, the propositions lead to a decrease in technostress and an increase in team performance, despite operating at different levels. However, it is not enough to apply an adaptation strategy. It is necessary to favor certain gradations of the chosen strategy, as in the case of valuation. This does not necessarily translate into a monetary aspect but rather recognition demonstrated by the hierarchy surrounding the individual who can adapt and manage the transformation of the technological environment.

Limitations and Future Research Directions

In *Case 1*, the interactions that led to addressing technostress were rather bureaucratic. Moreover, there was mutual trust and, therefore, prompt behavior to adapt to and overcome technostress. In *Case 2*, strategies of adaptation via loyalty or affect in response to technostress were rarely implemented. This is likely because service companies where work is done individually often have the highest turnover. The start-up in *Case 3* employed participative adaptation, which is often chosen as a response to technostress. Notably, the IT company is yet to be affected by technostress and participatory adaptation because small innovative companies often favor group work or project management with fluid communication and rapid feedback. Thus, technostress is often solved more quickly in small than large structures.

The three case studies aimed to be representative, as we integrated two large companies and one start-up, headquartered in France. However, the study was limited to the headquarters and a few connected departments located at different addresses. Hence, future studies could increase the representativeness of our sample, which is also limited to France.

Finally, the ICSs identified during this study allow for continuing our study of TM responses in the context of technostress. Thus, further studies could seek and explore intervention scenarios to qualitatively analyze ICSs for a post-adoption period.

References

- Ayyagari, R., Grover, V., and Purvis, R. 2011. "Technostress: Technological Antecedents and Implications," *MIS Quarterly* (35:4), pp. 831-858. <https://doi.org/10.2307/41409963>
- Bass, B. M., and Stogdill, R. M. 1990. *Bass and Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications*, New York: Simon & Schuster.
- Beaudry, A., and Pinsonneault, A. 2005. "Understanding User Responses to Information Technology: A Coping Model of User Adaptation," *MIS Quarterly* (29:3), pp. 493-524. <https://doi.org/10.2307/25148693>
- Blackburn, R. 1981. "Lower Participant Power: Toward a Conceptual Integration," *Academy of Management Review* (6:1), pp. 127-131. <https://doi.org/10.5465/amr.1981.4288029>
- Carver, C., Scheier, M., and Weintraub, J. 1989. "Assessing Coping Strategies: A Theoretically Based Approach," *Journal of Personality and Social Psychology* (56:2), pp. 267-283. <https://doi.org/10.1037//0022-3514.56.2.267>
- Chan, C., Teoh, S. Y., Yeow, A., and Pan, G. 2019. "Agility in Responding to Disruptive Digital Innovation: Case Study of an SME," *Information Systems Journal* (29:2), pp. 436-455. <https://doi.org/10.1111/isj.12215>
- Coakes, E., and Elliman, T. 1999. "The Role of Stakeholders in Managing Change," *Communications of the AIS* (2), pp. 1-29. <https://doi.org/10.17705/1CAIS.00204>
- Dansereau, F., Graen, G., and Haga, W. 1975. "A Vertical Dyad Linkage Approach to Leadership within Formal Organizations," *Organizational Behavior and Human Performance* (13:1), pp. 46-78. [https://doi.org/10.1016/0030-5073\(75\)90005-7](https://doi.org/10.1016/0030-5073(75)90005-7)
- Deutsch, M. 1973. *The Resolution of conflict: Constructive and Destructive Processes*, New Haven, CT: Yale University Press.
- Diaz, I., Chiaburu, D., Zimmerman, R., and Boswell, W. 2012. "Communication Technology: Pros and Cons of Constant Connection to Work," *Journal of Vocational Behavior* (80:2), pp. 500-508. <https://doi.org/10.1016/j.jvb.2011.08.007>
- Dienesch, R., and Liden, R. 1986. "Leader-member Exchange Model of Leadership: A Critique and Further Development," *Academy of Management Review* (11:3), pp. 618-634. <https://doi.org/10.5465/amr.1986.4306242>
- Drucker-Godard, C. 2007. *La gestion au quotidien des priorités du dirigeant. Comités Exécutifs, voyage au cœur de la dirigeance*, Edition d'organisation, Eyrolles.
- Falconier, M., Jackson, J., Hilpert, P., and Bodenmann, G. 2015. "Dyadic Coping and Relationship Satisfaction: A Meta-analysis," *Clinical Psychology Review* (42), pp. 28-46. <https://doi.org/10.1016/j.cpr.2015.07.002>
- Folkman, S., and Lazarus, R. 1985. "If It Changes It Must be a Process: Study of Emotion and Coping During Three Stages of a College Examination," *Journal of Personality and Social Psychology* (48:1), pp. 150-170. <https://doi.org/10.1037//0022-3514.48.1.150>
- Folkman, S., Lazarus, R., Dunkel-Schetter, C., DeLongis, A., and Gruen, R. 1986. "Dynamics of a Stressful Encounter: Cognitive Appraisal, Coping, and Encounter Outcomes," *Journal of Personality and Social Psychology* (50:5), pp. 992-1003. <https://doi.org/10.1037//0022-3514.50.5.992>
- Gaudioso, F., Turel, O., Galimberti, C. 2017. "The Mediating Roles of Strain Facets and Coping Strategies in Translating Technostressors into Adverse Job Outcomes," *Computers in Human Behavior* (69), pp. 189-196.
- George, A. L. 1979. "Case Studies and Theory Development: The Method of Structured, Focused Comparison," in *Diplomacy: New Approaches in History, Theory, and Policy*, P. G. Lauren (ed.), New York, NY: Free Press.

- Gómez, C., and Rosen, B. 2001. "The Leader-Member Exchange as a Link Between Managerial Trust and Employee Empowerment," *Group and Organization Management* (26:1), pp. 53-69. <https://doi.org/10.1177/1059601101261004>
- Graen, G., and Cashman, J. 1975. "A Role-making Model of Leadership in Formal Organizations: A Developmental Approach," *Leadership Frontiers* (143), p. 165.
- Graen, G., and Schiemann, W. 1978. "Leader-member Agreement: A Vertical Dyad Linkage Approach," *Journal of Applied Psychology* (63:2), pp. 206-212. <https://doi.org/10.1037/0021-9010.63.2.206>
- Harris, K., Harris, R. B., Carlson, J., and Carlson, D. 2015. "Resource Loss from Technology Overload and Its Impact on Work-family Conflict: Can Leaders Help?," *Computers in Human Behavior* (50), pp. 411-417. <https://doi.org/10.1016/j.chb.2015.04.023>
- Hollander, E. P. 1980. "Leadership and Social Exchange Processes," in *Social Exchange: Advances in Theory and Research*, M. S. Greenberg and R. H. Willis (eds.), Boston, MA: Springer, pp. 103-118.
- Hosmer, L. T. 1995. "Trust: The Connecting Link Between Organizational Theory and Philosophical Ethics," *Academy of Management Review* (20:2), pp. 379-403. <https://doi.org/10.5465/amr.1995.9507312923>
- Hughes, H., Clegg, C., Bolton, L., and Machon, L. 2017. "Systems Scenarios: A Tool for Facilitating the Socio-technical Design of Work Systems," *Ergonomics* (60:10), pp. 1319-1335. <https://doi.org/10.1080/00140139.2017.1288272>
- Jung, Y., and Lyytinen, K. 2014. "Towards an Ecological Account of Media Choice: A Case Study on Pluralistic Reasoning While Choosing email," *Information Systems Journal* (24:3), pp. 271-293. <https://doi.org/10.1111/isj.12024>
- Lazarus, R. S. 1966. *Psychological Stress and the Coping Process*, New York, NY: McGraw-Hill.
- Lazarus, R. S., and Folkman S. 1984. "Coping and Adaptation," In *The Handbook of Behavioral Medicine*, W. D. Gentry (ed.), New York, NY: Guilford, pp. 282-325.
- Liang, H., and Xue, Y. 2009. "Avoidance of Information Technology Threats: A Theoretical Perspective," *MIS Quarterly* (33:1), pp. 71-90. <https://doi.org/10.2307/20650279>
- Liden, R., and Graen, G. 1980. "Generalizability of the Vertical Dyad Linkage Model of Leadership," *Academy of Management Journal* (23:3), pp. 451-465. <https://doi.org/10.5465/255511>
- Liden, R., and Maslyn, J. 1998. "Multidimensionality of Leader-member Exchange: An Empirical Assessment Through Scale Development," *Journal of Management* (24:1), pp. 43-72. <https://doi.org/10.1177/014920639802400105>
- Long, S. (ed.) 2013. *Socioanalytic Methods: Discovering the Hidden in Organisations and Social Systems*, London: Karnac Books.
- Lu, L., Kao, S. F., Siu, O.-L., and Lu, C.-Q. 2010. "Work Stressors, Chinese Coping Strategies, and Job Performance in Greater China," *International Journal of Psychology* (45:4), pp. 294-302. <https://doi.org/10.1080/00207591003682027>
- Major, D., and Morganson, V. 2011. "Coping with Work-family Conflict: A Leader-member Exchange Perspective," *Journal of Occupational Health Psychology* (16:1), pp. 126-138. <https://doi.org/10.1037/a0021727>
- Michel, J., Kotrba, L., Mitchelson, J., Clark, M., and Baltes, B. 2011. "Antecedents of Work-family Conflict: A Meta-analytic Review," *Journal of Organizational Behavior* (32:5), pp. 689-725. <https://doi.org/10.1002/job.695>
- Mintzberg, H. 1983. *Power In and Around Organizations*, Englewood Cliffs, NJ: Prentice Hall.
- Moore, J. E. 2000. "One Road to Turnover: An Examination of Work Exhaustion in Technology Professionals," *MIS Quarterly* (24:1), pp. 141-168. <https://doi.org/10.2307/3250982>
- Perry, D. E., Porter, A. A., and Votta L. G. 2000. "Empirical Studies of Software Engineering: A Road Map," in *Proceedings of the Conference on the Future of Software Engineering, Academic Medicine*, pp. 345-355.
- Ragu-Nathan, T. S., Tarafdar, M., Ragu-Nathan, B., Tu, Q. 2008. "The Consequences of Technostress for End Users in Organizations: Conceptual Development and Empirical Validation," *Information Systems Research* (19:4), pp. 417-433. <https://doi.org/10.1287/isre.1070.0165>
- Russell, J., and Barrett, L. 1999. "Core Affect, Prototypical Emotional Episodes, and Other Things Called Emotion: Dissecting the Elephant," *Journal of Personality and Social Psychology* (76:5), pp. 805-819. <https://doi.org/10.1037/0022-3514.76.5.805>

- Sadok, M., and Bednar, P. 2017. Teaching Business Systems Analysis to Cyber-security Managers: A Socio-Technical Perspective, in *3rd International Workshop on Socio-Technical Perspective in IS Development*, S. Kowalski, P. Bednar and I. Bider (eds.), Essen, Germany, pp. 25-32.
- Scandura, T., Graen, G., and Novak, M. 1986. "When Managers Decide Not to Decide Autocratically: An Investigation of Leader-member Exchange and Decision Influence," *Journal of Applied Psychology* (71:4), pp. 579-584. <https://doi.org/10.1037/0021-9010.71.4.579>
- Skinner, E., Edge, K., Altman, J., and Sherwood, H. 2003. "Searching for the Structure of Coping: A Review and Critique of Category Systems for Classifying Ways of Coping," *Psychological Bulletin* (129:2), pp. 216-269. <https://doi.org/10.1037/0033-2909.129.2.216>
- Strauss, A., and Corbin, J. 1998. *Basics of Qualitative Research Techniques*, Thousand Oaks, CA: SAGE.
- Tarafdar, M., Pullins, E. B., and Ragu-Nathan, T. S. 2015. "Technostress: Negative Effect on Performance and Possible Mitigations," *Information Systems Journal* (25:2), pp. 103-132. <https://doi.org/10.1111/isj.12042>
- Tarafdar, M., Tu, Q., Ragu-Nathan, B., and Ragu-Nathan, T. S. 2007. "The Impact of Technostress on Role Stress and Productivity," *Journal of Management Information Systems* (24:1), pp. 301-328. <https://doi.org/10.2753/MIS0742-1222240109>
- Tarafdar, M., Tu, Q., and Ragu-Nathan, T. S. 2010. "Impact of Technostress on End-user Satisfaction and Performance," *Journal of Management Information Systems* (27:3), pp. 303-334. <https://doi.org/10.2753/MIS0742-1222270311>
- Tjosvold, D., and Chia, L. C. 1989. "Conflict Between Managers and Workers: The Role of Cooperation and Competition," *The Journal of Social Psychology* (129:2), pp. 235-247. <https://doi.org/10.1080/00224545.1989.9711724>
- Walsh, I., and Renaud, A. 2017. "Reviewing the Literature in the IS Field: Two Bibliometric Techniques to Guide Readings and Help the Interpretation of the Literature," *Systèmes d'Information & Management* (22:3), pp. 75-115. <https://doi.org/10.3917/sim.173.0075>
- Walsham, G. 1995. "Interpretive Case Studies in IS Research: Nature and Method," *European Journal of Information Systems* (4:2), pp. 74-81. <https://doi.org/10.1057/ejis.1995.9>
- Wincent, J., and Örtqvist, D. 2009. "A Comprehensive Model of Entrepreneur Role Stress Antecedents and Consequences," *Journal of Business and Psychology* (24:2), pp. 225-243. <https://doi.org/10.1007/s10869-009-9102-8>
- Yin, R. K. 2003. *Case study research: Design and methods* (3rd ed.), Thousand Oaks, CA: Sage.
- Yin, R. K. 2014. *Case study research: Design and methods* (3rd ed.), Thousand Oaks, CA: Sage.
- Zalesny, M. D., and Graen, G. 1987. "Exchange Theory in Leadership Research," *Handbook of Leadership* (714), p. 727.