1. Introduction

Crises are catalysts for change - at the same time they expose ignored structural fragilities and serve as mechanisms of natural selection. Among such fragilities, socio-technical aspects within information systems have remained at large in the past decades (Mandviwalla & Flanagan, 2021). More specifically, the interplay between crises and emotional reaction is still treated as ambivalent considering teams and individuals (Raffaelli *et al.*, 2019). Every crisis adds new elements or dimensions to the previous ones - which mark the transition from threats to crises (James *et al.*, 2011) - and sudden changes in digital working settings and conditions impose its own ambiguities (Dubey & Tripathi, 2020; Ardito *et al.*, 2021). In the case of the Covid-19 crisis, these have led to an unforeseen pace of change with varying impacts on team dynamics and emotions (Carmine *et al.*, 2021).

Teamwork is an essential aspect of organizations that is affected by emotions (Kuntz, 2021), especially depending on their causes (Balducci *et al.*, 2021), many of which are investigated in the literature (Dietz *et al.*, 2017). Among these, threat rigidity is often mentioned as potentially related to both team learning (Liu and Liu, 2018) and emotional reaction (Gagné *et al.*, 2021) but no clear relation emerges (Sarkar & Osiyevskyy, 2018). The threat rigidity rationale posits that crises prompt organizations to enter a stress-induced state that fosters risk aversion and constricts control in the information flows (König *et al.*, 2021), yet there is also evidence that threat rigidity may encourage growth (Fernández-Menéndez *et al.*, 2020).

Given that current literature suggests threat rigidity produces a top-down sharp decrease or even interruption in information flows (Shi *et al.*, 2018), it is a candidate for anteceding team learning and emotional reaction. Past studies failed to address the ambiguous role of threat rigidity - i.e., whether such circumstances force team learning and flexibility as compensation mechanisms or whether the cognitive constriction effects reported happen at the team level (Staw *et al.*, 1981; Hodgkinson & Healey, 2011; Probst *et al.*, 2020; Fernández-Menéndez *et al.*, 2020). This inconsistency is especially worth considering since sudden exogenous shocks take its toll on team communication, coordination, problem formulation as well as emotional resilience (Chanias *et al.*, 2019; Bulińska-Stangrecka & Bagieńska, 2021) - as in the case of sudden adoption of digital workplaces during the current Covid-19 crisis (Wang *et al.*, 2021).

Thus, the aim of this study was to test threat rigidity as an antecedent of team learning and emotional reaction during change towards digitalized workplaces. However, in pursuing this goal, questionnaire pre-test feedback showed that respondents were angered by their forced pace in change and feelings of personal obsolescence and impotence, resulting in scenarios of counterproductive work behaviors (Palmer *et al.*, 2017). This suggests that outcomes for threat rigidity may go from indifference (Spillan & Hough, 2003), through erratic behavior (Fredberg & Pregmark, 2021) and passive resistance (Audia & Greve, 2021) to potentially reach counterproductive work behaviors, which led us to include sabotage as a possible outcome.

Thus, to explore the interplay of threat rigidity, team learning, emotional reaction and sabotage, data was collected from 229 information technology (IT) professionals from 8 countries. Using structural equation modeling (PLS-SEM), we tested a model with these four constructs and multigroup analysis was employed to ascertain differences between developed and developing countries. Results provide evidence that threat rigidity overpowers previously researched effects on teams such as panic and inaction (i.e., passive negative reactions), towards an active phase of reactions (deviant or counterproductive work behaviors).

In addition, we have found that while sabotaging is present in both subgroups, it is more prevalent in the developing countries subgroup. Emotional reaction resulting in sabotage, when split, is significant in the developing countries subgroup. Information technology as core business does not play a role in terms of sabotaging within each subgroup and, contrary to our

expectations, threat rigidity is not a significant driver of diminished team learning. On the other hand, the overall quality of the change process is highly correlated with sabotaging, which points to institutional environment quality as a potential explanation. This study contributes to the development of literature by testing threat rigidity as an antecedent to both team learning and emotional reaction, and discussing the relations between these and sabotage. Furthermore, it also discusses institutional environment quality differences as a potential elucidation for the differences found in the subgroups.

2. Literature review and hypotheses development

Crises change organizations, for better or worse. Generally speaking, turbulent environments are negatively associated with team behavior, as it is shown that technological and commercial threats or economic hardships lead to group management adversities (Sarkar & Osiyevskyy, 2018). The problem with managing such adversities during a crisis is that much of the decision-making on contemporary organizations is based on 'cold cognition', ignoring the effects of emotions as a basis for sensemaking (Hodgkinson & Healey, 2011) and decision making (Dionne *et al.*, 2018). This is particularly important for complex operations mediated by information systems, which, due to dependence on cold cognition processes, may alienate people when the emotional dimension is not properly managed (Karimi-Alaghehband & Rivard, 2019).

Therefore, organizations may create a chasm during crises - focusing on technology to mitigate negative impacts, when a balanced approach between technology and promoting team learning and flexibility could be considered. This, however, depends on balancing work conditions (London *et al.*, 2005) and psychological safety (Panteli *et al.*, 2019) and such aspects, if negatively affected by turbulence, hamper team morale, perception and decision-making processes (Janardhanan, 2020). Whenever teams feel pressured and in defense, hypervigilant information seeking structures ensue (Guo *et al.*, 2019) and, as part of threat perception, teams become asymmetric towards defensive instead of creative problem-solving goals (Woolley *et al.*, 2013), giving rise to a wide range of distrustful mechanisms (Kozlowski and Bell, 2020).

This overconservative behavior is known as threat rigidity (Staw *et al.*, 1981). Its rationale posits that organizations facing unforeseen pivotal changes display maladaptive reactions consisting of restricted information flows, augmented control (usually becoming more hierarchical as well as top-down), decreased ability in defining and assessing problems, increased focus on inward problems and reasserted core capabilities (Martins *et al.*, 2020). In addition, its most reported repercussions involve poor market decisions (Shimizu, 2007), inadequate internal communication (Welch & Jackson, 2007) and lack of transparency (Farrell, 2016). Threat rigidity has long been heralded as a potential cause for many misalignments in decision making as well as driver for negative organizational behavior (Osiyevskyy & Dewald, 2015).

We infer that the effects of threat rigidity will be considerably more significant when there is a sudden change in the working conditions and logics, as especially brick-and-mortar and partially digital companies may have a harder time making a quick and efficient transition to digitalized workplaces. In contrast, during a crisis, decisions must be made more cautiously so as not to circumstances (Treurniet & Wolbers, 2021). This tension creates helplessness that may induce proactive reactions to changes (Dewald & Bowen, 2010) and retaliation, including knowledge sabotage (Serenko, 2020). Thus,

H1a: Threat rigidity is negatively related to Team Learning

H1b: Threat rigidity is positively related to Emotional Reaction

H1c: Threat rigidity is positively related to Sabotage

Team innovation implementation is directly affected by technological, market and entrepreneurial orientations (Amaya-Rivas & Wu, 2019). Active problem-solving processes happen more often in workplaces that allow multiple interpretations of problems and permit flexible, varied responses to the same problems (Baer *et al*., 2013). These processes enable an artificial selection of problem responses (Furlan *et al.*, 2020), which is diametrically opposed to what happens once threat rigidity is in place (Espedido & Searle, 2020), and experiments show that team past learned efficiency may be lost when new work patterns emerge - especially those that challenge former shared mental models (Uitdewilligen *et al.*, 2018).

In addition, loneliness and stress may stem from working from home (if compared to teams used to physically interact and share ideas) using 'alien' digital communication tools (Panteli *et al*., 2019; Lim *et al.*, 2020). Whereas project managers are used to dealing with asynchronous and distributed tasks (Sangwan *et al.*, 2020), physical presence is seen as an important component to project and team performance (Hung *et al*., 2021). This is particularly important in societies such as Latin America where rules may not be as important as proximity to superiors at work (Mouriño-Ruiz, 2010), making working from home a new stressor. Threat rigidity makes interaction between team members more self-conscious than normal, consequently deteriorating normal, relaxed communications and increasing the feeling (or desire) of defense (Olsen and Sexton, 2009).

Moreover, emotional exhaustion diminishes positive relationships towards leadership and organization, task development and commitment (Kim *et al.*, 2018). Negative work behaviors such as sabotage, revenge and vandalism may be mitigated by vigilance and implemented systems (Qiu & Peschek, 2012), but such mechanisms may not happen in less IT-intensive organizations, when IT professionals are responsible themselves for such control systems, or are unlikely to be caught red-handed. Hence,

H2a: Team Learning Orientation is negatively related to Emotional Reaction

H2b: Team Learning Orientation is negatively related to Sabotage

Especially when crises ensue, managers often need to justify or explain work changes and the way managers deal with communication influences reactions (Lines *et al.*, 2011). Things may get worse when top management shuts down established communication channels and no plausible explanations are offered to changes. For instance, whenever acute threats to organizational survival are perceived, project managers are likely to become authoritarian in their leading style, contributing to increased uncertainty (Joshi & Jha, 2017). This makes strategic problem formulation prone to a plethora of complications, as heterogeneous information sets, objectives and cognitive structures routinely handled by project managers may suddenly not be handled anymore, or take place in an erratic fashion (Baer *et al.*, 2013). Thus, particularly when left to themselves, team members collectively assess the situation and analyze risks (Dionne *et al*., 2018).

When implementations are interpreted as threats, team reaction is strongly linked to past experiences, triggering emotional reactions (Stam & Stanton, 2010). Team learning is related as a potential mediator between team safety and team performance and members' reactions mediate the interpretations of the environment (Choi *et al*., 2011). Poor internal communication is also usually associated with low levels of trust among members of the organization, emerging more frequently during periods of crisis (Welch & Jackson, 2007) and teams may feel obsolete or replaced since the processes they were in control of before are now mediated or partially substituted by digital technologies (Harteis *et al.*, 2020).

When threats escalate to crises leading to long, continuous periods of stress and team members reach emotional exhaustion, it is more likely that team members resort to deliberate

acts of violation of norms, expectations and procedures (Golpavar, 2016) and cognitive, emotional, behavioral and psychological stressors play a role in diminished coordination, decline in communication and, consequently, deteriorated cooperation (Dietz *et al.*, 2017). This may cause low support for the change process (Meske *et al.*, 2020) and negative team behavior may have a domino effect on other members and teams (Felps *et al.*, 2006). Finally, especially in the case of IT, when there is a perception of power in one's job (such as IT professionals in high demand), instability affects behavior in negative ways, with team members denigrating each other, sabotaging processes and, in consequence, becoming overconservative (Feenstra *et al.*, 2020). Thus,

H3: Emotional Reaction is positively related to Sabotage

Studies focusing on the interplay between institutional inefficiency and sabotage are almost non-existent (Lakshman and Akhter, 2015), especially at an industry level. Institutional inefficiencies happen when the rules of the game are imprecise or ambiguous, resulting in parallel, unofficial compensation mechanisms (Chang & Wu, 2014). Developing countries are known as havens of institutional inefficiency as part of their transition towards more matured models (O'Donnell *et al.*, 2013), especially if compared to developed countries (Matemilola *et al.*, 2019). We posit that while sabotage happens whenever there is a clash of interests, it may happen more frequently when rules are unclear, and especially when they cannot be as easily enforced, as a show of force mechanism - see examples in Bebbington (2010) and Kent *et al.* (2014). Consequently,

H4a: Structural relationships between threat rigidity and sabotage are stronger in developing countries,

H4b: Structural relationships between team learning and sabotage are weaker in developing countries

H4c: Structural relationships between emotional reaction and sabotage are stronger in developing countries

3. Method

To verify the hypotheses, partial least square structural equation modelling (PLS-SEM) was employed. PLS-SEM has been consistently used in studies for exploration of novel relationships between constructs (Matthews *et al.*, 2017). It also copes well with non-normality and complexity in indicators (Hair *et al.*, 2016, p. 144) if compared to covariance-based structural equation modelling (CB-SEM) (Hair *et al.*, 2011).

The sample consisted of information technology professionals in organizations with varying degrees of IT as their core business from developed and developing countries. Choosing IT professionals provides a socio-technical perspective of change to digitalized workplaces. Considering sabotage, IT professionals in less IT-intensive organizations may have a lower risk of being caught or penalized for potential counterproductive behaviors - due to the need of IT professionals in short supply in many markets (Wu *et al.*, 2015) and, in non-IT companies, their control and supervision ranging from limited to non-existent (Moquin *et al.*, 2019). IT professionals are also exposed to both internal and external stakeholders (Panteli *et al.*, 2020). Whereas market turbulence and job threats may stimulate turnover (Bellini *et al.*, 2019), acute, generalized circumstances such as the current crisis may prevent IT professionals from seeking new positions. Moreover, practices of overtime and crunch (unpaid overtime) have spread from parts of software development towards other IT-related areas (Cote *et al.*, 2021). An additional aspect to be considered is that counterproductive work behaviors are suggested to be more prevalent among males (Ng *et al.*, 2016) as in the IT job market.

To measure the constructs proposed in the hypotheses, we developed a survey questionnaire based on pre-existing tested scales, along with auxiliary measures for control purposes. To test threat rigidity (THR) as a possible antecedent, we adapted the scale in Daly *et al.* (2011). This scale measures organizational impaired responses to crises that affect mainly information flows, decision and control mechanisms. We employed the team learning (TLO) dimension from Sharma and Sharma (2016) and emotional reaction (ERE) from Oreg (2003). To measure sabotage (SAB), we adapted the items from the service sabotage dimension in Harris and Ogbonna (2006). All of these were collected as 5-point Likert scales. In addition, a few measures were used to qualify respondents and their organizations.

However, measuring change towards digital workplaces proved a challenge since this process is still poorly studied and reported (Baptista *et al.*, 2020). A few studies focus on individual perception aspects (autonomy, tool-using competence, relatedness, etc.) (Meske *et al.*, 2020), others in the implications of changes (Harteis *et al.*, 2020) or the transposition of resistance to change theories to digital workplaces (Scholkmann, 2021). Yet we found no study that provides measurements for the pace or quality of change towards digital workplaces. As such we developed a few items to serve as proxies - these include quality and pace of change, communication in teams, creativity and productivity, and organizational support – due to size limitations, these are available from the authors upon request. Since these items are not part of validated scales they are considered in post-hoc analysis but are not included in any of the previous hypotheses.

The first version of the questionnaire was distributed among a group of scholars and practitioners, from whose commentaries a subsequent version was produced and, again, pre-tested to incorporate a new construct (sabotage). Respondents were contacted and recruited from IT knowledge-sharing internet groups within social networks on LinkedIn and Facebook (a complete list of online groups may be obtained from the authors). They were sent an invitation to an online response collection tool and assured of confidentiality and anonymization in the data handling procedures as well as agreeing with the data collection procedures according to local legislation. They were reminded one, two, three and four weeks after the initial contact in case they still had not answered the questionnaire. Respondents were assured direct contact with the researchers and encouraged to contact us whenever doubts arose.

Special consideration was provided during data collection for internal variability in the role of IT focus in the organizations. We also focused on IT personnel in middle management positions to avoid distortions in the perception of threat rigidity and how it affects sudden changes. The rationale is that executive-level IT professionals may become biased, answer defensively, fear company disclosure policies or provide responses with a higher degree of social desirability - see the appropriateness of middle management responses in Martins et al. (2020).

4. Results

We divided the data in two parts - first sample descriptive statistics and, in the next section, PLS-SEM specific statistics. Initially, 526 survey questionnaires were collected from professionals, members of IT professional discussion boards, from which 297 were discarded as incomplete or filled in more or less than 2 standard deviations from the average time, resulting in 229 full answers (43.54%). For the constraints in the proposed model (maximum of three arrows pointed at a single construct), to obtain a minimum R^2 of 0.10 Hair *et al*. (2016) recommend at least 176 responses (for 1% significance level) and Kock and Hadaya (2016) recommend at least 124 responses - both of which our sampling covers. The sample is unbalanced in terms of gender (males = 78.60%) as it is commonly found in IT (Ryan & Harder,

2014; McGee, 2018). On average, respondents are 39.03 years old (s.d. = 9.19) and have 14.26 years of experience working in IT (s.d. = 8.77). Middle managers are the largest group (48.91%) and IT is a core business in 57.02% of the organizations, from which 21.40% are multinationals and 28.82% are large national companies. As for geographical distribution, 71.18% of the respondents are from developing countries (mainly Brazil but also Argentina and Colombia) and 28.82% from developed countries (mainly United States and Canada, with residual responses from Japan, United Kingdom and Spain).

Since we employed self-reported data extracted from only one source, some concerns may arise about common method bias (CMB). Whereas its harmful effects are debatable (Podsakoff *et al.*, 2012), it requires caution in cross-sectional studies. Using Podsakoff *et al.* (2003) and Jordan and Troth (2020) as general guidelines, CMB was mitigated in a two-step approach. First, the following criteria were used when designing the questionnaire to minimize CMB: providing unambiguous information about the purpose of the study; keeping the questionnaire as short as possible; ensuring item/scale clarity; removing or minimizing common aesthetical or ordering procedures in the items that may induce fatigue and breaking the presentation of items in chunks that allow time for thinking. Then we conducted a Harman's single factor as a post-hoc test (35.9% of variance, well within acceptable bounds, following Kock, 2017) to ensure CMB is not a problem on the data collected.

As data was collected through the second semester of 2020 and first semester of 2021, a test was performed between the first and last quartiles to ensure no significant differences in crisis perception (using THR). In addition, while there is no widely accepted way of testing control variables in PLS-SEM, using multigroup analysis may provide insights on the interplay of such variables. We have done a few rounds of multigroup analyses where no significant relationship was encountered (organization size split by the median; multinational versus national organization; IT as the core business or not). Using the control variables, we also compared the results against non-respondent sampling and *t*-tests resulted non-significant.

The first step in a PLS-SEM is providing evidence of adequacy of the outer model - i.e., whether the relationships between items and their constructs are reliable and valid. The model proposed is reflective, which means weights reflect correlations between the construct and its items. To do so, we generated the average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha (CA). Table 1 summarizes the reliability statistics for the outer model, after non-significant items were dropped. Moreover, the Fornell-Larcker criterion for evaluation of convergent validity is employed (square root of AVE being larger than correlations with other constructs) and Cohen's indicator f^2 indicates the ratio between the part explained by the model and what the model cannot explain ($f^2 = R^2 / 1 - R^2$) and the f^2 are considered very high for behavioral research (over 0.35) (Hair *et al.*, 2016) and attest accuracy.

	Overview				Latent variable correlations				
	AVE	CR	R^2	CA	TLO	ERE	SAB	THR	f^2
TLO	0.61	0.91	0.01	0.89	*0.37*				0.60
ERE	0.60	0.89	0.22	0.87	-0.30	*0.36*			0.52
SAB	0.69	0.93	0.35	0.91	-0.25	0.32	*0.48*		0.73
THR	0.71	0.87	-	0.82	-0.08	0.34	0.46	*0.51*	0.57

Note: Fornell-Larcker's criterion (square root of AVE) on the diagonal of the latent variable correlations for comparison.

Table 1 - Outer model statistics

In addition, contrast between the correlations of item loading and cross loadings are provided as evidence to discriminant validity (each item is more strongly correlated with its own construct than with other constructs) - see Table 2.

	TLO	REE	SAB	THR
TLO_01	**0.78**	-0.25	-0.25	-0.03
TLO_02	**0.80**	-0.30	-0.22	-0.01
TLO_03	**0.77**	-0.14	-0.09	0.02
TLO_04	**0.79**	-0.21	-0.13	0.06
TLO_05	**0.72**	-0.20	-0.17	-0.14
TLO_06	**0.83**	-0.26	-0.16	-0.11
TLO_07	**0.73**	-0.20	-0.27	-0.15
ERE_01	-0.12	**0.72**	0.25	0.23
ERE_02	-0.22	**0.70**	0.29	0.33
ERE_03	-0.25	**0.77**	0.29	0.22
ERE_04	-0.37	**0.73**	0.32	0.29
ERE_05	-0.07	**0.73**	0.27	0.25
ERE_06	-0.21	**0.73**	0.25	0.25
ERE_07	-0.19	**0.76**	0.24	0.33
SAB_01	-0.14	0.33	**0.85**	0.49
SAB_02	-0.26	0.38	**0.87**	0.51
SAB_03	-0.15	0.28	**0.86**	0.46
SAB_04	-0.26	0.28	**0.85**	0.45
SAB_05	-0.27	0.27	**0.83**	0.36
THR_01	0.01	0.35	0.38	**0.72**
THR_02	-0.08	0.17	0.31	**0.69**
THR_03	-0.05	0.42	0.39	**0.74**
THR_04	-0.12	0.28	0.49	**0.84**
THR_05	-0.05	0.16	0.44	**0.79**

Table 2 - Cross loadings

Inner model analyses

The inner model proceeds to testing the relationships among the constructs (structural model). The paths within the model indicate the hypotheses, tested through a sequence of bootstrapped *t*-tests. First, the baseline model is presented (all respondents pooled together) - see Table 3. Hypothesis H1a does not conform to minimum criteria to be accepted, H3 is only significant at a 10% level while all others are significant at a 5% level or higher. Since H4 (a, b, and c) require testing different groups, additional procedures are executed. First, the data is split between the two target groups (developed versus developing countries) and care is taken that both groups are large enough for analyses - roughly at least 50 for the smallest group as a guideline (n = 66) (see an example in Lee and Hallack, 2018). Since our sample is unbalanced towards developing countries, Matthews *et al*. (2017) recommend randomly subtracting cases from the largest group until it is not more than 50% larger than the smallest group. They also recommend conceptual procedures to attest configural invariance and nomological validity, already met by using established scales (Henseler *et al*. 2016). Finally, the model is run according to these two subpopulations - see Table 3. There is support for both H4a (THR - SAB) and H4c (ERE - SAB) but not for H4b (TLO - SAB).

Table 3 - Inner model statistics

Path coefficients		Pooled (baseline)	Group 1 (developing countries)	Group 1 (developed countries)	Group 1 *vs* Group 2
		(n = 229)	(n = 163)	(n = 66)	*p*-value
H1a	THR – TLO	0.68†	0.56†	0.79†	0.69
H1b	THR – ERE	3.83***	3.65***	4.11***	0.75
H1c	*THR – SAB*	5.56***	*4.11***	*5.73***	*0.01*
H2a	TLO – REE	2.43**	2.43**	2.38**	0.82
H2b	TLO – SAB	1.99**	1.98**	2.04**	0.62
H3	*ERE – SAB*	*1.68**	*1.22*	*1.98***	*0.04*

Note: ***=significant at 1%; **=significant at 5%; *=significant at 10%; †= non-significant

Table 3 - Inner model statistics

Post-hoc analysis

Our hypotheses do not comprise mediations, but since emotional reaction is a central concept, between threat rigidity and sabotage, we decided to test it (THR - REE - SAB), yet it proved non-significant. Furthermore, since the items used to measure change to digital workplaces do constitute a validated scale, we preferred to analyze it outside the scope of the hypotheses. In an exploratory fashion, we collected data on 4 aspects related to change to digital workplaces. In the same way as before, data was split between developed and developing countries (DEV) and compared to a few key constructs in the study - IT as core business (ITC), the average of the four dimensions in the appendix split by median (CHG), and sabotage split by median (SAB) - see Figure 1. The items in the appendix are anchored from positive to negative, with high CHG indicating a more troubled process of change.

While sabotaging is present in both subgroups, it is more prevalent in the developing countries subgroup. As for IT as a core it is roughly the same in terms of sabotaging within each subgroup. On the other hand, the overall quality of the change is highly correlated with sabotaging ($R^2 = 0.78$).

5. Discussion

Emotional reaction is a key component for team management during crises. It explains and mediates many aspects that could be potentially ignored if 'cold cognition' systems are the only mechanisms used to ensure continuity during crises (Hodgkinson & Healey, 2011). Whereas many antecedents for emotional reaction have been researched, they are disbalanced towards the more positive side (Van der Meer & Verhoeven, 2014; Bundy *et al*., 2017). This is corroborated by research on organizational decline being much less researched than organizational growth and performance (Serra *et al*., 2013; McMillan & Overall, 2017). Thus, re-introducing negative antecedents to the emotional reaction dimensions is key to understanding team reactions during crises as well as to fostering organizational sensemaking to counterbalance the aftermath of crises (Bodolica & Spraggon, 2020).

Our first goal was then to test threat rigidity as such an antecedent, which fits well the scenario of most industries during the current Covid-19 crisis. Whereas theory posits threat rigidity as a cognitive-behavioral mechanism that may have varying degrees of influence on organizations, it is still unclear on its effects on teams. Following this rationale, we hypothesized that threat rigidity not only diminishes team learning but also influences the team emotional reactions (Harms *et al*., 2017). The results suggest this is not entirely true, at least in the case of IT professionals and especially considering age and experience of respondents. That is, highly experienced professionals may display flexibility in dealing with changes in team information sharing and process adaptation.

Such findings resonate with Kuypers *et al*. (2018) in the sense that collective experience prevents task perception conflicts. One reason is that threats alone may not be enough to destabilize seasoned professionals and teams - an act of habituation in face of recurring stressors (Peters *et al*., 2017). Crises, on the other hand, have an additional layer of novelty that may overwhelm experience and habit (Williams et al., 2017). In addition, our results offer a contrast to Van Hootegem *et al*. (2019), corroborating the cognitive aspects of teamwork (measured in the proposed items), while providing evidence that the relationship between threat rigidity and team learning was not significant. Whereas team learning orientation and team cognition are not the same, they share some traits, pointing to a potential theoretical inconsistency.

Regarding emotional reaction and its relation with threat rigidity, most of the literature still focuses on external stakeholders, rather than on its internal repercussions (Bundy *et al*., 2017). While some papers attempt to bridge this divide, we still need more research on the effects of crisis on teams. The overall idea that uncertainty causes stress and negative emotions has its basis in brain science and many traits explored from an organizational perspective may find a deeper connection with biology - the basis of threat rigidity. For instance, it has been argued that critical situations set individuals in a hypervigilant, selfish status (Peters *et al*., 2017), which is a potential explanation for the results on sabotage derived from emotional reaction - i.e., smoother change processes introduce novelties less frequently (or with better support), providing cognitive adjustment capacity. More specifically, traditional crisis training for leadership fails in considering group behavioral responses (McNulty *et al*., 2018).

Furthermore, on top of dealing with uncertainty and heightened senses, unstructured changes toward digital workplaces can contribute to feelings of ostracism (from the organization or peers) - which commonly snowballs selfish and uncooperative responses (Klein and Rudert, 2021). We infer this is linked to institutional inefficiencies for a few reasons. The results provide evidence that there is a divide between developed and developing countries in terms of sabotage. While one could argue that these differences are related to finance and resources (which tend to be lower in developing countries), the items in the sabotage scale that exhibit higher correlations are those that involve industry-level institutional aspects. This points to normative differences between these two groups, that still need further research.

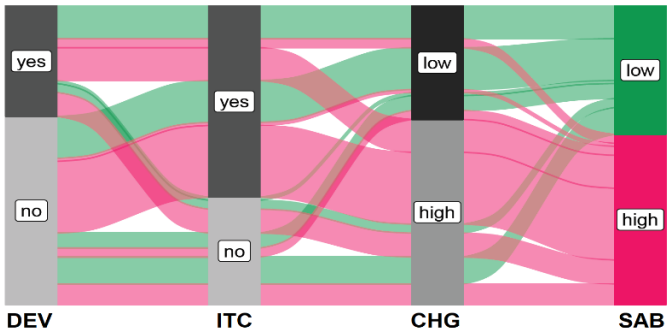

Figure 1 - Post-hoc data comparison

6. Conclusions, limitations and practical implications

This study explores threat rigidity as a potential antecedent for team learning and emotional reaction, along with their joint effect on sabotage during changes to digitalized workplaces. The results obtained contribute to the development of literature by testing threat rigidity as an antecedent to diminished team learning, which counterpoints established literature. This is possibly linked to the IT niche data collection with a high average work experience that makes these professionals to become more resilient through crises. Further

studies should consider including more variability in industries (controlled by SIC codes for instance) to verify this trend.

The sampling in this study has some limitations, especially in imbalance. We have taken care to use accepted guidelines in mitigating the effects thereof, but academics and practitioners should always interpret results with caution as our data comes from 8 countries but are mainly concentrated on Brazil (in the developing group) and US and Canada in the developed group. Asian countries may provide further insights on this combination - Confucianism preventing sabotage (for instance in Japan) versus institutional inefficient environments (such as China). Finally, the combination of threat perception, emotions running high, and repressed anger may lead to sabotage in crucial change processes – such as transition towards digitalized workplaces. While technologies are necessary to bridge the gap between current needs and organizational survival, aspects such as organizational support, leadership guidance, thoughtful explanation of strategic and operational procedures may mitigate potential negative responses from individuals and teams. In addition, since differences in the likelihood of sabotage may be linked to institutional inefficiencies, multinational organizations should take decentralized approaches to deal with local branches.

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