

## The Mediating Role of Organisational Cynicism on the Relationship Between Technostress and Job Performance: A Research on Teachers

**Rukiye CAN-YALÇIN** (<https://orcid.org/0000-0003-4500-6935>), National Defence University, Türkiye; [rcyalcin@kho.msu.edu.tr](mailto:rcyalcin@kho.msu.edu.tr)

**Yunus GÖKMEN** (<https://orcid.org/0000-0002-6107-0577>), Başkent University, Türkiye; [yunusgokmen@gmail.com](mailto:yunusgokmen@gmail.com)

**Haluk ERDEM** (<https://orcid.org/0000-0002-1980-9075>), National Defence University, Türkiye; [halukerdem4244@gmail.com](mailto:halukerdem4244@gmail.com)

**Ufuk TÜREN** (<https://orcid.org/0000-0002-8729-0690>), National Defence University, Türkiye; [uturen2011@gmail.com](mailto:uturen2011@gmail.com)

### Teknostres ve İş Performansı İlişkisinde Örgütsel Sinizmin Aracılık Rolü: Öğretmenler Üzerinde Bir Çalışma

#### Abstract

This study's primary purpose is to examine organisational cynicism's mediating role in the relationship between technostress and job performance. Data are obtained from 234 teachers working in public and private schools in Turkey. In the study, correlation and regression analyses have been performed to determine the relationships and effects between variables, and the structural equation model has been used to verify the scales of the variables. In addition, the mediation role in the study has been examined with the bootstrap test in the Process module. Findings show that the validity and reliability of the scales are ensured by the results of commonly used validity and reliability analysis methods. Additionally, technostress and organisational cynicism decrease job performance and technostress significantly increase organisational cynicism. Further mediation analysis reveals that organisational cynicism partially mediates the relationship between technostress and job performance.

**Keywords** : Technostress, Job Performance, Organisational Cynicism.

**JEL Classification Codes** : M10, M12, M19.

#### Öz

Bu çalışmanın temel amacı, teknostres ve iş performansı arasındaki ilişkide örgütsel sinizmin aracılık rolünü incelemektir. Veriler Türkiye'de resmi ve özel okullarda görev yapan 234 öğretmenden elde edilmiştir. Çalışmada korelasyon ve regresyon analizleri ile değişkenler arası ilişkiler ve etkileri belirlenmiş, yapısal eşitlik modeli ile de ölçeklere doğrulayıcı faktör analizi uygulanmıştır. Ayrıca, çalışmada aracılık rolü Process modülünde önyükleme testi ile incelenmiştir. Bulgular, yaygın olarak kullanılan geçerlik ve güvenilirlik analiz yöntemlerinin sonuçlarıyla ölçeklerin geçerlilik ve güvenilirliğinin sağlandığını göstermektedir. Bulgular, teknostres ve örgütsel sinizmin iş performansını azalttığını ve teknostresin örgütsel sinizmi önemli ölçüde artırdığını göstermektedir. Daha ileri aracılık analizi, teknostres ve iş performansı arasındaki ilişkide örgütsel sinizmin kısmi aracılık rolü olduğunu ortaya koymaktadır.

**Anahtar Sözcükler** : Teknostres, İş Performansı, Örgütsel Sinizm.

## 1. Introduction

People are devoting more and more to jobs that provide a positive identity and position in the social hierarchy or stratification (Ashforth & Mael, 1989). Thus, the work gains importance not only in economic but also in psychological terms, and people can experience stress when they cannot cope with the demands of the workplace (Chandra et al., 2019). Job stress may engender some undesirable outcomes for the individual and ultimately lead to negative consequences for the organisation since stress usually results in loss of motivation, absenteeism, decrease in the quality of performance and efficiency (Devi & Rani, 2016). Though technology is generally assumed to increase efficiency, the effort to understand its complexity (Chandra et al., 2019), the additional workload (Ardiansyah et al., 2019) and the speed of technology and mismanaged change process (Türen et al., 2015; Stich et al., 2018) may cause technostress in organisations. The Transaction Theory of Stress (Lazarus & Folkman, 1984; Cooper et al., 2001) has provided the basis for the theoretical conceptualisation of technostress for several studies (Ragu-Nathan et al., 2008). According to the transactional approach, stress emerges as a structure that contains a relationship between stressor and strain (the individual's response to stressors) (Cooper et al., 2001). In this context, in workplace stress studies, stressors are events, demands, stimuli or conditions such as role overload and role conflict that an individual encounters in the work/organisational environment (Cartwright & Cooper, 1997; McGrath, 1976; Cooper et al., 2001); strain is individuals' response as job dissatisfaction, low commitment and job performance (Jackson & Schuler, 1985; Kahn & Bysosiere, 1992). Job control and social support systems that organisations can provide to protect employees from the adverse effects of workplace stress are expressed as situational factors (Karasek, 1979). More recently, technology in general and information and communication technologies, in particular, have emerged as a new stress-causing condition (Covert et al., 2005) and formed the focus of technostress studies which have revealed that high technostress in an organisation usually causes low job performance (Jena, 2015; Ragu-Nathan et al., 2008; Tarafdar et al., 2007; Tarafdar et al., 2011).

Though all organisations embody varying degrees of stress, teaching is among the most stressful professions (Greenglass & Burke, 2003; Kyriacou, 2001; Klassen et al., 2009). For teachers who experienced stress due to reasons such as reluctant students, discipline problems, work overload, and exposure to frequent changes (Kyriacou, 2001; Boyle et al., 1991) in the past; the use of technology as an integral part of the educational processes has become a new stressor (Al-Fudail & Mellar, 2008) due to its complex structure, (Miles & Perreault, 1976; Chandra et al., 2019) and additional workload (Weil & Rosen, 1999; Ardiansyah et al., 2019). On the other hand, in today's environment, where the scope of information, the speed and the way of access to information all changed, the goal of schools, as an education organisation, is to train individuals equipped with the skills to reach and use technology effectively (Sert et al., 2012). In the process of integrating technology into education, several reasons such as lack of individual competency, insufficiency of technical support and time and health problems (Al-Fudail & Mellar, 2008; Syvänen et al., 2016; Çoklar et al., 2016; Efiltili & Çoklar, 2019; Effiyanti & Sagala, 2018) can trigger technostress

in teachers in some cases. Besides, technostress studies on teachers mostly seem to be limited to the matters such as the evaluation of the existing situation, the reasons for technostress and strategies to buffer or prevent it (Al-Fudail & Mellar, 2008; Syvänen et al., 2016; Çoklar et al., 2016; Efiltili & Çoklar, 2019; Effiyanti & Sagala, 2018).

The negative sequences of stress and unhappiness of the employees in the organisations are not limited to the performance and can further lead to organisational cynicism, which causes employees to engage in several negative attitudes and behaviours toward their organisations (Dean et al., 1998; Nafei, 2013). The transactional theory of stress assumes that a significant amount of strain, such as being overloaded, may lead employees to feel their social exchange with the organisation they work for is inequitable or unfavourable and thus, they may think that they are being exploited by their organisation (Banks et al., 2012). Additionally, social exchange theory argues that implicit obligations and trust constitute the basis of social exchange and individuals who enjoy favourable benefits and treatments in their organisations tend to feel obligated to repay these favours with positive job outcomes, such as higher performance levels and lower levels of turnover intentions in the workplace (Karatepe & Ngeche, 2012; Abugre, 2017; Martin, 2011). Accordingly, caused by the strain and unfavourable circumstances in the work life of the employees, organisational cynicism deteriorates job performance (Andersson & Bateman, 1997; Dean et al., 1998; Johnson & O'Leary-Kelly, 2003; Chiaburu et al., 2013). Considering that the primary purpose of education is to carry the society forward through teaching and preparing individuals, who are the building blocks of society for the future, we think it is meaningful to explore the effect of teachers' technostress level on their cynic behaviours and job performances.

In the literature, there are several studies examining the relationship between technostress and job performance in different occupational groups (Ragu-Nathan & Ragu-Nathan, 2007; Jena, 2015; Tarafdar et al., 2011) and organisational cynicism and job performance (James, 2005; Candan, 2013; Andersson & Bateman, 1997; Dean et al., 1998; Johnson & O'Leary-Kelly, 2003; Chiaburu et al., 2013) and it has been revealed that both technostress and organisational cynicism can contribute to poor job performance. On the other hand, though there are studies indirectly dealing with the relationship between technostress and organisational cynicism (Chiaburu et al., 2013; Abraham, 2000; James, 2005; Cartwright & Holmes, 2006), limited research available in the literature directly examines the relationship of the variables in question (Çelik & Özdemir, 2016). In this sense, for example, Chiaburu et al. (2013) reveal that the strain experienced by employees at the workplace results in organisational cynicism (Chiaburu et al., 2013). In this context, since the strain is an individual's response to stressors, technostress, a new type of job stress, can be assumed to be an antecedent of organisational cynicism. Similarly, based on the thesis that job stress and workload are significant predecessors to organisational cynicism (Abraham, 2000; James, 2005; Cartwright & Holmes, 2006), the results of technostress such as job stress and work overload are thought to be able to cause organisational cynicism. On the other hand, the study available in literature directly on the relationship between technostress and organisational cynicism, conducted on bank employees, concludes that

technostress significantly increases organisational cynicism (Çelik & Özdemir, 2016). Since a few studies explore this relation, we think it should be examined in different sectors and professions. Besides, the literature could not reach an integrated study of three variables for any occupational group.

In the light of the studies and approaches discussed above, the primary purpose of this study is to explore the mediating role of organisational cynicism on the relationship between technostress and job performance. In this respect, it is considered that our study's integrative approach can contribute significantly to the literature. Moreover, several recommendations, in the light of the findings, are presented for the policy and strategy makers of the educational institutions, human resources departments and researchers at the end of the study.

## **2. Conceptual Framework**

### **2.1. Job Performance**

The survival of organisations mostly depends on the performance of human resources (Onay, 2011). These actions and behaviours of employees may either have productive features bringing the organisation closer to its goals, or they may also have negative features estranging the organisation from its goals (Hunt, 1996). Job performance is employees' measurable behaviours and efforts contributing to organisational goals (Visweswaran & Ones, 2000). Job performance is often addressed using a two-dimensional concept as task performance and contextual performance (Motowidlo, 2003; Motowidlo & Van Scotter, 1994). Task performance traditionally refers to the duties and responsibilities in the formal job description (Griffin et al., 2007). Contextual performance, though not required to be included in the official job description, is the set of voluntary behaviours that can contribute to the organisation's overall success and positively impact the social and psychological environment (Motowidlo et al., 1997; Onay, 2011). While job experience can determine the task performance, the employee's personality type can influence the contextual performance (Motowidlo & Van Scotter, 1994). Many factors such as personality, motivation, organisational climate, workload and job stress affect job performance (Barrick et al., 2001; Barrick et al., 2002; Brown & Leigh, 1996; Johari et al., 2018; Devi & Rani, 2016). Along with the hegemony of new technologies in both private and work life, technostress has become one of the crucial factors determining job performance (Jena, 2015; Tarafdar et al., 2007). Technology that brought serious changes in different domains of life, especially in trade, communication and banking, and has also led to radical changes in individuals' behaviour and organisational structures and processes (Pamuk et al., 2012). These changes in different societal layers have also affected educational systems. In this context, teaching as a profession has social, cultural, economic, scientific and technological dimensions and requires professional training (Yalın, 2002). Although the teacher's technology knowledge is considered a necessary and important component among his professional competencies (Mishra & Kohler, 2006), the adaptation problem between teacher and technology that is expected to be integrated into the teaching process can lead to technostress for some teachers

(Al-Fudail & Mellar, 2008; Lim, 2012; Çoklar et al., 2016). Besides, several studies revealed that technostress might have a negative impact on job performance (e.g., Tarafdar et al., 2007; Tarafdar et al., 2015). At this point, it is thought that technostress which can lead to negative results for individuals and organisations (Gaudioso et al., 2017), should be examined further in the context of teachers.

## **2.2. Technostress and Job Performance**

Providing the foundation for several studies, The Transaction-Based approach explains stress as a physical and psychological response to situations that the individual perceives as threatening (Lazarus & Folkman, 1984; Cooper et al., 2001). In other words, stress is an adaptive response to external influences to balance their physical, psychological and behavioural impacts (Luthans, 1995). It describes the phenomenon of stress with three main components: stressors, strain and situational factors. Stressors are events, demands, stimuli, or conditions that individuals encounter in the workplace and feel stressed (Cartwright & Cooper, 1997). These conditions refer to two broad types of role-related stressors, including role ambiguity and role conflict (Kahn et al., 1981; Rizzo et al., 1970) and task-related stressors referring to task characteristics that may result in stress such as task difficulty and ambiguity (McGrath, 1976). Referring to the behavioural, psychological and physiological consequences of stress experienced by individuals (Cooper et al., 2001), strain occurs when individuals are exposed to either role-related or task-related stressors and manifest itself as outcomes such as reduced productivity, job dissatisfaction (Jex & Beehr, 1991) and task performance (Cooper et al., 2001). Situational factors are organisational mechanisms that reduce stressors and mitigate their effects (Cooper et al., 2001). They include social support, role redesign, autonomy, control, and practices such as personnel policy changes (Jimmieson & Terry, 1998), social support, stress management training, counselling, and information sharing (Davis & Gibson, 1994). In the most general sense, stressors increase strain, and situational factors may reduce both strain and the adverse effects of stress (Cooper et al., 2001). Accordingly, technostress focuses on stress in the context of stress factors, situation variables and the use of information technology. As it has become an almost indispensable part of organisations, especially information technologies, have emerged as a new stressor due to its complex, ever-changing and technically skilled nature (Coover et al., 2005; Ragu-Nathan et al., 2008) and, therefore, the transactional stress approach has become the frequently used theoretical basis in technostress studies. It can be stated that the focal points of these technostress studies are strain in the context of stressors, situation variables and the use of information technologies.

Conversely, teaching has been defined as a particularly stressful occupation (Genoud et al., 2009; Greene et al., 1997; Greenglass & Burke, 2003; Kyriacou, 2001; Travers & Cooper, 1993). In this context, a wide variety of factors have been stated to lead to stress in teaching like excessive demands from administrators, colleagues and students, work overload, unsettled policies, misbehaviours of students, lack of discipline and time pressures (Greenglass & Burke, 2003; Klassen et al., 2009; Griffith et al., 1999; Boyle et al., 1995; Kyriacou, 2001). Stress is also associated with using technology at work or home, as

information and communication technologies (ICT) have become an important component of people's personal lives and organisational processes (Brod, 1984). In this process, for teachers, the new requirements brought by the ICT integrated into the educational institutions have led to a new source of stress, which is defined as technostress and experienced by different occupational groups (Al-Fudail & Mellar, 2008; Syvänen et al., 2016; Çoklar et al., 2016; Efiltili & Çoklar, 2019). Initially expressed as technophobia, cyber phobia, computer phobia, and computer stress (Wang et al., 2008), technostress is a new type of stress that arises due to the adverse effect of technology (Boyer-Davis, 2019). Technostress was first defined as a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner (Brod, 1984). Later, the definition was expanded to include any negative impact on attitudes, thoughts, behaviours or psychology caused directly or indirectly by technology (Rosen & Weil, 1990).

Tarafdar et al. (2007) defined technostress as the stress caused by ICT and used the socio-technical systems theory to explain it. According to the socio-technical systems approach, organisations consist of two dimensions: social and technical systems (Trist & Bamforth, 1951). The first is the social dimension, associated with people's abilities, attitudes and values, roles, award systems and authority structures. The technical dimension refers to the technical or task-related side of work that necessitates process and technology-based skills. The roles in the organisation are determined in two ways consistent with these dimensions (Tarafdar et al., 2007). Firstly, roles are determined through the social systems in which individuals are located. Social systems regulate the organisation's hierarchy, reporting systems, division and authority structure. Secondly, the roles are formed by individuals' tasks and the technical method they interact with. They mostly regulate hierarchy, coordination mechanisms, reporting systems, division, control and authority structures, standardisation rules, and centralisation and decentralisation balances. New technologies, leading to the continuous evolution of tasks and skills, also change individuals' roles (Tarafdar et al., 2007). New forms of work and organisational structures enabled by ICT affect individuals' roles in two ways. First, these technologies affect the work environment and change the role of the individual at work. Second, as organisational tasks are interdependent, changes in the individual's task may lead to more extensive changes in formalisation, control span, communication mechanisms, and centralisation level. Therefore, ICT can affect organisational roles through transformations in tasks and social processes (Barley, 1990). Changing roles can lead to stress in individuals by causing role shifts, role overload and role conflicts (Türen et al., 2015). The negative emotions caused by technostress (Joo et al., 2016), which result from rapidly changing and developing technology (Stich et al., 2018), can also hinder the organisations' performance.

Amongst the reasons for technostress are many factors such as lack of experience (Brod, 1982) and performance anxiety caused by endless skill enhancement challenges due to fast-paced technological changes (Chandra et al., 2019). On the other hand, most researchers particularly agree that lack of formal and proper training about the technology used is a significant factor leading to technostress (e.g., Al-Qallaf, 2006; Efiltili & Çoklar, 2019; Stich et al., 2018). In a study conducted on teachers, it has been evaluated that

technological system failure, lack of technical and social training and support needed to use technology, the extension of time for installation and course preparation and inadequate school culture are reported as potential causes of technostress (Al-Fudail & Mellar, 2008). Similarly, it has been revealed that teachers' fear of being unable to control the situation in case of a system error in the technology leads to increased technostress levels (Lim, 2012). Thus, teachers' lack of technology training is the most common cause of technostress.

Considering technostress as an adaptation problem resulting from an employee's insufficiency in getting used to and coping with ICT, five dimensions are proposed to explain the typical situations that technostress can create (Tarafdar et al., 2007). Out of five dimensions of technostress proposed by Tarafdar et al. (2007), we employ three of them (techno-overload, techno-complexity and techno-uncertainty) since they are more relevant to work-life dynamics and the particular industry under focus, similar to Alam (2015) and Türen et al. (2015). Shortly, *techno-overload* refers to the situation where ICT users are forced to work faster for longer periods; *techno-complexity* refers to the state when ICT users feel incompetent because of constantly developing technology and the strain they feel as a result of the time and effort required to understand the diverse features of it. Lastly, *techno-uncertainty* refers to discomfort and hesitation caused by the need to follow and adapt to ICT's continuous change and development.

Technostress affects individuals and organisations (Boyer-Davis, 2019; Weinert et al., 2019). Many studies about the effects of technostress on different fields such as librarianship, banking, aviation and education reveal that it has negative effects on several organisational variables such as absenteeism (Harper, 2000), organisational commitment (Jena, 2015), job satisfaction (Ragu-Nathan et al., 2008; La Torre et al., 2019), motivation (Jena, 2015) and productivity (Rafter, 1998).

In light of the theory and studies discussed above, the following hypothesis is developed:

*H<sub>1</sub>: There is a significant negative relationship between TS (Technostress) and JP (Job Performance).*

### **2.3. Technostress and Organisational Cynicism**

Cynicism can be defined as sacrificing principles such as honesty and sincerity for mundane and individual interests (James, 2005). Likewise, organisational cynicism is the negative attitude of individuals towards the organisation (Dean et al., 1998). It also refers to the individual's tendency to criticise the organisation because they believe it lacks integrity, honesty, justice and sincerity (Davis & Gardner, 2004; Nafei, 2013). These thoughts can also be accompanied by negative emotions such as anger and humiliation, abasement and critical organisational statements.

While the ancient Greek philosophers consider cynicism as a personality trait (Mirvis & Kanter, 1991), modern researchers often prefer to evaluate cynicism as a judgment

through the experiences of individuals (Cole et al., 2006). Referring to learned behaviours, organisational cynicism is not only about the feelings that negative people bring to the organisation, but it is an attitude about the organisation that is shaped by experiences in the workplace (Johnson & O'Leary-Kelly, 2003; Davis & Gardner, 2004). In this respect, focusing on the interaction between the person and the environment and suggesting that stress results from individuals' appraisals of the environment and attempts to cope with issues that arise, transactional stress theory may provide a way to understand the mechanism (Lazarus & Folkman, 1984). Arising from several stressors such as work overload or role ambiguity, the strain may lead the individuals to question organisational procedures. They also may be irritated by the excess and perceive the organisation does not care about his/her well-being. Based on the rationale above, we posit that experiencing strain as a result of stressors at work may result in negative emotions, attitudes and behaviours toward the organisation, namely organisational cynicism.

Organisational cynicism has three main dimensions as; the *cognitive dimension* refers to the thought regarding the absence of integrity in the organisation, the *affective dimension* refers to the negative emotions towards the organisation, and the *behavioural dimension* represents the tendency to display critical behaviours in parallel with those negative thoughts and feelings (Dean et al., 1998; Abraham, 2000). Firstly, according to the *cognitive dimension*, employees believe that some principles such as justice, sincerity and honesty do not exist in their organisation, and thus they feel betrayed (Kutaniş & Dikili, 2010). Moreover, since the relationships within the organisation depend on personal interests, employees may lose values such as sincerity, honesty and righteousness and may display immoral behaviours (Brandes & Das, 2006). As a result, employees do not take the rules and relationships within the organisation serious (Dean et al., 1998). Secondly, the *affective dimension* deals not only with unfavourable thoughts but also the negative feelings and includes emotional responses such as disrespect, anger, shame, disappointment, hatred and moral distortion (Mishra & Spreitzer, 1998). Lastly, the *behavioural dimension* refers to the behaviours of cynical employees, such as using humiliating and cynical words about the organisation, constantly criticising it, and making pessimistic predictions about the organisation's future (Kutaniş & Çetinel, 2010). In the literature, it is stated that many factors such as violations of the psychological contract, role conflict, long working hours, mobbing, ineffective leadership and management, inept organisational change efforts and especially lack of organisational justice may trigger organisational cynicism (Bernerth et al., 2007; James, 2005; Cartwright & Holmes, 2006: 201; Nafei, 2013). Though organisational cynicism may change over time with the new experiences of the employee (Dean et al., 1998), in danger of losing their jobs in an unstable economic environment or an uncomfortable workplace, employees can develop defence mechanisms, such as dis-identifying with and satirise the organisation and demoralise colleagues (Mirvis & Kanter, 1991; Abraham, 2000; Wanous et al., 1994; James, 2005). In this vein, organisational cynicism is a coping method against the hostile, evil and insecure environment or organisation.



Literature review at the time of writing provides us with a single study by Çelik and Özdemir (2016) directly investigating the relationship between technostress and organisational cynicism. Based on the idea that technostress at work can cause negative attitudes towards work and organisation, this study reveals that techno-overload positively affects the three dimensions of organisational cynicism, and techno-uncertainty positively affects the affective dimension of organisational cynicism. Besides, other studies assert that the uncertainty factor created by the change processes in organisations may cause the employees to develop cynical behaviours against the organisation (Wanous et al., 2000; Abraham, 2000; James, 2005; Lemmergaard, 2009). In this respect, many organisations have been involved in the change process as ICT has become an indispensable part of organisational processes. In some cases, employees experience technostress since they cannot adapt to new technologies (Al-Fudail & Mellar, 2008; Marchiori et al., 2018). Considering that job stress is an important factor for organisational cynicism (Abraham, 2000; James, 2005: 45; Cartwright & Holmes, 2006) and especially the uncertainty and work overload brought by the process of change trigger organisational cynicism; technostress as a new type of job stress can lead to organisational cynicism. In other words, organisational factors such as work overload (Andersson, 1996; Avey et al., 2008), uncertainty, especially during organisational change (Andersson, 1996; Avey et al., 2008) and complexity, especially in structure and tasks (Lemmergaard, 2009) often lead to organisational cynicism. In this respect, technostress is due to the complex, ever-changing, uncertain and demanding (Andersson, 1996; Avey et al., 2008; Ragu-Nathan et al., 2008; Tarafdar et al., 2007; Raitoharju, 2005) nature of technology may result in organisational cynicism.

In light of the conceptual reasons discussed above, the following hypothesis is developed:

**H<sub>2</sub>:** *There is a significant positive relationship between TS and OC (Organisational Cynicism).*

#### **2.4. Organisational Cynicism and Job Performance**

The social exchange theory (Blau, 1964) argues that individuals participate in relationships that involve the exchange of economic and socio-emotional resources. Additionally, these resources are exchanged over time in the cycle of reciprocity, and individuals feel comfortable only if the exchange occurs under balanced conditions (Wayne et al., 1997). According to the theory, mutual trust and implicit obligations are the basis of social exchange. If the individuals experience favourable benefits and treatments in the organisation they work for, they tend to feel obliged to repay these favours (Cropanzano & Mitchell, 2005; Martin, 2011). In other words, employees enjoying fair treatment and good human resources practices pay back their organisation by reporting positive job outcomes, such as higher performance levels and lower turnover intentions in the workplace (Karatepe & Ngeche, 2012; Abugre, 2017). Accordingly, several studies have revealed that organisational cynicism- ultimately meaning the employees' dissatisfaction with their organisations (Abraham, 2000) - embodies several negative consequences for the employees

and their organisations (Nafei, 2015; Tuna et al., 2018). In the context of different occupations, organisational cynicism has been stated to be positively related to some variables such as absenteeism and unethical behaviours (Andersson & Bateman, 1997), alienation (Abraham, 2000), resistance to organisational change (Reichers et al., 1997; Wanous et al., 2000) and job stress (James, 2005). On the other hand, organisational cynicism has presented a negative relationship with job satisfaction (Abraham, 2000; Reichers et al., 1997), corporate citizenship behaviours (Andersson & Bateman, 1997; Dean et al., 1998) and job performance (Andersson & Bateman, 1997; Dean et al., 1998; Chiaburu et al., 2013; Arslan, 2018; Scott & Zweig, 2021).

Thus, organisational cynicism should be studied in depth in terms of organisations and executives (Andersson, 1996) since it is considered an attitude that can lead to negative consequences for both the employees individually and the organisation as a whole (Davis & Gardner, 2004). Based on the acceptance that "cynicism is everywhere" in organisations (Dean et al., 1998), it is likely that cynicism may also negatively affect teachers' performance, who are the building blocks of education and training. In the literature conducted on the effects of organisational cynicism on teachers, several studies have reported significant relationships between organisational cynicism and demographic variables (Chudzicka-Czupala et al., 2014; Kalağan & Güzeller, 2010; Kaygısız & Dogan, 2012), school culture (Şirin, 2011), organisational commitment (Mousa, 2017; Kılıç, 2011) and organisational citizenship behaviour (Yetim & Ceylan, 2011). However, it is considered that organisational cynicism is crucial, especially for the teachers, when it is thought that performance comes to life on students. Due to the possibility that teachers can reflect any negative attitudes against their institutions on their students, it is considered that organisational cynicism in teachers may be more destructive than in other occupational groups. Despite the study concluding that organisational cynicism does not significantly affect individual performance in teachers (James, 2005), the common approach recognises that employee's performance decreases due to perceptions such as disappointment, distrust against the organisation and lack of perceived organisational justice; all of which are the results of organisational cynicism (Candan, 2013).

In the light of the conceptual reasons discussed above, the following hypothesis is developed.

*H3: There is a significant and negative relationship between OC and JP.*

## **2.5. Mediating Role of Organisational Cynicism**

On the theoretical basis of the transactional stress approach, factors such as the required skills, complexity and workload of information technologies are considered new stressors that lead to technostress (Coovert et al., 2005; Ragu-Nathan et al., 2008). As a new type of work stress, technostress negatively affects work performance (Jena, 2015; Tarafdar et al., 2011). Similarly, within the same theoretical context, organisational cynicism is the evaluation of employees expressing their negative attitudes due to stressors in the workplace (Johnson & O'Leary-Kelly, 2003; Davis & Gardner, 2004). Technostress emerges as a new

stressor that causes organisational cynicism. On the other hand, based on the social exchange theory of Blau (1964), employees make an effort to repay only when they experience favourable benefits in their organisations; otherwise, if they develop cynical attitudes towards their organisations, for example, they report negative results such as low job performance (Dean et al., 1998; Chiaburu et al., 2013; Arslan, 2018; Scott & Zweig, 2021). Therefore, technostress and organisational cynicism in a workplace seem to be important factors reducing job performance. Chiaburu et al. (2013) report that psychological strain is moderately related to organisational cynicism, and organisational cynicism negatively affects job performance. The psychological strain emerges as a result of individuals' response to stressors, threatens the well-being of the individuals and leads to stress (Lazarus & Folkman, 1984; Beehr & Franz, 1987; Beehr, 1998). Besides, it has been revealed that strain, a consequence of job stress, can cause organisational cynicism (Reichers et al., 1997). Since technostress at work is a type of technology-related job stress (Türen et al., 2015; Gaudioso et al., 2017), it will cause strain, as assumed in the model of Chiaburu et al. (2013). In the model, it is also stated that organisational cynicism is negatively related to job performance. Likewise, several studies report the negative effect of technostress on job performance (e.g., Tarafdar et al., 2007; Tarafdar et al., 2015; Cahapay & Bangoc, 2021; Li & Wang, 2021). In short, despite several studies revealing the effect of technostress and organisational cynicism on job performance, the studies on the mediating role of organisational cynicism on the relationship between technostress and job performance seem inadequate. In this respect, to fill the gap in the literature, we develop the following hypothesis:

*H4: Organisational cynicism level significantly mediates the relationship between technostress level and job performance.*

### **3. Methodology**

#### **3.1. Sample**

Today information and communication technologies (ICT) develop exponentially, and newer products emerge daily. Integrating these technological products into the education industry is essential and is considered one of the most effective force multipliers for national development. Teaching is inherently considered among the most stressful professions due to reluctant students, discipline problems, work overload, and is subject to changes (Boyle et al., 1995; Kyriacou, 2001; Greenglass & Burke, 2003; Klassen et al., 2009) now has a relatively new stressor namely the use of technology, which has become an integral part of the educational processes (Al-Fudail & Mellar, 2008). However, technostress research on teachers mostly seems limited to the matters such as the evaluation of the existing situation, the reasons for technostress and how to prevent it (e.g., Al-Fudail & Mellar, 2008; Syvänen et al., 2016; Efiliti & Çoklar, 2019). As the key human capital of the industry, teachers use various educational materials to increase the effectiveness of education. The auxiliary materials used in education have developed over time in line with technological developments. Today, integrated use of various educational technologies (interactive whiteboards, computers, tablets, online educational material, online teaching, web-based

homework and assessment systems) accelerates and becomes commonplace for most schools. Invading new technologies into the education industry has some side effects of organisational change. In a study conducted on teachers, new technology-related issues such as technological system failure, lack of technical and social training and support, long installation times and wearing course preparation requirements, inadequate school culture and diffidence are reported as potential causes of technostress (Al-Fudail & Mellar, 2008; Lim, 2012).

Organisational cynicism among teachers is also considered a problem for a while. In the literature, a myriad of studies confirms that teachers' organisational cynicism level significantly affects their job performance in a negative way (Andersson & Bateman, 1997; Dean et al., 1998; Johnson & O'Leary-Kelly, 2003; Chiaburu et al., 2013). However, we cannot find any research so far addressing those three variables, namely technostress, organisational cynicism and job performance of teachers. Thus, we decided to conduct this research based on the data from teachers.

We approached and collected data using random sampling from primary and secondary education teachers (n=237) in Malatya province in the 2018-2019 school year to examine the possible mediating effect of organisational cynicism on the relationship between technostress and job performance. Located in the Eastern Anatolian Region of Turkey, Malatya has a very similar student enrolment rate to the average of Turkey both in primary and secondary levels of education (for example, the average enrolment rate in primary education is 93,23% for Turkey and 93,69% for Malatya) (National Education Statistics, 2020). Additionally, in terms of socio-economic development ranking Malatya is among the most developed provinces in the region (SEGE, 2017). It has been evaluated those teachers working in Malatya, which is similar to the country in terms of enrolment rates and stands out in the region in terms of socioeconomic development, can be a suitable sample for our study. The summary of the demographics of the participants is presented in Table 1.

**Table: 1**  
**Demographics**

Sample	Age average	Gender	Education	Experience
Teachers N=237	30.54 (SD= 6.65)	%48 Male (n=114) %52 Female (n=123)	%5 Undergraduate %73 Graduate %22 Postgraduate	Mean.:11,63 years (SD= 8.15)

The demographic statistics expressed that 48% of the participants are male, 52% are women, 5% have undergraduate degrees, 73% have graduate degrees, and 22% have postgraduate degrees. The participants have an average of 30.54 age with a standard deviation (SD) of 6.65 and a mean of 11.63 years of work experience with an SD of 8.15.

### 3.2. Data Collection Instruments

Three scales are employed in this study. Each of their items is answered via a five-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). Technostress is measured using

the technostress scale developed by Tarafdar et al. (2007), shortened by Alam (2015) to 14 items and adapted to Turkish by Türen et al. (2015). It has three dimensions, namely, techno-overload, techno-complexity, and techno-uncertainty. For example, "I am forced to change my work habits to adapt to new technologies". The organisational cynicism level of employees is measured through the scale developed by Brandes (1997) and translated into Turkish by Arslan (2012). The scale has 14 items in total and three dimensions, namely, affective, cognitive, and behavioural. For example, "I believe that my company (my organisation) says one thing and does another". And job performance is measured using the scale developed by Sigler and Pearson (2000) and translated into Turkish by Çöl (2008). The unidimensional scale consists of four items. For example, "I complete my tasks on time".

### 3.3. Analyses

While Explanatory Factor Analysis (EFA) is performed to secure the structural validity of the data for all three scales, Confirmatory Factor Analysis (CFA) is performed to investigate the factor structures of the scales. Then, reliability analysis is made to test the internal consistency of the scales. Besides, several tests are employed to check if measures are affected by common method bias. Correlation and regression analyses are used to examine the relationships between variables. Finally, the "bootstrap test" is conducted to analyse the mediating effects.

## 4. Findings

### 4.1. Reliability and Validity Analysis

Cronbach's Alfa Test is used to examine the reliability (internal consistency). Composite reliability (CR) is utilised as a measure of the internal consistency of the factors. On the other side, to evaluate Convergent Validity, the Average Variance Extracted (AVE) is employed, and to investigate Discriminant Validity, Maximum Shared Variance (MSV) and the Average Shared Squared Variance (ASV) are computed. The test results are illustrated in Table 2.

**Table: 2**  
**Reliability Analysis**

Scale	Factor	Item	( $\alpha$ )	Total ( $\alpha$ )	CR	AVE	MSV	ASV
TS	TSO	1-5	0.953	0.947	0.955	0.809	0.762	0.456
	TSC	6-10*	0.917		0.947	0.817	0.762	0.450
	TSU	11-14	0.922		0.924	0.752	0.299	0.218
OC	OCA	1-5	0.933	0.960	0.954	0.804	0.774	0.560
	OCC	6-10	0.958		0.957	0.817	0.728	0.537
	OCB	11-13**	0.858		0.919	0.792	0.774	0.569
JP**	JP	1-4	0.923	0.923	0.924	0.753	-	-

(\*): Item 9 is excluded from the analysis, (\*\*): Item 14 is not included in the analysis, ( $\alpha$ )= Cronbach's Alfa.

(\*\*\*) : Since the scale of JP has one factor, the values of MSV and ASV are not computed.

According to the test results in Table 2, Cronbach's Alfa of the factors are between 0.923 and 0.960 and are higher than the limit value of 0.7 (Bülbul & Demirer, 2008). Additionally, the corrected item-total correlations of the scales are higher than the threshold

value (0.2) (Büyüköztürk, 2007). Furthermore, the overall Cronbach's Alfa score (0.95) on the TS scale (*these scores in the original [Alarm, 2015] and adapted [Türen et al., 2015] TS scale are 0.85 and 0.85 respectively*), the overall Cronbach's Alfa score (0.96) of OC scale (*these scores in original [Brandes, 1997] and adapted [Arslan, 2012] OC scale are 0.81 and 0.92 successively*) and the overall Cronbach's Alfa score (0.92) of JP scale (*these scores in original [Sigler & Pearson, 2000] and adapted [Çöl, 2008] JP scale are 0.83 and 0.83 respectively*) are also greater limited value (0.7). Additionally, Because, CR scores are greater than the verge value (0.7) and AVE scores are higher than the limit value (0.5), it can be deduced that there are internal consistency and sufficient convergent validity of the factors successively (Hair et al., 2014). On the other hand, as MSV and ASV are both lower than AVE for all the constructs, it can be deduced that discriminant validity is established (Fornell & Larcker, 1981).

## **4.2. Structure Validity Analysis**

### **4.2.1. Explanatory Factor Analysis**

Explanatory Factor Analysis (EFA) is performed to secure the structural validity of the data belonging to all three scales. Beforehand, the sample is tested to be appropriate for factor analysis by using KMO and Bartlett's tests. The test results ( $KMO > 0.85$ ;  $p < 0.001$ ) indicate that the sample is appropriate for EFA at a "fine" level (Alpar, 2013). Then, correlation analysis is employed to understand whether the factors are uncorrelated. Thus, for those three scales, the Component Matrix has been rotated by utilising the Varimax method, commonly used in the literature to obtain interpretive and significant factors. Examining the factor loadings for each scale, it is found that the majority of factor loadings are greater than 0.60 and the subtraction of factor loadings appearing in any two factors are greater than 0.1. Thus, it can also be stated that the sample is proper at a "fine" level for EFA.

Question 9 is removed from the model for the Technostress scale since its commonalities score is smaller than 0.5 (Hair et al., 2014). Factor loadings contributed to three factors have ranged between 0.66 and 0.89. The factors obtained show that 82.812% of the total variance is accounted for, and the scale supports the structural validity. Due to multiple factor loadings, question 14 is removed from the model in the Organisational Cynicism scale items are gathered under three factors again, ranging between 0.56 and 0.90; as expected, 83.044% of the total variance is explained, and the scale supports the structural validity of this model. For the Job Performance scale, factor analysis shows that items are located in only one factor. The factor loadings range between 0.91 and 0.92, 81.354% of the total variance is accounted for, and the scale endorses the structural validity. Factor loadings are presented in Table 3.

**Table: 3**  
**Factor Loadings**

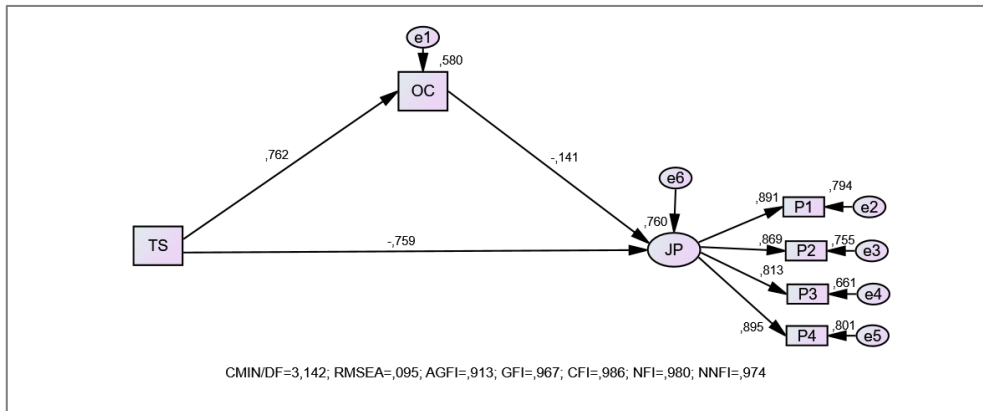
Scale	Factor	Item	Factor Loadings	KMO Test	Bartlett's Test(p)
TS	TSO	1-5	0.761-0.867	0.928	0.000
	TSC	6-10*	0.659-0.825		
	TSU	11-14	0.817-0.891		
OC	OCA	1-5	0.653-0.849	0.940	0.000
	OCC	6-10	0.736-0.894		
	OCB	11-13**	0.564-0.902		
JP	JP	1-4	0.906-0.923	0.850	0.000

(\*) Item 9 is excluded from the analysis, (\*\*) Item 14 is not included in the analysis.

#### 4.2.2. Confirmatory Factor Analysis

Confirmatory Factor Analysis is performed to investigate the factor structures of the scales through the findings of the Explanatory Factor Analysis. The maximum likelihood estimation method has been applied in the analysis. According to the results gained from CFA, all CMIN/df values (CMIN<sub>1</sub>/df<sub>1</sub>=1.832 for TS scale, CMIN<sub>2</sub>/df<sub>2</sub>=2.229 for OC scale, and CMIN<sub>3</sub>/df<sub>3</sub>=2.762 for JP scale) are smaller than the threshold level (3). Besides, all of the fit index values (GFI<sub>1</sub>=0.941, GFI<sub>2</sub>=0.927, GFI<sub>3</sub>=0.988; AGFI<sub>1</sub>=0.905, AGFI<sub>2</sub>=0.872, AGFI<sub>3</sub>=0.941; NFI<sub>1</sub>=0.967, NFI<sub>2</sub>=0.964, NFI<sub>3</sub>=0.992; NNFI<sub>1</sub>=0.979, NNFI<sub>2</sub>=0.969, NNFI<sub>3</sub>=0.985; CFI<sub>1</sub>=0.984, CFI<sub>2</sub>=0.974, CFI<sub>3</sub>=0.995 and RMSEA<sub>1</sub>=0.060, RMSEA<sub>2</sub>=0.074, RMSEA<sub>3</sub>=0.086) are higher/lower than the good fit ranges recommended by Schermelleh-Engel et al. (2003). Consequently, it can be expressed that all scales promote structural validity. The details of the DFA measurement model are indicated in Figure 1.

**Figure: 1**  
**The DFA Measurement Model**



Note.: Since TS and OC has three factors, they are shown as observed variables.

Consequently, according to the result of the analysis, as stated above, it can be expressed that all of the scales used in the research are valid and reliable.

### 4.3. Common Method Bias

Since the data collection design of this study is cross-sectional, to investigate whether there is a common method bias in the data, *Harman's Single-Factor Test*, *Common Latent Factor*, and *Common Marker Variable* techniques (Podsakoff et al., 2003), are employed. In Harman's Single-Factor Test, the unrotated factor solution is examined to define the number of factors required to clarify the variables' variance. A single/one general factor, representing the generality of the covariance (36.78%), does not release. Besides, in Common Latent Factor and Common Marker Variable techniques, the common heuristic values (1.74% and 7.57% successively) are lower than the threshold value (50%). It can be said that the data of this research is not subject to common method bias.

### 4.4. The Analysis of the Independent Variables' Effects on the Dependent Variable

A correlation analysis has been employed to determine the variables' associations with each other. The summary of the correlation analysis is presented in Table 4.

**Table: 4**  
**Correlations**

Scale	TS	OC	JP
TS	1		
OC	0.762*	1	
JP	-0.834*	-0.692*	1

(\*): Correlation is significant at the 0.01 level (2-tailed).

A regression analysis has been performed to detect associations between dependent and independent variables. Factor scores yielded by EFA, which motivate us to be utilised as variables in the regression model (Johnson & Wichern, 2002) have been used in further analyses.

Before employing the simple linear regression analysis, it is necessary to test the normality as the basic assumption of this analysis. The normality of the variables has been examined using the One-Sample Kolmogorov-Smirnov Test to see whether they are distributed normally, and it has been found that the distribution of all variables is normal at 95% confidence interval since  $p > \alpha = 0.05$  for all variables. The summary results of the regression analyses for all the hypotheses are shown in Table 5.

**Table: 5**  
**The Regression Analyses Summary**

Hypothesis	R	R <sup>2</sup>	Adj. R <sup>2</sup>	Std. Err.	F	p	Independent Variable	Dependent Variable	Supported/Rejected
H <sub>1</sub>	0.834	0.695	0.694	0.553	535.023	0.000	TS	JP	Supported
H <sub>2</sub>	0.762	0.580	0.578	0.388	324.807	0.000	TS	OC	Supported
H <sub>3</sub>	0.692	0.478	0.476	0.723	215.436	0.000	OC	JP	Supported



#### 4.5. The Analysis of the Mediating Effect

Zhao et al. (2010) express that the test proposed by Preacher and Hayes (2004) is generally more robust than Sobel's by representing SAS and SPSS syntax for an alternate "bootstrap". They also suggest that the indirect effect's bootstrap test should be employed to scrutinise the mediation effect instead of the Baron- Kenny (1986) "three tests + Sobel" steps.

We employ the "bootstrap test" recommended by Preacher and Hayes (2004; 2008) to investigate the mediating effect. The test result is expressed in Table 6.

**Table: 6**  
**SPSS Output of Bootstrap Script Testing Indirect Effect\***

Hyp.	N	$a_1 \times b_1$				$c_1$			$a_1 \times b_1 \times c_1$	$R^{2**}$	$\Delta R^2$	Supported/Rejected
		$\beta_1$	Boot LLCI	Boot ULCI	p	$\beta_1$	t	p				
<b>H<sub>4</sub></b>	237	-0.1761	-0.3657	-0.0244	0.015	-1.252	-13.278	0.000	0.220	0.703	0.122	Supported

(\*): TS: Technostress, OC: Organisational Cynicism, JP: Job Performance. Model:  $TS \rightarrow OC \rightarrow JP$ .

In the model, a: Independent Variable (TS) Mediator (OC) path, b: Mediator (OC)  $\rightarrow$  Dependent Variable (JP) path,

c: Independent Variable (TS)  $\rightarrow$  Dependent Variable (JP) path.

(\*\*) Model:  $F=276.2223$ ,  $MSE=0.3001$ ,  $p:0.000$ .

Scrutinising the results of the test in Table 6, it can be interpreted that the mean indirect effect from the bootstrap analysis is negative ( $a_1 \times b_1 = -0.1761$ ) and significant ( $p=0.0153$ ), with a 95% confidence interval excluding zero (-0.3657 to -0.0244). The direct effect of independent variable (TS) on dependent variable (JP) is  $c_1$  (-1.2518) and significant ( $p=0.000$ ). As Zhao et al. (2010) specified, if  $a_1 \times b_1 \times c_1$  (0.2204) is positive, it expresses that complementary mediation exists. This shows that the mediator identified complies with the underlying theoretical framework. Thus, it can be concluded that  $H_4$  is supported.

#### 5. Conclusion

This study aims to reveal whether organisational cynicism plays a mediating role in the relationship between technostress and job performance. Our findings support the causal chain theorised in this study based on the data collected from teachers. Primarily, it can be deduced that the validity and reliability of the scales are ensured by the results of commonly used validity and reliability analysis techniques. Dealing with the first hypothesis, we have found that technostress reduces job performance, and many other studies in the literature support this finding (e.g., Tarafdar et al., 2007, 2011; Al-Fudail & Mellar, 2008; Jena, 2015; Stich et al., 2018; Penado Abilleira et al., 2021). Besides, the results have revealed that technostress significantly and negatively affects organisational cynicism referring to the second hypothesis that is in line with the only previously published study conducted by Çelik and Özdemir (2016). Similarly, it supports the results of studies examining the relationship between job stress and organisational cynicism (e.g., Abraham, 2000; James, 2005; Cartwright & Holmes, 2006). Considering that technostress is a type of job stress and an important determiner for organisational cynicism, and the factors such as uncertainty and work overload caused by new technologies often escalate organisational cynicism, we think that as a new type of job stress, technostress can aggravate organisational cynicism. In

addition, the findings supported the third hypothesis and demonstrated that organisational cynicism decreases job performance. This finding also seems to be by the results of other studies in the literature (Andersson & Bateman, 1997; Dean et al., 1998; Chiaburu et al., 2013; Arslan, 2018; Scott & Zweig, 2021). Expectedly, teachers' negative emotions, attitudes and behaviours or organisational cynicism towards the education system or school administration curtail their job performance (Bayram et al., 2017; Sağır & Oğuz, 2012). Last but not least, our most original finding filling the gap in the literature is the significant partial mediating role of organisational cynicism in the relationship between technostress and job performance. Based on this finding, we can infer that teachers' technostress, often caused by the invasion of new technologies into the educational domain without enough facilitation and support, may lead teachers to feel negative emotions towards the school administration or education system and, subsequently, this also may reduce job performance as a result.

### **5.1. Implications**

Today, the education industry experiences an intensely competitive environment in Turkey as everywhere in the world. Both public and private schools' efforts to enhance the quality of education have been observed. Parents are often ready to spend their savings generously to get an exemplary education for their children. Especially the private schools have begun to mobilise all the technology opportunities to attract parents and students. In the meantime, to stay competitive, public schools have also implemented new applications by integrating new technologies into the educational processes. Along with technological investments such as the Fatih Project (MEB, 2019), initiated by the government in 2010 with the aim of the effective and common use of cutting-edge technologies and the Internet in primary and secondary education and conquering the digital divide in society beginning from primary schools, technology has intensely accelerated to be used in the education system. Consequently, technological skills have become necessary beyond a preference for teachers in public and private schools. These developments may increase the teachers' job stress, particularly for those who already feel under a certain amount of pressure.

The intense ICT use in educational processes and the complexity and uncertainty caused by frequent hard and software updates can cause teachers to feel technostress. Furthermore, the requirement of more time to adapt to new technologies can also increase the perceived workload, and workload merged with uncertainty about upcoming new technologies can increase the level of stress. To reduce stress levels and ease the adaptation process, the need for "on-the-job training" on these technologies should not be ignored. Proper change management can be advised to support the transition periods to make teachers feel more comfortable and enhance their learning process. Supporting the learning process decreases the time required to catch up and adds value to the educational use of ICT earlier. Supported and encouraged teachers in the change period often will not develop cynic thoughts, attitudes and behaviours toward school administrations or higher-level authorities of education in the country.

Organisational cynicism does not have its roots only in technostress; it has many other determinants which stimulate negative attitudes towards organisations. Apart from controlling the level of technostress, the other factors such as hostile, evil and insecure environment at schools should be addressed by various levels of authorities. As our findings support it, the interaction between technostress and organisational cynicism worsens job performance apart from their impacts. Shortly, these two variables are harmful factors hampering teachers' performance and, thereupon, the education system's overall performance from the level of an individual student to national education as a whole.

## 5.2. Limitations and Future Research

This study undoubtedly has some limitations. The cross-sectional experimental design can be considered a limitation of this study. However, widely advised and encouraged methods to detect the common method variance are conducted, and it is found that the data is not subject to common method bias. The fact that this study has been conducted only on teachers in a province of Turkey is another limitation to the generalizability of the theory. The association among the variables addressed in this study may be tested with sub-dimensions on a more significant teacher sample for producing inferences for the profession. These associations between the variables should be tested in other sectors and cultures to support the generalizability of the theory. ICT-intensive sectors, such as banking, informatics, aviation and space, can be advised for future research exploring the relations among technostress, organisational cynicism and job performance.

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