

Investigating the indirect impact of transformational leadership on performance and work alienation: evidence from school principals navigating COVID-19

Performance
and work
alienation

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Amy Fahy and Steven McCartney
School of Business, Maynooth University, Maynooth, Ireland

Na Fu
Trinity Business School, Trinity College Dublin, Dublin, Ireland, and

Joseph Roche
School of Education, Trinity College Dublin, Dublin, Ireland

Abstract

Purpose – Although significant research has examined the concept of transformational leadership, few studies have explored the indirect impact of transformational leadership on individual and organizational outcomes within the context of crisis. Accordingly, this study aims to advance our understanding of the indirect impact of transformational leadership on school performance and principals' work alienation within the context of the COVID-19 pandemic. In doing so, this study contributes to this developing stream of literature by hypothesizing the indirect effect of two relational resources, namely employee trust and relational coordination, which mediate the relationship between transformational leadership, school performance and principals' work alienation.

Design/methodology/approach – This study draws on a unique sample of 634 principals from Irish primary schools navigating the COVID-19 crisis. Structural equation modeling (SEM) was performed using Mplus 8.3 to test the hypothesized model.

Findings – Mixed findings emerged concerning the mediating process of relational resources and their impact on transformational leadership, school performance and principals' work-alienation. In particular, support is found for the critical role of principals whose transformational leadership style can help increase school performance. However, evidence suggests that employee trust does not mediate the relationship between transformational leadership and principals' work alienation.

Practical implications – This study provides several practical insights for education professionals, policymakers and HRM practitioners across each phase of the crisis management cycle. Firstly, regarding the pre-crisis stage, educational institutions should invest in targeted leadership development programs that prioritize relationship-building and effective communication among stakeholders. Second, during crises, the study emphasizes the role of relational resources in mediating the impact of leadership on school performance. Moreover, the study illustrates the importance of proactively cultivating strong connections with stakeholders, fostering timely, problem-solving-based communication. Finally, in the post-crisis phase, collaboration with government stakeholders is recommended to inform recovery policies.

Originality/value – This study makes several contributions to the literature on leadership and crisis management. First, this study adds new insights suggesting how principals as leaders influence school performance during crisis. Second, by adopting a relational perspective, this study suggests two types of relational resources (i.e. employee trust and relational coordination), as the mediators between transformational



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leadership, school performance and principals' work alienation. Third, this study moves the existing research on leadership during crisis forward by focusing on the functional effectiveness of leadership while focusing on the principals' work alienation during the pandemic.

Keywords Transformational leadership, School performance, Work alienation, Relational resources, COVID-19

Paper type Research paper

Introduction

The COVID-19 pandemic has caused major disruption, forcing organizations globally to quickly adapt to the unprecedented shift in changing workplace demands and the rapidly evolving economic landscape (Beech and Anseel, 2020; Seijts and Milani, 2020; Shankar, 2020; Verbeke, 2020). Perhaps most affected by the evolving working demands, lockdown restrictions, and work-from-home practices have been public sector organizations, including primary and secondary schools. The shift toward online schooling, coupled with managing employees new to working from home, has made effective leadership even more essential in primary and secondary schools (James *et al.*, 2011; Williams *et al.*, 2017; Grint, 2020).

Among the existing research focused on leadership in crisis management, transformational leadership has been regarded as an effective leadership style for managing employees and organizations during times of crisis and significant organizational change (Bass, 1985; Bass and Avolio, 1993; Bass and Riggio, 2006; Nissinen, 2001; Anderson, 2017). In particular, according to Anderson (2017), principals actively engage and collaborate with subordinates to create a vision to guide the change through inspiration, which is an essential quality for school leaders in times of crisis. However, despite the progress made in transformational leadership and crisis management, the impact of transformational leadership on organizational and individual outcomes within the context of crisis remains unknown. For instance, existing research has focused primarily on the importance of transformational leadership or the direct impact of transformational leadership on organizational performance (Maley, 2019; Malinen *et al.*, 2019; Montani *et al.*, 2019), employee outcomes, including employee performance (Adamu *et al.*, 2016), and employee resilience (Kennedy *et al.*, 2016; Lester *et al.*, 2018) outside of crisis. Furthermore, little research has explored leaders' experiences and feelings concerning work alienation within the context of crisis, which is an essential and needed addition to existing leadership research. Taken together, this study aims to advance our understanding of the indirect impact of transformational leadership on school performance and principals' work alienation within the context of the COVID-19 pandemic.

To address this gap, we draw on a unique sample of 638 primary school principals in Ireland and hypothesize the indirect effect of two relational resources (i.e. employee trust and relational coordination), which may detail how transformational leadership influences both school performance and principal work alienation during times of crisis. The justification for this sample chosen is three-fold. First, principals are required to enact transformational leadership qualities and directly lead and influence the staff, students, and parents during a crisis. Second, they are responsible for the school's daily management, including guiding the teachers and other staff of the school. School leadership ranks second regarding influences on pupil learning, next to classroom instruction (Leithwood *et al.*, 2008). Third, principals create organizational structures, resolve technical issues to operate effectively, and in times of rapid change, educational leaders play a significant role (Day, 2007; Lam, 2002).

This study contributes significantly to the literature on leadership and crisis management by offering novel insights into the influence of principals as leaders on school performance during crises in several ways. First, this study advances existing discourse by revealing the indirect impact of transformational leadership, and how this leadership style affects school performance

and principals themselves amid times of crisis. Second, the study adopts a relational perspective, to explore the underlying mechanisms and crucial mediators between transformational leadership, school performance, and principals' work alienation. Third, while research has traditionally concentrated on organizational and employee outcomes, this study instead focuses on the functional effectiveness of leadership, particularly emphasizing principals' work alienation during the pandemic. Finally, the study enriches crisis research in education management by providing insights from a unique sample of primary school principals, a population often overlooked in crisis management literature that typically centers on business and for-profit organizations.

Literature review and hypothesis development

Leadership in the context of crisis

Academics and practitioners have given significant attention to leaders and their relationship with organizational performance (Anderson, 2017; Thien, 2019). According to Rincon-Gallardo (2020), global trends, including human activity-related disasters, make organizational transitions more urgent. Given the challenges that have arisen due to COVID-19, leaders, especially school principals, have experienced a significant increase in role demands. This occurred as the breadth and depth of their responsibilities intensified and the pressure of executing decisions under extreme time pressure mounted at a rapidly increasing rate (Ash and Smallman, 2018). Research on leadership during crisis reveals that it is essential for leaders to exhibit a specific set of skills and competencies that will aid them to navigate through a crisis (Boin *et al.*, 2010; Kapucu and Ustun, 2018; Liu *et al.*, 2020; Wooten and James, 2008). For example, Boin and Hart (2005) suggest five core tasks associated with crisis leadership: sense-making, decision-making, meaning-making, terminating, and learning. Similarly, Wooten and James (2008) suggest that leaders should have competence in decision-making, communication, creating organizational capabilities, sustaining culture, and developing human capital during a crisis. The research on leaders' competencies and skills required during crisis management helps leaders to understand and gain the specific skills required to lead their organizations during crisis. However, it is difficult for leaders to develop all of these skills, and these skills are also context-dependent (Williams *et al.*, 2017).

In addition to the competencies and skills required by leaders to navigate crises, research has also focused on the effectiveness of various leadership styles (Alkharabsheh *et al.*, 2014; Bundy and Pfarrer, 2015; Haddon *et al.*, 2015; Ballesteros *et al.*, 2017; Bowers *et al.*, 2017; Stam *et al.*, 2018; Bhaduri, 2019; Stoker *et al.*, 2019). Transformational leadership has been extensively discussed among this research as one effective leadership style to navigate crises (Alkharabsheh *et al.*, 2014; Haddon *et al.*, 2015). For instance, transformational leadership offers employees intellectual guidance, encourages and motivates employees to change and achieve innovation within the organization while simultaneously supporting and empowering staff as partners in making critical decisions (Bass, 1985; Bass and Avolio, 1993; Bass and Riggio, 2006; Conley and Goldman, 1994; Leithwood, 1993). Likewise, principals who are transformational leaders can work with their followers (i.e. teachers) to extend beyond self-interest and create enthusiasm for their staff and school. Moreover, they also encourage and motivate teachers to participate in the change, enhance their experience, and enable them to achieve more than they had set out to (Miner, 2005; Windlinger *et al.*, 2020). Taken together, transformational leadership is a critical component of strong organizational and school performance (Anderson, 2017). Therefore, based on the conceptualization and existing empirical support for the effectiveness of transformational leadership, we propose that transformational leadership will be positively linked to school performance.

H1. Transformational leadership is positively associated with school performance during crisis.

Work alienation and transformational leadership

In addition to school performance, this study also focuses on the principals' experience with teachers and work tasks during a time of lockdown. Unlike positive psychology, which is popular in management research, interest in work alienation has been subject to limited attention, given that it is too disheartening for both researchers and practitioners (Seeman, 1959). However, after a long period of absence, Nair and Vohra (2010) explore the re-entry and growth of work alienation within contemporary research. Moreover, recent work concerning work alienation has attracted increasing attention from scholars to examine the consequences of work alienation, including decreased job satisfaction, well-being, task performance, and increased levels of emotional exhaustion (Catherine *et al.*, 2014; Chiaburu *et al.*, 2014; Shantz *et al.*, 2015; Conway *et al.*, 2018). The antecedents of work alienation include job design and HR practices that focus on building relationships with others (O'Donohue and Nelson, 2014; Conway *et al.*, 2018). As such, to illustrate the challenging times and increased responsibility of principals during COVID-19, this study chooses work alienation as one factor to study the principals' experience with work. Accordingly, we adopt the conceptual definition proposed by Nair and Vohra (2009), who define alienation as the "*estrangement or disconnect from work, the context or self*". Moreover, people experiencing alienation often express feelings of "*powerlessness, meaninglessness, normlessness, isolation, and self-estrangement*" (Seeman, 1959, p. 783).

Within the context of leadership, transformational leaders have autonomy over their work, denoting a sense of ownership and pride in both the result and the process involved (Bass and Avolio, 1990, 1994; Niehoff *et al.*, 1990). Furthermore, transformational leadership emphasizes the connection between leaders and others by sharing visions, intellectually stimulating others, providing guidance and getting them involved in decision making practices. Such efforts and behaviors help leaders to develop and maintain strong relationships with others. This is evidenced by principals and their teachers, who require a strong relationship to maintain the school's effectiveness and mobilize resources required during these uncertain times. Moreover, according to Dash and Vohra (2019), previous studies have claimed the linkage between transformational leadership and work alienation, however, not in the context of crisis. Accordingly, we suggest that transformational leaders (i.e. principals) may be less likely to experience work alienation and feelings of isolation and powerlessness through actively building connections in the virtual environment introduced by COVID-19. Therefore, we expect a negative relationship between transformational leadership and principals' feelings of work alienation during crisis.

H2. Transformational leadership is negatively associated with principals' feelings of work alienation during crisis.

Linking employee trust and relational coordination to crisis outcomes

The development of social capital suggests that relationships are a valuable resource for individuals and organizations (Bourdieu, 1986; Burt, 1992; Coleman, 1988). Similarly, building relational resources is critical both generally and during crises. As this study was undertaken within the context of the COVID-19 pandemic, most countries were in and out of lockdowns, with principals and teachers being faced with working from home for the first time. As a result, they could not see one another in person and, in some instances, had the option to switch off their cameras during video calls. Consequently, building relationships with co-workers became a significant challenge. Such limited face-to-face interactions also put excess strain on the principal-teacher relationship. For example, timely, clear communication, and coordination about work tasks are significantly crucial during times of crisis. However, principals and teachers did not always realize these elements, given the need to make decisions quickly due to the evolving pandemic environment and imposed restrictions

(Frandsen and Johansen, 2016, 2020). Drawing upon the relational perspective, we hypothesize the indirect effect of two relational resources (i.e. employee trust and relational coordination) linking crisis outcomes of transformational leadership, school performance, and work alienation.

Several studies have found employee trust to mediate transformational leadership and various managerial outcomes (e.g. Kelloway *et al.*, 2012; Liu *et al.*, 2010). For instance, according to Kelloway *et al.* (2012), highlighted that a mutually beneficial relationship between manager and subordinate can be established by increasing follower trust, given the role that transformational leaders play in supporting and considering their followers' interests and well-being. Similarly, Zhu *et al.* (2013) argue that transformational leaders' behaviors allow leaders to develop close and personal relationships with their followers, leading to higher levels of employee trust. These arguments are consistent with social exchange theory (Gouldner, 1960; Blau, 1964), which suggests that employees' experiences with supportive and transformational leaders lead them to reciprocate by increasing their work motivation. For example, principals shared their vision during the crisis, stimulated teachers, and guided them through unprecedented challenges. When teachers are motivated, they are more likely to work hard to complete their work and be involved in their schools' activities. In addition, we postulate that this level of employee trust also has spill-over effects that help reduce principal work alienation. In accordance with existing research, this study proposes the role of employee trust as a mediator in the relationship between transformational leadership, school performance and work alienation. Therefore, we hypothesize:

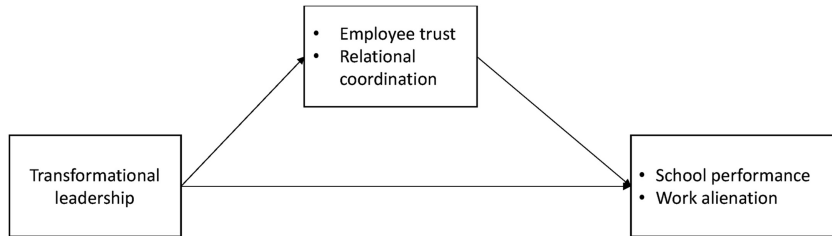
H3. Employee trust mediates the relationship between transformational leadership and school performance (3a) and work alienation during crisis (3b).

Grounded in social capital theory (Burt, 1992; Nahapiet and Ghoshal, 1998), relational coordination involves the relationships and connections that are fundamental in organizations (Chung *et al.*, 2000). According to Gittell (2002a), relational coordination is “*a mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration*”. Specifically, relational coordination refers to how shared goals, knowledge, and mutual respect help to promote frequent, timely, accurate, and problem-solving communication between workgroups and organizations (Gittell, 2002a, b; Gittell *et al.*, 2010). According to Gittell and Suchmann (2013), relational coordination can help develop strategically important outcomes, including service quality, organizational efficiency, and customer satisfaction. An increasing number of studies have provided empirical evidence for the impact of relational coordination on performance outcomes during the last decade. These include the performance of airports, i.e. improved on-time performance, better baggage-handling performance, fewer customer complaints, shorter scheduled gate times and higher staff productivity (Gittell, 2002a, b); innovation in professional service firms (Fu, 2015); as well as patients' perceived quality of care and reduced lengths of hospital stay (Gittell *et al.*, 2010).

More recently, the COVID-19 pandemic offers a perfect lens to investigate relational coordination and examine the mediating role between transformational leadership, school performance and work alienation. This claim is justified since, throughout the crisis, the high quality of communication and role relationships between multiple stakeholders was critical to ensure that tasks were completed and schools were functioning, particularly during the lockdown. In particular, throughout the pandemic, relational coordination was essential in allowing principals and schools to have clear and timely communication in building shared and collective goals and relationships, thus enabling schools to maintain daily operations while enabling principals with feelings of empowerment rather than alienation. Accordingly, we argue that relational coordination plays a mediating role in the relationship between transformational leadership, school performance and principals' work alienation. Therefore, we hypothesize:

H4. Relational coordination mediates the relationship between transformational leadership and school performance (4a) and work alienation during crisis (4b).

Figure 1 presents the proposed research model in this study.



Source(s): Authors work

Figure 1.
Research model

Methodology

Participants and procedure

Principals in primary schools based in Ireland were used to test the relationship between transformational leadership on school performance and their work alienation via the relational resources. Principals were selected as the unit of analysis since they are leaders who directly lead and influence the staff, students, and parents. Furthermore, principals are responsible for the school’s day-to-day management, including providing guidance and direction to the teachers and other staff of the school and are accountable for that management (Koyama, 2014). Principals are crucial figures for establishing and fostering an environment that promotes successful practices, making them gatekeepers, prioritizing what is educationally and culturally of merit (Hargreaves, 2005; Hargreaves and Fink, 2006). As school leaders, principals played an essential role in ensuring the school was running, and students were learning. Lastly, according to Portin *et al.* (1998), principals are “*key individuals, as well as instructional leaders, initiators of change, school managers, personnel administrators, problem solvers and boundary spanners*” (page 40). During COVID-19, most governments in different countries provided a guideline to move schooling online but did not provide clear and detailed policy and procedure information on how to do that. Given the leadership and influences those principals had during the crisis, testing the proposed model among them is appropriate.

There are 3,240 primary schools in Ireland, employing 37,839 staff and educating 559,365 students (Department of Education and Skills, 2019). An online survey was sent out to 3,240 principals in all Irish primary schools listed on the national website, www.education.ie. After several reminders, 708 responses were received (26%). After deleting incomplete responses, the final sample size was 634 (20%).

The sample consisted of 78% females and 22% males. Nearly half of the respondents (45%) were aged between 50 and 59, followed by 40–49 (30%), less than 39 (18%) and over 60 (7%). The average tenure of participants was 11 years (SD = 7.53). The average size of the school – the number of students was 190 (SD = 169).

Non-response bias was checked for by exploring differences in responses between early versus late respondents (received after the 1st reminder), as it has been suggested that late respondents are similar to non-respondents (Armstrong and Overton, 1977). Although appropriate measures were put in place to identify non-response bias, no significant differences between these groups were found ($F = 0.11$ for gender, $F = 0.00$ for age, $F = 1.05$ for school size, $F = 1.06$ for tenure, none was significant).

Measures

All measurements were based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), unless otherwise noted.

Transformational leadership. Six items were adopted from [de Poel et al. \(2012\)](#), who validated a short version of the transformational leadership by [Podsakoff et al. \(1990\)](#). These six items represented the six dimensions of transformational leadership, and each item had the highest factor loadings in the respective dimension. Cronbach's alpha for the scale was 0.79. Although the use of self-reported measures may raise measurement bias and common method bias, self-reported measurements have been commonly used in management research (e.g. [Selenko et al., 2013](#); [Shalley et al., 2009](#); [Van Laethem et al., 2019](#)). In this study, the main reason for the use of self-reported transformational leadership was the lack of access to parent and student ratings. Specifically, it is important to note that due to the age of the students (under 18 years of age), we were unable to collect responses given ethical restrictions.

Employee trust. Four items measuring the perception of trustworthiness that team members have about one another, and the leaders themselves were adopted from [Langfred \(2004\)](#). One example item was "During the crisis, my staff members in school trust each other a lot". The reliability of the scale was 0.88.

Relational coordination. Seven items were adopted from ([Gittell et al., 2010](#)), including timely, accurate, frequent and problem-solving-based communication, shared goals, shared knowledge and mutual respect. The construct of relational coordination was initially developed by ([Gittell, 2002a](#)) as a single factor and has been operationalized at the organizational level previously ([Gittell et al., 2010](#); [Fu, 2015](#)). Respondents were asked: "During the period of school closure, how well does your school communicate with the Board of Management (BoM) and Parents' Association?" concerning the seven items based on a four-point Likert scale (1 = Rarely to 4 = Always). The Board of Management (BoM) and the Parents Association are two critical stakeholders for the school. The BoM manages the school on behalf of the patron and is accountable to the patron and the Minister. It includes one or two direct nominees of the patron, two parents, the principal (or acting principal) of the school, one other serving teacher on the school staff, and two extra members proposed by those nominees. The Parents' Association is essential for school management. The Cronbach's alphas were 0.83 for relational coordination with BoM and 0.81 for relational coordination with Parents' Association. Based on the commonly used aggregation method in relational coordination ([Gittell et al., 2010](#)), these two scales were aggregated to create an overall construct – relational coordination, used in the data analysis.

The detailed confirmatory factor analysis (CFA) will be presented to test the validity of relational coordination and all other variables in the Results section.

School performance. Given the research context of primary schools, the primary goal was to keep students learning during the lockdown period. Nine items were adopted from ([Griffin et al., 2007](#)), focusing on working roles and tasks, measuring their proficiency, adaptivity, and proactivity. Given the knowledge of principals about their schools, they were asked to rate these items: "Overall as a school during the COVID-19 closure, we have carried out the core parts of our job well (proficiency), adapted well to changes during the crisis (adaptivity), and come up with ideas to improve the way in which core tasks are completed (proactivity)". The reliability coefficients were 0.85 for proficiency, 0.81 for adaptivity and 0.84 for proactivity. School performance was operationalized as the mean score of these three dimensions based on the statistical support from factor analysis in the Results section.

Work alienation. Three items were adopted from ([Shantz et al., 2014](#); [Shantz et al., 2015](#)), who adapted the original scale by [Nair and Vohra \(2009, 2010\)](#). Adding the COVID-19 context, respondents were asked to evaluate their experience with these three items. Two example items were: "Working at home, I often wish I were doing something else" and "I do not feel connected to my staff members when working from home". Cronbach's alpha for the scale was 0.74.

Control variables. Several variables were controlled for in this study which included gender (0 = male, 1 = female), age (1 = < 30 years old, 2 = 30–39 years old, 3 = 40–49 years old, 4 = 50–59 years old, 5 = 60+ years old), tenure (the years the respondents have held a management position for), and school size (the number of students), all of which may influence school and principal's work experience.

Findings

Descriptive statistics

Table 1 presents the means, standard deviations, and inter-correlations for all variables.

Measurement models

This study has five primary variables, i.e. transformational leadership, employee trust, relational coordination, organizational performance and work alienation. Among them, relational coordination and school performance had sub-dimensions. Therefore, a full measurement model was tested with second-order CFA for relational coordination and school performance and first-order factor analysis with the other three variables in the model. The five-factor model showed a good model fit ($\chi^2/df = 1,580.27/575 = 2.75, p < 0.001, CFI = 0.90, RMSEA = 0.05$ and SRMR = 0.05).

Since all of the variables in the study were collected from a single source, it also was essential to check whether common method bias was present in our data. To address the potential concern of common method bias, we follow several recommendations made by (Podsakoff *et al.*, 2003; Podsakoff *et al.*, 2012), in both the research design and analysis stages. For example, during the research design stage, the survey was pilot tested, revised and retested several times among a group of experienced researchers and actively practicing primary school principals. This resulted in several changes to the initial survey, including the wording and order of some questions. In addition, during the distribution stage, the research team also clarified the confidentiality of the study and data to the respondents.

Secondly, a series of CFA were carried out to test for common method bias and establish the scales' discriminant validity (Podsakoff *et al.*, 2012). Seven sequential χ^2 difference tests were calculated between the alternative factor model to the full measurement model, as shown in Table 2. The comparison shows that the fit indices of all alternative models were significantly worse than the full measurement model (all at $p < 0.001$), suggesting that the variables included in the study are distinct.

Structural model and hypotheses testing

Figure 2 presents the results with SEM.

Structural equation modeling (SEM) was performed using Mplus 8.3 (Muthen and Muthen, 2012) to examine the hypothesized model. Hypothesis 1 proposed that transformational leadership would be positively linked to school performance. The results in Figure 1 show that the link between transformational leadership and school performance was positive and significant ($\beta = 0.36, p < 0.001$), supporting Hypothesis 1.

Hypothesis 2 proposed that transformational leadership is negatively associated with principals' feelings of work alienation during crisis. The results in Figure 1 show that the link between transformational leadership and work alienation was negative and significant ($\beta = -0.14, p < 0.01$), supporting Hypothesis 2.

Hypothesis 3 proposed that employee trust would mediate the relationship between transformational leadership and school performance (3a) and personal alienation during crisis (3b). Following Hayes (2013) the first condition to be met to establish mediation is the significant relationship between the independent variable and the mediator. The second condition is the

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1 School performance	4.48	0.52								
2 Principals' work alienation	3.33	1.07	-0.11**							
3 Employee trust	4.60	0.60	0.23**	-0.04						
4 Relational coordination	2.90	0.67	0.24**	-0.16**	0.17**					
5 Transformational leadership	4.41	0.47	0.31**	-0.15**	0.36**	0.32**				
6 Gender	0.78	0.41	0.05	-0.03	0.06	0.03	0.08			
7 Age	3.43	0.86	-0.02	-0.13**	0.07	0.08*	0.05	0.06		
8 Tenure	11.30	7.59	0.04	-0.09*	0.09*	0.03	0	-0.03	0.49**	
9 School size	192.80	171.82	0.10*	-0.08	0.02	0.07	0.05	-0.13**	0.13**	0.08*

Note(s): *N* = 585 (Listwise), ***p* < 0.01, **p* < 0.05, (two-tailed tests)
Source(s): Authors' work

Table 1.
Descriptive statistics
and bivariate
correlations

Models	χ^2 (df)	CFI	RMSEA	SRMR	$\Delta\chi^2$	Δdf
Full measurement model	1580.27 (575)	0.90	0.05	0.05		
Model A ^a	2375.41 (581)	0.83	0.07	0.08	795.14	6***
Model B ^b	1854.41 (579)	0.88	0.06	0.06	274.14	4***
Model C ^c	2756.37 (581)	0.79	0.08	0.08	1176.10	6***
Model D ^d	3081.15 (584)	0.76	0.08	0.09	1500.88	9***
Model E ^e	4287.78 (584)	0.64	0.10	0.12	2707.51	9***
Model F ^f	2753.33 (582)	0.79	0.08	0.07	1173.06	7***
Model G ^g	5795.28 (590)	0.49	0.12	0.13	4215.01	15***

(Harman's single factor test)

Note(s): *** $p < 0.001$; χ^2 = chi-square discrepancy; df = degrees of freedom; IFI = Incremental Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; $\Delta\chi^2$ χ^2_{diff} = difference in chi-square, Δdf df_{diff} = difference in degrees of freedom. All models were compared to the full measurement model

^a = Employee trust and relational coordination combined into a single factor

^b = Transformational leadership and employee trust combined into a single factor

^c = Transformational leadership and relational coordination combined into a single factor

^d = Transformational leadership, employee trust and relational coordination combined into a single factor

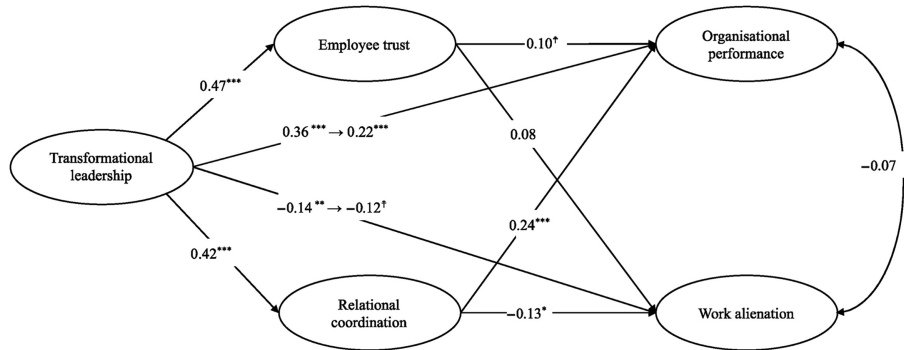
^e = Relational coordination and school performance combined into a single factor

^f = Employee trust and school performance combined into a single factor

^g = All factors combined into a single factor

Source(s): Authors' work

Table 2.
Fit statistics from measurement model comparison



Control variables	Employee trust	Relational coordination	Organisational performance	Work alienation
Gender	0.05	0.02	0.00	-0.01
Age	0.02	0.08	-0.11*	-0.13*
Tenure	0.09*	0.01	0.06	-0.04
Organisation size	-0.02	0.07	0.09*	-0.06

Source(s): Authors work

Figure 2.
Structural equation modeling

significant relationship between the mediator and the dependent variable. The last condition is the mediator's significant effect on the dependent variable while controlling for the independent variable. As shown in Figure 2, the coefficient of transformational leadership on employee trust was positive and significant ($\beta = 0.47, p < 0.001$), satisfying the first condition. In addition, employee trust was positively but marginally associated with school performance ($\beta = 0.10, p < 0.10$),

which met the second condition. The indirect effect of school performance on transformational leadership via employee trust was calculated as 0.04 ($p < 0.10$) with a 90% confidence interval between 0.003 and 0.077, which does not cover 0. This satisfied the third condition. Therefore, [Hypothesis 3a](#) was supported that employee trust mediated the relationship between transformational leadership and school performance. In relation to work alienation, as employee trust was not related to work alienation ($\beta = 0.08$, n.s.), the second condition of mediation was not met. Therefore, [Hypothesis 3b](#) was not supported that employee trust did not mediate the relationship between transformational leadership and work alienation.

[Hypothesis 4](#) proposed that relational coordination would mediate the relationship between transformational leadership and school performance (4a) and personal alienation during crisis (4b). Adopting the same mediation test approach ([Hayes, 2013](#)), the first condition was met by the significant coefficient between transformational leadership and relational coordination ($\beta = 0.42$, $p < 0.001$). The second condition was met by the results on the significant path coefficients of relational coordination to school performance ($\beta = 0.24$, $p < 0.001$) and to work alienation ($\beta = -0.13$, $p < 0.05$). The last condition was tested by calculating the indirect effect, which was 0.08 for transformational leadership linking to school performance via relational coordination (with 90% of CI between 0.043 and 0.124); and -0.11 for transformational leadership linking to work alienation via relational coordination (with 90% of CI between -0.207 and -0.018). Therefore, [Hypothesis 4](#) was supported that relational coordination mediated the relationship between transformational leadership and school performance (4a) and personal alienation during crisis (4b).

Discussion

This study aimed to further our understanding of the indirect impact of transformational leadership on school performance and principals' work alienation within the context of the COVID-19 pandemic. The overall findings suggest the importance of transformational leadership during crisis. In addition, relational resources are suggested to be important since evidence supports the claim that both employee trust and relational coordination help schools to function during crisis. However, we find evidence to suggest that relational resources appear to work differently towards individual leaders' experiences with work, implying that only relational coordination may help reduce principal perceived disconnection and isolation with work and co-workers. This study makes several contributions to the existing research in leadership during crisis management by adopting a relational perspective and identifying two relational resources, i.e. employee trust and relational coordination, as the mediators between transformational leadership and organizational and individual outcomes. Furthermore, we find evidence suggesting that stronger transformational leadership could help schools to function better during times of crisis and help individual leaders feel less alienation (disconnection or isolation). In revealing the underlying mechanisms, employee trust is suggested to mediate the relationship between transformational leadership and school performance. In contrast, this is not the case for the relationship between transformational leadership and work alienation. Finally, the findings suggest that relational coordination with key stakeholders (i.e. parents and board of management in this study) was found to mediate the relationships between transformational leadership, school performance and work alienation. Implications for policymakers and educational leaders are discussed below.

Theoretical implications

This study makes several notable contributions to the literature on leadership and crisis management while also providing new insights into how principals as leaders influence

school performance during crisis. For instance, prior research has predominately concentrated on two areas of focus. First, the competencies and skills outlined by Van Wart and Kapucu (2011) and key leadership skills such as leader efficacy (Hadley *et al.*, 2011), meaning-making to contextualize the crisis to other stakeholders (Boin and Hart, 2005; Christianson *et al.*, 2009; Boin *et al.*, 2010; Broekema *et al.*, 2017; Backman and Rhinard, 2018), decision making (Blackman *et al.*, 2017; Curnin *et al.*, 2020; dos Santos *et al.*, 2016; Haus *et al.*, 2016; Kaschner, 2017; McNulty *et al.*, 2018; Nyenswah *et al.*, 2016; Oroszi, 2018) and mobilizing resources (Kreps and Bosworth, 1993; Neal and Phillips, 1995; Shepherd and Williams, 2014). Second, which leadership style is more effective than others in times of crisis (Boin *et al.*, 2013; Ballesteros *et al.*, 2017). Appropriately, this study advances such discourse by illustrating the indirect impact of transformational leadership, and how this leadership style influences both school performance and themselves during the pandemic.

Second, this study adopts a relational perspective, proposing two types of relational resources – namely, employee trust and relational coordination, as the mediators between transformational leadership, school performance and principals' work alienation. To date, research has found that relationship building based on high-quality communication and coordination has been found critical for crisis management (Barton, 1993; Liu *et al.*, 2020; Simpson *et al.*, 2013; Williams *et al.*, 2017). However, this study extends upon these findings revealing evidence that suggests that principals who enact transformational leadership qualities in times of crisis, improve school performance by building good relationships with teachers and other stakeholders via gaining employee trust and relational coordination. In this way, this study makes a theoretical contribution to the leadership and crisis management literature by adding new and novel insights into how leaders influence schools through the indirect impact between leadership, school performance, and work alienation via relational resources.

Third, this study moves the existing research on leadership during crisis forward by directing attention toward the functional effectiveness of leadership with a particular focus on the principals' work alienation during the pandemic. Prevailing research on leadership in crisis management has mainly focused on two areas. First, organizational outcomes, including performance (Adamu *et al.*, 2016; Barton *et al.*, 2015; Maley, 2019; Malinen *et al.*, 2019; Montani *et al.*, 2019), imaging and reputation (Coombs and Holladay, 2012; Pang, 2012). Second, on employee outcomes such as employee performance (Adamu *et al.*, 2016; Tokakis *et al.*, 2018; Maley, 2019; Malinen *et al.*, 2019; Montani *et al.*, 2019), employee resilience (Abdelzaher *et al.*, 2018; Harms and Wood, 2016; Hartwig *et al.*, 2019; Kennedy *et al.*, 2016; Lahad *et al.*, 2018; Lester *et al.*, 2018; Tokakis *et al.*, 2018), and employee experience and voice (Bishop *et al.*, 2011; Kovoov-Misra and Gopalakrishnan, 2016; Birkeland *et al.*, 2017; Kapucu and Ustun, 2018; Cheng *et al.*, 2019). Despite these advances, existing literature concerning leadership during crisis, especially individual outcomes, remain underdeveloped in the extant literature. By exploring the connection between transformational leadership and work alienation, this study makes a significant contribution by suggesting the critical role that principals' transformational leadership and the social resources they have during the crisis have on work alienation – perceived psychological disconnection with people and work. In doing so, the research study advances our theoretical understanding toward leadership approached during crises.

Lastly the study offers valuable insights for crisis research within the field of education management. For example, the study's unique sample of primary school principals as organizational leaders enriches the research context in crisis management, which has primarily focused on business and for-profit organizations rather than public service leaders. Likewise, comparing principals in primary schools to leaders similar to chief officers in private organizations offers a novel perspective toward education management.

Implications for practice

This study offers several practical implications for education professionals, educational policy, and HRM practice across each phase of the crisis management cycle. Firstly, regarding the pre-crisis stage, which is focused on prevention and preparing for future crisis (Coombs and Laufer, 2018), by uncovering the indirect impact of transformational leadership on school performance during times of crisis educational institutions can invest and implement targeted training and development programs focused on leadership development and fostering strong relationships and quality communication between multiple stakeholders. Moreover, as these relational resources offer tangible outcomes for Principals to enhance school performance in times of crisis, government bodies can take this as an opportunity to prepare policies centered upon potential future crises and establishing the need to build competencies and skills in transformational leadership. In doing so, Principals and the wider school community will be more prepared in enacting transformational leadership skills in times of crisis.

The research findings offer further implications within the broad context of HR specifically, concerning the pre-crisis stage. For instance, HRM plays a pivotal role in organizational resilience and employee well-being (Cooper *et al.*, 2019). Accordingly, the study's emphasis on transformational leadership, coupled with the mediating role of relational resources, underscores the importance of HRM strategies that prioritize relationship-building, effective communication, and coordination within the pre-crisis phase. HRM professionals can draw on these insights to help guide leadership development programs focused on enhancing transformational leadership skills. Additionally, the study prompts HRM practitioners to recognize the significance of relational resources, such as employee trust and coordination, in mediating the impact of leadership on both organizational outcomes and employee experiences. Furthermore, organizations may consider integrating these insights into broader HRM policies related to leadership development and crisis management. HRM policies could advocate for the inclusion of transformational leadership criteria in the selection and evaluation of leaders. Additionally, organizations could adopt policies that encourage the establishment of formalized channels for relational coordination, ensuring that leaders have the necessary support structures in place before crisis arises. Likewise, the emphasis on the role of relational resources in mitigating work alienation suggests that HRM policies should prioritize initiatives aimed at promoting employee well-being and psychological connection with their work and colleagues. This could involve the implementation of employee support programs, mental health resources, and communication strategies that foster a sense of belonging and engagement, particularly during crisis situations.

Second, this study reveals that during the crisis stage when principals are responding to the crisis and managing stakeholders, relational resources such as employee trust and relational coordination, mediate the relationships between transformational leadership, school performance, and principals' work alienation. In other words, principals in their role as school leaders must prioritize the development of key stakeholder relationships and timely and effective communication during crises. Consequently, we suggest that for principals to navigate crises effectively it is essential for principals to proactively build and maintain strong relationships and effective lines of communication with employees and other stakeholders (i.e. Board of Management, parents, and students). Particularly, principals and schools need to initiate and develop relational coordination with key stakeholders via timely, frequent, accurate and problem-solving-based communication, shared goals, and mutual respect. Doing so will enhance how schools function during crisis and will help foster a sense of connection between principals and their co-workers. These insights also offer practical implications from a HRM perspective as HR professionals can implement immediate measures to support leaders in leveraging relational resources.

Lastly, during the post-crisis phase we argue that it is essential to collaborate with local and national government stakeholders and policy makers to develop and enact policy related to recovery and lessons learned. For instance, the finding of the negative impact of relational coordination with other stakeholders on principals' work alienation is significant and should be used to inform policy in education as it reinforces the importance of communication and coordination during crisis (Adamu *et al.*, 2016; Bundy *et al.*, 2017; Stam *et al.*, 2018). More importantly, it adds value by suggesting that when leaders are well connected with other stakeholders via timely, frequent, accurate and problem-solving-based communication, sharing the same goals and knowledge, and showing mutual respect that leaders will be less alienated during crisis. Expanding on this insight within the broader context of HRM, these findings carry significant implications for the development and refinement of internal crisis management policies. For example, HRM professionals, should proactively advocate for policies that recognize the pivotal role of communication and coordination in crisis recovery with organizational leaders.

Limitations and future research

Despite the study offering valuable insights into managerial leadership and crisis management research, several limitations exist that should be mentioned. First, this study was undertaken during a very turbulent time and is limited in the cross-sectional design and single-source data collection. As a result, this research design does not allow for testing causality between the studied variables. Although it may be difficult, future research is therefore encouraged to collect additional data to help aid in the generalizability of the findings.

Second, while this study focused on transformational leadership and its impact on school performance and principal work alienation during crisis, we acknowledge that there are other effective leadership styles that could also be effective during crisis. For instance, directive leadership (Stoker *et al.*, 2019) and charismatic leadership (Davis and Gardner, 2012), and empowering leadership (Dash and Vohra, 2019). Furthermore, constructs concerned with principals' mental state such as depression, or personality including the big five personality traits, narcissism, or self-efficacy would be important to consider [1]. In light of this, we propose that future research investigate how various leadership styles and personality constructs may aid principals in navigating times of crisis.

Third, this study is limited by the self-reported items used to measure transformational leadership which could be strengthened in future research. Due to the limited access to parents as well as students, we adopted the self-reported transformational leadership measure. Doing so may to some extent raise measurement bias. As such, future research should collect data from parents and students [1].

Finally, the study only assesses two relational resources (i.e. employee trust and relational coordination), in the link between transformational leadership, school performance and principals' work alienation. Other resources, such as human capital or employee adaptivity, and relational resources such as inter-organizational alliances and principals' external network, may also affect the principal's school performance. Accordingly, we encourage scholars to focus future research on uncovering additional relational resources that may also mediate the link between transformational leadership, school performance, and principals' work alienation.

Conclusion

COVID-19 has completely changed schools in terms of people, tasks, processes and management practices. For schools to thrive post-COVID-19, principals will continue to play a critical role. Even when the COVID-19 pandemic is resolved, and the world stabilizes, there will be future disruptions, turbulences, and crises. Therefore, it is imperative that principals, schools, and governments be prepared.

Notes

1. Thanks are given to one of the anonymous reviewers for suggesting this point.

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Corresponding author

Amy Fahy can be contacted at: amy.fahy@mu.ie

About the author

Steven McCartney also affiliated with UCD Michael Smurfit Graduate Business School, University College Dublin, Dublin, Ireland.