

## Workplace Social Support in Coronatime as a Moderator Between Leader–Subordinate Fit and Entrepreneurial Behaviour

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### ABSTRACT

*This study investigated the moderating effect of workplace social support on the relationship between leader–subordinate fit and entrepreneurial behaviour in an Iraqi private higher education institution. A sample of 127 respondents was selected and a questionnaire was administered to them via Google Form. The data thus collected were analysed using JASP. Consistent with the P-E fit theory, the results revealed that supplementary fit ( $\beta = 0.44$ ,  $t = 6.65$ ,  $p < .001$ ,  $95\%CI = 0.29$  to  $0.53$ ) and complementary fit ( $\beta = 0.46$ ,  $t = 6.91$ ,  $p < .001$ ,  $95\%CI = 0.31$  to  $0.56$ ) significantly predicted entrepreneurial behaviours. However, in contradiction to the buffering hypothesis, the semi-partial Bayes Factor (BF) statistics indicate that workplace social support did not moderate the relationships between supplementary fit/complementary fit and entrepreneurial behaviours. The study concludes with a brief discussion on the results, limitations of the study, and suggestions for further research.*

*Keywords: leader–subordinate fit, supplementary fit, complementary fit, workplace social support, entrepreneurial behaviour, Iraq*

### A. INTRODUCTION

The environment in higher educational institutions (HEIs) is highly relational. It requires that the relevant actors demonstrate “a collaborative spirit, a high level of engagement, a capability to turn stakeholder dissonance into assonance and be continually attuned to the emergence of shared meaning” (Salisu and Awang, 2018, p. 111). Additionally, today's HEIs operate in a fast-changing climate where market-based reforms are the main drivers of change. Then came the COVID-19 pandemic, altering how educational services are provided. These changes and associated challenges impact how employees see and do their jobs in complex ways (Barrett, 2017). Increasingly, HEI employees are expected to behave as entrepreneurs (recognise opportunities, initiate actions and take calculated risks). According to Neto *et al.* (2020a), entrepreneurial behaviour in educational contexts entails identifying new educational trends, seeking funding for innovative projects, integrating technology into teaching, and assessing and managing risks associated with innovative teaching, research and learning approaches. These behaviours are so flexible that their possessors can easily employ them in

dealing with sudden unforeseen challenges such as those thrown up by the COVID-19 pandemic.

HEIs are complex systems providing services that meet the changing needs of society. As such, employees' entrepreneurial character is critical to the HEIs' adaptability, survival and success. Iraq's HEIs are similarly structured as complex entities. However, the readiness to employ individual HEI employees' entrepreneurial competencies depends on how well they relate with their immediate supervisors. This congruence is termed leader-subordinate fit (Guzman and Fu, 2022). It is hypothesised that fit between leader and subordinate may be linked with entrepreneurial behaviour as it facilitates mutual detection of weak-signal environmental opportunities that could be easily overlooked (Kim, 2022; Li *et al.*, 2020). Thus, it is important to evaluate the fit between leaders and their subordinates in HEIs.

It is equally germane to consider environmental signals as entrepreneurial cues to consider the potential impact of environmental turbulence or instability on the fit between leaders and their subordinates. The ongoing COVID-19 pandemic has impacted employment relationships in organisations across industries (Lopez-Cabrales and DeNisi, 2021). How organisations react to the changing employment relationships in coronatime is important (Butterick and Charlwood, 2021). It could strengthen or weaken the bonds between leaders and their subordinates with a concomitant effect on both parties' readiness to engage in challenging but rewarding entrepreneurial behaviours. A potentially beneficial reaction has been to provide support to employees as they struggle to come to terms with the realities of a challenging time. Leaving employees to fend for themselves in times of need may erode their commitment to the organisation and attenuate their willingness to exert themselves entrepreneurially.

However, analysis of the literature shows that studies some studies (e.g., Baloch *et al.* 2021), have considered environmental influences on organisational processes, there is a dearth of studies that considered the same influences from the perspective of employee entrepreneurial behaviours. The few studies that investigated employee entrepreneurial behaviour as a criterion paired it with predictors other than leader-subordinate fit such as entrepreneurial leadership (Abualoush *et al.*, 2022), knowledge sharing (Aldabbas *et al.*, 2021), and servant leadership (Jan *et al.*, 2021), for example. Therefore, this study addressed these research gaps by evaluating the moderating influence of workplace social support in the relationship between leader-subordinate fit and entrepreneurial behaviours of university staff in Iraq.

## **B. LITERATURE REVIEW**

### **Leader–Subordinate Fit**

Atwater and Dionne (2007) state that it is "is important for leaders and followers to feel a sense of compatibility or fit with one another" as such fit determines "how effectively and efficiently organisational members get their jobs done" (p. 183). Leader–subordinate fit is defined as the harmony between a leader and their follower in terms of their characteristics (Guzman and Fu, 2022) as well as demands/abilities and needs/resources fits (Korulczyk and Cooper-Thomas, 2020). In this research, "fit" means similarity between leaders' values and subordinates' values; between demands leaders make on subordinates and the latter's abilities; between the needs of subordinates and resources at the disposal of leaders. In general, there is a supplementary fit and a complementary fit between leaders and their subordinates. The greater the similarity or complementarity, the more fit between the leader and the subordinate (Harrison, 2007).

One of the key objectives of organisational behaviour scholars is to understand the supplementary and complementary fits subsisting between leaders and their subordinates (Sweet, 2020). While the dyadic nature of leadership has been universally acknowledged in the literature, the disproportionate focus on the leader at the expense of the subordinate makes us know very little about how subordinates perform their roles as part of the leadership equation (Markham *et al.*, 2015). Leaders and subordinates have an intertwined role in the leadership equation that demands partnership and cooperation to resolve the equation effectively. This underscores the importance of understanding leader–subordinate fit and how this fit impacts important organisational outcomes, including the entrepreneurial behaviours of employees. Following Guan *et al.* (2011), this study considers leader–subordinate fit in terms of supplementary (value-cum-personality) fit and complementary fit perspectives.

### **Entrepreneurial Behaviour**

Entrepreneurial behaviour is strategic to the success of businesses (Khan *et al.*, 2019) and non-business organisations such as educational institutions (Al-Lawati *et al.*, 2022). However, the lack of a generally accepted definition led Ho *et al.* (2021) to suggest that each researcher should directly address the concept, presumably from the perspective of questions driving their research. Nevertheless, they give a set of conceptual elements that seem to appear across most concept definitions. These elements include "initiating innovation, risk-taking, managerial skill, autonomy with a positive attitude, and seeking external resources" (Ho *et al.*, 2021, p. 538).

In this study, three fundamental entrepreneurial behaviours were collectively considered: opportunity recognition, opportunity exploitation by taking initiatives and taking risks to realise the opportunities. Opportunity and necessity are two primary motivations behind entrepreneurial behaviours (Qiu, 2022). The latter motivation forces people to engage in entrepreneurial behaviour due to survival and economic necessities. COVID-19 is responsible for many such entrepreneurial behaviours in academia (Gomes *et al.*, 2021), as people are pushed to create opportunities to survive or overcome adverse economic conditions. However, entrepreneurial behaviours are also triggered by identifying opportunities (Bergner *et al.*, 2021).

Entrepreneurial opportunities remain ideas unless action is taken to turn the ideas into goods or services (Kryvovyazyuk *et al.*, 2019). Thus, entrepreneurial initiatives start an entrepreneur's commitment to making a difference by thinking through an idea's strategic details. An important element of this process is initiating the selling of the idea to important stakeholders (De Clercq *et al.*, 2011) by creating a coalition of organisational members who can support the idea (Bosse *et al.*, 2022; Soomro *et al.*, 2020). In organisations like HEIs, entrepreneurial initiatives represent the individual-level expression of organisational capabilities (Mahringer and Renzl, 2018). Inherent in taking initiatives to bring a new product or service is the risk involved. Entrepreneurial risk-taking is thus the third fundamental element describing entrepreneurial behaviour. The uncertainty involved and the financial, reputational, positional and psychological costs associated with assuming the risk of initiating new things can be enormous. In this regard, approaching the entrepreneurial risk-taking from Xie's (2021) needs-based framework connects with the complementary needs–resources fit the perspective of the leader–subordinate dynamic. Overall, this study looks into how entrepreneurial behaviour is influenced by this dynamic.

### **Workplace Social Support**

The workplace is a social system, and employees thrive at work when they socially support one another. Workplace social support occurs when one employee (or a group of employees) offers physical, informational or emotional support to another employee (or a group of employees). Workplace social support can be perceived or received, with the latter referring to what the beneficial feels was offered and the latter what was offered as support (Kaniasty and Norris, 2009). The way a given social support is perceived differently is a function of the receiver's characteristics, that of the giver and the nature of the relationship between the giver and receiver (Bennett and Beehr, 2013). Perceived workplace social support

has been shown to substantially impact psychological and behavioural outcomes than received workplace social support, which is a better buffer against stressors (Cheong *et al.*, 2017; Eagle *et al.*, 2018; Mcdowell and Serovich, 2007). Perceived workplace social support is generally psychological and may be interpreted based on contextual cues in the environment (Htet and Mohanan, 2022). Thus, perceived workplace support entails providing beneficial social help for employees to buffer psychological workplace stress. Where provided, workplace social support can arrest and reverse the adverse psychological consequences of COVID-19 on the behaviours of employees.

### **Leader–Subordinate Fit and Entrepreneurial Behaviour**

The person-environment (P-E) fit theory asserts that the misfit between two organisational phenomena that could be described as duality is a source of dysfunctional stress that could have debilitating effects on important organisational outcomes (Caplan, 1987). This study focuses on one such duality: leader–subordinate fit. According to the integrative fit framework of Edwards and Shipp (2007), this is an individual-level fit that can be supplementary or complementary and could be evaluated at the global, domain, or facet level. A misfit between a leader and their subordinate may hinder the attainment of organisational ends (Chi *et al.*, 2020). Impliedly, it means that fit between the dualities (such as leader–subordinate fit) is expressed as harmony between the two, leading to desirable outcomes such as creativity, innovation, and general entrepreneurial behaviours (Tahir *et al.*, 2022). Fit or misfit influences employee behaviour, especially regarding workplace adjustments (Vleugels *et al.*, 2022) brought about by significant changes in the workplace, such as a pandemic (Cao *et al.*, 2022).

Bosse *et al.* (2022) assert that the entrepreneurial behaviour of exploiting opportunities is conditioned by the entrepreneur’s network of workplace relations. This is because entrepreneurship entails cooperative action among concerned interests working harmoniously to achieve a clearly defined objective. In non-profit settings like HEIs, entrepreneurial behaviour is most likely to manifest where there is harmony between and among leaders and their subordinates. Workplace harmony, called fit, facilitates the effective exchange of ideas between leaders and their subordinates (Emirza and Katrinli, 2022), thereby enhancing the cultivation and exhibition of entrepreneurial behaviours by both the leader and the led.

Several studies have investigated the relationship between various aspects of leader–subordinate fit and various workplace outcomes. Examples: between including proactive personality leader–subordinate fit and leader-member exchange quality (Zhang *et al.*, 2012);

between communicative leader–subordinate fit and followers’ job satisfaction and task performance (Fan and Han, 2018); between psychological capital leader–subordinate fit and task performance/voice behaviour (Wang *et al.*, 2022); between leader–subordinate fit in need for achievement and job performance/job well-being (Cai *et al.*, 2021); between leader–subordinate regulatory fit and organizational citizenship behaviour (Shin *et al.*, 2017); and so on. In this study, however, the researcher will evaluate the matter from the two-variate perspective commonly addressed in the literature: i.e., supplementary fit and complementary fit. Accordingly, this study considered these relationships by testing the following three hypotheses.

H<sub>1</sub>: Supplementary fit positively influences entrepreneurial behaviour in coronatime at Al-Mustaqbal University College.

H<sub>2</sub>: Complementary fit positively influences entrepreneurial behaviour in coronatime at Al-Mustaqbal University College.

### **Workplace Social Support as A Moderator**

According to Foster’s (1999) leader subordinate fit model, environmental factors can moderate the effects of leader–subordinate and employees’ behaviours through determining leaders’ expectations for subordinates’ performance and subordinates’ need for leader behaviours. In the context of the ongoing COVID-19 pandemic, workplace social support for organisational members becomes such a moderating environmental factor. COVID-19, a viral pandemic that first erupted in 2019 and was declared a pandemic in March 2020 (Schwarz and Stensaker, 2020), is an environmental stressor that wrought and continue to wreak unprecedented havoc on human life (Whitehead, 2021). Lockdowns, social distancing measures and associated standing operational procedures (SOPs) to curb the spread of the virus create unprecedented anxieties and flux that negatively impact employees’ behaviours. This led workplaces to initiate workplace social support programmes to lessen the adverse impacts of the SOPs on their employees. Workplace social support can be affective (show of concern, love, regard, respect), confirmative (affirming the necessity of actions and measures taken), and assistive (proving protective services, financial support, food aid) (Frese, 1999). These forms of workplace social support (perceived or received) collectively and severally help buffer against the stresses (Cohen and Wills, 1985) such as those experienced by employees as a result of the COVID-19 pandemic (Szkody *et al.*, 2021; Whitehead, 2021). Abood and Tari (2019) report that social capital is a potent mechanism for reducing the identity gap at Al-Mustaqbal University College.

Expanding on Cohen and Wills's (1985) buffering hypothesis, Frese (1999) confirmed that workplace social support moderates the effect of social stressors and psychological dysfunction. In this study, we propose that association between the socially-primed character of leader-subordinate fit (Guzman and Fu, 2022) and the psychologically-driven entrepreneurial behaviour of university employees (Paños-Castro and Arruti Gómez, 2019), which is severely challenged by the onset of the COVID-19 pandemic (Copeland, 2021) may interact with the available workplace social support given to the employees. Indeed, Kniffin *et al.* (2021) argue that psychological support is an important moderator in managing the impacts of COVID-19 in workplaces. Similarly, Cao *et al.* (2022) support the idea that the availability of workplace social support in coronatime strengthens employees' innovation behaviour. Indeed, Abbas and Hussan (2020) reported that the flexible and accommodating climate at Al-Mustaqbal University College reduces workplace stress. This implies that a lack of workplace social support may tilt the scale away from employee innovation behaviour. It follows that the presence or absence of workplace social support could accentuate or attenuate the effects of leader-subordinate harmony on the entrepreneurial behaviours of concerned employees. Accordingly, the study hypothesises as follows:

- H<sub>3</sub>: Workplace social support will interact with supplementary fit to influence entrepreneurial behaviour during coronatime at Al-Mustaqbal University College.
- H<sub>4</sub>: Workplace social support will interact with complementary fit to influence entrepreneurial behaviour during coronatime at Al-Mustaqbal University College.

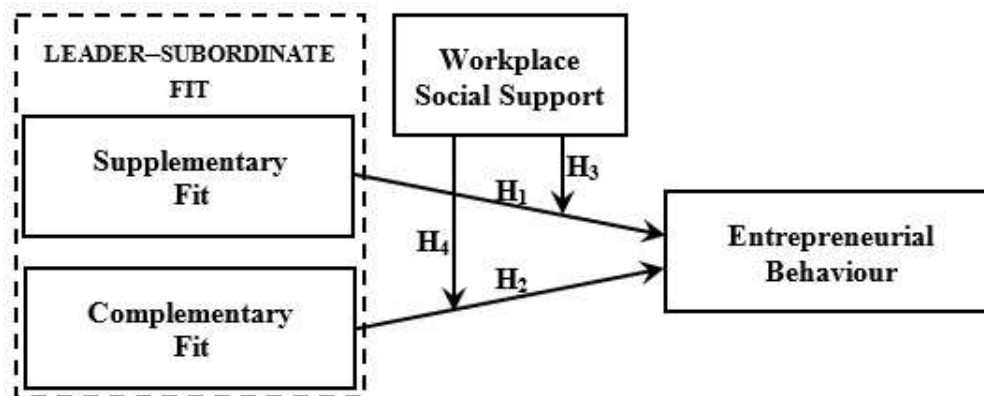


Figure 1. Conceptual Framework

The four hypotheses advanced above detail the relationships among the constructs investigated in the study and inform the conceptual framework. Following Salisu and Awang (2016), this study used the conceptual framework as the starting point for designing and conducting the research, and it helped the researcher see how the constructs fit together to form

a cohesive and logical sequence of influences. Ravitch and Riggan (2017) also held similar views. The conceptual framework of this study is visualised in Figure 1.

### **C. RESEARCH METHOD**

The survey method was used in collecting data from a sample of respondents drawn from Al-Mustaqbal University College, Iraq. The survey method is a flexible, powerful approach to empirically testing hypotheses and generalising theories across disciplinary boundaries. A Google Form link was sent to the focal contacts at the university to administer the questionnaire. The questionnaire captured a few demographic features of the respondents plus information about the five constructs in the study. The data thus captured were quantitative.

#### **Research Setting**

Al-Mustaqbal University College is a young and fast-growing private university established in 2010 in Iraq. The university aspires to be a medical, engineering, legal, and administrative education leader, providing high-quality programmes, promoting scientific research, and adopting innovative ideas that help develop infrastructure and improve functionality performance locally and nationally. The university can be described as highly entrepreneurial. Starting with the Departments of Computer Technologies Engineering and Refrigeration and Air Conditioning Technologies Engineering in 2010, the university rapidly expanded with additional departments: Pathological Analysis and Law (2011); Civil Engineering and Business of Administration (2012); Physical Education and Sport Science (2016); Accounting, Dentistry, Chemical Engineering & Petroleum Industries, Medical Physics, Pharmacy (2017); and Biomedical Engineering (2018).<sup>1</sup>

#### **Sample and Procedure**

The exact staff population was not known to the researcher. Thus, the researcher used *G\*Power* to determine the sample size required to power the study adequately (Kang, 2021). The fixed model,  $R^2$  deviation from zero option under multiple regression tests (belonging to the family of F tests), was in the sample size determination based on the following parameters: Number of predictors = 3 (see Figure 1); Level of significance 0.05 (Pandit and Khairullah, 2015); Statistical power = 0.95 (Cohen, 1988); Medium effect size  $f^2 = 0.15$  (Falk and Miller, 1992). The critical F (output parameter) is shown in Figure 2. The results returned a sample size of  $n = 119$ .

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<sup>1</sup> <https://uomus.edu.iq/En/aboutcoltest.aspx>



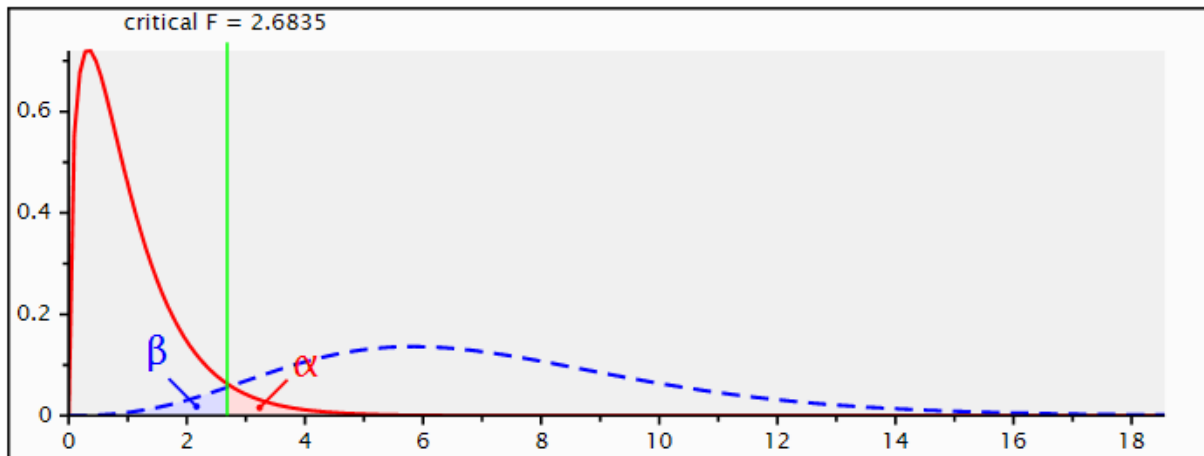


Figure 2. Distribution Plots

Guided by the minimum  $n = 119$ , the researcher administered the questionnaire to 155 respondents via Google Form. The administration was carried out through focal persons at the departments and units of the university who were in a position to distribute the Google Form link to target respondents. There are 15 academic departments: Dentistry, Pharmacy, Medical Physics, Pathological Analysis Techniques, Anaesthesia Techniques, Radiation Techniques, Air Conditioning & Refrigeration Techniques, Computer Engineering Techniques, Building & Construction Engineering Techniques, Biomedical Engineering, Chemical Engineering & Petroleum Industries, Accounting, Business Administration, Law, and Physical Education and Sport Science. Also, the university has nine administrative units (Labs, Career Service Support, Registration and Admission, Documents and Certificates, Quality Assurance and Performance Appraisal, Research and Studies, Information Technology, Training and Development, E-learning, and Continuing Education units). Care was exercised in ensuring the proportionate distribution of the questionnaire. The study achieved an excellent response rate of 81.94%, exceeding the 68% average rate reported for 2020 (Holtom *et al.*, 2022). This means that 127 useable questionnaires were retrieved and used in the study.

### Measures

Following the suggestion of Boyle *et al.* (2015) and Yahaya *et al.* (2018) on adapting or modifying research instruments, the study adapted published self-reports from the literature in assessing the study constructs. Self-reports are widely used in assessing respondents' personality-related dispositions in surveys about their attitudes, emotions, feelings, perceptions, intentions and behaviours (De Cuyper *et al.*, 2017). Table 1 shows the constructs, measurement indicators (items), and published internal consistency reliabilities (alphas).

Table 1. Measurement of Study Constructs

Construct	Items	$\alpha$	Source
Entrepreneurial Behaviour	I took advantage of the opportunities provided to me	0.87	van Dam <i>et al.</i> (2010)
	I looked for potential partners for collaboration.		
	I often was among the first to notice and opportunity to endeavour something new.		
	I sought opportunities to get involved with projects in the educational field.		
	I took the initiative even when others did not.		
	I was aware of opportunities in the educational field that could benefit our school.		
Supplementary Fit	I willingly took risks.	0.78	Beasley <i>et al.</i> (2012)
	I invested time in projects that carried risks.		
	I think I share similar values with my leader.		
	I think I fit in with my leader.		
	My personal values are similar to those of my leader.		
	The other leaders in my university are similar to me.		
Complementary Fit	My values make me get along well with my leaders.	0.76	Korulczyk and Cooper-Thomas (2020)
	We have some shared values in my workplace.		
	I think I am like my leader.		
	I can meet the demands set for me by my leader.		
	I demonstrate the knowledge my leader expects me to have.		
Workplace Social Support	I feel like I am putting as much effort as my leader expects of me.	0.78	Guo and Chen (2022)
	My leader formulates and sets targets according to my capabilities.		
	I am satisfied with the responsibilities my leader sets for me.		
	I can count on my colleagues when things go wrong in my workplace.		
	I have colleagues with whom I can share my joys and sorrows.		

*Entrepreneurial Behaviour*: In measuring the entrepreneurial behaviour construct, the current study adopted eight items from van Dam *et al.* (2010) reflecting the initiative-making (2 items), opportunity-seeking (4 items), and risk-taking (2 items) behaviours of entrepreneurs in educational settings. The measure was rated using a 5-point Likert scale ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*. The scale has good reliabilities ( $\alpha = 0.87$ ) (van Dam *et al.*, 2010). Additionally, several studies (e.g., Martin *et al.*, 2017; Neto *et al.*, 2020a; Neto *et al.*, 2020b; Neto *et al.*, 2017) have confirmed the internal consistency reliability of the scale.

*Leader–Subordinate Fit:* The study pooled seven items from Beasley *et al.*'s (2012) 14-item General Environment Fit Scale and Korulczyk and Cooper-Thomas's (2020) 10-item scale and used the pooled items as indicators for the supplementary fit construct. The three dimensions of Korulczyk and Cooper-Thomas's (2020) have good reliabilities: supplementary fit ( $\alpha = 0.78$ ), complementary demands–abilities fit ( $\alpha = 0.76$ ), and complementary needs–resources fit ( $\alpha = 0.78$ ). Also, the alpha index of the interpersonal similarity dimension of Beasley *et al.*'s (2012) scale used in this study is acceptable ( $\alpha = 0.78$ ). The two scales were rated using a 5-point Likert scale ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*.

*Workplace Social Support:* The study measured perceived workplace social support using an adapted version of Guo and Chen's (2022) 4-item Likert-type measure. The authors (i.e., Guo and Chen, 2022) reported good reliability indices for the scale ( $\alpha = 0.87$ , CRI = 0.88, AVE = 0.64). The questionnaire items were rated using a 5-point Likert scale: 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither disagree nor agree*, 4 = *Agree*, 5 = *Strongly agree*.

### **Data Analyses**

First, assumption checks were performed on the data collected to determine their suitability for regression analysis. Second, the factor structures of the scales were explored using exploratory factor analysis (EFA). Third, the average scores of each respondent on all the constructs' indicators were computed in Excel. Fourth, Pearson's correlation analysis was used to determine the associations between the regressors and the outcome variable. The four study hypotheses were tested using regression analysis. All analyses, except where otherwise indicated, were conducted in JASP (Wagenmakers and Kucharský, 2020).

## **D. RESULTS AND DISCUSSION**

### **Demographics and Assumption Diagnostics**

A sample of 127 respondents consisting of middle-level staff were drawn from academic departments and administrative units of Al-Mustaqbal University College, Iraq. The respondents' ages ranged between 25 years and 41 years (Mean Age = 33.51,  $SD = 3.10$ ,  $SE = 0.27$ ), indicating a preponderance of young people in the middle-level staff category of the university. Surprisingly, the male respondents were slightly younger (Mean Age = 33.20,  $SD = 3.07$ ,  $SE = 0.31$ ) than the female respondents (Mean Age = 34.61,  $SD = 2.99$ ,  $SE = 0.56$ ). While some respondents have been with the university for over a decade, some are just within their first year of service (Mean Tenure = 5.91,  $SD = 2.89$ ,  $SE = 0.26$ ). Finally, the demographic data indicated that the female respondents are more experienced (Mean Tenure = 6.68,  $SD =$

3.19,  $SE = 0.60$ ) than their male counterpart (Mean Tenure = 5.70,  $SD = 2.78$ ,  $SE = 0.28$ ), considering tenure as a proxy for experience.

Several assumption checks were conducted. Firstly, no outlying observation was detected in the data as their residual did not exceed 3 standard deviations (Welc and Esquerdo, 2018). Secondly, the elliptical form of the residuals vs. predicted shown in the scatterplot (Figure 3(i)) suggests that the data were homoscedastic. Thirdly, the even spread of the study observations shown in the Q-Q plot (Figure 3(ii)) indicates that the data distribution was normal and linear. Fourthly, the Durbin-Watson (1950) test statistic ( $d = 2.08$ ) (see Table 2) falls within the accepted limits of 1 and 3 (Turner, 2020). Finally, the absence of multicollinearity (Table 2) means that the data is fit for regression analysis (Supplementary Fit:  $VIF = 1.04$ ,  $TI = 0.97$ ; Complementary Fit:  $VIF = 1.04$ ,  $TI = 0.96$ ; Workplace Social Support:  $VIF = 1.01$ ,  $TI = 0.99$ ).

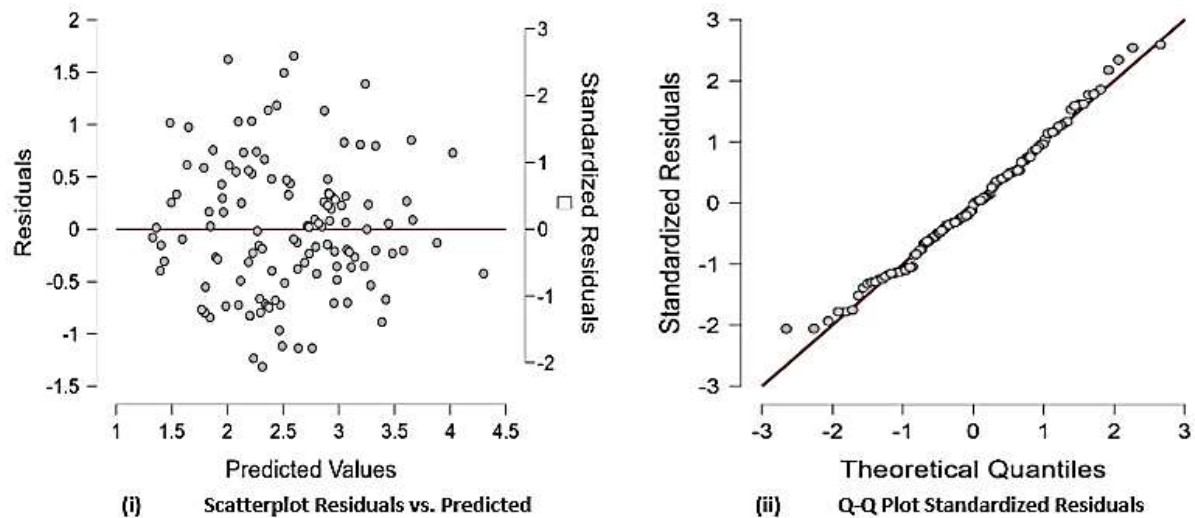


Figure 3. Assumption Plots

Table 2. Assumption Diagnostics

Model	Collinearity Statistics		Durbin-Watson		
	TI	VIF	Autocorrelation Statistic	$p$	
H <sub>0</sub> (Intercept)			-0.03	2.05	0.79
H <sub>1</sub> (Intercept)			-0.05	2.09	0.60
Supplementary Fit	0.97	1.04			
Complementary Fit	0.96	1.04			
Workplace Social Support	0.99	1.01			

### Exploratory Factor Analysis

Each construct's number of factors (or dimensions) was determined using parallel analysis based on principal components (Ledesma and Valero-Mora, 2007). The promax

method of oblique rotation was chosen for rotation because it yields simple structures (Hendrickson and White, 1964). The minimum residual estimation method was employed (Comrey, 1962; Comrey and Ahumada, 1964). The resultant one-factor structures in all the constructs were robust and parsimonious, as depicted by the scree plots (Cattell, 1966) in Figure 4. The single factor extracted from the entrepreneurial behaviour data ( $\chi^2 = 22.87$ ;  $df = 14$ ;  $p = .06$ ) has a 50% cumulative variance; that of workplace social support ( $\chi^2 = 10.76$ ;  $df = 2$ ;  $p = .05$ ) has a 49% cumulative variance; supplementary fit ( $\chi^2 = 36.98$ ;  $df = 14$ ;  $p < .001$ ) has a 33% cumulative variance; and complementary fit ( $\chi^2 = 29.62$ ;  $df = 5$ ;  $p < .001$ ) has a 44% cumulative variance. Also, factor loadings of all construct indicators satisfied the minimum threshold  $\geq 0.40$  (Jordan and Spiess, 2019), which is consistent with the default value in JASP. There were no cases of cross-loadings.

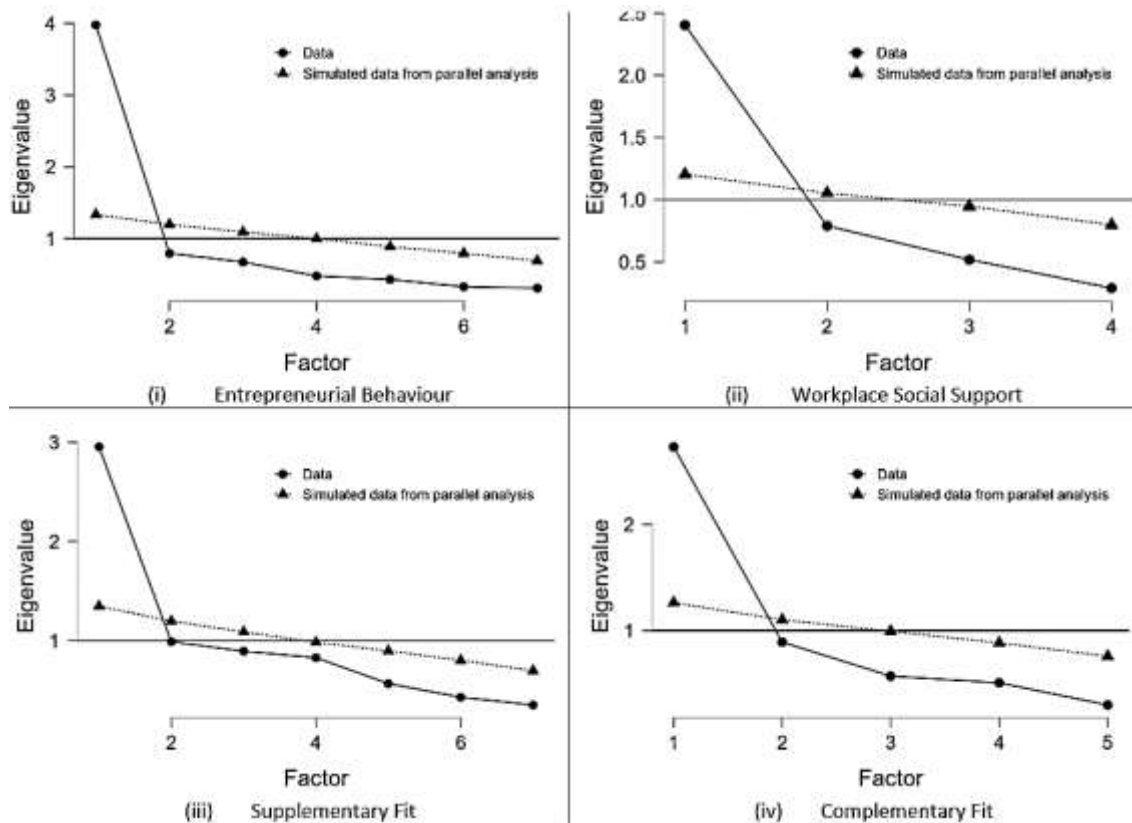


Figure 4. Scree Plots

### Reliabilities

Cronbach's alpha was used to test for construct reliabilities (Cronbach, 1947), using Nunnally's (1975)  $\alpha \geq 0.70$  as the acceptable threshold. Accordingly, all the scales were acceptable as their alphas range between 0.77 and 0.87 (Table 3). Secondly, none of the items

in all the constructs would have improved the respective constructs if they were dropped. Thirdly, item–rest correlation indices exceeded the minimum cut-off of 0.5 (Hair *et al.*, 2019). Finally, the average interitem correlation for the four constructs met and exceeded the minimum threshold > 0.30 required to obtain adequate scale consistency reliabilities (Robinson *et al.*, 1991). Thus, the reliabilities of the measures at item and scale levels have been confirmed as adequate.

Table 3. Scale and Individual Item Reliability Statistics

Scale/Item	Alpha	Alpha if item dropped	Item-rest correlation	Average interitem correlation
<b>Entrepreneurial Behaviour</b>	<b>0.87</b>			<b>0.49</b>
ENTB1		0.84	0.74	
ENTB2		0.84	0.74	
ENTB3		0.86	0.61	
ENTB4		0.87	0.54	
ENTB5		0.85	0.68	
ENTB6		0.85	0.68	
ENTB7		0.86	0.56	
<b>Supplementary Fit</b>	<b>0.77</b>			<b>0.32</b>
SUPF1		0.70	0.68	
SUPF2		0.74	0.49	
SUPF3		0.72	0.56	
SUPF4		0.74	0.49	
SUPF5		0.76	0.38	
SUPF6		0.76	0.37	
SUPF7		0.75	0.44	
<b>Complementary Fit</b>	<b>0.79</b>			<b>0.43</b>
COMF1		0.74	0.58	
COMF2		0.73	0.64	
COMF3		0.75	0.56	
COMF4		0.75	0.55	
COMF5		0.77	0.51	
<b>Workplace Social Support</b>	<b>0.78</b>			<b>0.46</b>
WSOS1		0.72	0.58	
WSOS2		0.65	0.70	
WSOS3		0.79	0.44	
WSOS4		0.71	0.62	

### Correlation

The researcher runs a correlation analysis to determine the degree to which the main study variables are associated. The Pearson's *r* results, highlighted in the heatmap (Figure 5), indicate that the associations between supplementary fit and entrepreneurial behaviour ( $r =$

0.521,  $p < .001$ ), between complementary fit and entrepreneurial behaviour ( $r = 0.538$ ,  $p < .001$ ), and between supplementary fit and complementary fit ( $r = 0.177$ ,  $p < 0.05$ ) are significant, although the supplementary–complementary fits linkage is very weak. Further, the CIs for these association [supplementary fit and entrepreneurial behaviour, 95%CI = 0.38 to 0.64; complementary fit and entrepreneurial behaviour, 95%CI = 0.40 to 0.65; supplementary fit and complementary fit, 95%CI = 2.61e-3 to 0.34] do not include 0, indicating that they are significant. We adjudged the remaining three linkages with correlation coefficients  $r > 0.05$  as insignificant. Also, their CIs included 0, thereby adjudged as insignificant.

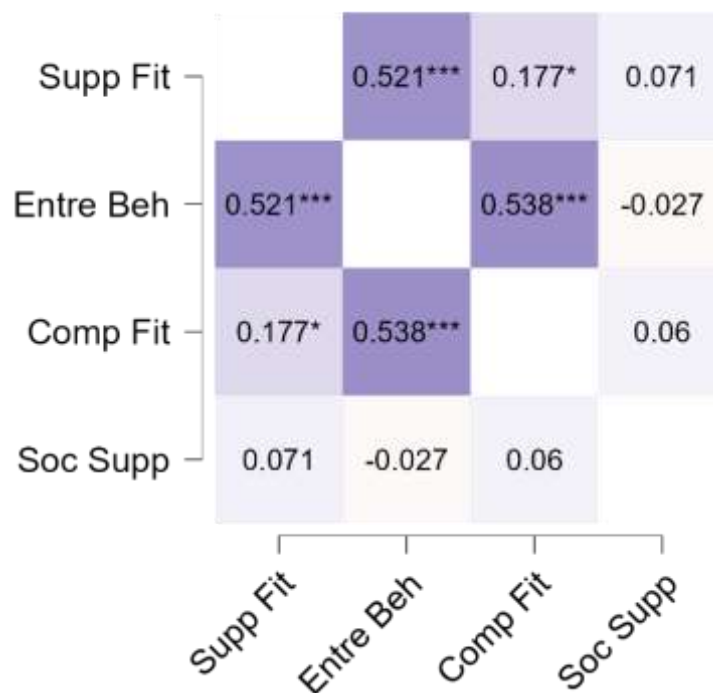


Figure 5. Pearson's  $r$  Heatmap

### Regression

Mean scores of each respondent across all items of the relevant constructs were used in the construct's evaluation. Classical linear regression evaluated whether supplementary and complementary fit between leaders and their subordinates at the University College significantly predicted their entrepreneurial performance. The results of the initial model analysis (Table 4) suggest that leader–subordinate fit in terms of supplementary and complementary fits collectively explained 48% of the variance in their entrepreneurial behaviours ( $R^2 = 0.48$ ,  $F(3,123) = 37.41$ ,  $p < .001$ ).

Table 4. Model Summary - Entrepreneurial Behaviour

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	RMSE	R <sup>2</sup> Change	F Change	df1	df2	p
H <sub>0</sub>	0.00	0.00	0.00	0.88	0.00		0	126	
H <sub>1</sub>	0.69	0.48	0.46	0.65	0.48	37.41	3	123	< .001

Table 5 (Model A) shows that supplementary fit significantly predicted entrepreneurial behaviours ( $\beta = 0.44$ ,  $t = 6.65$ ,  $p < .001$ , 95%CI = 0.29 to 0.53) and likewise complementary fit ( $\beta = 0.46$ ,  $t = 6.91$ ,  $p < .001$ , 95%CI = 0.31 to 0.56). However, workplace social support is not significant ( $\beta = 0.02$ ,  $t = 0.30$ ,  $p = 0.77$ , 95%CI = -0.13 to 0.17) and is therefore not predictive of entrepreneurial behaviours. The unstandardised coefficients mean that a 1 unit change in supplementary fit generated a 0.41 change in entrepreneurial behaviours, and a 1 unit change in complementary fit accounted for a 0.44 change in entrepreneurial behaviours. The standardised coefficients show that complementary fit accounted for 46% of the variance in the study criterion, making it the most important of the two predictor variables, while supplementary fit contributed 44%.

Table 5. Regression Coefficients

Model A	USTD	SE	STD	t	p	VS- MPR*	95% CI	
							Lower	Upper
H <sub>0</sub> (Intercept)	2.55	0.08		32.56	< .001	7.64e+59	2.39	2.70
H <sub>1</sub> (Intercept)	0.09	0.41		0.21	0.84	1.00	-0.73	0.90
Supplementary Fit	0.41	0.06	0.44	6.65	< .001	2.02e+7	0.29	0.53
Complementary Fit	0.44	0.06	0.46	6.91	< .001	7.26e+7	0.31	0.56
W. Social Support	0.02	0.08	0.02	0.30	0.77	1.00	-0.13	0.17
<b>Model B</b>								
H <sub>0</sub> (Intercept)	2.55	0.08		32.56	< .001	7.64e+59	2.39	2.70
H <sub>1</sub> (Intercept)	-1.38	1.39		-0.99	0.33	1.01	-4.13	1.38
Supplementary Fit	0.72	0.34	0.77	2.13	0.03	3.15	0.05	1.38
Complementary Fit	0.64	0.38	0.67	1.66	0.10	1.60	-0.12	1.40
Workplace Social Support	0.36	0.32	0.31	1.14	0.26	1.05	-0.27	1.00
Supplementary Fit * W. Social Support	-0.07	0.08	-0.38	-0.94	0.35	1.00	-0.22	0.08
Complementary Fit * W. Social Support	-0.05	0.09	-0.24	-0.54	0.59	1.00	-0.22	0.12

\*Vovk-Sellke Maximum p -Ratio: Based on the p-value, the maximum possible odds in favour of H<sub>1</sub> over H<sub>0</sub> equals  $1/(-e p \log(p))$  for  $p \leq .37$  (Sellke *et al.*, 2001). USTD = Unstandardized. SE = Standard Error. STD = Standardized.

Model B shows that there is no sufficient evidence in the dataset to support the moderating effects of workplace social support in the supplementary fit–entrepreneurial



behaviours ( $\beta = -0.38, t = -0.94, p = 0.35, 95\%CI = -0.22$  to  $0.08$ ) and complimentary fit–entrepreneurial behaviours ( $\beta = -0.24, t = -0.54, p = 0.59, 95\%CI = -0.22$  to  $0.12$ ) relationships. This outcome is further supported by the Vovk-Sellke Maximum  $p$ -Ratio (VS-MPR), a  $p$ -value diagnostic statistic. The VS-MPR statistics show that workplace social support moderated neither the supplementary fit–entrepreneurial behaviours relationship ( $p = 0.35, VS-MPR = 1.00$ ) nor complementary fit–entrepreneurial behaviours relationship ( $p = 0.59, VS-MPR = 1.00$ ).

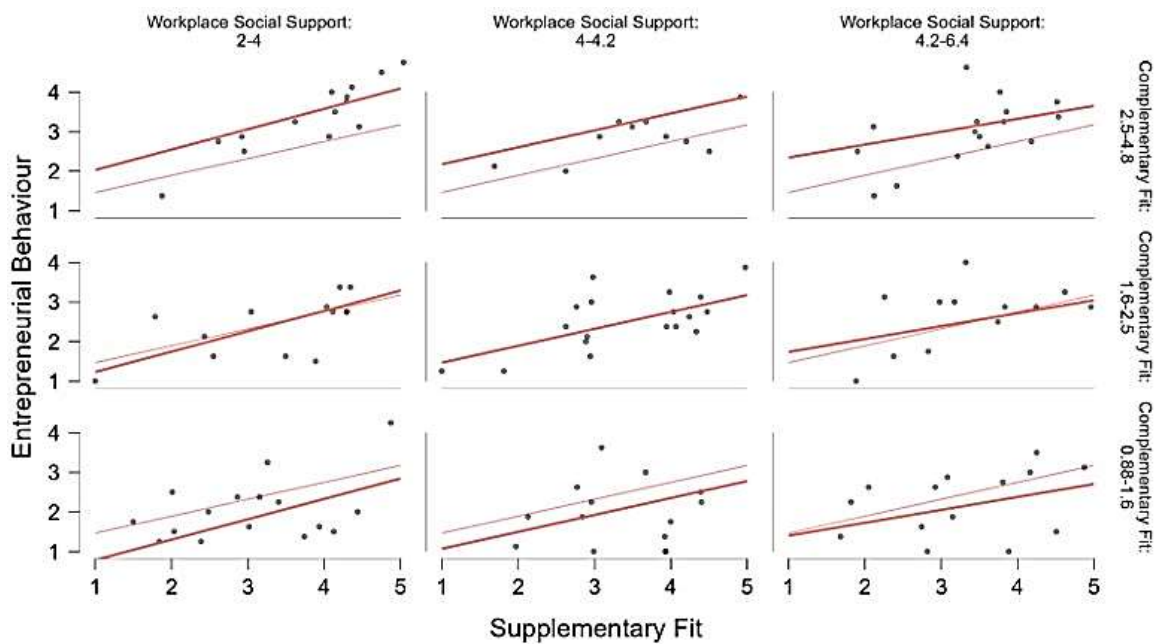


Figure 6. Plot of the Statistical Moderation Model

A further model comparison using the semi-partial Bayes Factor ( $BF$ ) statistics for the two moderation hypotheses returned strong evidence in favour of the null hypotheses ( $H_3: BF_{10} = 0.14; H_3: BF_{10} = 0.10$ ) (Lee and Wagenmakers, 2013), thereby confirming the absence of interaction in the model. The statistical model is plotted in Figure 6, indicating the non-significance of the interaction element.

## E. CONCLUSION

This study sought to investigate the moderating effects of workplace social support in the relationship between leader–subordinate fit (understood in terms of supplementary fit and complementary fit between the leader and the led) and the entrepreneurial behaviour of employees of an Iraqi HEI during coronatime. The person–environment fit theory posts that fit or misfit between a leader and their subordinate could trigger harmony or disfunction in

workplace relationships (Jieun *et al.*, 2010), which inevitably influences important organisational outcomes such as enterprising employee behaviours (Tahir *et al.*, 2022). Consistent with several other empirical studies (Cai *et al.*, 2021; Shin *et al.*, 2017; Wang and Wang, 2018; Wang *et al.*, 2022; Zhang *et al.*, 2012), this study found that supplementary fit and complementary fit predict the entrepreneurial behaviours of HEI employees during coronatime.

However, contrary to the Frese's (1999) buffering hypothesis and the reports of several empirical studies that affirmed the moderating role of social support in various contexts (Akhimien and Adekunle, 2021; El-Sakka, 2016; Htet and Mohanan, 2022), this study could not find substantive moderating effects of workplace social support in the relationship between supplementary and complementary fits, on the one hand, and enterprising behaviours among employees of HEIs during coronatime. Perhaps, this outcome could be explained by combining the relevant aspects of Caplan's (1987) P-E fit model with Edwards and Shipp's (2007) integrated P-E fit model. The former distinguishes between objective and subjective P-E fit moderating factors, while the latter identifies the global, domain and facet content dimensions that could be analysed at the individual, job, group, organisational, and vocation levels of analysis. The selection of a moderating factor in the P-E fit context should decide whether the interaction factor is objective or subjective and then select the appropriate content dimension and match it with the correct level of analysis. In this study, workplace social support may not have been thus appropriately defined and matched, perhaps explaining the insignificance of the results obtained.

Several limitations should be noted concerning this study. First, the respondents were drawn from a single private HEI in Iraq. Therefore, the results should be considered with care when extended to other HEIs in the country, particularly public HEIs. Second, the data used were cross-sectional and could not be used to make causal inferences. Third, the study variables were evaluated through self-reports, and while methodological care was taken, respondents' biases may not be totally discounted. Given these three limitations, it is suggested that future studies should draw sample respondents from multiple HEIs across Iraq. Also, to minimise the adverse effects of cross-sectional data, future studies may employ the repeated cross-sectional survey method, which is easier to apply than longitudinal surveys. Furthermore, future studies may utilise self-other assessment methodologies to counter the limitations associated with self-reports. Finally, future research should base the section on the interaction factor based on a robust synthesis of theory and empirical evidence.

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