Future Business Journal

RESEARCH Open Access

Does work–family conflict lead to abusive supervision in the construction projects? The role of project commitment and psychological resilience

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Abstract

Drawing on conservation of resources theory, the study aimed to investigate the relationship between work–family conflict (time-based, strain-based and behavior-based) and project manager abusive supervision in the presence of mediating mechanism and boundary condition. Time-lagged data were collected from 235 respondents working on construction projects to examine the proposed relationships by utilizing regression analysis. Findings indicated that the dimensions of work–family conflict had a positive significant relationship with abusive supervision and negative relationship with project commitment. Additionally, project commitment mediated the relationships and psychological resilience were found to alleviate the negative influence of work–family conflict on project commitment. Surprisingly, the results delineated that strain-based work–family conflict have more pronounced influence in instigating abusive supervision. This study is unique as it broadens the empirical research on work–family conflict and more particularly negative supervisor behavior in the project context.

Keywords Work–family conflict (WFC), Project commitment, Psychological resilience, Project manager abusive supervision

Introduction

Research on work–family conflict (WFC) has garnered attention in different organizations and industries worldwide [84], and construction industry is of no exception [125]. The reason is construction has complex project environment with long working hours than average as compared to other industries [115], and professionals are encouraged to work on weekends, evenings and holidays [72]. Such situation instigates project manager WFC [126], which refers to "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" [43, p. 77]. In literature, there are two different forms of conflict, work–family conflict (WFC) and family–work conflict [4]. However, the research scope is limited to WFC because studies found stronger relationship between WFC and work-related consequences as compared to family–work conflict [82]. Past research revealed that WFC significantly influences individual behavior and outcomes [14, 89, 126, 132]. Though research have linked WFC with various outcomes like burnout, project citizenship behavior and project performance, however, its relationship with counterproductive work behavior is overlooked, despite the fact that WFC impedes to maintain equilibrium in both work and family role and is a source of individual stress [107]. The current study is

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taking WFC as a possible antecedent of project manager abusive supervision due to several reason. WFC is a multi-dimensional construct, and each dimension can effect the outcomes with different magnitudes; however, the linkage of these dimensions are yet to be explored in one combined analysis [32, 58]. Additionally, several calls have been made to examine the impact of WFC on domain-specific consequences, as it has detrimental consequences for construction industry professionals [14, 21, 126, 132]. Studies up to great extent focused on project or organizational level outcomes [74, 115] and ignored individual-level outcomes [21].

Research advocated that the link between WFC and counterproductive work behaviors such as abusive supervision needs exploration [107]. Since its inception, studies have focused more on linking abusive supervision with negative individual- and organizational-level outcomes [19, 93, 135]. Despite few studies that examined instigators of abusive supervision [35, 64, 65], research on its antecedent and more specifically supervisor-level antecedents are still in its nascent stage [131]. Li et al. [70] argued that experiencing stressors has the potential to deplete individual psychological resources; hence, they are more vulnerable to indulge in abusive supervision. Literature on aggression posits that stressors can instigate aggressive and counterproductive work behaviors [88]. Stressful demands in project environment may compel project managers to engrosse in abusing subordinates [129].

Though it is evident that WFC has the potential to deteriorate project manager behavior, however, this influence may translate through a mechanism and pathway. Studies overlooked the mechanisms and accompanying pathways that link WFC with outcomes and need to be explored in a more rigorous way [13, 127, 132]. Professionals who are unable to establish equilibrium between their work and family become less engaged and committed in their job [60]. The reason is individual blame their work environment for not fulfilling the duties and responsibilities of their family; hence, their commitment toward project goals may decline. We opine that WFC may lead project managers to engage in abusive supervision because such stressors make individuals less committed to the project as well as organization [59]. Prior research showed that reduced commitment is a prime pathway through which stressor influence individual behavior [96]. However, studies have overlooked this as a mediator in relation to the effect of stressors on abusive supervision and more specifically in project environment. Our theoretical framework concedes that the positive influence of WFC on abusive supervision may come from reduced project commitment.

Between the relationship of causes and abusive supervision, the suggestion is to utilize moderator as a boundary condition that helps in waxing or waning the relationship [35, 39]. Cao et al. [21] urged for incorporating personality traits on examining the outcomes of WFC in the project environment. People tend to be different, their response to specific event is different as well, and it depends on individual personal characteristics. Conservation of resources theory (COR) posits that personal attributes delineate valuable resources that may ascertain individual response to stressors in the work environment and safeguard individuals from its unfavorable influence [42]. Psychological resilience is important in the understanding of how individual respond to stressors in the project [104], as it allows individual to manage and successfully adapt to stressful situation [130]. Resilience help professionals in managing unfavorable outcomes of stressors and negative emotions [28, 76]. Although studies examined resilience as a protective factor against different stressors, as far as our understanding, studies overlooked its examination from project manager perspective, despite the fact that resilience is regarded as critical and important for project professionals and effective leadership [85].

Traditionally, project management focused more on technical aspect prioritizing iron triangle [86], while providing less importance to human or soft side of the project [114, 122]. Nevertheless, evidence shows that human issues have prominent role in project failure [1, 80]. Therefore, based on COR, the study is bestowing to the literature and more specifically to construction literature in several ways. First, we intend to investigate WFC dimension-wise and examine the magnitude of each dimension on the outcome variable. Second, this research will add to the embryonic literature on causes of abusive supervision in the project context. It is evident that this phenomenon is present in the project environment; however, investigation is somehow overlooked in the literature [38, 39]. Additionally, Pradhan et al. [97] contend that abusive supervision is a ubiquitous threat and is not limited to a particular society, nation or industry. Third, our study will enrich the literature on the mechanism and pathways through which WFC influences the outcome variables, as it is evident that literature lack evidence on the specific mechanisms and accompanying pathways. Last but not the least, we are incorporating psychological resilience to examine that whether resilience provides some sort of help in overcoming the adverse situation facing in the project environment.

Theory and hypothesis development

Conservation of resources theory (COR)

COR is the most widely utilized theory for understanding the link between WFC and its possible outcomes, and researchers suggested that WFC research should be extended through the lens of COR [17, 42]. The

fundamental tenet is individual attempt to obtain, maintain and protect resources that render valuable work- and non-work-related conditions, objects, energies and personal characteristics [49]. According to theory, resource loss in one domain may lead to exposure of stress in another domain. When individuals lose resources, they indulge in withdrawal or defensive mode to conserve resources to save further resource loss [46, 51]. Thus, dealing with incompatible demands lessen individual energy and time on project work, which instigate attitudinal reaction in project domain [31]. Project commitment is one of the crucial attitudinal outcomes in the project environment. Based on the assumption that strain arisen from resource loss leads to further unfavorable consequences in the project, we propose that WFC may have direct and indirect relationship with project manager abusive supervision. Particularly, COR propounds that WFC may be acknowledged as stressful experience that drain project manager resources, and therefore are more likely lead to decrease project commitment, which in turn may be reflected in their behavior that subordinates perceive as abusive. Moreover, another facet of COR is that individual with sufficient resources are exposed less to the loss of resources and have the potential to gain resources [51]. Individual differences can be regarded as resources that buffer the negative influence of WFC on individuals [49]. Therefore, based on COR, psychological resilience is a personal resource of an individual that helps in protecting the depletion of resources, while experiencing WFC in the project environment.

Work–family conflict and project manager abusive supervision

WFC is a multi-dimensional construct and is differentiated into time, strain and behavior-based conflict [43]. When time consumed in one domain interferes with the performance of another domain result in time-based WFC. The nature of project is temporary, and professionals address various uncertainties to complete the project within specified time [78], because of which they have inadequate time to complete family demands; thus, time-based conflict arises. Strain stemming from work influences individual propensity to address the expectations and demands of family domain resulting in strain-based WFC. Professionals in construction projects work for long hours [73, 91], resulting in feeling of being tired to enjoy family life [33]. Similarly, high uncertainty, irregular resource allocation and overlapping stakeholder demands in construction projects put swelling workload and huge responsibilities on professionals [105, 133] that cause strain. Behavior-based conflict arises when the behavior of one domain is incompatible with the expected behavior in another domain. The project environment is complex and uncertain, which demands emotional stability and objectivity to achieve the desired project objectives [133], while the family demands an individual to be warm, composed and emotional to them [33]. However, when individual is unable to comply with the behavior expected in the family domain resulting in behavior-based WFC [126].

The relation between WFC and outcomes is described by either matching or cross-domain. In matching domain, WFC yield work-related consequences, while in cross-domain, WFC is linked with family outcomes [4]. Past research showed that WFC have strong relationship with work-related consequences [4, 120]. Hence, consistent with matching domain, the current study expects WFC to be related to project manager abusive supervision, because WFC has the potential to influence work attitudes and behaviors [109]. Studies showed that WFC has a positive relationship with withdrawal behavior [26], counterproductive work behavior [107], deviant behavior [36], and aggressive behavior [75]. The reason is experiencing WFC left individual with fewer resources to bestow to work, which lead to deleterious behaviors [23, 82]. Our contention is that project manager experiencing WFC in the construction project due to long working hours, immense pressure, complex tasks and rigid scheduling [127] may be unable to conserve their resources result in feeling threatened to achieve the desired project objectives, hence may engross in abusive supervision. Abusive supervisors abuse, disrespect and show rude behavior toward subordinates. Evidence advocated that temporary environment is propitious to the practices of abusive supervision [39, 58]. Although all project processes have competing expectations and demands, project managers are asked to do more with less, mostly forcing them to be demanding and aggressive to achieve desired targets [5], which puts pressure and exhaust their resources. Hence, the incompatibility of energy and time to fulfill the expectation of both domains is perceived as challenging and stressful that may have the ability to behavioral and psychological resource loss that compels project manager to engross in abusive supervision.

There are multiple reasons to propose the hypothesis between WFC and abusive supervision. First, meta-analysis on WFC revealed that majority of the studies have focused on investigating its antecedents, and very limited studies have concentrated on its consequences. Additionally, these consequences are limited to work and family satisfaction and ignored other critical outcomes like counterproductive work behavior [71, 107]. Second, research on antecedent of abusive supervision is limited and more specifically in the project context, which needs empirical investigation. Third, WFC is a

multi-dimensional construct; however, it is studied unidimensionally, which limits capturing the magnitude of each dimension on outcome variable [58]. Hence, we propose that:

Hypothesis (**1a**) Time-based, (**1b**) strain-based and (**1c**) behavior-based WFC have a significant positive relationship with project manager abusive supervision.

Work–family conflict and project commitment

COR posits that WFC is a stressful experience that consumes individual resources and therefore may more likely to decrease commitment toward work. Project commitment refers to the project goals acceptance, the readiness to bestow substantial effort and the yearning to sustain membership in project [53]. High level of project commitment compels an individual to involve actively in the project [18]. Past research revealed that commitment enhances cohesion and cooperation in team, which is conducive for the establishment of an environment that fosters knowledge sharing and mutual help (Buvik and Tvedt 2017), [24]. Additionally, commitment toward the project encourage individuals to efficiently pursue project goals [119]. Project manager as a leader inculcates this sense of commitment in project team members. However, if the commitment of project manager is on stake, it could be detrimental for project goals. Individual commitment requires energy and time to carry out their activities [71]. In WFC, both realms are contingent for resources on each other [43]. High demand in either domain needs individual resources to fulfill that demand, which deplete resources from another domain [108]. Unavoidably, individual would require to lessen their involvement and dissipate fewer resources on another domain [83], thereby diminishing their commitment [71].

The support for the negative link between WFC and commitment comes from the study of [4], which found that WFC is negatively correlated with organizational commitment. Research acknowledged that WFC compromises individual commitment irrespective of organizations whether permanent or temporary [126]. Individual's exposure to high WFC makes them detached from the tasks, which lower their commitment toward the project objectives [40]. More recently, studies found that individuals having conflicting demands in the work environment have lower level of commitment toward their responsibilities in project and organization as a whole [90, 133]. Similarly, studies in policing found that occupational stressors like conflict lower the commitment of individuals toward their occupation [27, 100]. Furthermore, an empirical evidence from preschool teachers showed that work–family conflict deteriorates individual's commitment toward their task and responsibilities [44]. Provided the intense and dynamic working environment project managers may encounter all three forms of WFC [126]. As a leader, project manager is supposed to manage multiple stakeholders [78] and most importantly ensuring to complete the project [12]. Fulfilling these responsibilities exhausts resources and left manager with fewer resources to fulfill family responsibilities that may reduce his/her commitment toward the project, because of blaming project for such incompatible and incongruent demands. Hence, we hypothesize that:

Hypothesis (**2a**) Time-based, (**2b**) strain-based and (**2c**) behavior-based WFC have a significant negative relationship with project commitment.

Mediating role of project commitment

The study of Singh et al. [110] found that occupational commitment mediate the relationship between conflict and outcome variable. Our contention is in line with COR and attitude–behavior theory [37], which states that individual experiences in work environment inform their attitudes, which in turn navigate their respective behaviors. Past research is evident on the role of commitment as a mediator in the link between stressors and behavioral outcome [96]. Additionally, the study of Xia et al. [126] indicated that project commitment mediates the relationship between WFC and individual behavior like project citizenship behavior. In permanent organization, it is manifested widely that WFC can negatively influence work attitudes [4]. Thus, it is more likely that working in such a high WFC environment undermines the project manager ability to engross in positive behavior, because the stressful demands of project may compel managers to engross in abusive behaviors [39, 129]. However, little or no research has investigated the pathway or mechanism through which WFC leads to engaging in abusive supervision, despite an overwhelming focus on WFC problems [115] and abusive supervision in projects [38, 39, 64], we contend that project managers high in WFC would be unable to maintain normative behavior and the possibility of indulging in abusive supervision is high. However, the positive influence of WFC on abusive supervision is more likely to be promulgated through project commitment. The reason is prior to delineate any negative behavior (i.e., indulging in abusive supervision), to reduce resource loss because of WFC, their attitude toward project (i.e., project commitment) may first change [126]. Hence, we hypothesize that project commitment mediates the relationship between WFC and supervisor abuse, such that the development of negative attitude toward the project is a key pathway through which WFC compels project manager to engross in abusive supervision.

Hypothesis Project commitment mediates the relationship between (**3a**) time-based (**3b**), strain-based (**3c**) behavior-based WFC andproject manager abusive supervision.

Moderating role of psychological resilience

Consistent with COR [49], individual gain and conserve resources and stress happens when these resources deplete; however, individual replenish the loss of threatened resources with resource gain from another source. Hence, COR advocates that resource gain can help to cope with stress. According to COR, individual reaction to loss of resources due to stressors is hinged on individual differences [52]. In the literature of stress, resilience is a personal resource [7], characterized by the (1) ability to bounce back from negative emotional experiences and by (2) flexible adaption to the changing demands of stressful experiences [113, p. 318]. Resilient individuals have the potential to effectively manage trauma and stress [16] because of their optimism and flexibility in regulating their emotions [87]. These individuals anticipate positive outcomes in adverse circumstances and apprehend work demands as challenging [15], due to which resilience is of utmost significance for project professionals [116].

Psychologically resilient individuals have the propensity to manage stressful situations and negative emotions; thus, they are less likely to engross in hostile and aggressive behaviors because they perceive challenges in a positive way [69]. Studies acknowledged resilience as a protective factor, which diminish the unfavorable influence of stressors on behavioral outcomes [47, 112], and provided evidence that personal resources can hamper the deleterious effect of workplace stressors [55, 61]. Research delineated that resilience buffers the effect of stressors on outcomes [124]. We argue that highly resilient project managers while experiencing WFC in the project may be less likely to reduce their commitment toward the project. Past studies showed that resilience diminishes the negative influence of stressful environment on individuals and increase commitment [128, 134] as well as engagement in the work 29. Resilience as a personal resource plays significant role in actuating the motivational process and enhance commitment toward the organization [9]. It also aid individuals to maintain positive emotions, which helps in developing attachment toward the project as well as organization [92].

Work requirements can deplete individual valuable resources; however, individuals having adequate personal resources can cope efficiently with those requirements and avoid burnout [49, 50, 99]. Resilience may protect professionals from personal resource loss when dealing with family issues [10]. Since psychological resilience aids in maintaining positive balance, highly resilient project managers would have more potential of functioning properly even in the existence of incompatible demands , thereby diminishing the possibility of reduction in project commitment and engaging in abusive supervision. Furthermore, Chen et al. [25] opined three important constituents of resilience. First resilient individuals foresee adverse events before they occur and prepare themselves to manage it, second, such individuals are flexible and buffer the effect of stressful events without exposure to significant unfavorable outcomes, and third, these individuals bounce back from such adverse circumstances successfully. Hence, in line with COR, psychological resource could help alleviate the negative influence of stressors; thus, we hypothesize that:

Hypothesis Psychological resilience moderates the relationship between (**4a**) time-based (**4b**), strain-based (**4c**) behavior-based WFC and project commitment such that the relationship is weaker (stronger) when psychological resilience is high (low).

Figure 1 represents impact of work–family conflict on abusive supervision.

Method

The population of this study is construction sector of Pakistan. There are several reasons to choose construction projects. First, construction is regarded as demanding and individuals are divulged continuously to inherent stressors like WFC in their project environment [67]. Construction projects have limited resources and set deadlines, which act as a source of stressors for construction professionals [94]. Second, as [38] opined that supervisor abuse is rated as a precarious element that can influence psychological health of construction employees, however, empirical investigation is lacking [39].

Sample and procedure

Purposive sampling is utilized as it provides adequate portrayal of target participants [117]. This technique is more appropriate to access the subordinates to answer those questions relevant to their supervisor behavior [62]. Additionally, the authors selected construction industry purposively due to the prominent presence of WFC and abusive supervision in this industry. Previous studies have utilized the same technique for the examination of abusive supervision [8, 77]. Questionnaire survey were utilized to collect data, because it is widely recognized tool in behavioral research [118]. Before, distributing questionnaires, contacts were approached and they referred us to project managers. A brief explanation is provided about the study objective and were requested

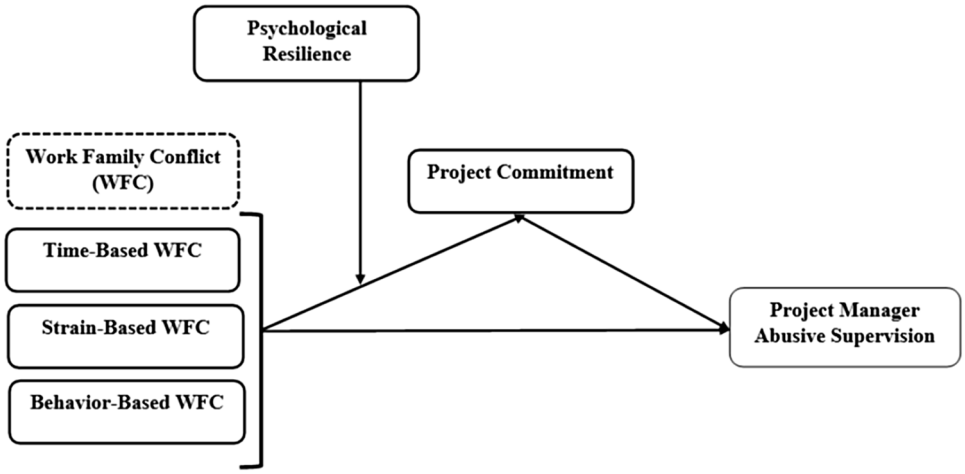

Fig. 1 Research model

for the contacts of their immediate subordinates. Two separate questionnaires were designed. Project manager rated work–family conflict, project commitment and psychological resilience, while subordinates rated abusive supervision. A cover letter was attached to each questionnaire, which asked for the formal consent, and ensure the anonymity and confidentiality of the responses. Data were collected in time lags to allow deduction about causality between model variables [34] as well as to avoid issue of common method bias. At Time 1 (T1), project managers responded to demographic variables, WFC and psychological resilience. At (T2), approximately, one month after (T1), project managers responded to project commitment, while subordinates rated abusive supervision. Out of 350 distributed questionnaires in (T1), 252 responses were received (72%). At (T2), 246 responses were received from project managers (response rate 70.2%), and 241 responses were received from subordinates (response rate 68.8%). Incomplete and mismatch responses were discarded. Hence, the final matched sample was 235, resulting in response rate of (67.1%). Majority of the participants were male constituted for 73.5% and had an average age of 40 years. Most of the respondents had a qualification of masters accounted for 59.6%, and on average 48.5% respondents had an experience of 10 years.

Measures

We distributed the survey in English because it is spoken widely in Pakistan [63, 81, 101, 102]. All items were measured on 5-point Likert scale.

The *dimensions of work–family conflict* were measured on a 9-item scale developed by [22]. The reliability for time-based conflict were 0.936, for strain-based conflict were 0.935, and for behavior-based conflict were 0.953. *Project commitment* were measured on a 5-item scale developed by [95]. The alpha were 0.844. *Psychological resilience* were measured by adopting the short version 10-item scale of [20]. The scale reliability were 0.956. *For measuring abusive supervision* a 10-item scale were used by [111]. The reliability were 0.980.

Results

Measurement model

Following the recommendation of Anderson and Gerbing [6], confirmatory factor analysis were conducted to validate the measurement model. . To evaluate model fitness, different fit indices were utilized. The threshold for CFI, TLI and IFI is equal or greater than 0.95 [54]. Moreover, values less than 0.05 for RMSEA represent excellent model fitness [66]. The results revealed that the value of x^2/df was 1.351. Additionally, the value for CFI was 0.975, for TLI was 0.974, and for IFI was 0.976. Similarly, the value of RMSEA was 0.039. These results represent excellent model fit. Furthermore, to establish convergent validity, composite reliabilities (CR) and average variance extracted (AVE) were computed. The results revealed that CR for all variables ranged from 0.847 to 0.980 which is greater than the threshold of 0.70, and the values of AVE were in between 0.525 and 0.838, which is in the acceptable range, hence establishing convergent validity. Moreover, to establish discriminant validity, heterotrait–monotrait (HTMT) ratio was computed. The results revealed that all values were less than 0.95, hence confirming discriminant validity.

Descriptive statistics

Descriptive statistics are provided in table 1 .

Hypothesis testing

Hypothesis were tested by utilizing Hayes PROCESS MACROS, suggested by Hayes [48] and Preacher et al. [98]. The results of direct hypothesis are presented in Table 2. Hypothesis 1a to 1c stated that all three dimensions of WFC have positive significant relationship with abusive supervision. Results supported this as for time-based WFC, the regression coefficient was ($\beta = 0.11$, $p < 0.05$), for strain-based WFC ($\beta = 0.13$, $p < 0.05$) and for behavior-based WFC ($\beta = 0.12$, $p < 0.05$). These results bestowed support to the proposed hypothesis that time-based WFC, strain-based WFC and behavior-based WFC positively influence abusive supervision. Furthermore, hypothesis 2a to 2c stated that dimensions of WFC have negative significant relationship with project commitment. Results supported these hypothesis as for time-based WFC, the regression coefficient was ($\beta = -0.19$, $p < 0.05$), for strain-based WFC ($\beta = -0.23$, $p < 0.05$), and for behavior-based WFC ($\beta = -0.20$, $p < 0.05$).

Moreover, for indirect hypothesis, hypothesis 3a to 3c stated that project commitment mediates the relationship between dimensions of WFC and abusive supervision. Results in Table 3 supported our proposed hypothesis as shown by the lower-level and upper-level confidence interval of indirect effect. For mediation of project commitment between time-based WFC and abusive supervision, the ULCI and LLCI were (−0.0825, −0.0124), both have same sign, and no zero is present between them. Similarly, for mediation of project commitment between strain-based WFC and abusive supervision, the upper level and lower level have same sign (−0.0967, −0.0173). Lastly, project commitment mediates the link between behavior-based conflict and abusive supervision as shown by (−0.0773, −0.0126), as both LLCI and ULCI have no zero in between them. Hence, it is supported.

Lastly, moderation analysis were conducted to test hypothesis 4a to 4c which stated that psychological resilience moderates the relationship between dimensions of WFC and project commitment, such that the relationship will be weaken when psychological resilience is high. Results are presented in Table 4. The regression coefficient of interaction term (time-based WFC and project commitment) was significant ($\beta = 0.122$, $p < 0.05$). The interaction graph in Fig. 2 depicts that project commitment was higher in the presence of higher level of psychological resilience irrespective of low- or high-time-based WFC. However, as time-based WFC is increasing from low to high, the negative influence of time-based WFC on project commitment was low, when psychological resilience is high. The decrease in negative slope of curve shows that psychological resilience aids in lessening the detrimental impact of time-based WFC on project commitment. Furthermore, the regression coefficient of interaction term (strain-based WFC and psychological resilience) was significant ($\beta = 0.127$, $p < 0.05$). Additionally, the interaction graph in Fig. 2 delineated that project commitment was higher, when psychological resilience is high. The decrease in negative slope of curve delineates that psychological resilience helps in decreasing the negative influence of strain-based WFC on project commitment. Hence, hypothesis 3b is supported. Moreover, the interaction effect (behavior-based WFC and psychological resilience) was significant ($\beta = 0.128$, $p < 0.05$). The interaction graph is provided in Fig. 3, which represents that decrease in negative slope of the curve indicates that psychological resilience aids in reducing the negative impact of behavior-based WFC on project commitment.

Table 2 Direct hypothesis

Hypothesis	*B*
Time-based WFC → abusive supervision	.11*
Strain-based WFC → abusive supervision	.13*
Behavior-based WFC → abusive supervision	.12*
Time-based WFC → project commitment	−.19***
Strain-based WFC → project commitment	−.23***
Behavior-based WFC → project commitment	−.20***

*$p <$,05, ***$p <$ .001

Table 1 Descriptive statistics, reliabilities and correlation

Variables	Mean	SD	1	2	3	4	5	6
Time-based WFC	2.46	1.28	**(.936)**					
Strain-based WFC	2.51	1.26	.92**	**(.935)**				
Behavior-based WFC	2.45	1.29	.93**	.94**	**(.953)**			
Project commitment	3.52	.81	−.30**	−.34**	−.31**	**(.844)**		
Psychological resilience	3.24	.67	−.12	−.17**	−.15**	.27**	**(.956)**	
Abusive supervision	4.17	.97	.12	.10	.11	.11	.27**	**(.980)**

$N = 235$, **$p < .01$

Reliabilities are presented in parenthesis

Table 3 Indirect hypothesis

Variables	LLCI 95%	ULCI 95%
Time-based WFC → project commitment → abusive supervision	− .0825	− .0124
Strain-based WFC → project commitment → abusive supervision	− .0967	− .0173
Strain-based WFC → project commitment → abusive supervision	− .0773	− .0126

Table 4 Moderation hypothesis

Variables	*B*	LLCI	ULCI
Time-based WFC*psychological resilience	.1223	.0175	.2270
Strain-based WFC*psychological resilience	.1269	.0228	.2311
Behavior-based WFC*psychological resilience	.1275	.0217	.2333

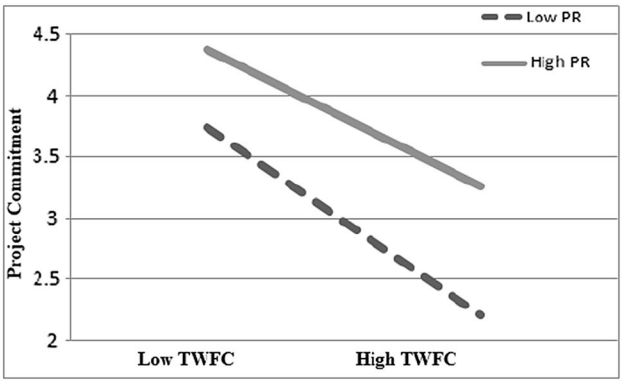

Fig. 2 Time-based WFC*psychological resilience

Figure 2 represents the moderation of psychological resilience on the link between time-based WFC and project commitment.

Figure 3 represents moderation of psychological resilience on the link among strain-based WFC and project commitment.

Figure 4 represents moderation of psychological resilience on the link among behavior-based WFC and project commitment.

Discussion

The current study investigated whether and how WFC influences abusive supervision. Drawing on COR [50, 51], we anticipated that in the stressful environment of project [132], WFC consume individual resources that lower their commitment toward project and finally result indulging in abusive supervision. We contemplate psychological resilience buffers the proposed relationship. The findings revealed that as hypothesized, the dimensions of WFC (time-based, strain-based and

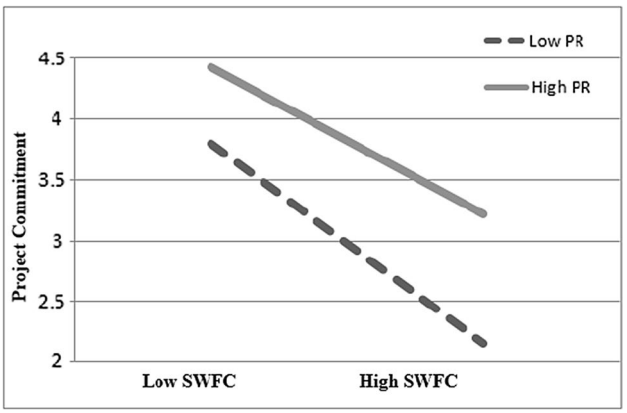

Fig. 3 Strain-based WFC*psychological resilience

behavior-based) predicted abusive supervision. These findings are in congruence with Selvarajan et al. [107] that WFC is positively related to counterproductive work behavior. Similarly, Eissa and Lester [34] found that stressors have the potential to compel professionals to engross in abusive supervision. Managers in the construction do experience work to family conflict[132]. One possible reason might be that individuals in high-power distance culture like Pakistan prioritizes work over family [126], due to lack of employment opportunities, for career progression and considering the organization boss as a father figure. Additionally, the findings revealed that strain-based WFC has a greater positive impact on abusive supervision as compared to other dimensions of WFC.

We anticipated that the dimensions of WFC negatively influence project commitment. The findings revealed that all dimensions negatively predicted project commitment; however, strain-based WFC has stronger negative influence. Past studies propounded that individuals exposure to conflicting demands may experience deteriorated commitment toward organization [90]. Project managers having abundant responsibilities to complete the project within triple constraints compel to bestow more time and resources to project work, which hampers them to fulfill family responsibilities. This sense of not meeting family demands reduce their commitment toward project,

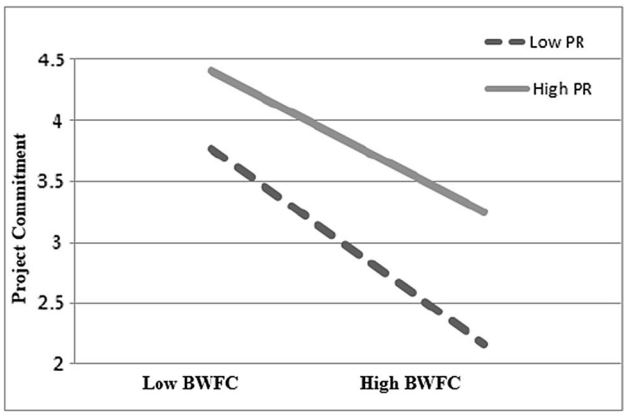

Fig. 4 Behavior-based WFC*psychological resilience

because such individuals blame the project work for not fulfilling family responsibilities and duties efficiently.

The indirect results showed project commitment mediated the relationship between WFC and abusive supervision [46, 50]. The findings are in congruence with past studies on the mediating role of project commitment between WFC and behavioral outcomes [126]. The mediation results advocate that each dimension of WFC invigorates negative response which leads to reduced project commitment, because project managers blame the project environment for such incompatible demands, which ultimately translates into abusive behavior.

The moderating results delineated that psychological resilience aids in reducing the influence of WFC on project managers commitment toward the project. Previous studies revealed that resilience as a personal resource aid professionals in adapting to all kind of stressors to maintain good psychological health irrespective of adverse situations [123]. Moreover, consistent with COR, highly resilient individuals may be less exposed to loss of resources and are more vulnerable to resource gains, because they tend to gather and refine resources with the passage of time [51, 76]. Accordingly, past studies showed that resilience buffers the negative influence of job demands like WFC on different outcomes [3].

Theoretical implications

The present study extends WFC and abusive supervision literature in the construction projects from COR perspective. Primarily, we intend to deepen WFC research in project context. The study is unique because we not only respond to the calls for research on linking WFC with outcome variables [14, 126, 132], but also examined the impact of each dimension on outcome variable, which were ignored in previous studies [32, 58]. Our findings suggest that out of all dimensions, strain-based conflict has much greater influence on outcome variables. In line with this, our findings revealed that WFC is one of the reason in generating detrimental outcomes for project professionals like poor project commitment and indulging in abusive supervision.

Additionally, our study is contributing by exploring the prevalence of abusive supervision in the project context. Though studies are evident about its existence in the project environment [38, 39]. However, empirical investigation of this phenomenon was somehow missing in the project literature. Therefore, responding to the calls for empirical examination of abusive supervision in the project context, this study examined its antecedents to reduce its detrimental consequences [41, 131]. Our findings discerned that abusive supervision is present in the project, and due to stressful and dynamic project environment, project managers are unable to control their urges of venting their negative feelings on immediate subordinates. Theoretically, our study is unique in a sense that our study not only identified the prevalence but also empirically examined its antecedents in the project context.

Moreover, another theoretical contribution of our study is the identification of project commitment as a mechanism and accompanying pathway through which WFC leads to abusive supervision. Prior studies contended that mechanism is missing that links WFC with outcome variables [13, 127, 132]. Hence, this study unveiled this black box and examined project commitment as a mediating mechanism. Our findings showed that WFC has the potential to diminish the project manager's commitment because such individuals considered project environment responsible for not meeting family demands; hence, they engage in counterproductive work behaviors readily.

Finally, we highlighted the role of psychological resilience in aiding project professionals with stressful situations and negative outcomes [28, 76]. Psychological resilience is an individual resource that helps in the apprehension of how individual react to stressors in the project [104], as it aids in managing and adapting successfully to stressful circumstances [130]. Previous studies in the context of project concentrated more on emotional intelligence [56, 106, 132]. However, our study makes particular contribution by investigating the role of psychological resilience. We showed that psychological resilience buffers the negative relationship of WFC and project commitment. This suggests that personal resources are sensitive for project professionals as it helps them to cope with WFC in the stressful environment of the project.

Practical implications

Our study findings suggest several implications that can help project-based organizations to improve their work environment to achieve the desired project goals. The direct results suggest that WFC is a serious problem in the construction projects that can deteriorate project manager's attitude and behavior toward the project. Hence, it is of utmost importance for organizations to plan particular interventions that facilitates reconciliation of professionals work responsibilities with that of other responsibilities [45]. Additionally, project-based organizations need to develop family-friendly environment by adopting measures like providing on-site child care facility to single parent as well as women professionals [10]. Furthermore, caring and supportive top-level management could promote education and training program on how to manage the pressures from work and family [10].

We urged project-based organizations to devise a clear policy with respect to abusive practices in the work environment. It is the right of every individual to be treated fairly and with due respect. Mistakes happen but it should not be punished through abuse because it can distort the mental health of subordinates. More particularly in Pakistani context, subordinates consider boss as a father figure and consider abuse from boss as his/her discretion; thus, they are more vulnerable to such abuse. Additionally, lack of employment opportunities compels them to tolerate supervisor's abuse. Hence, it is organization responsibility to make it part of organizational policy and [2, 103, 114] educate their project managers on how to handle stressors and behave politely.

Since resilience is a malleable personal resource that can be nurtured through training [57]. The training could be concentrated on enhancing professional ability to take some time for self-reflection [79]. Studies are evident of particular human resource interventions to improve individual personal resilience like career counselling, education interventions and mentoring programs [11, 30].

Limitations and future research directions

There are certain limitations that need the attention of researcher. For the current study, data were collected only from construction industry; therefore, it may hamper the generalizability of study findings. Future studies can collect data from multiple organizations like IT and NGO projects to enhance the generalizability. In this study, we utilized COR theory; however, in future other theories could be used to explain the proposed relationship such as affective event theory [121] and job-demand resource model [39] that may enrich the project management literature. Moreover, we rely only on WFC as a stressor to examine its influence on project manager abusive supervision. However, the industry of construction is demanding and possesses stressors [68]. We suggest future studies investigate these stressors with abusive supervision in a single theoretical framework and draw conclusion. Though we tried to fill the gap on mechanism and pathways through which WFC influence work-related outcomes by taking project commitment as a mediator, however, project literature is still in its nascent stages on this aspect. Therefore, we recommend other mediators like emotional responses such as a frustration, anger in the relationship between WFC and outcome variables. Last, as construction industry is widely acknowledged as stressful, professional needs personal resources to cope with stressors. In the current study, we utilized only psychological resilience; however, future studies can examine other personal resources like emotional stability and psychological hardiness.

Conclusion

Drawing on COR theory, we investigated the impact of WFC on project manager abusive supervision in the presence of mediating and moderating effect.. We found that WFC had a positive effect on abusive supervision and negative influence on project commitment. Additionally, project commitment mediated the relationship and psychological resilience buffered the relationship between WFC and project commitment. The study enhanced the current project management literature on WFC and abusive supervision. We believe this investigation may support further empirical studies on WFC and its possible project-related outcomes in the literature. Due to stressful and dynamic nature of construction projects, it is crucial to gain an extensive apprehension of the elements that instigate supervisor abuse and how professionals could cope it to achieve the desired objectives.

Abbreviations

WFC Work–family conflict
COR Conservation of resources theory

Acknowledgements

Not applicable.

Author contributions

'MR' and 'MJ' performed conceptualization, introduction and writing of the manuscript and were the major contributor; 'SA' performed discussion and conclusion sections. All authors read and approved the final manuscript.

Funding

No external funding is received for this research.

Availability of data and materials

The data are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

Received: 4 October 2023 Accepted: 10 March 2024
Published online: 05 April 2024

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