

How Workplace Friendships Impact Burnout among Social Care Leaders: A Job Demands-Resources Framework Analysis

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Background and purpose: The purpose of this study, guided by the Job Demands-Resources Model, is to investigate the role of workplace friendships in mitigating burnout. This research is notable for its unique focus on a relatively rare sample: social care leaders. These individuals play a crucial role in shaping and influencing social services, making their insights invaluable for understanding the challenges and opportunities within this sector.

Methods: Using a cross-sectional and quantitative design, data were collected from a convenience sample of Hungarian social care leaders, including sociodemographic information, the Copenhagen Psychosocial Questionnaire (COPSOQ II), and professional core discussion network (pCDN) questions.

The analysis of 449 Hungarian social care leaders employs a saturated model of moderated mediation (controlling for age and gender) to examine how stress mediates the relationship between quantitative demands and burnout and how workplace friendships moderate this mediation effect.

Results: The results indicate that stress significantly mediates the relationship between quantitative demands and burnout, with workplace friendships acting as a buffer under moderate stress levels. Having at least one workplace friend reduces the impact of stress on burnout; however, this protective effect diminishes under higher stress intensities.

Conclusions: These findings underscore the importance of fostering quality and balanced workplace friendships rather than merely increasing the number of supportive relationships. Given the systemic challenges in Hungarian social care, these insights are particularly relevant for leaders seeking to improve workforce resilience and well-being.

Keywords: Workplace friendship, Burnout, Stress, Quantitative demands, Social care leaders, Social work

1 Introduction

The field of social work stands out as particularly vulnerable to burnout, affecting not only frontline social

workers but also leaders in social care services (Giménez-Bertomeu et al., 2024). There is a notable gap in research regarding burnout among social care leaders. This research gap exists primarily because most studies concen-

trate on frontline social workers (Maddock, 2023; Watson and Begun, 2024; Giménez-Bertomeu et al., 2024). In contrast, research focusing specifically on social care leaders is rare (Kozák et al., 2025; Mahara et al., 2024). This knowledge gap extends to the Hungarian context as well (Győri & Ádám, 2024; Győri & Perpék, 2021; Kopasz et al., 2024), limiting our understanding of how burnout impacts individuals in leadership roles. Effective caregiving systems rely heavily on competent social care leaders who navigate the complexities of managing social institutions, especially under challenging conditions. These leaders are entrusted with the responsibility of fostering the well-being of employees who face heightened exposure to stress and burnout. The effects of burnout in leaders go beyond personal consequences, potentially harming the entire organization and negatively affecting coworkers. Hence, exploring factors that may act as buffers or protective mechanisms against burnout among social care leaders is imperative.

Burnout, stemming from prolonged exposure to high levels of stress, manifests in emotional exhaustion, depersonalization, and diminished personal accomplishment (Maslach & Leiter, 2016). Existing literature suggests that personal resources, such as workplace social support from colleagues or superiors, can mitigate the impact of feelings of isolation and lack of support, both antecedents of burnout (Jenaro et al., 2007; Zeijen et al., 2024). Additionally, job resources like social support and performance feedback could mitigate the adverse effects of job demands, such as cognitive challenges and interpersonal conflicts, on psychological distress and burnout (Bakker & Demerouti, 2024).

Research on post-transition of the political system changes in Hungary revealed a shift in ego network patterns from kin ties to non-kin ties dominating core discussion networks (Albert et al., 2021). Additionally, it emphasized workplace friendships as a primary source of personal relationships in Hungary (Utasi, 1990). This highlights the significance and prevalence of workplace friendships in contemporary Hungarian society, impacting both professional and personal spheres.

Workplace friendships, characterized by affective connections within formal organizational settings, are recognized as a common phenomenon with significant implications for employee performance and organizational outcomes (Methot et al., 2016; Chen et al., 2024). While numerous studies emphasize the benefits of workplace friendships for employees, we posit that the role of workplace friendships among leaders, particularly supportive relationships with colleagues, could significantly mitigate burnout.

This research paper utilizes the Job Demands-Resources (JD-R) framework to examine the interplay between workplace friendships, quantitative demands, stress, and burnout among social care leaders. It aims to contribute to

the existing literature on the role of workplace friendships, specifically in social care leadership.

2 Literature Review

This literature review uses the JD-R model as a framework to investigate previous research about workplace friendships, quantitative demands, stress and burnout. Our review highlights how workplace friendships can influence burnout and focuses on the importance of this dynamic for individuals and organizations.

2.1 The Job Demand-Resources Model

The JD-R model is a psychological framework introduced by Bakker and Demerouti in the early 2000s and has since been commonly used in occupational and organizational psychology (Bakker et al., 2024; Schaufeli, 2017). It is a comprehensive conceptual framework to measure burnout and subsequently expanded to incorporate work engagement (Schaufeli, 2017). The JD-R Model is based on the idea that every job has specific demands and resources, and the relationship between these demands and resources can significantly impact employees' well-being and job outcomes (Bakker, 2024). The model proposes two main categories of factors in the work environment: job demands, which require effort and can be physically, psychologically, or emotionally taxing for employees, and job resources, which support employees in dealing with job demands and achieving their goals. Job resources can be tangible, such as access to training and equipment, or intangible, such as social support from co-workers and supervisors, autonomy, and opportunities for skill development. Job resources help employees cope with job demands, reduce stress, and enhance their motivation and job satisfaction (Bakker, 2024). The JD-R model suggests two underlying psychological processes initiated by demands and resources: the health impairment process, where job demands exceed job resources, leading to adverse outcomes such as stress, burnout, and health problems, and the motivational process, where sufficient job resources lead to positive outcomes such as increased job performance, well-being, and job satisfaction (Demerouti & Bakker, 2011). The model suggests that high job demands can lead to adverse outcomes unless employees have sufficient resources to cope effectively. Conversely, high job resources may facilitate positive outcomes despite high job demands (Berthelsen et al., 2018). The JD-R model's interaction between demands, resources, and adverse outcomes is widely examined in various settings (Schaufeli, 2017; Bakker et al., 2003; Hu et al., 2011). Several studies compare the positive and negative effects of resources and demands on work outcomes. It is commonly found that resources

have a more powerful impact than demands by buffering or reducing work outcomes (Huang et al., 2022). All of this supports the idea that the JD-R model is a well-established theoretical framework for examining the roots of burnout and understanding the relationships between them.

2.2 Quantitative job demands and stress

Increased work pressure is a global phenomenon (Van Veldhoven, 2024). In everyday language, quantitative demands are usually described by several other terms with slightly different associations or connotations, such as work pressure, workload, or speed. To address the lack of clear definitions, Van Veldhoven suggests employing the following working definition for quantitative demands: "Quantitative job demands constitute those elements of the work environment that concern the amount and speed of work to be performed and require physical and/ or psychological effort" (Van Veldhoven, 2013, p.121). Thus, quantitative job demands refer to the specific aspects of a job that can be quantified or measured in terms of the amount of work, effort, or output required from an employee (Van Veldhoven, 2024).

The level of quantitative job demands in a role can vary significantly from one job to another and within different industries. While some degree of quantitative demand is a normal part of most jobs, excessive demands in these areas can lead to stress and burnout if employees do not have the necessary resources and support to cope with them (Mette et al., 2018; Montgomery et al., 2006).

According to Lazarus and Folkman (1984), stress is present when we lack the resources to overcome difficult situations and events. (Demerouti & Bakker, 2011). The conservation of resources theory posits that individuals strive to acquire and maintain valuable resources (Zhang et al., 2019). The theory suggests that people experience stress or threats when faced with these resources' actual or potential loss (Anthony-McMann et al., 2016). Similarly, the World Health Organization defines work-related stress as a response to work demands and pressures that exceed a person's knowledge, skills, or ability to manage effectively (WHO, 2019). It has been suggested that job demands positively impact, while job resources negatively affect work stress (Frank et al., 2017). Additionally, there is a consensus on the positive linkage between stress and burnout, and burnout is considered a severe feature of prolonged stress (Lloyd et al., 2002; Gorgievski & Hobfoll, 2008; Anthony-McMann et al., 2016).

2.3 Burnout

According to the International Classification of Diseases (ICD-11), burnout is an occupational phenomenon

caused by chronic stress that has not been effectively managed at the workplace (WHO, 2019). This definition is similar to Maslach's theory (Maslach & Jackson, 1981). It explains that burnout arises when there is a prolonged mismatch between the individual and one or more work dimensions, such as workload, control, rewards, community, fairness, and values (Maslach & Leiter, 2016).

Burnout is one of the most common and severe psychosocial occupational hazards (Schaufeli et al., 2009; Demerouti, 2024). It is generally conceptualized as the result of permanent and chronic occupational stress and failure to cope with it (Guglielmi, 2001). It can range from acute fatigue to chronic exhaustion and associated problems (Edú-Valsania et al., 2022). While burnout is an individual response (Maslach & Leiter, 2016), it also has a detrimental effect at the organisational level (Fernet et al., 2013).

Burnout can have a wide range of consequences. It can lead to various physical health problems, such as type 2 diabetes, chronic fatigue, insomnia, headaches, and gastrointestinal issues. Burnout is also often associated with mental health issues, including depression and anxiety, dissatisfaction with life, low self-esteem, and increased alcohol and tobacco consumption (Edú-Valsania et al., 2022). Individuals experiencing burnout may also develop feelings of helplessness and hopelessness. Additionally, it can decrease job performance, increase absenteeism, and reduce job satisfaction and engagement. Moreover, one adverse outcome of burnout may be increased turnover, with employees choosing to leave their organizations (Edú-Valsania et al., 2022).

Social work is a highly demanding profession (Rantanen et al., 2016), associated with a high risk of burnout (Lloyd et al., 2002; Sánchez-Moreno et al., 2014). While frontline social workers are known to experience burnout (Maddock, 2023; Maslach & Leiter, 2016; Watson and Begun, 2024), research involving only managers is rare (Erera, 1992). Nowadays, the focus is more on the relationship between leadership styles, attitudes, and employee burnout (Kim & Lee, 2009; Maddock, 2023; Padín et al., 2021).

Measuring burnout among leaders in the social care sector can be challenging because they primarily work with employees rather than clients. Nevertheless, they still work with people, just like frontline social workers. In addition, selecting an appropriate measurement tool for burnout also presents a persistent obstacle in academic research, mainly due to the significant variations observed across diverse occupational settings (Kristensen et al., 2005).

The most widely recognized tool for evaluating burnout is the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) and its subsequent versions. Maslach initially identified three dimensions of burnout: emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach & Leiter, 2016). The current for-

mat of the measurement tool remains three-dimensional; however, “emotional exhaustion” has been replaced by “exhaustion” and “depersonalization” by “cynicism” to better fit roles without direct human contact. In addition, “personal accomplishment” now measures “professional efficiency,” highlighting the challenges tied to professional competence (Kristensen et al., 2005).

One-dimensional questionnaires such as the Copenhagen Burnout Inventory (Kristensen et al., 2005) or the Shirom Melamed Burnout Measure (Shirom & Melamed, 2006) and the Burnout Measure (Malakh-Pines et al., 1981) narrow the focus by reducing burnout to a single core dimension: exhaustion. Nevertheless, despite the lack of definition and the debate around the construct (Schaufeli et al., 2020), some common threads could be recognized, such as that exhaustion is the crucial and central component of the construct (Kiss et al., 2018).

2.4 The importance of workplace friendships

The workplace is recognized as a social space (Sias et al., 2011), constituting a significant part of individuals’ lives and fostering friendships (Methot et al., 2024). Despite the absence of a precise definition, attributed to the subjective perception influenced by individuals’ value systems (Ibrahim & Dickie, 2010) and the blended nature of workplace settings and personal connections (Zarankin & Kunkel, 2019), various studies have identified key characteristics distinguishing workplace friendships from other forms of workplace relationships (Methot et al., 2024; Nielsen et al., 2000; Zarankin & Kunkel, 2019; Sias et al., 2003; Colbert et al., 2016).

Workplace friendships, characterised by formal interactions layered with affective relationships, are a common organizational phenomenon that can impact employee performance and organizational outcomes (Methot et al., 2016; Chen et al., 2024).

Defining workplace friendships can be challenging, which is why there is no widely agreed-upon definition of leader workplace friendships. One notable difference between employee and leader networks is the number of professional contacts outside work (Carroll & Teo, 1996). This suggests that leaders’ workplace friendships may transcend the confines of the physical workplace. In our study, we therefore measured the workplace friendships of leaders in a broader framework outside the physical boundaries of the workplace.

While we often cannot choose our colleagues, we can choose our friends (Sias et al., 2003). Research indicates that workplace friendships evolve through informal and voluntary interactions involving genuine personal connections beyond professional relationships (Zarankin & Kunkel, 2019; Rumens, 2016; Sias, 2009), and organizational

mechanisms can facilitate their development. Several organizational factors, such as the physical proximity of the workplace and a climate conducive to supervisor support, collaborative behavior, tasks, and employee participation, can nurture workplace friendships (Zarankin & Kunkel, 2019).

Consequently, workplace friendship is recognized as a multifaceted phenomenon (Methot et al., 2024) and is distinct from instrumental relationships, such as those between supervisors or subordinates (Nielsen et al., 2000; Zarankin & Kunkel, 2019; Cao & Zhang, 2020; Dobel, 2001).

Among other things, workplace friendship could positively impact task performance (Methot et al., 2016; Berman et al., 2002; Chen et al., 2024). It could increase well-being, job satisfaction, commitment and involvement, and team performance. It can also reduce stress and turnover intention. Workplace friendship could also positively influence emotions (Zarankin & Kunkel, 2019). Simultaneously, workplace friendship helps individuals to achieve their work goals and find access to potential job resources (Methot et al., 2016), which may also result in positive job outcomes. For example, workplace friendship can enhance instrumental and emotional support among employees, thus leading to higher employee job effectiveness (Yan et al., 2021). In addition, Colbert and co-authors (2016) discovered that friendship exhibited the strongest correlation with positive emotions experienced during work hours among different types of workplace relationships.

Workplace friendship is also associated with high access to resources, a more diverse sources of information, better control in task accomplishment, and supportive interactions, e.g., emotional support, reliable personal feedback, or even career strategizing (Methot et al., 2016). Additionally, it could also aid individuals in managing better work-related problems and stressful situations and nurture positive work attitudes (Yan et al., 2021). Furthermore, workplace friendship results in a stronger sense of belonging at work (Fasbender et al., 2023). Therefore, workplace friendship may be a key determinant of organizational effectiveness (Yan et al., 2021).

However, recent research indicates that workplace friendships may affect outcomes differently depending on their quality and type (Zarankin & Kunkel, 2019; Pillemer & Rothbard, 2018). Developing friendships within the workplace (besides its positive impact) can lead to detrimental outcomes, such as excluding other colleagues and creating tensions with organizational policies. These adverse effects may arise due to the involuntary nature of such relationships and the exchange norms and instrumental goals that may be involved (Pillemer & Rothbard, 2018). A growing number of researchers support that workplace friendship has a dual nature and that the adverse effects of workplace friendship can be harmful to organizations (Methot et al., 2016; Fasbender et al., 2023; Sias et

al., 2004; Pillemer & Rothbard, 2018; Choi & Ko, 2020).

According to Methot and colleagues (2016), multiplex research, workplace friendship is a “mixed blessing” as it has both advantageous and detrimental outcomes, and they postulate that an inverted U-shape could depict workplace friendship and performance relationship: “Up to a certain point additional friendships correlate with better performance; but at that point, performance starts to decline due to the emotional labor and possible exhaustion from maintaining all these friendships.” (Zarankin & Kunkel, 2019, p. 52). Nevertheless, despite the opposing sides of friendship (workplace nepotism, gossip, or even disruptive behaviors (Jones & Stout, 2015), friendship has more advantages than disadvantages in the workplace (Song & Olshfski, 2008).

As workplace friendship nurtures positive workplace outcomes inspired by the JD-R model, it could be categorized as a valid social job resource (Yan et al., 2021). Additionally, as it is suggested that friendship and burnout are inversely related (Kruger et al., 1995; Doolittle, 2020), we assume that workplace friendship could impact burnout directly and indirectly through various resources.

2.5 Hypothesis development

Based on the existing literature, our research question is as follows: How do workplace friendships influence the relationship between quantitative job demands, stress, and

job-related burnout among leaders? In line with the JD-R framework, we have developed six hypotheses to explore the interactions between workplace friendship, quantitative demands, stress and burnout. In our proposed model, quantitative demands are the predictor variable, stress functions as the mediator, burnout is defined as the outcome, and workplace friendship is identified as a moderator (see Figure 1).

Every job has an optimal level of quantitative demands. When these demands are too high or the recovery time is inadequate, they can adversely affect workers’ health, well-being, and job performance (Van Veldhoven, 2024). Furthermore, excessive job demands can increase stress (Mette et al., 2018; Montgomery et al., 2006), suggesting a clear connection between quantitative demands and stress levels (Frank et al., 2017). Therefore, the first hypothesis is that there is a positive relationship between the quantitative demands placed on leaders and their stress levels (H1) (see Figure 1, path a).

The relationship between stress and job burnout is widely recognized. There is consistent agreement on the positive correlation between stress and burnout, with burnout often seen as a significant consequence of prolonged and chronic stress (Lloyd et al., 2002; Gorgievski & Hobfoll, 2008; Anthony-McMann et al., 2016). Consequently, the second hypothesis proposed that there is a positive relationship between leaders’ stress levels and their job-related burnout (H2) (refer to Figure 1, path b).

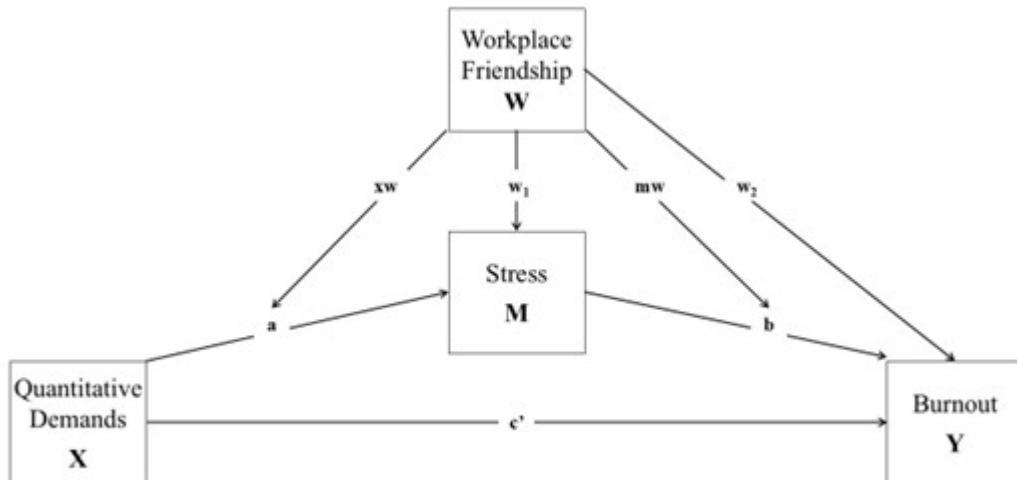


Figure 1: The conceptual model of the moderated mediation between Quantitative Demands and Burnout with Stress as mediator and Workplace Friendship as moderator; Age and Gender were included as control variables in the model

The relationship between quantitative job demands and burnout is assumed to become more nuanced with various mediators, particularly stress, as excessive demands paired with inadequate resources are widely recognized to generate significant stress (Van Veldhoven, 2024), a direct antecedent to burnout (Lloyd et al., 2002). Therefore, the third hypothesis posits that stress mediates the relationship between quantitative job demands and burnout (H3) (see Figure 1, path ab).

Research findings suggest that workplace friendships can buffer stress through social and emotionally supportive aspects and access to valuable resources (Methot et al., 2024; Fasbender et al., 2023). It is also postulated that workplace friendships are key determinants of organizational effectiveness (Yan et al., 2021). This evidence suggests that workplace friendships could ease the pressure of high quantitative demands and prevent high stress levels. Consequently, the fourth hypothesis posits that workplace friendships negatively moderate the relationship between quantitative demands and stress (H4) (see Figure 1, path xw).

Workplace friendship provides numerous advantages to employees, such as increased well-being, job satisfaction, stronger engagement, and improved team performance (Methot et al., 2016; Berman et al., 2002; Zarankin & Kunkel, 2019; Yan et al., 2021). Additionally, an inverse relationship is proposed between work-related burnout and friendships in private life (Kruger et al., 1995; Doolittle, 2020). All this supports the assumption that workplace friendship can be considered a protective factor against burnout. Therefore, the fifth hypothesis proposes that there is a negative relationship between workplace friendships and job-related burnout (H5) (see Figure 1, path w2).

Research also indicates that these friendships could reduce the consequences of stress (Methot et al., 2024; Fasbender et al., 2023), which may moderate the effect of stress on burnout. Given the moderating role of workplace friendship in the relationship between stress and burnout, several questions arise regarding the nature of this effect. Research indicates that the impact of workplace friendship on work-related outcomes varies based on their quality and type (Zarankin & Kunkel, 2019; Pillemeyer & Rothbard, 2018). Therefore, the sixth hypothesis proposes that workplace friendship moderates the relationship between stress and burnout (H6) (see Figure 1, path mw).

3 Research methodology

3.1 Data collection

Power analysis was performed using Monte Carlo simulation (Zhang & Mai, 2023) to estimate the sample size required for the appropriate statistical power for the moderated mediation analysis with the following settings: $\alpha =$

.05, target Power = .80. A moderate strength ($\beta = .30$) was assumed for the regression coefficients included by the indirect path, and the strength of the direct path was considered to be zero. Additionally, moderate ($\beta = .30$) direct effects of the moderator variable and weak interaction terms ($\beta = .15$) were assumed. A sample size of 345 participants was determined to be sufficient to detect the interactions on the indirect pathway.

The questionnaire was distributed to Hungarian social care leaders, who participated in the training of the Semmelweis University Health Services Management Training Centre in 2019 (Bályi et al., 2019; Ethical Approval ID: SE RKEB: 61/2019). All adult participants provided written consent, and participation was voluntary and anonymous.

Data was obtained through paper-based questionnaires among 667 social care leaders, the response rate was 82%. In addition to general demographic data, the questionnaire also included questions regarding organizational operation-related data and a social network name generator. The scales of the (Quantitative demands, Stress and Burnout) Hungarian version of the COPSOQ II questionnaire (Nistor et al., 2015) were applied to measure Quantitative demands, Stress, and Burnout. The questionnaire was anonymous and voluntary.

3.2 Sample

The total sample consisted of 547 Hungarian leaders of social care organizations. However, due to unusable responses (where participants did not mention any confidential professional relationships) and other missing values in relevant variables (considered to be Missing Completely at Random), the final sample size was reduced to 449. The leaders managed organizations with an average of 54.3 (SD = 98.3) employees. The gender ratio of the sample shows female predominance (female = 85.3%; male = 14.7%). 98.4% of the respondents have a higher education degree: 50.3% have a bachelor's degree, 27.8% have a master's degree, 19.8% have a postgraduate degree, and 0.4% have a doctorate. The average age of the leaders is 45.4 years (SD = 7.0, Min = 23, Max = 60), with an average of 21.5 years (SD = 8.9) of work experience and 10.2 years (SD = 6.8) of management experience.

3.3 Measures

The psychosocial work factors were measured by the Copenhagen Psychosocial Questionnaire (COPSOQ) II middle version (Pejtersen et al., 2009). The Hungarian version of the questionnaire was validated by Nistor and colleagues (2015). In the current study, we use the scales of Quantitative Demands as the predictor, Burnout as the outcome, and Stress as a mediator variable. Items were

measured by a five-point Likert scale (converted to 0-100) (Pejtersen et al., 2009). In our sample, the reliability of all scales was excellent: for Quantitative Demands Cronbach's $\alpha = .81$ for Stress $\alpha = .87$; and for Burnout $\alpha = .90$.

The study regarding the nature of workplace friendships was executed through the utilization of social network tools. Individuals' network data was collected using a social network name generator (Burt et al., 2012). The name generator was recall-based (Pustejovsky & Spillane, 2009) and focused on the personal network's professional, confidential relationship subset (Marin & Hampton, 2007) marked as pCDN. Respondents were asked to record the number of persons with whom they had confidentially discussed their workplace professional problems and conflicts in the last six months, with the alter number limited to five persons (Merluzzi & Burt, 2013). The analysis categorized the indicated persons as professional confidential relationships (pCDN). The name generator was combined with name interpreter (Stark, 2017) questions (recording the gender, age, type of connection, and the type of shared problems to characterize the relationship with the indicated persons). More precisely, the respondents could mark whether they consider the indicated person their friend.

The Workplace Friendship variable (WPF) represents the percentage ratio of friendships among the pCDNs entered in the name generator. 464 of the 547 respondents indicated at least one confidential professional relationship ($M = 2.7$, $SD = 1.3$), with an average WPF of 42.1% ($SD = 40.3$). Respondents without any confidential professional relationship were dropped from further analyses.

3.4 Data analysis

After reviewing the descriptive statistics, Pearson correlation analysis was performed to explore the relationships between the WPF and the COPSOQ II variables.

Following this, a moderated mediation analysis was conducted with Quantitative Demands as the predictor variable, Stress as the mediator, and Burnout as the outcome variable. The WPF variable was used as a moderator on paths "a" and "b" (see Figure 1). Age and Gender were included as control variables in the model. The distribution of the variables was found to be suitable for conducting a moderated mediation analysis. For the COPSOQ II variables and age, skewness ranged from -0.30 to 0.25 and kurtosis from -0.21 to 0.11, indicating a fairly normal distribution. The distribution of the WPF variable was slightly platykurtic ($K = -1.47$), with a skewness of 0.31, which is within acceptable limits. Nonetheless, we chose Maximum Likelihood as parameter estimator and Percentile Bootstrap to make the analysis robust to this slight deviation from the normal distribution. Standardized variables were used for the mediation analysis. All analyses were performed using JASP (0.18.3) (JASP Team, 2023).

4 Results

Participants indicated that on average slightly more than a third of their confidential professional relationships are friendships (Median = 33.33, Mean = 42.10, $SD = 40.25$), bearing in mind that the distribution of WPF is somewhat flat with 38.5% of the sample reporting the proportion of friends as zero percent, and 24.1% as one hundred percent. They also reported moderate Quantitative Demands, Stress and Burnout (see Table 1).

Pearson correlation was used to examine the correlations between the WPF variable and the COPSOQ II variables. The WPF variable showed a very weak significant negative association with Stress and a weak significant negative association with Burnout. Significant positive correlations were observed between each of the measured COPSOQ II variables (Table 1).

Table 1: Means, Standard deviations and Pearson correlations between WPF, Quantitative Demands, Stress and Burnout, Age, and Gender

Variable	M	SD	1	2	3	4	5
1. WPF	42.10	40.25	—				
2. Quantitative demands	46.88	17.71	.01	—			
2. Stress	42.55	18.99	-.12 *	.25 ***	—		
4. Burnout	49.18	20.83	-.27 ***	.14 **	.45 ***	—	
5. Age	45.43	6.96	-.10 *	.05	-.05	-.03	—
6. Gender	-	-	.05	.05	-.03	-.01	.05

Note. M and SD are used to mean and standard deviation, respectively. Values indicate Pearson correlation coefficients. For Gender 1 = male, 2 = female. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

Table 2: Results of the moderated mediation model

Path	Variables	β	SE(β)	p	CI ₉₅
a	QD → Stress	.25	.05	<.001***	.16; .34
w1	WPF → Stress	-.13	.05	.005**	-.22; -.03
xw	QD*WPF → Stress	.02	.04	.633	-.07; .11
c'	QD → Burnout	.04	.04	.345	-.05; .13
b	Stress → Burnout	.42	.04	<.001***	.33; .52
w2	WPF → Burnout	-.23	.04	<.001***	-.31; -.15
mw	Stress*WPF → Burnout	.09	.04	.031*	-.01; .18

Conditional effect of Stress on Burnout at different values of WPF					
Path	WPF	β	SE(β)	p	CI ₉₅
b^o	0%	.33	.06	<.001***	.20; .46
	33.3% (Median)	.40	.04	<.001***	.31; .50
	50%	.44	.04	<.001***	.35; .54
	100%	.55	.08	<.001***	.37; .72

Conditional indirect effect of QD on Burnout through Stress at different values of WPF					
Path	WPF	β	SE(β)	p	CI ₉₅
ab^o	0%	.07	.03	.004**	.02; .14
	33.3% (Median)	.10	.02	<.001***	.05; .15
	50%	.11	.02	<.001***	.07; .16
	100%	.16	.05	<.001***	.07; .25

Note. QD indicates Quantitative Demands; WPF indicates the ratio of Workplace Friendship. Age and gender were included as covariates with no significant effect. N=449. β indicates the standardized estimate. Standard Errors and 95% Confidence Intervals of the standardized estimates were calculated with Bootstrapping. Values in bold are statistically significant and discussed in text. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

To examine the influence of WPF on the relationship between Quantitative Demands, Stress, and Burnout, a mediation analysis was conducted, with Quantitative Demands as the predictor, Burnout as the outcome, and Stress as the mediator. WPF was incorporated as a moderator on the mediated pathway (Fig. 1). Age and Gender were included as control variables in the model.

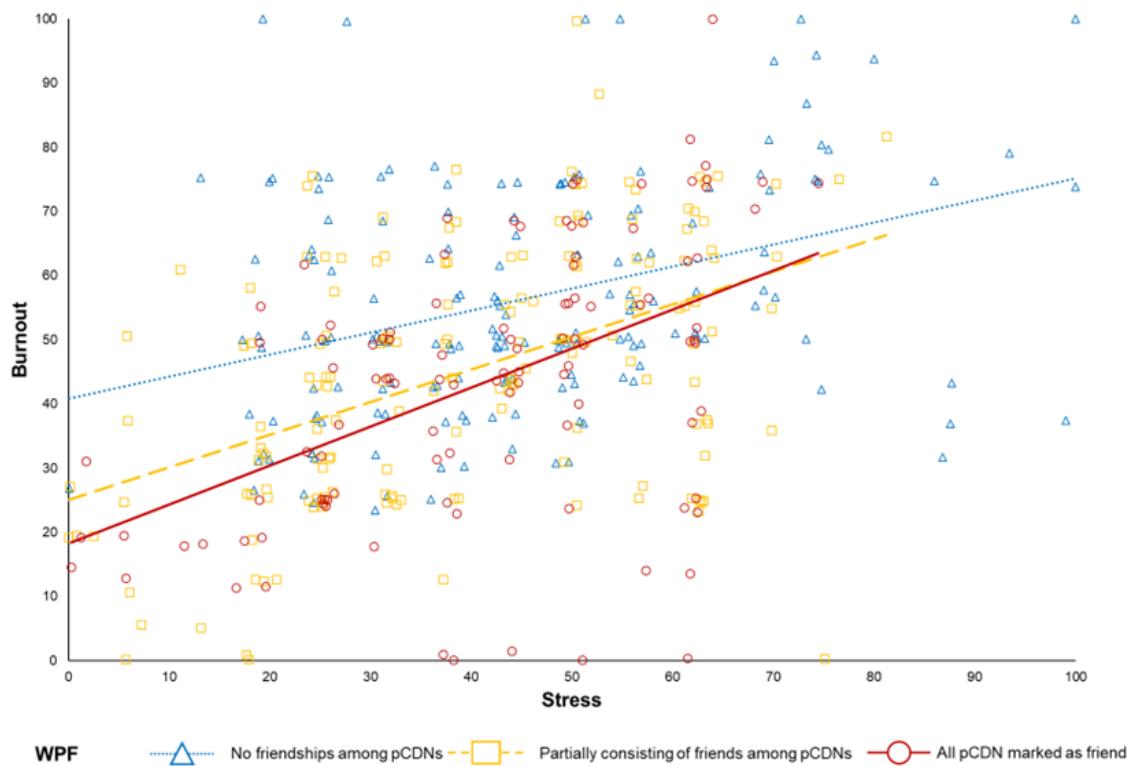
In our model (Table 2), it was observed that Quantitative Demands exert a significant positive effect on Stress (see Figure 1, path a). Furthermore, the analysis confirmed that Stress has a significant positive effect on Burnout (see Figure 1, path b).

The direct effect of Quantitative Demands on Burnout, after controlling for Stress, was found to be nonsignificant

(see Figure 1, path c'). However, the relationship between Quantitative Demands and Burnout was significantly mediated by Stress (path ab). Additionally, WPF demonstrated a weak yet significant negative effect on Stress (w1), as well as a significant negative effect on Burnout (w2).

Regarding the interaction effects, the analysis revealed that WPF does not have a significant moderating effect on the relationship between Quantitative Demands and Stress (see Figure 1, path xw). However, the analysis revealed that WPF negatively moderates the effect of Stress on Burnout (see Figure 1, path mw).

To examine the significant interaction between WPF and Stress, we calculated the effect of Stress on Burnout at different values of WPF (b^o). Examination of these condi-



Note. No friendship among pCDNs indicates 0% WPF; Some Friendship among pCDNs indicates $0 < \text{WPF} < 100\%$; All pCDN marked as friend indicates 100% WPF. Data is plotted using normally distributed ($m = 0$; $sd = 0.9$ point) jitter. $N = 449$.

Figure 2: Relationship between Stress and Burnout moderated by WPF

tional effects revealed that higher ratio of WPF is associated with a steeper slope. Similarly, higher WPF is associated with a stronger indirect effect (ab^0). The direction of moderation may seem surprising at first, but Fig. 2 clarifies this. It shows that with a low ratio of workplace friends, burnout can occur even at low stress levels, whereas with a higher ratio of workplace friends, burnout only increases when stress is high. However, when stress is high, the protective power of WPF is weakened, and individuals with both low and high WPF are at high risk of burnout.

This evidence challenges the original reasoning behind our hypothesis (H6), which generally assumed that the moderating effect of workplace friendships acts as a buffer against the negative effects of high levels of stress. Instead, the findings suggest a more nuanced relationship: the absence of workplace friendships increases vulnerability to burnout even at low stress levels, while the presence of workplace friendships serves as a protective factor under moderate stress. However, as stress intensifies, the buffering effect of workplace friendships diminishes, leaving individuals with both low and high levels of workplace friendships at increased risk of burnout.

5 Discussions and further directions

5.1 Discussions

Using a saturated model of moderated mediation (controlling for age and gender), this study aimed to explore the role of workplace friendships in the relationship between quantitative demands, stress, and burnout among social care leaders guided by the JD-R framework. The findings offer novel insights into the dynamics of stress and burnout and their implications for leaders in high-demand roles.

According to the results, quantitative demands significantly predict stress, supporting Hypothesis 1 (H1). This aligns with existing literature, emphasizing that high quantitative demands increase pressure and workload, thus increasing stress levels (Van Veldhoven, 2013; Mette et al., 2018; Montgomery et al., 2006; Frank et al., 2017). Furthermore, stress was found to have a significant positive effect on burnout, supporting Hypothesis 2 (H2). This outcome highlights stress's critical role in exacerbating job-related burnout, consistent with the well-established

stress-burnout model (Lloyd et al., 2002; Gorgievski & Hobfoll, 2008; Anthony-McMann et al., 2016).

The analysis also revealed that stress fully mediates the relationship between quantitative demands and burnout. The direct effect of quantitative demands on burnout was not significant, but the mediated pathway (quantitative demands → stress → burnout) was significant, supporting Hypothesis 3 (H3). These findings reinforce the importance of addressing stress as a mechanism linking high job demands to burnout (Van Veldhoven, 2013; Lloyd et al., 2002), particularly in leadership roles.

The hypothesized moderating effects of workplace friendships presented an intricate pattern than originally anticipated. Contrary to the expectations outlined in Hypothesis 4 (H4), workplace friendships did not significantly moderate the relationship between quantitative demands and stress. This finding suggests that while workplace friendships are generally associated with stress-reducing benefits (Methot et al., 2016; Fasbender et al., 2023), their protective influence may not extend to stress specifically induced by high quantitative demands. Quantitative demands are characterized by a high volume of tasks and tight deadlines. The pressure of quantitative demands can surpass the alleviating capacity of social support from colleagues. This suggests that coping with quantitative demands may require other forms of organizational support or individual coping strategies that are more directly targeted at workload management.

Workplace friendships demonstrated a weak but significant negative direct effect on stress and burnout (H5). This result highlights that strong interpersonal connections in the workplace might have psychological benefits, and they could reduce stress levels and lower the likelihood of burnout. Prior studies support also emphasize the role of workplace friendships in fostering emotional support, a sense of belonging, and resilience in high-pressure environments (Methot et al., 2016; Berman et al., 2002; Zarankin & Kunkel, 2019; Yan et al., 2021). These direct benefits highlight the critical role of social bonds in mitigating occupational strain.

In addition to their direct effects, workplace friendships significantly moderated the relationship between stress and burnout, supporting Hypothesis 6 (H6). This indicates that workplace friendships act as a buffer, reducing the impact of stress on burnout by providing emotional and social support. These findings support the idea that strong workplace connections enhance coping mechanisms by offering resources such as empathy, advice, and assistance. Thereby, they are fostering a supportive environment that reduces stress and lowers the risk of burnout (Methot et al., 2016; Fasbender et al., 2023).

On the other hand, the analysis revealed that workplace friendships weaken the stress-burnout link, but this protective effect diminishes under high stress levels. While workplace friendships can protect against burnout under

moderate stress, their effectiveness as a buffer decline when stress levels become severe. This finding suggests that the protective power of workplace friendships has limits, particularly under high stress. The conditional effects of stress on burnout reveal a selective buffering effect of workplace friendships. In scenarios without workplace friendships, burnout occurs even under low-stress levels, highlighting the importance of social connections in fostering resilience against burnout. Conversely, having even one workplace friend can shield against burnout until stress levels become higher. However, under the high level of stress, the protective effect of workplace friendships diminishes, and individuals with both low and high numbers of workplace friendships experience burnout. These findings challenge our reasoning behind Hypothesis 6 (H6), which assumed that workplace friendships act as a buffer against the negative effects of high levels of stress. Nevertheless, what is important is to have at least one friend, but it is not beneficial to increase the number of friends significantly. In summary, we propose that workplace friendships can only reduce the impact of stress on burnout up to a certain threshold and beyond this threshold, their protective effect diminishes.

Inspired by Methot's U-shaped model (Methot et al., 2016), it can be assumed that the selective protective effect of workplace friendships against burnout is likely related to the quality of these relationships. This aligns with prior research by Zarankin and Kunkel (2019) and Pillemeyer and Rothbard (2018), highlighting friendship quality's real role in determining its impact on workplace outcomes.

Notably, our findings suggest that having at least one meaningful friendship in the workplace is more advantageous than having a large number of superficial or lower-quality relationships. This indicates that even a single strong workplace friendship is sufficient to protect against stress and provide emotional support, making it a more valuable resource than numerous weaker connections. Together, these findings emphasize the importance of fostering meaningful, high-quality workplace friendships to maximize their protective benefits against stress and burnout.

5.2 Theoretical implications

This study aimed to better understand how workplace friendships, job demands, and burnout are related and to contribute valuable insights to the literature on workplace friendships in the specific context of social care leadership.

Understanding workplace friendships is important because they have a profound impact at both the organizational and individual levels. Promoting workplace friendships through organizational initiatives, such as fostering a supportive and collaborative environment, can yield significant benefits. Employers can make a relatively low-

cost investment with complex, far-reaching effects by cultivating a positive workplace climate and shifting attitudes towards interpersonal connections. Zhang and co-authors (2021) provide a notable illustration of this complexity. They discerned the mediating role of workplace friendships in facilitating the relationship between high-commitment work systems and the enhancement of employee well-being.

Furthermore, our study revealed new insights into the relationship between workplace friendships and burnout in Hungarian social care leaders. Notably, it is a recent perspective of its kind in this field. Our research tends to expand the literature on workplace friendship and burnout within the framework of the Job Demand-Resources model.

5.3 Practical implications

Despite the limitations of this study, our analysis offers valuable insights for future research. Our findings highlight the significance of workplace friendship as a crucial job resource in addressing burnout among social care leaders. Drawing inspiration from the JD-R framework, we discovered that stress play a substantial mediating role in the relationship between quantitative demands and burnout. Interestingly, workplace friendship exhibited only a modest correlation with the targeted demands and burnout when considered independently. However, its pivotal role became more apparent when positioned as a moderator. Hungarian social care leaders have been facing ongoing challenges, such as low salary and limited prestige, for decades (HCSO, 2023). These challenges make them particularly vulnerable to disparities between personal motivation and external conditions. In regions where resources for improving the social care system are scarce, fostering supportive resources, including workplace friendship, has important practical implications for HR and the overall well-being of social care professionals.

6 Conclusions

Our study explored the beneficial effects of workplace friendship on burnout among social care leaders within the Job Demand-Resources framework, which incorporates quantitative demands, and stress prerequisites for burnout. Our findings confirm that workplace friendship, viewed as a crucial job resource, has the potential to act as a protective shield against burnout, particularly in the presence of demanding work conditions. In the context of workplace friendship, it is essential to emphasize the significance of genuine relationships over superficial ones. Emphasizing the value of a genuine relationship with a single friend becomes paramount, outweighing the quantity of friendships.

7 Limitations

Our study has several limitations. First, the cross-sectional design may not capture the full dynamics between the investigated phenomena, and we could not analyze reverse or reciprocal relationships. Second, reliance on self-report questionnaires (Network and COPSOQ II) (Podsakoff et al., 2012) may introduce methodological variance bias. Third, the unique characteristics of our sample, including gender, age, and the Hungarian context, might affect the correlation values. Fourth, incorporating additional demands could provide a more nuanced understanding. Fifth, using other specific questionnaires might broaden the scope of our hypotheses, despite our assessment of quantitative demands, stress, and burnout with COPSOQ II.

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