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RESEARCH ARTICLE

# Who Do Leaders Talk To? The Role of Workplace Friendships in Professional Discussion Networks and Burnout

Réka SCHUTZMANN [1,2] ✉, Klára SOLTÉSZ-VÁRHELYI [3] and Anna KOZÁK [1]



Affiliations
[1] Semmelweis University, Faculty of Health and Public Services, Institute of Mental Health, Doctoral Division of Mental Health Sciences, Budapest, Hungary;
[2] Archiescopical College of Veszprém, Veszprém, Hungary
[3] Institute of Psychology, Pázmány Péter Catholic University, Budapest, Hungary

✉ Correspondence
Réka Schutzmann
Semmelweis University, Faculty of Health and Public Services, Institute of Mental Health, Doctoral Division of Mental Health Sciences, Budapest, Hungary
1085 Budapest, Üllői út 26.
E-mail: reka.schutzmann@gmail.com

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Introduction: Quantitative and emotional demands pose risks to leaders' mental health, while supportive workplace relationships may mitigate these effects.
Aims: This study examined the relationship between the friendship-based composition of the professional core discussion networks (pCDNs), job demands, and burnout among Hungarian social care leaders, guided by the social ledger framework to capture both the supportive and burdensome aspects of workplace relationships.
Methods: 547 Hungarian social care leaders were categorised into six groups based on their pCDN composition. Participants' pCDNs were assessed by social network analysis methods, and the COPSOQ II questionnaire measured work-related psychological dimensions and burnout. ANCOVA analyses were conducted to compare burnout and job demands across groups.
Results: Leaders whose pCDNs consisted exclusively of non-friends reported the highest levels of burnout, whereas those with a single friend exhibited the lowest. Emotional demands were highest among leaders with one-friend pCDN and lowest among those with non-friend pCDNs. Emotional demands were associated with burnout; however, this relationship was moderated by pCDN composition: Leaders with one-friend pCDN reported low levels of burnout, regardless of the emotional demands, whereas the burnout of leaders with non-friend pCDNs was high even at low emotional demand levels. Additionally, those with no pCDN showed a strong association between emotional demands and burnout.
Conclusions: The composition of pCDNs is important for leaders' mental health. While friendships within pCDNs may offer emotional protection, they could also introduce strain, emphasising the need to consider not only the existence but also the quality of workplace relationships.

Keywords: professional core discussion networks, workplace friendships, burnout, emotional demands, social care

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# Introduction

Leaders in the social care sector face complex emotional, administrative, and ethical demands that are often overwhelming, resulting in high levels of occupational stress and professional isolation (Choy-Brown et al., 2020; Giménez-Bertomeu et al., 2024; Győri & Ádám, 2024; Kozák et al., 2025; Schutzmann et al., 2025). Mental health problems, including burnout, set a substantial economic burden globally and nationally, highlighting the urgent need for effective workplace mental health interventions (Arias et al., 2022; Nekoei et al., 2024). In such environments, the presence of workplace friendships, particularly within professional core discussion networks (pCDNs), can play a pivotal role in shaping leaders' mental health and vulnerability to burnout. However, according to the social ledger theory (Berman et al., 2002; Labianca & Brass, 2006), these relations can have a dual nature, emphasising that both positive and negative ties can significantly influence well-being and organisational outcomes. Trusted social connections can provide essential emotional and instrumental resources that help mitigate occupational strain, especially as social care leaders often lack robust upper-tier support systems (Berman et al., 2002). While supportive workplace friendships may buffer the negative effects of job demands, these relationships can also introduce new sources of strain, especially when professional and personal boundaries overlap. Despite growing recognition of these dynamics (Methot et al., 2016), little is known about how the composition and quality of leaders' pCDNs influence their vulnerability to burnout in social care settings.

This study addressed this gap by examining the interplay between the friendship-based structural composition of a pCDN, emotional demands, quantitative demands, and burnout among Hungarian social care leaders.

## Theoretical Background

### *Burnout*

Burnout has been extensively examined within the realms of psychological theory and occupational health research, particularly in work-related stress. Employment is a fundamental aspect of many individuals' lives, providing structure, purpose, and the opportunity for significant societal contributions. While high-performance roles can offer substantial rewards, they may also present considerable stressors (Bakker & De Vries, 2020).

Burnout is predominantly characterised as a chronic stress condition, manifesting through continuous experiences of exhaustion, cynicism, and diminished professional effectiveness (Maslach, 2001). It exists on a continuum, ranging from transient fatigue after a demanding workday, resolvable through adequate rest, to profound, enduring exhaustion that is coupled with emotional detachment, cognitive impairments, and depressive states, following prolonged engagement with high-demand environments (Bakker & De Vries, 2020). Individuals experiencing burnout often find themselves drained and disenchanted with their once-meaningful work, with heightened feelings of disillusionment correlating with increased risks of severe consequences (Bakker & De Vries, 2020). Organisations employing helping professionals must recognise that burnout typically arises from a confluence of personal (such as high internal expectations, personality, ineffective coping strategies, or a tendency towards perfectionism), organisational (such as excessive caseloads, a lack of autonomy, poor supervisory support, or insufficient resources), and systemic stressors (such as chronic underfunding of the sector, burdensome administrative policies, or a lack of societal recognition for the profession), rather than a single causative factor. This notion highlights that burnout often reflects broader structural issues rather than individual deficiencies (Fernet et al., 2012).

The ramifications of burnout are substantial, generating considerable costs for both individuals and organisations, including a range of adverse physical, psychological, and organisational outcomes (Salvagioni et al., 2017). Recent research has also shown that managers are particularly vulnerable to burnout due to the pressures of their role. In addition to managing their workload and well-being, leaders are responsible for supporting their teams, making complex decisions, and navigating organisational change, often with limited support or guidance (Brooks et al., 2023; Parent-Lamarche & Biron, 2022). They must not only regulate their emotional responses but also effectively address and manage the often-conflicting emotions of their colleagues. Moreover, traditional job resources may be insufficient to buffer these unique challenges, highlighting the need for more specialised forms of support in leadership roles (Wittmers & Maier, 2023). This increased responsibility can lead to professional isolation and chronic stress, making leaders particularly vulnerable to burnout. Leaders' burnout not only affects them but can cascade down through the whole organisation. Burnt-out leaders are more likely to exhibit diminished leadership quality, which undermines positive leadership practices, team morale, and overall workplace climate. Furthermore, research has shown that leader burnout can negatively impact employee well-being

and amplify stress levels, creating a negative feedback loop within the organisation. These findings emphasise the importance of addressing burnout not only at the individual level but also in the broader context of organisational leadership and culture (Brooks et al., 2023; Parent-Lamarche & Biron, 2022; Skakon et al., 2010).

A leading framework for understanding these dynamics is the Job Demands-Resources (JD-R) model, which conceptualises burnout as the outcome of an imbalance between job demands and job resources (Demerouti et al., 2001). This model treats both demands and resources as broad, umbrella categories encompassing various workplace factors. Early applications of the model identified key demands such as work pressure, excessive workloads, role ambiguity, role conflicts, stress-inducing events, and emotional demands. Prolonged exposure to such demands results in chronic fatigue and a psychological distancing from one's work. Conversely, job resources—elements that facilitate goal achievement and foster personal growth—can influence the experience of burnout (Bakker & De Vries, 2020). When people lack resources like social support, independence, or opportunities to use different skills, their work can feel meaningless, and their basic psychological needs may not be met, but adequate resources can mitigate the adverse effects of job demands (Bakker & De Vries, 2020; Bakker et al., 2005; Schaufeli, 2017). For instance, Bakker et al. (2005) observed that factors such as workload, emotional and physical demands, and work–home conflict did not exacerbate burnout if employees engaged with sufficient levels of autonomy, constructive feedback, and social support or maintained robust supervisor relationships (Bakker & De Vries, 2020).

### *Job Demands*

As the wide array of factors mentioned suggests, job demands represent a highly heterogeneous category within the JD-R framework. For analytical clarity, it is useful to organise these multifaceted stressors thematically. The distinction among three principal domains—quantitative, emotional, and role-related demands—is a practical approach that aligns well with the key stressors consistently highlighted in prominent reviews of the model (e.g., Bakker & Demerouti, 2017). The quantitative demands are a broad construct of work intensity that includes not only the volume and pace of tasks (workload, time pressure) but also the sheer cognitive and physical output required to perform the job. The second domain, emotional demands, involves the strain of managing one's own and others' emotions, particularly in interpersonally challenging situations. The final category centres on role-related demands, such as role conflict and ambiguity. While all three domains are significant contributors to occupational stress, this study narrows its focus to the first two. The reason for this is that in leadership positions, role-related demands can be particularly complex and difficult to isolate; navigating conflicting expectations and inherent ambiguity is often an intrinsic part of the leadership function itself rather than a distinct, variable stressor. Therefore, our research concentrated on two overarching constructs on the demands side of the model: quantitative and emotional demands.

Quantitative job demands refer to the amount and pace of work, such as workload and overtime, that require physical or psychological effort. These demands are influenced by both external (e.g., environmental uncertainty, labour market changes) and internal factors (e.g., management style, Human Resource Management practices; Van Veldhoven, 2013). Research demonstrates that quantitative demands perceptions are primarily shaped by organisational and structural factors rather than social networks. Inegbedion et al. (2020) found that organisational staff strength and structural workload comparisons were the dominant predictors of workload balance perception. Similarly, Bakker and Demerouti's (2017) Job Demands-Resources model emphasises that organisational aspects, including physical, psychological, and structural job characteristics, fundamentally determine quantitative demands. Quantitative job demands are not inherently harmful; under certain conditions, they can promote engagement and productivity. The motivational outcomes of quantitative job demands are mixed: While high demands can decrease job satisfaction and increase turnover, moderate levels may foster learning and engagement (Bowling & Kirkendall, 2012; Van Veldhoven, 2013). Quantitative demands are positively correlated with levels of burnout (Kumar & Narula, 2021; Salvagioni et al., 2017; Schaufeli et al., 2017). Research indicates that burnout mediates the relationship between job demands and mental health problems, suggesting that interventions targeting demands may indirectly improve employee mental health (Schaufeli & Bakker, 2004).

Emotional effort is increasingly expected in many professions, reflecting a broader trend toward greater emotional engagement at work (Reh & Scheibe, 2025). In human service occupations, emotionally charged interactions are frequent, and emotional work and emotional demands are especially prominent (Aiello & Tesi, 2017; Geisler et al., 2019; Reh & Scheibe, 2025). Emotional demands arise when individuals must deal with or are confronted by other people's feelings at work, and they are consistently associated with burnout and adverse outcomes, such as sickness absence and stress-related problems. However, the impact of emotional demands often depends on the presence and levels of other job demands and resources. Emotional demands in human service

roles are not solely detrimental; they can also serve as motivators and enhance work engagement when supported by adequate personal resources (Aiello & Tesi, 2017; Bakker & Sanz-Vergel, 2013; Demerouti et al., 2001; Geisler et al., 2019). These demands can help employees structure interpersonal interactions and amplify positive emotions, which are linked to greater job satisfaction (Aiello & Tesi, 2017; Côté & Morgan, 2002). Emotional demands can therefore have both negative and positive effects, depending on the availability of resources (Aiello & Tesi, 2017; Bakker & Demerouti, 2007; Bakker et al., 2003; Geisler et al., 2019; Schaufeli & Taris, 2014; Xanthopoulou et al., 2007, 2009). Given that human service professionals often face emotional demands alongside other types of demands, understanding their effects in different contexts is essential to determine when they function as challenges or hindrances (Aiello & Tesi, 2017; Geisler et al., 2019; Schaufeli & Taris, 2014).

### *A Key Social Resource: Workplace Friendships Within the Professional Core Discussion Network*

Similar to job demands, the job resources component of the JD-R model is an equally broad and multifaceted umbrella category. It encompasses a wide range of factors, from organisational-level elements like autonomy, opportunities for professional development, and performance feedback, to interpersonal factors such as social support from supervisors and colleagues. While any of these resources can play a crucial role in mitigating burnout, the present study deliberately narrows its scope to investigate one particularly nuanced form of social support: workplace friendships operating within the context of the professional core discussion network.

The workplace is not only a site of formal work, but also a key setting for the development of social relationships. Informal networks evolve alongside formal structures, giving rise to distinct interpersonal ties (Granovetter, 1973; Sias et al., 2011). Among these, the professional core discussion network (pCDN) is particularly notable; it comprises a small group of trusted colleagues with whom individuals routinely engage in confidential, work-related discussions (Schutzmann et al., 2025; Small et al., 2014). Unlike broader social networks, the pCDN is defined by its core function: It is a primary source for sense-making, problem-solving, and receiving trusted feedback on sensitive professional matters. The confidentiality and high level of trust inherent in these ties are what allow individuals to discuss complex or politically sensitive issues that they would not share more widely.

The concept of workplace friendship, however, remains ambiguously defined in the literature, reflecting a broader lack of consensus regarding the definition of friendship in general (Albert et al., 2020). Nevertheless, both types of relationships share distinguishing characteristics that set them apart from other social ties. Key features of workplace friendships include voluntariness, informality, mutual trust, emotional closeness, and support, as well as the tendency for individuals to engage with each other beyond their professional roles and as whole persons (Albert et al., 2020; Berman et al., 2002). Within professional core discussion networks, workplace friendships form a specific subtype, characterised by emotional closeness, mutual liking, and voluntary socio-emotional engagement—distinct from, but often overlapping with, professional support ties (Berman et al., 2002; Durrah, 2022; Ferris et al., 2009; Methot et al., 2016; Sias, 2009).

These networks, especially for leaders, often extend beyond the physical boundaries of the workplace to include external professional and personal relationships, playing a crucial role in support, information flow, and professional development (Blommaert et al., 2019; Van Wijngaarden et al., 2006; Volmer & Wolff, 2018).

Workplace friendships have been linked to improved mental health, job satisfaction, organisational commitment, and performance, and may serve as valuable coping resources in high-demand professions such as social care, enhancing resilience and reducing burnout risk (Chen et al., 2024; Methot et al., 2016; Schutzmann et al., 2025; Zarankin & Kunkel, 2019). However, maintaining these relationships is a resource-intensive endeavour. The integration of affective and instrumental roles (relationship multiplexity) can enhance performance, but it can also increase emotional strain and maintenance demands (Methot et al., 2016).

This duality is consistent with the social ledger framework, conceptualising workplace relationships as sources of both social assets and liabilities. According to this perspective, the net impact of workplace relationships is determined by the dynamic balance between these positive and negative elements (Labianca & Brass, 2006). This complexity is especially pronounced in leadership roles, where the overlap of professional and personal ties intensifies both the benefits and challenges of workplace friendships. Theoretical frameworks such as Leader–Member Exchange (LMX) and Leader–Network Exchange (LNX) further highlight the complex organisational and individual outcomes of such relationships (Afota et al., 2024; Soares et al., 2020).

When placed within the Job Demands-Resources model, the pCDN and the workplace friendships within it can be understood as a highly specific and potent form of the job resource known as social support. However, conceptualising it merely as support fails to capture its unique properties. Unlike the broad perception of collegial support often measured in JD-R studies, the pCDN is a tangible network structure that provides targeted, mul-

tiplex support—simultaneously offering instrumental advice for work tasks and affective validation for emotional strains. Furthermore, this complexity means that such relationships do not function solely as a resource. Consistent with the social ledger framework, the maintenance demands and potential for interpersonal conflict mean these ties can also function as a job demand themselves. It is this dual potential—to be a powerful buffer against burnout on one hand, and a source of additional strain on the other—that makes the pCDN a critical factor to examine separately from more generic measures of social resources.

In summary, understanding workplace friendships —especially in leadership contexts— requires a relationship multiplexity perspective, together with a consideration of how ties can simultaneously offer support and impose burdens, depending on their content, structure, and the broader relational environment.

## Research Questions and Hypotheses Development

Different structural compositions can be identified when considering workplace friendships within professional core discussion networks. First, some individuals may not report any trusted ties, representing a state of social isolation or disconnectedness. Second, a pCDN may consist exclusively of non-friend ties. Third, a mixed configuration may emerge, where the network includes friends and non-friends. Finally, some leaders may maintain a pCDN composed solely of workplace friends. Each configuration may offer different resources and pose distinct psychological challenges, influencing leaders' perceived demands and vulnerability to burnout.

Thereby, the friendship-based structural composition of professional core discussion networks encompasses not only the presence of friendship ties but also their qualitative and topological characteristics, which fundamentally shape leaders' vulnerability to burnout.

Our study proposed a series of hypotheses to test these relationships empirically. To provide a clear and logical structure, our hypotheses were organised around four central themes. First, the relationship between the pCDN composition and the leaders' experience of burnout was examined. The second and third sections- investigated the association between the pCDN composition and the perceived emotional and quantitative demands. Finally, the potential moderating role of these networks was explored, specifically how different pCDN compositions might alter the established relationship between job demands and burnout.

### *The Relationship Between pCDN Composition and Burnout*

A pCDN refers to the group of colleagues with whom employees regularly engage in confidential, work-related discussions (Schutzmann et al., 2025). When these ties consist exclusively of non-friends, interactions tend to be purely instrumental and lack emotional support. As Methot et al. (2016) noted, workplace ties that incorporate elements of friendship provide richer emotional and instrumental support, whereas purely professional ties may become draining over time due to the ongoing cognitive effort and unresolved emotional tension (Bakker et al., 2005). According to the social ledger perspective, workplace relationships can carry both benefits and psychological costs (Labianca & Brass, 2006). Based on these considerations, it was hypothesised that maintaining a pCDN composed exclusively of non-friend ties would be associated with higher levels of burnout than any other network configuration or even the absence of such a network.

***H1a*** *Leaders who maintain pCDNs composed exclusively of non-friend ties experience the highest levels of burnout among the groups with different pCDN compositions.*

A workplace friendship is characterised by emotional closeness, mutual care, and voluntary socio-emotional engagement (Methot et al., 2016; Sias, 2009). According to Methot et al. (2016), these ties offer instrumental and emotional support, which can contribute to maintaining psychological well-being. Emotionally supportive friendships may help reduce feelings of isolation and lower the risk of burnout (Rogers et al., 2016). Findings by Schutzmann et al. (2025) further suggested that the mere presence of a single friend within a professional discussion network can significantly protect against burnout, regardless of the number of friendships. Based on these considerations, it was hypothesised that maintaining a pCDN that includes workplace friendships, either partially or entirely, would be associated with lower levels of burnout than maintaining a network composed exclusively of non-friend ties.

***H1b.*** *Maintaining pCDNs that partly or entirely include friendship ties decreases the burnout level.*

### *The Relationship Between pCDN Composition and Perceived Emotional Demands*

Maintaining workplace friendships requires emotional investment, as these relationships offer support and entail expectations of loyalty, availability, and emotional presence (Methot et al., 2016). According to social ledger theory, relationships have a dual nature, providing benefits while also carrying emotional and psychological costs (Labianca & Brass, 2006).

***H2a.*** *Leaders whose pCDNs include at least one workplace friend experience higher emotional demands than those whose pCDNs consist exclusively of non-friends.*

Workplace friendships are increasingly understood as relationships that, while potentially offering significant emotional and instrumental support, also require substantial emotional investment and maintenance, especially in leadership roles where professional and personal boundaries often overlap (Methot et al., 2016). According to the social ledger framework, workplace relationships—including friendships—have a dual nature: They can provide valuable resources but also impose emotional and psychological costs, particularly as the number of such ties grows (Labianca & Brass, 2006). Maintaining multiple workplace friendships involves ongoing expectations of loyalty, availability, and emotional presence, which can become increasingly demanding as these relationships multiply (Methot et al., 2016). The integration of affective and instrumental roles, known as relationship multiplexity, may enhance support but also intensify emotional strain and the effort required to sustain these ties (Methot et al., 2016). The social ledger perspective highlights that the overall effect of workplace friendships depends on how the benefits and liabilities of these relationships are balanced (Labianca & Brass, 2006). Theoretical and empirical literature suggests that both too few and too many friendship ties can be problematic: A lack of supportive ties may leave leaders vulnerable to stress, while an abundance of such ties may create excessive emotional obligations or *emotional overload* (Labianca & Brass, 2006; Methot et al., 2016). Thus, the relationship between the number of friends in pCDNs and perceived emotional demands is likely to be complex and context-dependent.

***H2b.*** *Among leaders, the number of workplace friendships within their pCDNs is associated with the level of perceived emotional demands.*

### *The Relationship Between pCDN Composition and Perceived Quantitative Demands*

Perceptions of quantitative job demands, defined as the amount and pace of work, have long been attributed primarily to organisational and structural factors (Van Veldhoven, 2013). However, the extent to which workers' personal cooperation networks shape these perceptions remains an open question. Some studies have suggested that perceived cooperation has explanatory power, indicating that workplace relationships may influence workload perceptions (Väisänen et al., 2024). In contrast, others have suggested that organisational staff strength and formal workload comparisons account for a significant portion of the variance in perceived demands (Inegbedion et al., 2020). Consistent with Van Veldhoven's perspective (2013), the organisational definition of quantitative demands was used in this research, while it was also acknowledged that social network factors may still prove to be influential in different contexts.

***H3.*** *The friendship-based structural composition of leaders' pCDNs does not affect the perceived quantitative demands.*

### *The Moderating Role of pCDN Composition on the Demands-burnout Relationship*

Emotional demands arise when individuals must deal with others' feelings at work and are consistently linked to burnout and adverse outcomes, including sickness absence and stress-related problems (Aiello & Tesi, 2017; Demerouti et al., 2001; Maslach & Leiter, 2016; Schaufeli et al., 2017). For leaders, these demands are intensified, as they must manage both their own and their colleagues' emotions, often without sufficient organisational support (Wittmers & Maier, 2023).

***H4a.*** *Among leaders, higher levels of emotional demands are associated with increased burnout.*

Quantitative job demands, defined as high workload, time pressure, and the need to accomplish many tasks within a limited time, are well-established predictors of burnout in the occupational health literature. When such

demands are persistently high and not balanced by adequate resources or recovery, they contribute to chronic stress and increase the risk of burnout (Bakker et al., 2003; Kumar & Narula, 2021).

***H4b.*** *Among leaders, higher levels of quantitative demands are associated with increased burnout.*

Theoretical frameworks such as the relationship multiplexity perspective and social ledger theory (Labianca & Brass, 2006) suggest that workplace friendships can serve as both resources and liabilities. The composition of pCDNs—specifically, the presence or absence of such valuable relationships as workplace friendship ties—may influence how individuals cope with emotional demands and whether it results in burnout. Supportive ties can buffer the negative effects of emotional strain, while the lack or overabundance of such ties may intensify it (Methot et al., 2016).

***H4c.*** *Among leaders, the friendship-based structural composition of pCDNs moderates the effect of emotional demands on burnout.*

While social support and network composition can influence how employees manage emotional strains, research has indicated that quantitative demands are primarily associated with organisational and structural factors (Van Veldhoven, 2013). As such, the friendship-based structural composition of pCDNs is unlikely to moderate the relationship between quantitative demands and burnout.

***H4d.*** *Among leaders, the friendship-based structural composition of pCDNs does not moderate the effect of quantitative demands on burnout.*

To summarise, our hypotheses guided a two-stage investigation. First, a series of analyses to determine whether leaders' friendship-based pCDN composition is associated with significant differences in their perceived levels of Quantitative Demands, Emotional Demands, and Burnout was conducted. Second, the potential moderating role of this pCDN composition was tested. Specifically, it was examined whether these network configurations alter the strength of the relationship between Quantitative Demands and Burnout, and likewise between Emotional Demands and Burnout.

# Methods

## Data Collection

The present study employed a quantitative, cross-sectional research design to explore the association of burnout with the friendship-based structural composition of pCDNs and emotional and quantitative demands.

Power analysis was performed using G*Power 3.1.9 (Faul et al., 2007) to estimate the required sample size for an ANCOVA model with the following parameters: number of groups 6, number of covariates 2, estimated effect size $f = .20$ (small to medium effect size), $\alpha = .05$, $\beta = .20$. The estimated total sample size for the analysis was 416 participants.

Participants were recruited from the master's program of the Hungarian Social Sector Leadership Training. The inclusion criteria were that respondents were active participants in the training and held a leadership position in an institution of the Hungarian social care system. The data collection was approved by the university's research ethics committee (Semmelweis University SE RKEB 61/2019). During the data collection, a multi-dimensional questionnaire was distributed to a total of 667 social care leaders at the training site. The questionnaire was completed by the participants on paper at the end of their training sessions. The research was conducted in Hungarian, participation was voluntary, and respondents could withdraw their participation at any time without consequences. Data were recorded anonymously using pseudocode.

A total of 547 social care managers completed the questionnaire (hence, the completion rate was 82.0%). The gender distribution is disproportionate, as expected based on the population, with 459 women (83.9%), 82 men (15.0%), and 6 persons not stating their gender (1.1%). The mean age is 45.7 years ($SD = 7.0$, $Min = 23$, $Max = 60$ years). The sample is highly educated, with 0.4% holding only a vocational qualification based on a high school diploma, 79.0% having a higher education degree, 20.1% having further education based on a higher

degree, and 0.6% having a PhD. They have an average of 21.8 years (*SD* = 8.9) of work experience and 10.2 years (*SD* = 6.9) of management experience and manage an average of 54.7 subordinates (*SD* = 97.5). 26.6% of the sample work in a village, 44.4% in a city, 18.2% in a county town or county seat, and 10.8% in the capital.

## Measures

### *The Copenhagen Psychosocial Questionnaire*

The Copenhagen Psychosocial Questionnaire (COPSOQ) II middle version (Pejtersen et al., 2009) was used to measure the psychosocial factors at work. The Hungarian version of the questionnaire was validated by Nistor et al. (2015). The COPSOQ is a widely recognised and comprehensive instrument for assessing psychosocial workplace factors, and many of its 28 scales align directly with the core components of the Job Demands-Resources model. From this extensive set of available scales, we selected those that best represented the key theoretical constructs of our study. Alongside the Burnout scale, we chose two broad and well-established scales from the domain of demands: Quantitative demands and Emotional demands. All three scales used in the study had four items each. According to the instructions (Pejtersen et al., 2009), responses to the items were collected using a five-point Likert-type scale. The values were converted to a 0–100 scale, and the COPSOQ dimensions were calculated by averaging the transformed items. The reliability for the Quantitative demands scale was excellent, Cronbach's $\alpha = .81$. For the Emotional demands scale, it was acceptable, $\alpha = .62$. For the Burnout scale, the reliability was excellent, with $\alpha = .90$.

## Measuring pCDN

To examine the friendship-based structural composition of pCDNs, the study employed a social network analysis approach. Data on pCDNs were gathered using a recall-based name generator method (Burt et al., 2012; Pustejovsky & Spillane, 2009), which specifically targeted a subset of personal networks characterised by confidential, work-related discussions. Participants were instructed to list up to five individuals with whom they had engaged in confidential conversations about professional challenges or workplace conflicts over the previous six months (Merluzzi & Burt, 2013). To further characterise these ties, name interpreter modules (Stark, 2017) were integrated, capturing details such as the alter's gender or age. Crucially, respondents were also asked to indicate whether they considered each named individual to be a friend. The instruction prompted respondents to use their own subjective perception to make this designation, which is a standard methodological practice in friendship research that recognises the inherently subjective, self-defined nature of friendship (e.g., Adams & Allan, 1998; Marsden, 1990; Small, 2013; Wellman & Wortley, 1990). Following this widely used operationalisation ensures that the relational meaning of "friendship" reflects the respondents' subjective experience within their professional networks. Based on these responses, a variable was computed as the proportion of named pCDN members who were identified as friends.

## Data Analysis

Based on cross-tabulating the number of pCDNs and the ratio of friends among them, we created six groups (see Table 1). The new grouping variable was referred to as pCDN-Groups in all subsequent analyses. One group was formed by those who indicated that they did not have any pCDNs (hereafter referred to as the "no-pCDN" group). The proportion of friends in this group was obviously not meaningful. One group consisted of people who mentioned one pCDN who was not considered a friend (referred to as "one-non-friend-pCDN" group), and another group consisted of people who also mentioned only one pCDN whom they considered a friend (referred to as "one-friend-pCDN" group). Those who listed more than one pCDN were classified into three additional groups. One group consisted of those for whom none of the pCDNs were friends (referred to as the "multi-non-friend-pCDNs" group), a second group consisted of those for whom all of the listed pCDNs were friends (referred to as the "multi-all-friend-pCDNs" group), and the last group consisted of those for whom there was a mixture of friends and non-friends among their pCDNs (referred to as the "multi-mixed-pCDNs" group). The distribution of the sample among the groups is reported in the Results section using frequency and ratio indicators.

Before comparing the groups on Burnout, Quantitative demands, and Emotional demands, we checked whether there were any differences between the groups on demographic indicators that could influence the results as cofounder variables (Appendix Table 1). No gender difference was detected between the groups. On the other

hand, a slight age difference was found. Post hoc analysis revealed that this resulted from the fact that the no-pCDN group was slightly older compared to the other groups ($M$ = 47.8, $SD$ = 6.8, compared to $M$ = 43.6–46.9, $SD$ = 5.8–7.5). Consequently, they had also slightly more work experience ($M$ = 23.6, $SD$ = 9.0, compared to $M$ = 19.0–23.1, $SD$ = 7.7–9.4). Still, there was no significant difference in the managerial experience or in the number of subordinates. We found no difference in education or workplace location. Accordingly, analyses were controlled for age when comparing groups along the dimensions of Burnout, Quantitative demands, and Emotional demands.

The differences between the six groups in Burnout, perceived Quantitative demands, and Emotional demands were examined using ANCOVA models, where age was included as a control covariate. Holm's procedure was used as a post hoc test. Normal distribution was assumed for all three variables ($S$ = -0.18 to 0.19 and $K$ = -0.19 to 0.13). Homogeneity of variance was tested using Levene's test, and the assumption was met for all analyses.

We used an additional ANCOVA model to test the effect of perceived Quantitative and Emotional demands on Burnout, and we also analysed whether the pCDN-Groups moderated these effects. When building the model, we included the pCDN-Groups and the Quantitative and Emotional demands as predictor variables, as well as the interaction terms between the pCDN-Groups and the two demand variables (pCDN-Groups × Quantitative demands and pCDN-Groups × Emotional demands). To explore the nature of the significant interaction between Emotional demands and the pCDN-Groups, we used simple slopes and a series of Johnson-Neyman analyses. In the simple slope analysis, we estimated the relationship between Emotional demands and Burnout separately for each group. For the series of Johnson-Neyman analyses, we continually compared two groups and looked for the range of values of Emotional demands over which the difference in Burnout between the two groups was significant. The differences were estimated only within the range where both groups had data: that is, the range encompassing the 5th and 95th percentiles of both groups. The nature of the interaction between the pCDN-Groups and the Emotional demands was interpreted by combining the results of the simple slope analysis and the Johnson-Neyman analysis. All analyses were carried out using JASP 0.19.3. (JASP Team, 2025).

# Results

## Forming the Friendship-Based Structural Composition of Professional Core Discussion Networks

Participants listed an average of 2.3 ($SD$ = 1.6) pCDNs. Of these pCDNs, an average of 1.1 ($SD$ = 1.1) people were marked as friends, representing an average of 42.9% ($SD$ = 41.0%) of their listed pCDNs. Table 1 contains the frequency data distributed along the cross-tabulation of these two variables with the primary analytical group names. In the sample, 83 people (15.2%) did not mark any pCDNs at all; as mentioned in the Methods section, in further analyses, we refer to them as the no-pCDN group. 180 people (32.9%) only listed pCDNs that they did not consider friends. Among these 180 people, 57 (10.4%) mentioned one such pCDN, referred to as the one-non-friend-pCDN group, and 123 (22.5%) listed several non-friend pCDNs, referred to as the multi-non-friend-pCDN group. 165 people (30.2%) listed a mixture of friend and non-friend ties, referred to in further analysis as the multi-mixed-friend-pCDN group. 119 people (21.8%) listed only pCDNs they considered friends; of these 119 people, 51 people (9.3%) mentioned one such friend, referred to as the one-friend-pCDN group, and 68 people (12.4%) mentioned more than one, referred to as the multi-all-friend-pCDN group.

Table 1. Frequency Data Across the Contingency Table of the Number of Mentioned pCDNs and the Ratio of Friends

| Number of pCDNs | Ratio of friends among pCDN | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NA | 0% | 20% | 25% | 33.3% | 40% | 50% | 60% | 66.6% | 75% | 80% | 100% |
| 0 | 83 [I.] | | | | | | | | | | | |
| 1 | | 57 [ II.] | | | | | | | | | | 51[V.] |
| 2 | | 60 [III.] | | | | | 30 | | | | [IV.] | 40 [VI.] |
| 3 | | 34 | | | 26 | | | | 25 | | | 23 |
| 4 | | 13 | | 15 | | | 9 | | | 10 | | 5 |
| 5 | | 16 | 12 | | | 17 | | 10 | | | 11 | 0 |

*Note.* $N$ = 547. Some cells are blank because such combinations are not possible.
Block I represents the no-pCDN group. Block II represents the one-non-friend-pCDN group. Block III represents the multi-non-friend-pCDN group. Block IV represents the multi-mixed-pCDN group. Block V represents the one-friend-pCDN group. Block VI represents a multi-all-friend-pCDN group.

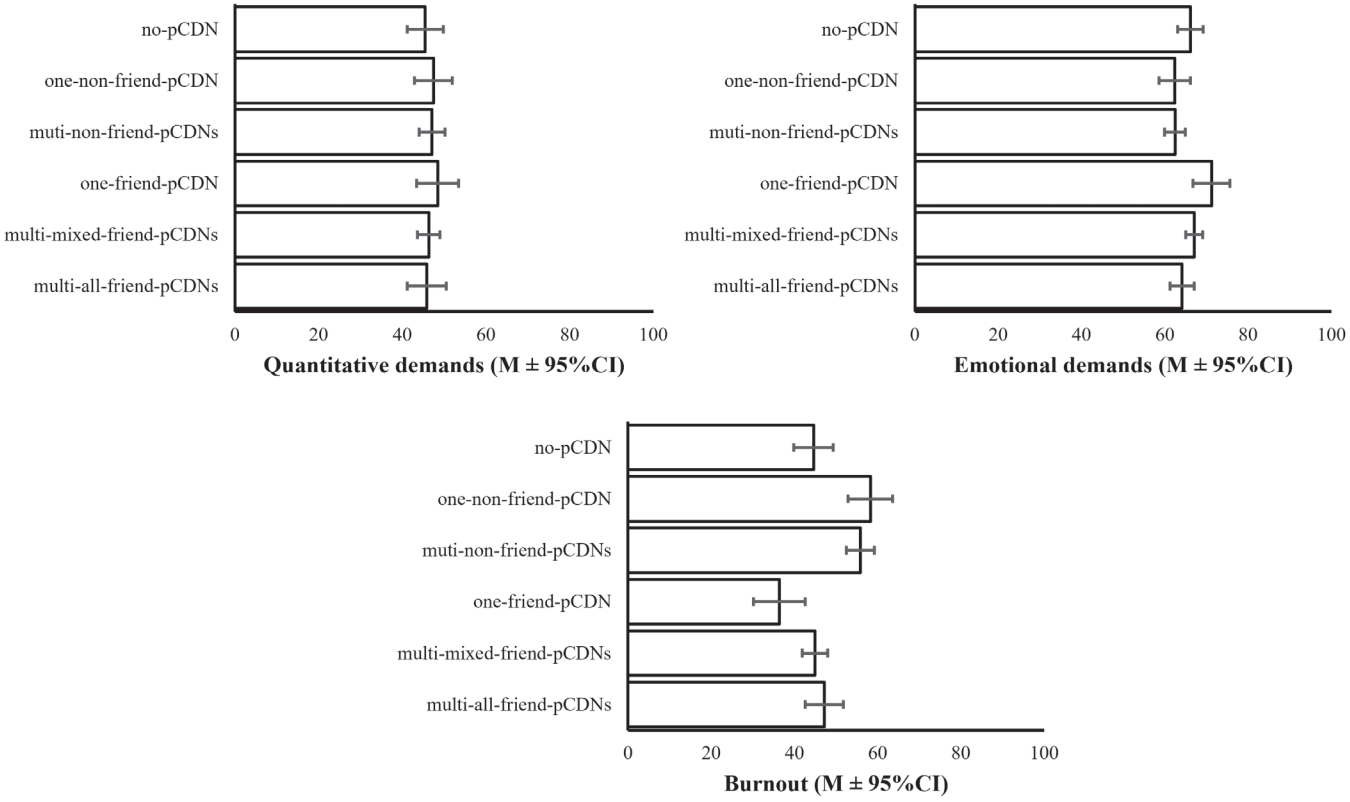
To explore the differences between these six distinct pCDN groups, a comparative descriptive analysis was conducted. The means and standard deviations for Quantitative Demands, Emotional Demands, and Burnout were calculated separately for each of the groups. These detailed results are presented in Table 2, and a visual summary of the group means is provided in Figure 1.

Table 2. Means and Standard Deviations of the Burnout and the Quantitative and Emotional Demands by Groups

| | | Burnout | | Emotional demands | | Quantitative demands | |
|---|---|---|---|---|---|---|---|
| pCDN-Groups | *n* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| no-pCDN | | 44.59 | 21.61 | 66.11 | 13.88 | 45.48 | 19.79 |
| one-non-friend-pCDN | 83 | 58.26 | 20.15 | 62.35 | 14.34 | 47.44 | 17.00 |
| multi-non-friend-pCDNs | 57 | 55.84 | 19.00 | 62.43 | 14.15 | 47.10 | 17.22 |
| one-friend-pCDN | 123 | 36.40 | 22.07 | 71.20 | 15.82 | 48.45 | 17.77 |
| multi-mixed-friend-pCDNs | 51 | 44.94 | 19.94 | 67.02 | 13.36 | 46.33 | 17.42 |
| multi-all-friend-pCDNs | 165 | 47.15 | 19.00 | 64.15 | 11.81 | 45.86 | 19.28 |

*Note.* $N = 547$.

Figure 1. Degree of Burnout and Quantitative and Emotional Demands by pCDN-Groups.




## Burnout by pCDN Composition (H1a, H1b)

Using ANCOVA, we analysed the differences between the pCDN-Groups in Burnout while controlling for age. The difference between the groups was significant ($F$ (5, 528) = 11.94, $p < .001$, part. $\eta^2 = .10$). Using the Holm procedure for post hoc analysis (Table 3), we found the following differences to be significant. The one- and the multi-non-friend-pCDN groups reported the highest level of burnout. It was significantly higher than any of the other groups. Lower levels of burnout were observed in the multi-mixed- and all-friend-pCDNs groups, as

well as in the no-pCDN group. The lowest burnout was observed in the one-friend-pCDN group, which was significantly lower than the multi-mixed- and all-friend-pCDN groups, and marginally significantly lower than the no-pCDN group.

## Emotional Demands by pCDN Composition (H2a, H2b)

The second ANCOVA was used to test the differences between the groups in perceived Emotional demands, controlled for age. The effect of the pCDN-Groups was significant, $F$ (5, 540) = 4.13, $p$ = .001, part. $\eta^2$ = .04. Based on the descriptive statistics and the post hoc analysis (Table 2, Table 3, and Figure 1), the one-friend-pCDN group experienced the highest Emotional demands, and the lowest values were reported by the one- and the multi-non-friend-pCDN groups. The difference between these groups was significant. All other groups were located between these and were not significantly different from any of them.

## Quantitative Demands by pCDN Composition (H3)

The third ANCOVA tested the differences between the groups in the Quantitative demands, controlling for age. The main effect of the pCDN-Groups was not significant, $F$ (5, 540) = 0.29, $p$ = .916, *part.* $\eta^2$ = .003.

Table 3. Post Hoc Analysis of the ANCOVA Models

| | | Burnout | | | | Emotional demands | | | |
|---|---|---|---|---|---|---|---|---|---|
| pCDN-Groups | | Mean Diff. | *SE* | pHolm | Cohen's d | Mean Diff. | *SE* | pHolm | Cohen's d |
| no-pCDN | one-non-friend | −12.94 | 3.48 | **.002** | −0.64 | 3.65 | 2.39 | .897 | 0.26 |
| | multi-non-friend | −11.05 | 2.86 | **.001** | −0.55 | 3.65 | 1.96 | .506 | 0.26 |
| | one-friend | 9.06 | 3.61 | .062 | 0.45 | −5.22 | 2.48 | .359 | −0.38 |
| | multi-mixed-friend | 0.13 | 2.72 | > .999 | 0.01 | −0.98 | 1.87 | > .999 | −0.07 |
| | multi-all-friend | −1.84 | 3.31 | > .999 | −0.09 | 1.85 | 2.28 | > .999 | 0.13 |
| one-non-friend | multi-non-friend | 1.89 | 3.23 | > .999 | 0.09 | 0.00 | 2.22 | > .999 | 0.00 |
| | one-friend | 22.01 | 3.87 | **< .001** | 1.10 | −8.87 | 2.66 | **.013** | −0.64 |
| | multi-mixed-friend | 13.07 | 3.09 | **< .001** | 0.65 | −4.63 | 2.12 | .327 | −0.34 |
| | multi-all-friend | 11.10 | 3.61 | **.020** | 0.55 | −1.80 | 2.48 | > .999 | −0.13 |
| multi-non-friend | one-friend | 20.11 | 3.37 | **< .001** | 1.00 | −8.87 | 2.32 | **.002** | −0.64 |
| | multi-mixed-friend | 11.18 | 2.40 | **< .001** | 0.56 | −4.63 | 1.65 | .067 | −0.34 |
| | multi-all-friend | 9.21 | 3.05 | **.021** | 0.46 | −1.80 | 2.10 | > .999 | −0.13 |
| one-friend | multi-mixed-friend | −8.93 | 3.23 | **.035** | −0.44 | 4.24 | 2.22 | .506 | 0.31 |
| | multi-all-friend | −10.91 | 3.72 | **.025** | −0.54 | 7.07 | 2.56 | .071 | 0.51 |
| multi-mixed-friend | multi-all-friend | −1.97 | 2.90 | > .999 | −0.10 | 2.83 | 1.99 | .936 | 0.21 |

*Note.* $N$ = 547. Post hoc analysis was carried out using Holm procedure. Bold indicates significance at $p$ < .05.

## Moderation Effects of pCDN Composition (H4a-d)

We used an ANCOVA model to test the extent to which Emotional and Quantitative demands explain Burnout and whether the grouping variable moderates these effects. The main effect of the pCDN-Groups was significant, as reported previously, $F$ (5, 529) = 3.49, $p$ = .004, part. $\eta^2$ = .03. The main effect of the Quantitative demands was significant, $F$ (1, 529) = 7.28, $p$ = .007, part. $\eta^2$ = .01, and the interaction between the pCDN-Groups and the Quantitative demands was not significant, $F$ (1, 529) = 0.34, $p$ = .891, part. $\eta^2$ = .003. Quantitative demands increase burnout regardless of the number or composition of pCDNs.

The main effect of Emotional demands was significant, $F$ (1, 529) = 6.01, $p$ = .015, part. $\eta^2$ = .01. Additionally, the interaction between the grouping variable and the Emotional demands was also found to be significant, $F$ (1, 529) = 2.34, $p$ = .041, part. $\eta^2$ = .02. Using simple slope analysis, we determined that the Emotional demands

significantly increased burnout among the no-pCDN group ($B$ = .68, $SE$ = .16, $p$ < .001). Its effect was marginally significant among the multi-mixed and the all-friend-pCDN groups ($B$ = .18, $SE$ = .11, $p$ = .052 and $B$ = .33, $SE$ = .20, $p$ = .098). Emotional demands did not have any significant effect on burnout among the one-friend-pCDN group ($B$ = .04, $SE$ = .18, $p$ = .825), nor was it significant among the one- and multi-non-friend-pCDN groups ($B$ = .12, $SE$ = .18, $p$ = .526 and $B$ = .01, $SE$ = .13, $p$ = .921). Using Johnson-Neyman analysis, we determined the ranges of Emotional demands at which there is a significant difference in burnout between the groups. Summary results are presented in Table 4, while detailed analysis is included in Appendix Table 2.

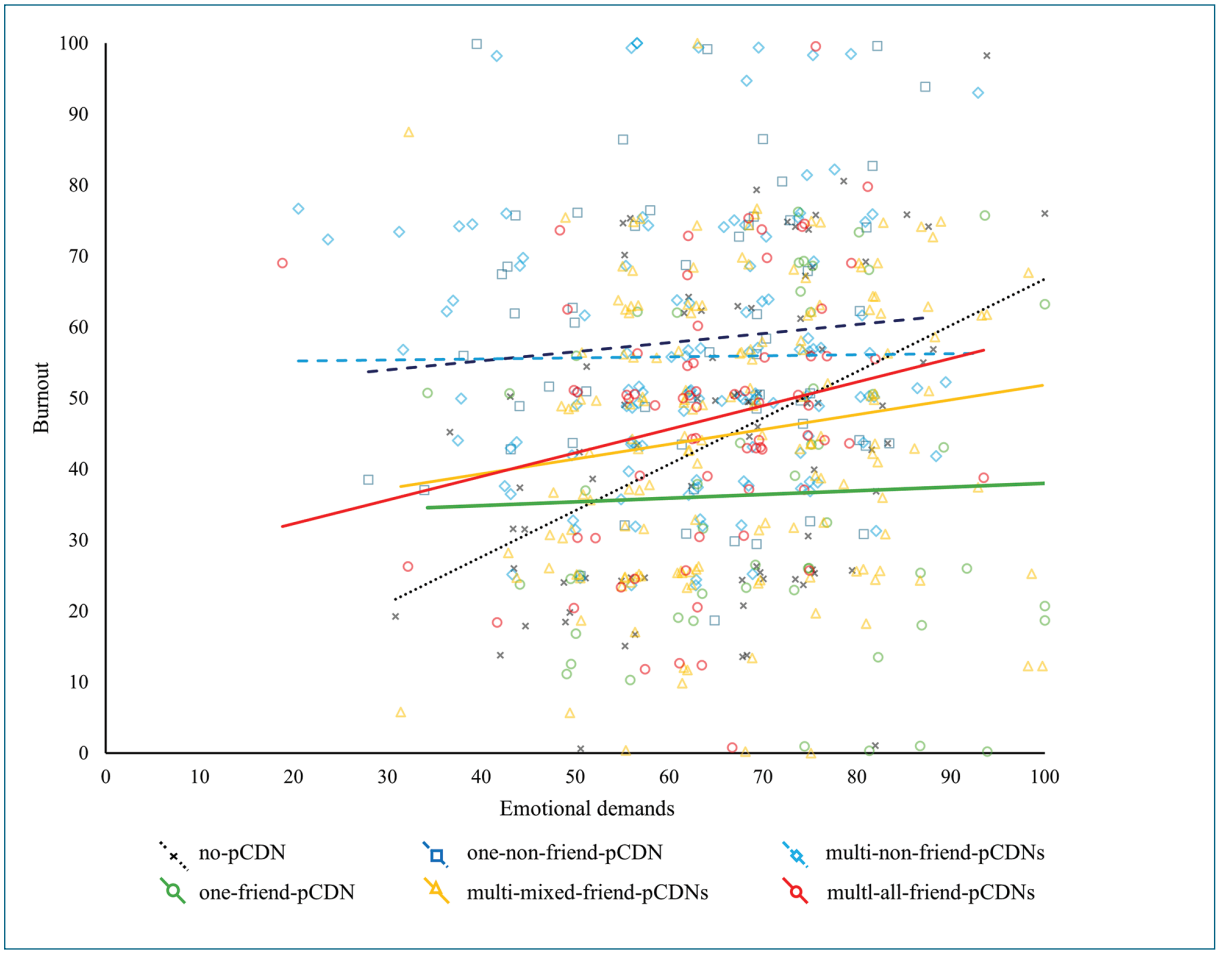
Table 4. Summary Results of the Johnson-Neyman Analysis Determining the Ranges of Emotional Demands Where the Difference in Burnout is Significant Between the Groups

| Compared groups | | Meaningful range of ED | Range of significance | Differences in burnout |
|---|---|---|---|---|
| no-pCDN | one-non-friend | 44–81 | ED < 76 | no-pCDN < one-non-friend-pCDN |
| | multi-non-friend | 44–81 | ED < 74 | no-pCDN < multi-non-friend-pCDNs |
| | one-friend | 47–87 | ED > 64 | no-pCDN > one-friend-pCDN |
| | multi-mixed-friend | 52–87 | ED > 81 | no-pCDN > multi-mixed-friend-pCDNs |
| | multi-all-friend | 51–81 | nowhere | no significant difference in the meaningful range |
| one-non-friend | multi-non-friend | 38–81 | nowhere | no significant difference in the meaningful range |
| | one-friend | 47–81 | all-over | one-non-friend-pCDN > one-friend-pCDN |
| | multi-mixed-friend | 51–81 | all-over | one-non-friend-pCDN > multi-mixed-friend-pCDNs |
| | multi-all-friend | 51–81 | ED < 75 | one-non-friend-pCDN > multi-all-friend-pCDNs |
| multi-non-friend | one-friend | 47–81 | all-over | multi-non-friend-pCDNs > one-friend-pCDN |
| | multi-mixed-friend | 51–81 | all-over | multi-non-friend-pCDNs > multi-mixed-friend-pCDNs |
| | multi-all-friend | 51–81 | ED < 72 | multi-non-friend-pCDNs > multi-all-friend-pCDNs |
| one-friend | multi-mixed-friend | 51–87 | ED > 59 | one-friend-pCDN < multi-mixed-friend-pCDNs |
| | multi-all-friend | 51–81 | ED > 57 | one-friend-pCDN < multi-all-friend-pCDNs |
| multi-mixed-friend | multi-all-friend | 51–81 | nowhere | no significant difference in the meaningful range |

*Note.* ED represents emotional demands. The meaningful range of ED is determined by the fact that both groups must have data in the given range: That is, the range lies between the 5th and 95th percentiles of both groups. The range of significance is the range of ED where the difference in burnout is significant between the two groups.

Based on the results of the simple slope and Johnson-Neyman analyses, as well as Figure 2, the following statements can be made about the nature of the interaction between Emotional demands and the pCDN-Groups variable. The one- and multi-non-friend-pCDN groups had the highest burnout. Emotional demands in these two groups were unrelated to burnout, with high burnout occurring even in the presence of low Emotional demands. The burnout rates of the two groups did not differ from each other at any level of Emotional demands. The lowest burnout was observed in the one-friend-pCDN group. Emotional demands were not associated with burnout in this group either. The group showed significantly lower burnout compared to the non-friend-pCDN groups at all levels of Emotional demands. In the case of the multi-mixed and all-friend-pCDN groups, we see a marginally significant, positive relationship between Emotional demands and burnout. When Emotional demands are low (<57–59 points), the two groups show low burnout, similar to the one-friend-pCDN group. However, in the case of high Emotional demands (>72–76 points), they show high burnout, similar to the one- and multi-non-friend-pCDN groups. The strongest association between Emotional demands and Burnout was seen in the no-pCDN group. This group's burnout was lowest when Emotional demands were low, but highest when demands were high.

Figure 2. Association Between Emotional Demands and Burnout Presented by pCDN-Groups




## Discussion

This study systematically examined how the friendship-based structural composition of professional core discussion networks, emotional and quantitative job demands, and their interplay influence burnout among leaders in the social care sector. Recognising that high emotional and organisational pressures characterise leadership roles in social care, we focused on how different friendship-based structural compositions of professional core discussion networks (pCDNs) relate to leaders' experiences of emotional strain and exhaustion. By examining these group differences and their interactions with job demands, this analysis offers new insights into how social connections and workplace pressures jointly shape mental health in social care leadership.

Regarding the association between the friendship-based structural composition of pCDNs and burnout, *the analysis confirmed H1a: leaders whose pCDNs consist exclusively of non-friend ties experienced the highest levels of burnout.* These findings are consistent with the assumptions of Methot et al. (2016) about the importance of friendships at the workplace. *H1b was partially confirmed; leaders with pCDNs, including at least one friendship tie, showed lower burnout than non-friend groups, but low burnout was observed only in the one-friend group.* Groups with multiple mixed or all-friend ties exhibited intermediate levels of burnout. Leaders without any pCDN ties also exhibited intermediate levels of burnout. This nuanced finding suggests that not all forms of friendship equally reduce burnout; instead, targeted single-friend networks provide the most effective protection against burnout (Schutzmann et al., 2025). All this aligns with social ledger theory (Labianca & Brass, 2006), emphasising that workplace relationships generate both assets and liabilities, and suggests that targeted, high-quality support may be more effective than larger, more complex networks. Our findings regarding the no-friend pCDN group highlight the risks of social isolation and the potential for unhelpful or even harmful forms of social interaction. While our theoretical framework did not set out to measure this specific mechanism, the concept of co-rumination—drawn from related

occupational health research—offers a compelling lens through which to understand precisely how these supportive-seeming interactions can become detrimental. Recent research on co-rumination—the tendency to engage in excessive, repetitive negative problem talk—shows that not all social support is beneficial; in fact, co-ruminative interactions can increase stress and burnout, suppressing the protective effects of workplace support (Boren, 2013). In groups where leaders have no trusted friends or only non-friend discussion partners, problem discussions may be more likely to take the form of co-rumination, which is associated with higher burnout and impaired well-being. This demonstrates the importance of not only the presence of social ties, but also their quality and the nature of the support exchanged.

*Concerning the effect of pCDN composition on perceived emotional demands, both H2a and H2b were supported. The one-friend group reported the highest emotional demands, while non-friend groups showed the lowest.* The number of friend ties showed a nonlinear association with emotional demands: Non-friend ties corresponded to the lowest emotional demands, whereas the highest demands characterised the one-friend group. This pattern highlights that friendship ties amplify emotional demands due to relational complexities such as loyalty expectations and emotional labour. Our results align with the social ledger theory (Labianca & Brass, 2006), which posits that confidential relationships incur their own emotional and psychological costs. Additionally, they support the concept of Bakker and Demerouti (2007), who suggested that emotional energy is a limited resource, implying that focused, high-quality relationships are emotionally demanding. However, considering that despite the high emotional cost, this group showed the lowest burnout, we can assume that this focused and presumably intensive support may help replenish emotional resources even under strain. Conversely, leaders with non-friend networks were less able to buffer emotional exhaustion, consistent with the idea that social ties do not equally replenish emotional energy (Hobfoll et al., 1990).

Our third line of inquiry addressed whether the composition of pCDN affects perceived quantitative job demands. Hypothesis H3 was confirmed, as no significant differences emerged across the pCDN groups. Quantitative demands were uniformly high across the groups, indicating that network composition does not alter quantitative demand perception. Our results regarding quantitative job demands reinforce the foundational work of Van Veldhoven (2013), who argued that such demands are primarily shaped by organisational and structural factors, such as workload and policies, rather than by social network composition.

Finally, we examined the direct effects of emotional and quantitative demands on burnout and whether pCDN composition moderates these relationships. Consistent with prior research (Aiello & Tesi, 2017; Demerouti et al., 2001; Maslach & Leiter, 2016; Schaufeli et al., 2017), *we found that both emotional and quantitative demands are significant predictors of burnout in leadership roles (H4a, H4b). H4c was also supported, showing that pCDN composition moderated the effect of emotional demands on burnout.* Specifically, non-friend groups experienced high burnout regardless of emotional demand levels. The one-friend group maintained low burnout across all demand levels, and mixed or multiple-friend groups showed increased burnout only under high emotional demands. Additionally, the no-pCDN group showcased a uniquely strong association between emotional demands and burnout. They indicated the lowest burnout rate when emotional demands were low and the highest values when the demands were high. All of this highlights the fact that if the leader has no one with whom to discuss professional concerns, they will likely exhibit pronounced sensitivity to the emotional demands of their current job. The observed link between emotional demands and burnout is in line with burnout theory (Maslach & Leiter, 2016; Schaufeli et al., 2017), which emphasises emotional exhaustion and depersonalisation as core outcomes of sustained emotional strain. This is especially relevant for leaders, who, as Wittmers & Maier (2023) noted, must manage both their own and others' emotions under persistent pressure. The strong association between emotional demands and adverse outcomes, including burnout, is further supported by Burr et al. (2019), Demerouti et al. (2001), and Aiello & Tesi (2017), who documented the health risks associated with high emotional strain in the workplace. In contrast, and consistent with organisational models (Inegbedion et al., 2020; Van Veldhoven, 2013*), the composition of pCDNs did not moderate the relationship between quantitative demands and burnout (H4d)*. This finding is consistent with the view that quantitative demands are heavily rooted in structural and organisational factors (Inegbedion et al., 2020; Van Veldhoven, 2013), which may make them less susceptible to buffering by the specific relational resources measured in our study.

These patterns consolidated the original six groups into four distinct profiles based on response homogeneity: the no-pCDN group (no confidential discussions), the non-friend pCDN group (discussions with one or more non-friends), the one-friend pCDN group (exclusive discussions with one friend), and the multiple pCDN group (discussions with multiple friends, whether mixed or exclusively friendly). This consolidation reflects the operational similarity between one and multiple non-friend groups, as well as between mixed and all-friend networks, while preserving the unique profile of the one-friend group.

Overall, the findings suggest that targeted emotional support from a single trusted confidant may be more effective in buffering burnout than larger networks, while discussions with non-friends consistently correlate with high burnout levels, regardless of demand. The vulnerability of the no-pCDN group to high emotional demands highlights the risks of social isolation, and the conditional effectiveness of robust networks under extreme demands illustrates the context-dependent nature of social support.

This study's findings are closely aligned with and extend several key theoretical perspectives introduced in the literature review. The social ledger theory (Labianca & Brass, 2006) frames workplace relationships as inherently dual in nature, offering both support and emotional costs—a dynamic that was evident in how friendship ties within pCDNs both buffered and, in some cases, amplified leaders' risk of burnout. This duality is further elaborated by the relationship multiplexity perspective (Methot et al., 2016), which highlights that workplace friendships can simultaneously serve as resources and liabilities, particularly under high emotional demands.

## Strengths and Limitations

Our study had several limitations. First, the cross-sectional design may not have captured the full dynamics between the investigated phenomena, and we could not analyse reverse or reciprocal relationships. Second, reliance on self-report questionnaires (Network and COPSOQ II) may have introduced common method and social desirability biases (Podsakoff et al., 2012). Third, the unique characteristics of our sample—including gender, age, and the Hungarian context—might have affected the observed correlations and limited generalisability. Fourth, the name generator method for network data could lead to recall bias, potentially underrepresenting weaker or non-friend ties. Fifth, a potential limitation was the subjective nature of the friendship variable. Participants were asked to identify which colleagues they considered friends based on their own personal perception. This approach, while methodologically standard in friendship research, introduced individual variability, as the definition of friend likely differed across respondents. Consequently, the observed relationships between pCDN composition, burnout, and perceived demands were necessarily influenced by this inherent subjectivity, reflecting the impact of perceived social ties rather than a uniform, objective relationship category. Sixth, while we assessed quantitative demands, stress, and burnout with COPSOQ II, incorporating additional demands and alternative measurement tools could provide a more nuanced understanding and broaden the scope of our hypotheses. Seventh, some moderation effects may have gone undetected due to limited subgroup sizes. Finally, we did not examine organisational characteristics—such as culture, structure, or sector—which may significantly influence the formation and impact of workplace friendships.

These limitations highlight the need for future research with longitudinal, multi-source designs and a broader consideration of organisational context to deepen understanding of the impact of leaders' workplace friendships.

A notable strength of this study lies in its large sample size and the sample composition, which uniquely includes social care leaders, thereby enhancing the generalisability and statistical power of the findings.

Furthermore, the research adopted a comprehensive approach to examining workplace relationships, considering not only their structural aspects but also the degree of workplace friendship within these connections. This multifaceted analysis provided a nuanced understanding of how both the presence and the quality of workplace relationships may influence relevant outcomes.

## Conclusion, Implications and Future Directions

Our findings demonstrate that the quality and structure of workplace relationships are critical in moderating the link between emotional demands and burnout among social care leaders. Leaders with a single, trusted workplace friend consistently showed low levels of burnout, regardless of emotional strain, highlighting the unique protective value of targeted, high-quality support. In contrast, those relying on non-friends or lacking confidants were more vulnerable to burnout, especially under high emotional demands. Mixed or all-friend networks offered some protection at lower demand levels, but their effectiveness diminished as emotional strain increased.

Both the presence and the composition of pCDNs are important for leaders' well-being. While friendships within pCDNs may offer emotional protection, they can also introduce strain, emphasising the need to consider not only the existence but also the quality of workplace relationships. These results highlight that not only the presence, but also the nature of social support, is crucial for a leader's well-being.

For social care leaders and organisations, this suggests that interventions should prioritise fostering high-quality, trusting relationships over simply expanding networks. Organisations should also address structural factors that drive job demands. By focusing on the configuration and depth of workplace support, organisations can better safeguard leader resilience and mental health.

Furthermore, the quantitative nature of this study, while identifying significant patterns, cannot capture the rich, subjective experiences underlying these network compositions. Future research would greatly benefit from qualitative methodologies to explore the "how" and "why" behind our findings. A phenomenological approach, such as Interpretative Phenomenological Analysis (IPA), could provide deep insights into the lived experience of leaders navigating the dual roles of colleague and friend. Alternatively, a Reflexive Thematic Analysis (RTA) of semi-structured interviews would be invaluable for exploring the nuanced ways leaders subjectively define "friendship" in their professional context and the specific interactional mechanisms that make these ties a resource or, conversely, a demand.

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## Author contribution

Réka SCHUTZMANN: conceptualization, design, methodology, funding acquisition, investigation, project administration, data management, formal analyses, interpretation, supervision, writing original draft, writing review and editing.
Klára SOLTÉSZ-VÁRHELYI: conceptualization, design, methodology, funding acquisition, investigation, project administration, data management, formal analyses, interpretation, supervision, writing original draft, writing review and editing.
Anna KOZÁK: conceptualization, design, methodology, funding acquisition, investigation, project administration, data management, formal analyses, interpretation, supervision, writing original draft, writing review and editing.

## Declaration of interest statement

The authors have no conflicts of interest to disclose.

## Ethical statement

This manuscript is the authors' original work.
All participants engaged in the research voluntarily and anonymously.
Their data are stored in coded materials and databases without personal data.
Studies were approved by the Semmelweis University Regional and Institutional Committee of Science and Research Ethics SE RKEB: 61/2019.

## Data availability statement

Datasets presented in this article are available from the corresponding author upon reasonable request.

## Declaration on using artificial intelligence in research and manuscript preparation

The authors declare that they have used AI technologies (DeepL, Grammarly) for grammar and semantic correction. Each suggestion was reviewed by the authors.

## ORCID

Réka SCHUTZMANN https://orcid.org/0000-0002-1156-2397
Klára SOLTÉSZ-VÁRHELYI https://orcid.org/0000-0003-4369-6936
Anna KOZÁK https://orcid.org/0000-0002-6684-1983

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# Appendix

Appendix Table 1. Demographic Differences Between the Groups

| Demographic variables | | no-pCDN | one-non-friend-pCDN | multi-non-friend-pCDNs | one-friend-pCDN | multi-mixed-friend-pCDNs | multi-all-friend-pCDNs | Comparison |
|---|---|---|---|---|---|---|---|---|
| Gender | ratio of females | 82.9% | 80.4% | 84.4% | 84.3% | 87.7% | 85.1% | $\chi^2(5) = 2.20$ $p = .821$ $V = .06$ |
| Age | years | 47.8 | 44.3 | 46.9 | 43.6 | 45.5 | 44.3 | $F(5, 541) = 4.35$ $p < .001$ $\eta^2 = .04$ |
| Education | vocational qualification based on high school diploma | 0% | 1.8% | 0% | 0% | 0.6% | 0% | $\chi^2(5) = 1.39$ $p = .926$ |
| | higher education | 75.6% | 80.0% | 79.70% | 82.0% | 77.0% | 83.6% | |
| | further education based on a higher degree | 23.2% | 18.2% | 20.30% | 16.0% | 21.8% | 16.4% | |
| | Ph.D | 1.2% | 0% | 0% | 2.0% | 0.6% | 0% | |
| Work exp. | years | 23.6 | 20.2 | 23.1 | 19.1 | 21.8 | 20.9 | $F(5, 538) = 2.74$ $p = .019$ $\eta^2 = .02$ |
| Managerial exp. | years | 10.4 | 10.9 | 10.2 | 9.4 | 10.1 | 10.5 | $F(5, 538) = 0.31$ $p = .904$ $\eta^2 < .01$ |
| Subordinates | person | 56.9 | 45.8 | 42.5 | 58.6 | 54.9 | 77.7 | $F(5, 534) = 1.26$ $p = .280$ $\eta^2 = .01$ |
| Location | village | 28.9% | 17.9% | 24.4% | 25.5% | 30.3% | 26.9% | $\chi^2(5) = 4.44$ $p = .488$ |
| | city | 38.6% | 51.8% | 42.3% | 51.0% | 44.2% | 44.8% | |
| | county town/seat | 22.9% | 14.3% | 18.7% | 9.8% | 17.6% | 22.4% | |
| | capital | 9.6% | 16.1% | 14.6% | 13.7% | 7.9% | 6.0% | |

*Note.* Differences in Gerder were analysed with Chi-squared test. Differences in Age, Work and Managerial experience, and Number of subordinates were analysed with One-way ANOVA and mean values are presented. Differences in Education and Location of the workplace were analyses using Kruskal-Wallis test.

Appendix Table 2. Johnson-Neyman Analysis Testing the Difference Between Groups in Burnout on Different Levels of Emotional Demands

| Values of emotional demands | no-pCDN - one-non-friend | | no-pCDN - multi-non-friend | | no-pCDN - one-friend | | no-pCDN - multi-mixed-friend | | no-pCDN - multi-all-friend | | one-non-friend - multi-non-friend | | one-non-friend - one-friend | | one-non-friend - multi-mixed-friend | | one-non-friend - multi-all-friend | | multi-non-friend - one-friend | | multi-non-friend - multi-mixed-friend | | multi-non-friend - multi-all-friend | | one-friend - multi-mixed-friend | | one-friend - multi-all-friend | | multi-mixed friend - multi-all-friend | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* |
| 0-35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | 0.1 | 0.988 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | 0 | 0.998 | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | -0.1 | 0.984 | | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | -0.2 | 0.969 | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | -0.3 | 0.953 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | -0.4 | 0.935 | | | | | | | | | | | | | | | | | | |
| 44 | 26.5 | < .001 | 26 | < .001 | | | | | | | -0.5 | 0.917 | | | | | | | | | | | | | | | | | | |
| 45 | 25.9 | < .001 | 25.3 | < .001 | | | | | | | -0.6 | 0.897 | | | | | | | | | | | | | | | | | | |
| 46 | 25.4 | < .001 | 24.6 | < .001 | | | | | | | -0.7 | 0.876 | | | | | | | | | | | | | | | | | | |
| 47 | 24.8 | < .001 | 24 | < .001 | 3.8 | 0.56 | | | | | -0.8 | 0.854 | -21 | 0.002 | | | | | -20.2 | < .001 | | | | | | | | | | |
| 48 | 24.3 | < .001 | 23.3 | < .001 | 3.1 | 0.617 | | | | | -0.9 | 0.831 | -21.1 | 0.001 | | | | | -20.2 | < .001 | | | | | | | | | | |
| 49 | 23.7 | < .001 | 22.6 | < .001 | 2.5 | 0.681 | | | | | -1 | 0.806 | -21.2 | < .001 | | | | | -20.1 | < .001 | | | | | | | | | | |
| 50 | 23.1 | < .001 | 22 | < .001 | 1.9 | 0.752 | | | | | -1.1 | 0.78 | -21.3 | < .001 | | | | | -20.1 | < .001 | | | | | | | | | | |
| 51 | 22.6 | < .001 | 21.3 | < .001 | 1.2 | 0.83 | | | 8.4 | 0.069 | -1.2 | 0.752 | -21.3 | < .001 | -14.6 | < .001 | -14.2 | 0.003 | -20.1 | < .001 | -13.3 | < .001 | -12.9 | 0.002 | 6.7 | 0.199 | 7.2 | 0.218 | 0.4 | 0.918 |
| 52 | 22 | < .001 | 20.7 | < .001 | 0.6 | 0.915 | 7.5 | 0.052 | 8.1 | 0.07 | -1.4 | 0.724 | -21.4 | < .001 | -14.5 | < .001 | -13.9 | 0.002 | -20.1 | < .001 | -13.2 | < .001 | -12.6 | 0.001 | 6.9 | 0.176 | 7.5 | 0.184 | 0.6 | 0.881 |
| 53 | 21.4 | < .001 | 20 | < .001 | 0 | 0.993 | 6.9 | 0.061 | 7.7 | 0.071 | -1.5 | 0.694 | -21.5 | < .001 | -14.5 | < .001 | -13.7 | 0.002 | -20 | < .001 | -13 | < .001 | -12.3 | 0.001 | 7 | 0.155 | 7.8 | 0.153 | 0.8 | 0.842 |
| 54 | 20.9 | < .001 | 19.3 | < .001 | -0.7 | 0.895 | 6.4 | 0.072 | 7.4 | 0.073 | -1.6 | 0.664 | -21.6 | < .001 | -14.5 | < .001 | -13.5 | 0.002 | -20 | < .001 | -12.9 | < .001 | -11.9 | < .001 | 7.1 | 0.135 | 8.1 | 0.124 | 1 | 0.8 |
| 55 | 20.3 | < .001 | 18.7 | < .001 | -1.3 | 0.792 | 5.9 | 0.086 | 7 | 0.075 | -1.7 | 0.633 | -21.6 | < .001 | -14.4 | < .001 | -13.3 | 0.001 | -20 | < .001 | -12.7 | < .001 | -11.6 | < .001 | 7.2 | 0.116 | 8.4 | 0.099 | 1.1 | 0.756 |
| 56 | 19.8 | < .001 | 18 | < .001 | -2 | 0.686 | 5.4 | 0.104 | 6.7 | 0.079 | -1.8 | 0.602 | -21.7 | < .001 | -14.4 | < .001 | -13.1 | < .001 | -20 | < .001 | -12.6 | < .001 | -11.3 | < .001 | 7.4 | 0.099 | 8.6 | 0.077 | 1.3 | 0.71 |
| 57 | 19.2 | < .001 | 17.3 | < .001 | -2.6 | 0.58 | 4.9 | 0.128 | 6.3 | 0.084 | -1.9 | 0.571 | -21.8 | < .001 | -14.3 | < .001 | -12.9 | < .001 | -19.9 | < .001 | -12.5 | < .001 | -11 | < .001 | 7.5 | 0.083 | 8.9 | 0.058 | 1.5 | 0.662 |
| 58 | 18.6 | < .001 | 16.7 | < .001 | -3.2 | 0.477 | 4.4 | 0.159 | 6 | 0.09 | -2 | 0.542 | -21.9 | < .001 | -14.3 | < .001 | -12.6 | < .001 | -19.9 | < .001 | -12.3 | < .001 | -10.7 | < .001 | 7.6 | 0.069 | 9.2 | 0.043 | 1.6 | 0.613 |
| 59 | 18.1 | < .001 | 16 | < .001 | -3.9 | 0.38 | 3.9 | 0.2 | 5.7 | 0.099 | -2.1 | 0.513 | -22 | < .001 | -14.2 | < .001 | -12.4 | < .001 | -19.9 | < .001 | -12.2 | < .001 | -10.4 | < .001 | 7.7 | 0.056 | 9.5 | 0.031 | 1.8 | 0.563 |
| 60 | 17.5 | < .001 | 15.4 | < .001 | -4.5 | 0.292 | 3.3 | 0.252 | 5.3 | 0.111 | -2.2 | 0.487 | -22 | < .001 | -14.2 | < .001 | -12.2 | < .001 | -19.9 | < .001 | -12 | < .001 | -10 | < .001 | 7.8 | 0.045 | 9.8 | 0.022 | 2 | 0.515 |
| 61 | 17 | < .001 | 14.7 | < .001 | -5.1 | 0.216 | 2.8 | 0.32 | 5 | 0.127 | -2.3 | 0.462 | -22.1 | < .001 | -14.1 | < .001 | -12 | < .001 | -19.8 | < .001 | -11.9 | < .001 | -9.7 | < .001 | 8 | 0.036 | 10.1 | 0.016 | 2.1 | 0.467 |
| 62 | 16.4 | < .001 | 14 | < .001 | -5.8 | 0.153 | 2.3 | 0.405 | 4.6 | 0.147 | -2.4 | 0.44 | -22.2 | < .001 | -14.1 | < .001 | -11.8 | < .001 | -19.8 | < .001 | -11.7 | < .001 | -9.4 | 0.001 | 8.1 | 0.029 | 10.4 | 0.011 | 2.3 | 0.423 |
| 63 | 15.8 | < .001 | 13.4 | < .001 | -6.4 | 0.104 | 1.8 | 0.509 | 4.3 | 0.173 | -2.5 | 0.421 | -22.3 | < .001 | -14 | < .001 | -11.6 | < .001 | -19.8 | < .001 | -11.6 | < .001 | -9.1 | 0.001 | 8.2 | 0.023 | 10.7 | 0.007 | 2.5 | 0.383 |
| 64 | 15.3 | < .001 | 12.7 | < .001 | -7 | 0.068 | 1.3 | 0.632 | 3.9 | 0.207 | -2.6 | 0.404 | -22.3 | < .001 | -14 | < .001 | -11.4 | < .001 | -19.7 | < .001 | -11.4 | < .001 | -8.8 | 0.002 | 8.3 | 0.018 | 11 | 0.005 | 2.6 | 0.347 |

(continued on the next page)

Appendix Table 2. continued

| Values of emotional demands | no-pCDN - one-non-friend | | no-pCDN - multi-non-friend | | no-pCDN - one-friend | | no-pCDN - multi-mixed-friend | | no-pCDN - multi-all-friend | | one-non-friend - multi-non-friend | | one-non-friend - one-friend | | one-non-friend - multi-mixed-friend | | one-non-friend - multi-all-friend | | multi-non-friend - one-friend | | multi-non-friend - multi-mixed-friend | | multi-non-friend - multi-all-friend | | one-friend - multi-mixed-friend | | one-friend - multi-all-friend | | multi-mixed friend - multi-all-friend | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* | *Diff.* | *p* |
| 64 | 15.3 | < .001 | 12.7 | < .001 | -7 | 0.068 | 1.3 | 0.632 | 3.9 | 0.207 | -2.6 | 0.404 | -22.3 | < .001 | -14 | < .001 | -11.4 | < .001 | -19.7 | < .001 | -11.4 | < .001 | -8.8 | 0.002 | 8.3 | 0.018 | 11 | 0.005 | 2.6 | 0.347 |
| 65 | 14.7 | < .001 | 12 | < .001 | -7.7 | 0.043 | 0.8 | 0.771 | 3.6 | 0.248 | -2.7 | 0.391 | -22.4 | < .001 | -14 | < .001 | -11.1 | 0.001 | -19.7 | < .001 | -11.3 | < .001 | -8.4 | 0.003 | 8.5 | 0.014 | 11.3 | 0.004 | 2.8 | 0.315 |
| 66 | 14.2 | < .001 | 11.4 | < .001 | -8.3 | 0.026 | 0.3 | 0.923 | 3.2 | 0.298 | -2.8 | 0.38 | -22.5 | < .001 | -13.9 | < .001 | -10.9 | 0.002 | -19.7 | < .001 | -11.1 | < .001 | -8.1 | 0.005 | 8.6 | 0.011 | 11.6 | 0.003 | 3 | 0.289 |
| 67 | 13.6 | < .001 | 10.7 | < .001 | -9 | 0.016 | -0.3 | 0.922 | 2.9 | 0.357 | -2.9 | 0.372 | -22.6 | < .001 | -13.9 | < .001 | -10.7 | 0.003 | -19.7 | < .001 | -11 | < .001 | -7.8 | 0.008 | 8.7 | 0.009 | 11.9 | 0.002 | 3.2 | 0.268 |
| 68 | 13 | < .001 | 10 | < .001 | -9.6 | 0.009 | -0.8 | 0.772 | 2.6 | 0.425 | -3 | 0.366 | -22.6 | < .001 | -13.8 | < .001 | -10.5 | 0.004 | -19.6 | < .001 | -10.8 | < .001 | -7.5 | 0.013 | 8.8 | 0.008 | 12.2 | 0.002 | 3.3 | 0.251 |
| 69 | 12.5 | < .001 | 9.4 | 0.001 | -10.2 | 0.005 | -1.3 | 0.632 | 2.2 | 0.499 | -3.1 | 0.362 | -22.7 | < .001 | -13.8 | < .001 | -10.3 | 0.006 | -19.6 | < .001 | -10.7 | < .001 | -7.2 | 0.02 | 8.9 | 0.006 | 12.4 | 0.001 | 3.5 | 0.238 |
| 70 | 11.9 | 0.001 | 8.7 | 0.003 | -10.9 | 0.003 | -1.8 | 0.509 | 1.9 | 0.578 | -3.2 | 0.36 | -22.8 | < .001 | -13.7 | < .001 | -10.1 | 0.009 | -19.6 | < .001 | -10.5 | < .001 | -6.9 | 0.031 | 9.1 | 0.006 | 12.7 | 0.001 | 3.7 | 0.229 |
| 71 | 11.4 | 0.003 | 8.1 | 0.007 | -11.5 | 0.002 | -2.3 | 0.406 | 1.5 | 0.66 | -3.3 | 0.359 | -22.9 | < .001 | -13.7 | < .001 | -9.8 | 0.014 | -19.6 | < .001 | -10.4 | < .001 | -6.5 | 0.047 | 9.2 | 0.005 | 13 | 0.001 | 3.8 | 0.222 |
| 72 | 10.8 | 0.006 | 7.4 | 0.017 | -12.1 | 0.001 | -2.8 | 0.321 | 1.2 | 0.742 | -3.4 | 0.36 | -22.9 | < .001 | -13.6 | < .001 | -9.6 | 0.02 | -19.5 | < .001 | -10.2 | < .001 | -6.2 | 0.069 | 9.3 | 0.005 | 13.3 | < .001 | 4 | 0.218 |
| 73 | 10.2 | 0.011 | 6.7 | 0.034 | -12.8 | < .001 | -3.3 | 0.254 | 0.8 | 0.822 | -3.5 | 0.362 | -23 | < .001 | -13.6 | < .001 | -9.4 | 0.029 | -19.5 | < .001 | -10.1 | < .001 | -5.9 | 0.096 | 9.4 | 0.005 | 13.6 | 0.001 | 4.2 | 0.216 |
| 74 | 9.7 | 0.02 | 6.1 | 0.065 | -13.4 | < .001 | -3.9 | 0.201 | 0.5 | 0.899 | -3.6 | 0.364 | -23.1 | < .001 | -13.5 | < .001 | -9.2 | 0.039 | -19.5 | < .001 | -9.9 | < .001 | -5.6 | 0.13 | 9.6 | 0.005 | 13.9 | 0.001 | 4.3 | 0.216 |
| 75 | 9.1 | 0.034 | 5.4 | 0.112 | -14.1 | < .001 | -4.4 | 0.161 | 0.1 | 0.971 | -3.7 | 0.368 | -23.2 | < .001 | -13.5 | < .001 | -9 | 0.053 | -19.5 | < .001 | -9.8 | < .001 | -5.3 | 0.171 | 9.7 | 0.005 | 14.2 | 0.001 | 4.5 | 0.216 |
| 76 | 8.6 | 0.055 | 4.7 | 0.178 | -14.7 | < .001 | -4.9 | 0.13 | -0.2 | 0.961 | -3.8 | 0.371 | -23.3 | < .001 | -13.5 | < .001 | -8.8 | 0.069 | -19.4 | < .001 | -9.6 | 0.002 | -4.9 | 0.216 | 9.8 | 0.006 | 14.5 | 0.001 | 4.7 | 0.218 |
| 77 | 8 | 0.083 | 4.1 | 0.263 | -15.3 | < .001 | -5.4 | 0.106 | -0.5 | 0.899 | -3.9 | 0.375 | -23.3 | < .001 | -13.4 | 0.002 | -8.6 | 0.088 | -19.4 | < .001 | -9.5 | 0.003 | -4.6 | 0.266 | 9.9 | 0.006 | 14.8 | 0.002 | 4.9 | 0.22 |
| 78 | 7.4 | 0.12 | 3.4 | 0.366 | -16 | < .001 | -5.9 | 0.088 | -0.9 | 0.843 | -4 | 0.38 | -23.4 | < .001 | -13.4 | 0.002 | -8.3 | 0.109 | -19.4 | < .001 | -9.3 | 0.004 | -4.3 | 0.32 | 10 | 0.007 | 15.1 | 0.002 | 5 | 0.224 |
| 79 | 6.9 | 0.165 | 2.8 | 0.482 | -16.6 | < .001 | -6.4 | 0.073 | -1.2 | 0.792 | -4.1 | 0.384 | -23.5 | < .001 | -13.3 | 0.003 | -8.1 | 0.133 | -19.4 | < .001 | -9.2 | 0.007 | -4 | 0.376 | 10.2 | 0.008 | 15.4 | 0.002 | 5.2 | 0.227 |
| 80 | 6.3 | 0.218 | 2.1 | 0.606 | -17.2 | < .001 | -6.9 | 0.062 | -1.6 | 0.745 | -4.2 | 0.389 | -23.6 | < .001 | -13.3 | 0.005 | -7.9 | 0.159 | -19.3 | < .001 | -9 | 0.01 | -3.7 | 0.433 | 10.3 | 0.009 | 15.7 | 0.003 | 5.4 | 0.231 |
| 81 | 5.8 | 0.279 | 1.4 | 0.734 | -17.9 | < .001 | -7.5 | 0.054 | -1.9 | 0.703 | -4.3 | 0.394 | -23.6 | < .001 | -13.2 | 0.007 | -7.7 | 0.187 | -19.3 | < .001 | -8.9 | 0.014 | -3.4 | 0.491 | 10.4 | 0.01 | 15.9 | 0.003 | 5.5 | 0.235 |
| 82 | | | | | -18.5 | < .001 | -8 | 0.047 | | | | | | | | | | | | | | | | | 10.5 | 0.012 | | | | |
| 83 | | | | | -19.1 | < .001 | -8.5 | 0.041 | | | | | | | | | | | | | | | | | 10.7 | 0.014 | | | | |
| 84 | | | | | -19.8 | < .001 | -9 | 0.037 | | | | | | | | | | | | | | | | | 10.8 | 0.016 | | | | |
| 85 | | | | | -20.4 | < .001 | -9.5 | 0.033 | | | | | | | | | | | | | | | | | 10.9 | 0.018 | | | | |
| 86 | | | | | -21.1 | < .001 | -10 | 0.03 | | | | | | | | | | | | | | | | | 11 | 0.021 | | | | |
| 87 | | | | | -21.7 | < .001 | -10.6 | 0.027 | | | | | | | | | | | | | | | | | 11.1 | 0.024 | | | | |
| 88-100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*Note.* Comparison between groups are carried out in all possible group-pairs. Results are presented only in those ranges of emotional demands where both groups had enough datapoint, i.e. between the 5th and 95th percentiles of both groups. The difference is calculated between the estimated value of burnout of the two groups at a given emotion demands level.