Organizational climate and self-efficacy as predictors of staff strain in caring for dementia residents: A mediation model

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\textbf{Abstract}

\textbf{Purpose of the study:} To date, no research has investigated how the organizational climate of aged care influences the self-efficacy of staff in caring for residents with dementia, or how self-efficacy is associated with the strain experienced by staff. This study sought to investigate the extent to which the self-efficacy of aged care staff mediates the association between organizational climate variables (such as autonomy, trusting and supportive workplace relations, and the recognition of competence and ability, and perceptions of workplace pressure) and staff strain.

\textbf{Design and methods:} A cross-sectional survey design was implemented in which 255 residential aged care staff recruited across aged care facilities in Melbourne, Australia. Staff completed self-report measures of organizational climate, self-efficacy, and strains in caring for residents with dementia.

\textbf{Results:} Indirect effects analyses using bootstrapping indicated that self-efficacy of staff mediated the association between the organizational climate variables of autonomy, trust, support, pressure, and staff strain.

\textbf{Implications:} The findings of this study emphasize that the aged care sector needs to target organizational climate variables that enhance the self-efficacy of staff, and that this in turn, can help ameliorate the strain experienced by staff caring for residents experiencing dementia.

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1. Introduction

Over 50\% of older people in aged care facilities in Western societies experience dementia (Australian Institute of Health and Welfare, 2011; Seitz, Purandare, & Conn, 2010), a condition broadly defined by a decline in mental processes such as the loss of memory and reductions in cognitive functioning that can compromise a person’s ability to undertake daily living tasks (Cohen-Mansfield, 2000; Tunis, Edell, Adams, & Kennedy, 2002). Further, it has been found that approximately 80\% of people with dementia experience mood disturbances or anxiety, or exhibit challenging behaviors such as screaming, violence, repetitive questions, intrusive wandering, and sexual disinhibition (Seitz et al., 2010; Wetzels, Zuidema, de Jonghe, Verhey, & Koopmans, 2010). These concomitant symptoms are commonly known as Behavioral and Psychological Symptoms of Dementia (BPSD, Cohen-Mansfield, 2000; Tunis et al., 2002).

The management of dementia and BPSD among aged care residents is a difficult task for many staff. Aged care staff must have a clear understanding of dementia-related symptoms and provide sensitive care in relation to the cognitive impairment and behavioral and psychological problems of residents (e.g., McCabe, Bird, et al., 2015; McCabe, Mellor, et al., 2015). A number of studies have shown that aged care staff involved in the care of residents with dementia report high levels of strain, stress and burnout (e.g., Duffy, Oyebode, & Allen, 2009; Edwardsson, Sandman, Nay, & Karlsson, 2009). If not addressed, staff stress could lead to compromised care practices and increased staff turnover (e.g., Karantzas et al., 2012; McCabe, Bird, et al., 2015; McCabe, Mellor, et al., 2015; Mellor et al., 2015).

Despite the need for aged care facilities to provide a workplace environment that can help reduce the strain experienced by staff,
limited research has been conducted to help guide organizations on how best to meet the needs of aged care staff. Of the few studies that have been conducted, organizational variables have been found to contribute up to 60% of carer strain, with factors such as role conflict and job ambiguity heightening strain (Barber & Iwai, 1996; Duffy et al., 2009). Conversely, supervisor support and an organizational climate fostering staff autonomy and the recognition of skills buffer against job stress (e.g., Karantzaz et al., 2012). Moreover, some studies have found that organizational factors have a greater role in predicting staff strain, exhaustion and professional fulfilment than patient factors (e.g., severity of dementia or depression) or personal factors such as experience or training (e.g., Alarcon et al., 2004; Thomsen et al., 1999).

The organizational factors that are associated with increased stress or that buffer against it fall under the broad concept of organizational climate (Denison, 1996; Koys & DeCotis, 1991). Organizational climate has been described as the facets of the organizational context that impact upon the cognitions, emotions and behaviors of employees (Bock, Zmud, Kim, & Lee, 2005; Denison, 1996). Specifically, organizational climate comprises numerous dimensions, including autonomy within the workplace, experiencing trust, cohesive and supportive workplace relations, recognition of capabilities and skills, openness to innovation in relation to workplace practices, the perception that workplace practices are fair and the acknowledgment of workplace pressures and challenges (e.g., Koys & DeCotis, 1991). However, without an understanding of the mechanisms by which organizational climate operates, it is difficult to provide clear explanations as to how organizational climate variables impact on the strain experienced by aged care staff working with dementia residents.

Nevertheless, research into aged care has provided some evidence that self-efficacy is a variable that can help to explain the association between various organizational climate variables and the strain experienced by aged care staff. Self-efficacy is conceptualized as a belief that an individual holds in relation to his or her capacity to draw on motivational, cognitive and behavioral resources and skills to perform a given task, even in the face of challenges and difficulties (Bandura, 1997).

The role of self-efficacy as a mediator has not been examined within the context of residential aged care. However, a small number of studies within community aged care point towards the potential mediating role of self-efficacy where self-efficacy has been conceptualized as either an outcome of organizational climate or as a predictor of carer strain and burnout. These studies have found that staff who report high levels of self-efficacy perceive less carer strain and burnout compared to staff reporting low levels of self-efficacy (Duffy et al., 2009; Evers, Tomic, & Brouwers, 2001; Mackenzie & Peragine, 2003). Further, self-efficacy appears to reduce the stressors and strains experienced by aged care staff working with residents, including those with dementia. Specifically, it has been suggested that staff with high levels of self-efficacy perceive themselves as competent and skillful enough to manage residents’ dementia symptoms, alongside their comorbid behavioral and psychological difficulties, while doing so in the context of significant caseloads and time pressures (e.g., McCabe, Davison, Mellor, & George, 2009).

McCabe, Mellor, et al. (2015) found that specific organizational climate variables were found to enhance aged care staff's sense of self-efficacy in working with residents with dementia. In particular, organizational climate variables such as autonomy, trust, and support were found to be positively associated with self-efficacy even when controlling for job stress, job satisfaction and years in the aged care profession. McCabe, Mellor, et al. (2015) contended that a number of organizational climate variables can foster an environment that instills a sense of agency in staff whereby the competencies of staff are acknowledged, and staff feel confident and assured that support can be sought to manage workplace challenges and stressors. As a consequence, McCabe, Mellor, et al. (2015) suggested that staff capacities are likely to be further enhanced by receiving support from skilled others that can provide additional job skill development.

Taken together, the studies suggest that self-efficacy is an important explanatory variable in the link between organizational factors and strain among staff caring for residents with dementia. Despite this, there is currently no research examining how these organizational factors are related to self-efficacy among aged care staff, and how this in turn is associated with the strains they experience. Thus, the aim of the current study was to investigate the extent to which aged care staff self-efficacy mediates the association between organizational climate variables (such as autonomy, trusting and supportive workplace relations, recognition of competence and ability, workplace innovation, and perceptions of workplace pressure) and strain in providing care to dementia residents. In doing so, this study provides novel insights into the role of self-efficacy in buffering the strain experienced by staff caring for people with dementia, and the role that organizational climate plays in broadening and building the self-efficacy of aged care staff.

It was hypothesized that the organizational climate variables of autonomy, trust, support, cohesion, recognition, fairness, and innovation would be positively associated with self-efficacy, but that organizational pressure would be negatively associated with self-efficacy. In turn, it was hypothesized that the self-efficacy of staff would be negatively associated with strain of caring for residents with dementia.

2. Design and methods

2.1. Participants

A total of 255 staff (M = 42.86 years; SD = 12.13 years; 228 women and 33 men) employed across 21 residential aged care facilities in Victoria, Australia participated in the study. An initial 53 aged care facilities were contacted, however, 32 declined to participate resulting in a recruitment rate of 39.62%. All aged care facilities provided a range of care to residents from low (i.e., assisting living level) through to high (i.e., nursing home level). The purpose of recruiting aged care facilities that provided low and high care was to assist with the generalization of research findings to aged care facilities that encompass diverse aged care services. Across recruited facilities, approximately 17% of residents had dementia. On average, staff had worked in the aged care sector for 10.86 years, with experience ranging from six months to 38 years. Participating staff consisted of two groups; management and non-management. The management staff group (n = 131) consisted of Registered Nurses (nurses with ≥5 years practice, a degree in nursing and registered with state/territory nursing boards). This group also included physiotherapists and staff who worked at multiple facilities within their organization (for example, a Psychiatric Nurse and an Education Manager). The non-managerial staff consisted of Personal Care Assistants (PCAs, n = 124), direct carers who attended to residents’ Activities of Daily Living (ADL) including showering, dressing, and feeding. This group also included an ‘other’ subgroup of participants, such as Leisure and Lifestyle staff (diversional therapists), and one cleaning staff member.

2.2. Materials

Participants completed a questionnaire measuring organizational climate, staff self-efficacy, and the strains experienced by staff caring for older adults with dementia. Each of these measures
is described further below. In addition, participants were asked to provide demographic information (gender, age, role in the organization and number of years worked in aged care of participants).

Staff perceptions regarding organizational climate was assessed using the Organizational Climate Questionnaire (OCQ, Koyos & DeCotiis, 1991; sample item: “I schedule my own work activities”). The OCQ consists of 40 items that tap into the eight subscales that constitute organizational climate – namely – trust, autonomy, fairness, innovation, pressure, cohesion, support, and recognition. Each subscale consists of five items (α ≥ 0.80 for the current study and past research, Koyos & DeCotiis, 1991) rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores on each subscale reflect a higher endorsement of the given organizational climate factor.

Staff efficacy in dealing with aged care residents experiencing dementia was measured using the Self-Efficacy in Working with Dementia Scale (Davison et al., 2007; sample item: “I feel satisfied with my current knowledge level regarding dementia”). The measure consists of six items that are rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items responses are averaged to provide a total score, with higher scores indicating greater self-efficacy in working with dementia (α = 0.75 for the current study; 0.84 in previous research, Davison et al., 2007).

Staff strain in caring for residents with dementia was measured using the Strains in Dementia Care Scale (SDCS, Edberg et al., 2008). The SDCS contains 27 items that measure the severity of strain across five subscales: frustrated empathy (7 items), difficulty in understanding residents (7 items), balancing competing needs (5 items), balancing emotional involvement with residents (4 items), and perceived lack of appreciation from others (4 items). In the SDCS, staff rate each item twice, once on the frequency with which a situation or feeling related to care of residents was experienced, from 1 (never/rarely) to 4 (very often), and then on how much stress it caused when it did occur, from 1 (none/hardly any) to 4 (high stress). The frequency and stress ratings for each item are then multiplied to produce a score for each item. Given that recent research has demonstrated that the weighting of the SDCS items by frequency produces floor and ceiling effects in the majority of items (Wallin, Edberg, Beck, & Jakobsson, 2013), only stress subscale was used in this study. Subscale scores were then calculated by summing the responses to the constituent items, and item responses were summed to yield a total strain score. Subscales and the total scale demonstrated excellent internal consistency (αs ≥ 0.87 for the subscales, and α = 0.93 for the total scale for the current study; as ≥ 0.90 in previous research, McCabe, Bird, et al. (2015), McCabe, Mellor, et al. (2015).

2.3. Procedure

Approval to conduct the study was obtained from the University Human Research Ethics Committee. Research, training and education managers of 21 residential aged-care facilities agreed for staff to participate in the study. These facilities were originally contacted via an email invitation to participate in the study, which was followed by a telephone meeting to discuss further details regarding staff participation. Participating facilities represented a range of business models including international, national, and state based organizations, and independent, private, not-for-profit, and owner operator organizations. The recruitment of staff at each facility commenced upon obtaining organizational consent from the management of each facility. The recruitment of staff involved a two-pronged process. Firstly, flyers about the study were placed in staff rooms and areas in which staff would conduct meetings. Secondly, members of the research team attended staff meetings to invite staff to participate in the study and to outline the primary aims and procedures involved. Interested staff at each facility were then provided with consent form and a hard copy of the questionnaire. If they were willing to participate they returned the completed questionnaire in a reply-paid envelope. The questionnaire took staff members approximately 30 min to complete.

2.4. Data analysis

The extent to which self-efficacy mediated the association between the organizational climate variables and the perception of aged care staff in relation to the strain of caring for residents with dementia were analyzed using the PROCESS macro developed by Hayes (2013). In using this statistical procedure the sample was bootstrapped to 1000 replications. The indirect effects between the organizational climate variables and strains in dementia care are estimated as are the 95% bias-corrected confidence intervals for each specified indirect effect. Thus, a total of eight specific indirect effects were tested, and self-efficacy was modelled to mediate the association between each of the eight organizational climate factors and the strain experienced in caring for residents with dementia. Indirect effects in which the 95% confidence interval does not include zero reflect a significant mediation effect.

3. Results

The data were screened for missingness and univariate and multivariate normality. A missing value analysis revealed only 3% of data in any given variable were missing and that the pattern of missingness was completely at random. To this end, missing values were estimated and replaced using Expectation Maximisation. The data met the assumptions of univariate and multivariate normality with absolute skewness ≤ 2 and kurtosis < 7 (DeCarlo, 1997; Hancock & Mueller, 2013) and Mardia’s multivariate statistic non-significant (p < 0.05).

The means and standard deviations for all variables included in the mediation analyses are reported in Table 1. As can be seen in Table 1, aged care staff were employed on average for close to 11 years in the aged care profession and reported moderate self-efficacy in working with dementia and strains in working with residents experiencing dementia. In relation to the organizational climate, staff reported moderate (and largely similar) levels across all subscales. Preliminary analyses investigating managerial and non-managerial staff differences by way of between-groups t-tests across organizational climate variables, self-efficacy in working with dementia and carer strain revealed only one difference. Specifically, managerial staff compared to non-managerial staff reported significantly more pressure (M = 3.76 vs 3.23, t [1250] = -4.30, p < 0.001, Bonferroni correction α = 0.006). No other differences were found between model variables as a function of

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Scale Range</th>
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<tbody>
<tr>
<td>Years Working</td>
<td>10.86</td>
<td>8.70</td>
<td>0.5–38</td>
</tr>
<tr>
<td>Autonomy</td>
<td>3.66</td>
<td>0.73</td>
<td>1–5</td>
</tr>
<tr>
<td>Trust</td>
<td>3.54</td>
<td>0.71</td>
<td>1–5</td>
</tr>
<tr>
<td>Support</td>
<td>3.50</td>
<td>0.71</td>
<td>1–5</td>
</tr>
<tr>
<td>Recognition</td>
<td>3.41</td>
<td>0.67</td>
<td>1–5</td>
</tr>
<tr>
<td>Fairness</td>
<td>3.64</td>
<td>0.64</td>
<td>1–5</td>
</tr>
<tr>
<td>Innovation</td>
<td>3.67</td>
<td>0.75</td>
<td>1–5</td>
</tr>
<tr>
<td>Pressure</td>
<td>2.94</td>
<td>0.74</td>
<td>1–5</td>
</tr>
<tr>
<td>Cohesion</td>
<td>3.63</td>
<td>0.71</td>
<td>1–5</td>
</tr>
<tr>
<td>Self-Efficacy in working with Dementia</td>
<td>3.35</td>
<td>0.62</td>
<td>1–5</td>
</tr>
<tr>
<td>Strains in working with Dementia</td>
<td>2.01</td>
<td>0.52</td>
<td>1–4</td>
</tr>
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job role. Given that there were so few differences between the two groups of staff, all mediation analyses were conducted across the entire sample.

A series of indirect effects were conducted to determine the extent to which staff self-efficacy mediated the association between organizational climate and strains in dementia care. As shown Table 2, a total of four significant indirect effects were found. Cumulatively the organizational climate variables and self-efficacy accounted for 22% of the variance in staff reported strains in working with residents experiencing dementia. Specifically, self-efficacy was found to mediate the association between the organizational climate variables of pressure, autonomy, support, and trust and staff strain in dementia care. The perception of higher organizational autonomy, support and trust were found to be positively associated with self-efficacy, and in turn, self-efficacy was found to be negatively associated with strains in dementia care. In contrast, a perception of higher organizational pressure was negatively associated with staff self-efficacy, and in turn, self-efficacy was negatively associated with strains in dementia care. In relation to the direct effects between the organizational climate factors and strains in dementia care, only organizational pressure was found to be a significant predictor (Β = 0.36, p < 0.001).

4. Discussion

Consistent with our hypotheses, self-efficacy was found to mediate the association between organizational climate factors and the strains reported by aged care staff in caring for residents with dementia. However, self-efficacy was only found to mediate the association between four facets of organizational climate, namely, autonomy, support, trust and pressure. It is important to note, however, that none of the organizational climate variables other than pressure were directly associated with staff reports of strains in the provision of dementia care. Thus, the findings of this study are novel, in that they are first to provide evidence that self-efficacy may indeed be an important explanatory mechanism in how, at least some, organizational climate variables may influence the strain experienced by staff caring for aged residents with dementia.

Recognition, cohesion and innovation were three organizational climate factors that were not associated with self-efficacy, and in turn, staff strain in caring for older adults with dementia. It may be that these organizational factors may not directly speak to enhancing staff self-efficacy per se. Recognition and cohesion may communicate to staff that their contributions are appreciated and that they are a part of a broader team (e.g., Koys & DeCotiis, 1991; Manion, 2003) but this may enhance staff perceptions regarding belongingness to, and sense of gratitude by, one’s organization rather than helping to enhance a staff member’s self-efficacy. Likewise, while innovation may be about creativity and risk-taking, it also encompasses coming up and testing new ideas when one has little way of experience. To this end, while innovation may reflect a sense of agency in relation to developing a vision for change, perceiving one’s organization as innovative may not necessarily instil an environment which foster the efficacy of staff in carrying out duties related to dementia care.

In discussing the organizational climate factors mediated by self-efficacy, findings suggest that both attending to organizational climate factors that allow staff to act independently in their work with aged care residents, as well as staff being trusted regarding their decision-making and working abilities, are important in enhancing the self-efficacy of aged care staff. Furthermore, perceiving an organizational climate that fosters supportive workplace relations may indeed provide aged care staff with a context in which they can broaden and build their abilities and confidence in caring for aged care residents (e.g., Jøsse-Eklund et al., 2013). Supportive workplace relations have been found to provide staff with opportunities to further develop skills, problem-solve patient care matters, as well as receive encouragement in dealing with workplace stressors and strains (e.g., Chang et al., 2006; Karantzas et al., 2012; Martin, 2010). These results suggest that organizational factors, especially those that relate to staff members’ sense of autonomy and relatedness (i.e., trust and support) are important factors to consider in order to improve carers’ self-efficacy in managing residents with dementia. Moreover, because the residential care of older adults with dementia requires a team approach to deal with the complex cognitive, physical, social, and emotional difficulties of residents (Grand, Caspar, & McDonald, 2011), it is understandable that staff would place importance on co-worker trust and support within aged care facilities. Importantly, as this work demonstrates, self-efficacy in turn, is a key variable that influences the strain reported by aged care staff in working with residents experiencing dementia.

Organizational pressure was found to be an variable that compromised staff self-efficacy. This suggests that a workplace environment in which staff perceive that they are unable to cope with workloads, as well as attend to workplace practices and procedures compromises staff perceptions of competency and mastery. These findings are consistent with previous studies within the aged care sector and within the organizational literature more broadly in which workplace pressure and stressors appear to erode staff confidence and self-efficacy (e.g., Hasson & Arnetz, 2008; Karantzas et al., 2012).

4.1. Implications

The findings from this study suggest that it is important for aged care facilities to target organizational climate variables that enhance the self-efficacy of aged care staff, which in turn, can help buffer the strains and stressors experienced by staff in caring for residents with dementia. Within the present study, aged care staff reported moderate levels of self-efficacy. This may point to the fact that aged care facilities may not encompass an organizational climate that works towards helping staff develop high self-efficacy, or may encompass a climate that mitigates against or erodes the competency of staff. Clearly, our findings suggest that organizational climate should be carefully considered as influencing the self-efficacy of staff in caring for aged care residents, and in turn, buffering the strain that they experience.

In particular, creating an organizational climate that balances promoting staff autonomy, trust and supportive workplace

<table>
<thead>
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<th>Table 2: Significant specific indirect effects.</th>
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<tr>
<td><strong>Indirect Effect</strong></td>
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<tr>
<td>Autonomy ← SE ← Carer Strain</td>
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<tr>
<td>Trust ← SE ← Carer Strain</td>
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<tr>
<td>Support ← SE ← Carer Strain</td>
</tr>
<tr>
<td>Pressure ← SE ← Carer Strain</td>
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</tbody>
</table>

*Note: SE = Self-efficacy, Carer Strain = Carer strain in working with residents experiencing dementia. All specific indirect effects are significant p < 0.05.*
relations with minimizing workplace pressure is likely to enhance staff self-efficacy. Given that self-efficacy is regarded as central in the way carers respond to the needs of residents with dementia (Duffy et al., 2009; Gallagher et al., 2011), the findings highlight possible areas for workplace interventions in aged care contexts. For example, instilling workplace practices in which staff trust one another regarding the care of residents can help to instil confidence in staff as trust communicates that other staff have faith in one’s abilities and perceive them as dependable. Likewise fostering a climate in which it is acceptable for staff to ask management for support can assist with developing self-efficacy by helping staff problem-solve and workshop ways to deal with the complex care needs of dementia residents. These are just some examples, of how focusing on the organizational climate may have demonstrable outcomes for staff self-efficacy, and in turn, the strain experience by staff caring for residents with dementia.

4.2. Limitations and future directions

A common limitation levelled against studies that conduct mediation models using cross-sectional data is that causality cannot be assumed. While we acknowledge this limitation, the mediation prediction outlined reflects the most theoretically plausible sequential ordering of variables. That is, organizational climate can be considered a contextual factor, which in part, influences the self-efficacy of aged care staff. Furthermore, the strains experienced by aged care staff are likely to be buffered by the extent that staff feel confident and efficacious in managing the challenges associated with dementia care. Additionally, previous studies examining the associations between organizational factors and self-efficacy or self-efficacy and the levels of stress or burnout reported by aged care staff (Duffy et al., 2009; Mackenzie & Peragine, 2003; McCabe et al., 2009; McCabe, Bird, et al., 2015; McCabe, Mellor, et al., 2015) support the mediation prediction outlined in this study. It is however important that future research attempts to replicate the current findings using both cross-sectional and longitudinal research designs. In particular, longitudinal research designs can help to determine the extent to which organizational climate variables at one point in time influence staff self-efficacy at a later time-point. Alternatively longitudinal studies can investigate whether the pattern of change in organizational climate over time are associated with subsequent patterns of change in staff self-efficacy over time. Simple growth or cross-panel models could be used to investigate these longitudinal associations.

5. Conclusion

The aged care context is one that encompasses many challenges for aged care staff, especially those caring for residents with dementia. It is therefore important for aged care facilities to invest in cultivating an organizational climate that enhances staff self-efficacy, which can thereby, mitigate against the stressors and strains experienced by staff. The findings of the present study demonstrate that minimizing organizational pressure, while enhancing staff autonomy, trust, and support can enhance self-efficacy, and thus, buffer against carer strain. It is therefore important that research and training in the future target organizational climate, with an emphasis on assessing its impact on the self-efficacy of staff. This research will likely ensure that the wellbeing of staff is maintained in the face of challenges and complexities associated with the dementia care of residents.

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Conflict of interest

None.

References


