Is the Path to Burnout and Turnover Paved by a Lack of Supervisory Support? A structural equations test

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Several studies have shown that low levels of supervisory support contribute to job burnout and turnover. We used structural equations modeling to test the hypotheses that low levels of supervisory support will have both direct and mediated effects on job burnout and turnover intentions of nurses working in a large New Zealand hospital. Specifically, we hypothesized that low supervisory support will have a direct effect on a) emotional exhaustion, b) depersonalization, and c) turnover intentions, and mediated effects on depersonalization and turnover intentions, transmitted through emotional exhaustion and depersonalization. The proposed theoretical model was supported by the data from 250 NZ nurses. The direct effect of low supervisory support on emotional exhaustion was -.18, on depersonalization -.15, and on turnover intentions -.30. The indirect effects of low supervisory support on depersonalization mediated through emotional exhaustion was .39 and .21 on turnover intentions. The mediated effects of depersonalization on turnover intentions was .27. Theoretical and practical implications of the findings are discussed.

Nurses are frequently exposed to intense and emotionally draining life-and-death situations, which over time can take a toll on them personally (Chiriboga & Bailey, 1986; Keane, Ducette, & Adler, 1985). Research has shown that a lack of social support contributes to higher burnout (Constable & Russell, 1986; Leiter & Maslach, 1988; Pines & Maslach, C., 1978). Among various types of social support available to nurses in a work setting, the support of one's supervisor is probably more important than other support variables (Constable & Russell, 1986). The effects of low levels of supervisory support on burnout experiences of nurses and other categories of employees in human service organizations are well documented in the literature (Eastburg, Williamson, Gorsuch, & Ridley, 1994; Lee & Ashforth, 1993; Leiter & Maslach, 1988). However, no direct structural test has been undertaken to investigate the relationship of low levels of supervisory support on job burnout and intentions to quit among nurses. The present study investigates the impact of low supervisory support on job burnout experiences of nurses and on their intent to quit their jobs.

The central variable in the present study is job burnout. We used the three component conceptualization of burnout proposed by Maslach and Jackson (1981; 86). According to Maslach and Jackson, "*Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "people work"*"(1986, p.1). More fully, burnout is "*...the gradual loss of caring about the people they work with. Over time they find they simply cannot sustain the kind of personal care and commitment called for in the personal encounters that are the essence of their job*" (Maslach, 1978, p58). Maslach states that there are three components to the experience of burnout that have implications for individuals who do "*people work*". These are: emotional exhaustion, depersonalization and diminished personal accomplishment. Each component of burnout needs to be understood in the context of what happens to the caregivers such as nurses in the process of caring.

Emotional Exhaustion: The first component is generally considered to be the core symptom of burnout, and it is strongly related to other burnout dimensions as well. Emotional exhaustion refers to the feelings of being emotionally over-extended and exhausted by one's work (Maslach & Jackson, 1986). Emotional exhaustion is characterised by a lack of energy and a feeling that one's emotional resources are used up (Cordes & Dougherty, 1993). Maslach (1982a) describes it as a response to the overwhelming emotional demands of other people.

Individuals who are emotionally exhausted lack enough energy to face another day, and often report that they are filled with dread at the prospect of returning to work for another day.

Depersonalization: Researchers have described the second component of burnout, depersonalization, as a (defensive) coping response to deal with the effects of emotional exhaustion when other coping resources are not available (Lee & Ashforth, 1990; Leiter, 1990; Maslach, 1982a). Caregivers develop a detached, callous and even dehumanised response to the people they are supposed to care for. Visible symptoms of depersonalization are the use of derogatory or abusive language, strict compartmentalisation of the situation, withdrawal through longer breaks, an unfeeling and impersonal response towards recipients of one's service, care, treatment or instruction (Cordes & Doughtery, 1993).

Reduced Personal Accomplishment: The third component of burnout refers to a sense of reduced personal accomplishment. This negative feeling stems partly from depersonalization. Caregivers experience negative feelings about themselves. They feel distress or guilt about the way they have thought about or mistreated others and this leads to feelings of reduced personal accomplishment. Caregivers feel that all efforts repeatedly fail to produce positive results, and so they "*quit trying*" (Maslach, 1982a). Feelings of diminished personal accomplishment can also result from factors that suggest one is unappreciated, that one's efforts are ineffective (Jackson, Turner, & Brief, 1987), or that one's competence is low (Burke, Shearer, & Deszca, 1984b). The perception of self-efficacy which is defined as "*people's judgment's of their capabilities to organize and execute courses of action required to attain designated types of performances*" (Bandura, 1986, p391), is at the core of the personal accomplishment component (Lee & Ashforth, 1990). We review next, evidence that suggests low levels of supervisory support may have negative effects on the job burnout experiences among nurses.

Several previous studies have demonstrated that supervisory support can be a critical antecedent variable contributing to burnout experiences of nurses. In a study of nursing staff, Eastburg, Williamson, Gorsuch & Ridley (1994) showed that high levels of perceived supervisor and peer support were associated with low levels of burnout. Leiter and Maslach (1988) showed in a study of staff nurses and support staff that unpleasant contacts with supervisors were associated with role conflict, a cause of considerable stress for incumbents. They also found that depersonalization was higher for employees who had higher levels of emotional exhaustion and who had more unpleasant contact with supervisors. In a predictive study of 106 nurses, Firth and Britton (1989) found that perceived lack of supervisory support and emotional exhaustion predicted absences of more than four days in subsequent 12 months. In a longitudinal study of service professionals Lee and Ashforth (1993) found that social support (as measured through support from supervisor and the organization) was related to emotional exhaustion through role stress. A meta-analytic examination of the correlates of burnout by Lee and Ashforth (1996) calculated the mean corrected correlation among 13 studies (N=3589), of which 80% sampled human services providers. The correlation between supervisory support and emotional exhaustion was (r_c=-.37, p<.001), between supervisory support and depersonalization was (r_c=-.24, p<.01) and finally between supervisory support and personal accomplishment was (r_c=.14, ns). In sum, there is evidence that reduced levels of supervisory support can have negative consequences for nurses in the form of increased levels of job burnout experiences.

In the study we referred to earlier, Firth and Britton (1989) also found that feelings of depersonalization predicted departure from a job in the subsequent two years. They found that nurses 'hardened' through depersonalization made a conscious decision to change employment. Armstrong, Marjorie, Cameron and Horsburgh (1994) in a comparative study of 586 Canadian nurses and 263 Jordanian nurses found emotional exhaustion was associated with intentions to quit. Lee and Ashforth's (1993) longitudinal study of 148 human service supervisors and managers found a significant relationship between emotional exhaustion and turnover intentions in time 2 (r = .27, p <.01). Further, Lee and Ashforth's meta-analytic examination of the correlates of burnout found a mean corrected correlation of r_c=.44, p<.01 between turnover intentions and emotional exhaustion and mean corrected correlation of r_c=.31, p<.001 between turnover intentions and depersonalization among respondents in 7 studies (N=1231). Other studies that have investigated turnover intentions among human service personnel have found similar results, i.e. that intended turnover was significantly related to burnout (Maslach & Jackson, 1984a; Pines, Aaronson, & Kafry, 1981; Taylor, Daniel, Leith, & Burke, 1990).

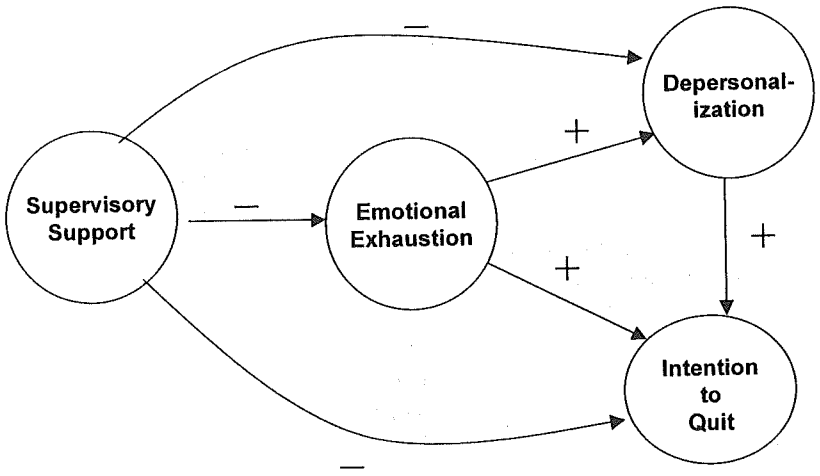
The findings in the literature led us to expect certain patterns of relationships between emotional exhaustion, depersonalization, supervisory support and intentions to quit. Based on these findings, we hypothesized that low levels of supervisory support will have a direct effect on burnout experiences of nurses through high levels of a) emotional exhaustion, b) depersonalization, and c) turnover intentions, and mediated effects on depersonalization and turnover intentions, transmitted through emotional exhaustion. We expected that exhausted nurses would report higher levels of depersonalization, and intentions to leave the organisation. In addition, we expected that depersonalized nurses would have significantly higher levels of intention to quit their jobs. The theoretical model tested is summarized in Figure 1.

We did not include personal accomplishment in the present analyses because the personal accomplishment items did not converge sufficiently to yield a reliable factor in our confirmatory factor analyses (Kalliath, Gillespie, O'Driscoll, & Bluedorn, 2000). Recent evidence would appear to indicate that, while exhaustion and depersonalization are clearly interrelated (Cordes & Dougherty, 1993), diminished feelings of personal accomplishment may be a separate aspect of burnout, which

develops in parallel with (rather than sequentially from) emotional exhaustion (Lee & Ashforth, 1993, 1996; Leiter, 1993). Further, burnout researchers have shown that emotional exhaustion precedes depersonalization sequentially (Leiter, 1993; Leiter & Maslach, 1988), although other theorists have argued that burnout progresses from depersonalization to diminished feelings of personal accomplishment to emotional exhaustion (Golembiewski & Munzenrider, 1988).

We used structural equation modeling (SEM) to test the theoretical model under investigation because of its methodological rigor (Schumacker & Lomax, 1996). We used SEM in our analyses because of the advantages it offers as regards management and articulation of measurement error (e.g., SEM avoids the assumption of perfect measurement inherent in simple regression-based path analysis). In the present study, we do not make the assumption of perfect measurement, and so the standard errors of the estimates included in the model will correctly reflect the degree of measurement error.

Figure 1. Structural Model Depicting the Direct and Mediated Effects of Supervisory Support on Burnout and Turnover Intentions



Method

Sample

A total of 890 questionnaires were distributed of which 315 were returned, a response rate of 35%. Of the 315 returned, 3 questionnaires were eliminated because they were unusable. Of the remaining 312 respondents: 36 worked in support roles, 114 nurses worked in the Surgical Services, 92 in Medical services and 70 in Acute Care. We did not include the 36 respondents working in support roles in the analyses as the levels of burnout reported by them was significantly different from those reported by nurses belonging to Surgical, Medical and Acute Care wards. Further, another 26 respondents spread across the three groups of nurses could not be included in the analyses due to missing values. Hence, the effective sample size was 250.

Respondents' ages ranged between 20 and 65 years, the average age being 35 years. The mean length of tenure was 6 years in the organisation and tenure in the nursing profession was 12 years. The respondents in the survey belonged to the surgical, medical and acute care units of the hospital. On a seven point scale measuring proximity to patient care, with a rating of 7 indicating constant direct care of patients, 79% of respondents rated either six or seven, indicating that a high proportion of the sample worked very closely with patients on a consistent basis. The questionnaire was distributed in the wards to nurses and they had ten days to complete and send it back through the internal mail system (an envelope was provided). Participation in the study was voluntary, and confidentiality was assured.

Measures

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981, 1986) consists of 22 items, of which 9 items are hypothesized to measure emotional exhaustion, 5 items to measure depersonalization, and 8 items to measure personal accomplishment. All 22-items responded to a 7-point frequency scale. Confirmatory factor analyses showed that only two of the three burnout components (emotional exhaustion and depersonalization) could be retained for further analysis (see Kalliath, Gillespie, O'Driscoll, & Bluedorn, 2000). Supervisory support was measured with a six-item Likert-scale version of the Index of Organizational Reactions (Smith, 1976). Intention to quit was measured by a 3-item questionnaire developed by O'Driscoll and Beehr (1994).

Analysis

There were no significant differences in the mean levels of job burnout measured by emotional exhaustion, depersonalization and low personal accomplishment as reported by surgical, medical and acute care nurses participating in the study. Hence, the combined sample was used for testing structural relationships. The hypothesized theoretical relationships were tested empirically for goodness of fit with the sample data. The chi-square fit statistic and several other goodness-of-fit indices summarize the degree of correspondence between the implied and observed covariance matrices, which is a distinct advantage of the SEM method over other methods. Although the appropriateness of a common-factor model and even the number of factors comprising it can never be assessed definitively (Kim & Mueller, 1978), structural equation modeling techniques can increase our confidence that the theoretical model tested is consistent with the true population parameters. The adequacy of the proposed structural model was evaluated by testing the significance of the parameters and by estimating the reliabilities of the factors and the average variances extracted from the factors—the squared

Table 1. Mean, Standard Deviations and Squared Multiple Correlations (R^2)

Item Label	Item Description	Nurses Mean	Nurses SD	Nurses R^2
Supervisory Support 1	The supervision I receive is the kind that encourages me to give extra effort	4.38	1.86	0.55
Supervisory Support 2	I am dissatisfied with the supervision I receive (R)	5.00	1.85	0.71
Supervisory Support 3	I feel I would be better off working under a different supervisor (R)	5.18	2.05	0.80
Emotional Exhaustion 1	I feel emotionally drained from my work.	3.39	1.45	0.58
Emotional Exhaustion 2	I feel used up at the end of the work day	4.00	1.50	0.85
Depersonalisation 1	I feel I treat some recipients as if they were impersonal objects	1.77	1.70	0.60
Depersonalisation 2	I don't really care what happens to some recipients	0.97	1.38	0.40
Turnover 1	Chances of quitting this organisation in the next six months	3.73	1.94	0.92
Turnover 2	Chances of quitting this organisation in next one year	3.58	1.96	0.80

Note: The squared multiple correlation (R^2) is a direct index of item performance for each factor, an approximation to the alpha coefficient is attained by taking the square root of R^2. An R^2 of .49 corresponds to an alpha coefficient of .70.

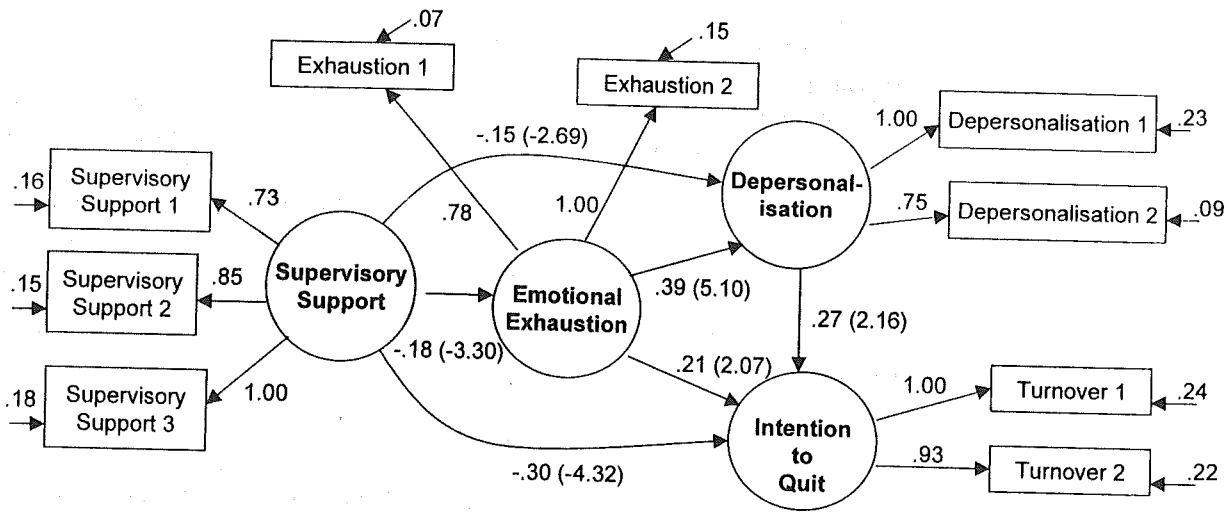
multiple correlations (R^2) for each item (Jöreskog and Sörbom, 1993)—which provide a direct index of item performance for each factor. An approximation to the alpha reliability coefficient (Cronbach, 1951) is obtained by taking the square root of the squared multiple correlation (R^2), a squared multiple correlation of .49 corresponds to an alpha of about .70. We eliminated scale items that were less reliable (i.e., less than .49 R^2), in order to provide a powerful structural test of the proposed theoretical model.

Results

Table 1 displays the descriptive statistics and the item squared multiple correlations (R^2s) of two items that measured emotional exhaustion, two items that measured depersonalization and three items that measured supervisory support and two items that measured turnover intentions in the sample of nurses. The R^2 values ranged from .49 to .92, providing evidence for reliability of items used in the anlayses. The meaning of these indices is that a substantial portion of the variability in each indicator is accounted for by the latent variable factor, which provides a solid foundation for testing the hypothesized structural model.

Figure 2 presents the model's parameter estimates. The validity coefficients (the numbers shown in Figure 2 on the arrows from the latent constructs to the indicators) are consistently large in comparison to their error variances, and all of them are significant at the .01 level. The validity coefficients are akin to factor loadings. They reflect the apparent direct structural relationships between the latent variable and its measures. Moreover, we found no correlations between error terms, which is important substantively. When results reveal correlated error terms or insignificant paths, they indicate specification error (Rubio & Gillespie, 1995), and a correlation between error terms indicates the existence of unmeasured variable(s) affecting the results. Although specification error cannot

Figure 2. Structural Model Depicting the Direct and Mediated Effects of Supervisory Support



Note: The numbers shown in the diagrams from left to right, are as follows: (1) standardized error terms, (2) validity coefficients of indicators, all of which are significant at the .05 level , and (3) structural coefficients between latent constructs Supervisory Support, Emotional Exhaustion, Depersonalization and Intentions to Quit (*t* values are shown in parenthesis).

be ruled out entirely, it is less likely if error terms do not correlate. The results presented in Figure 2 indicate good fitting measurement models for all four latent constructs that are part of the structural test. Next, we present the results of the structural test.

We obtained a non-significant chi-square (30.92, df=23, p<.13), indicating good fit for the proposed structural model with the nurses data. The chi-square value of 30.92 is a measure of the overall fit of the model to the data. It provides a measure of the discrepancy between the sample covariance matrix and the fitted covariance matrix. Note that the chi-square is a badness-of-fit measure in the sense that a small chi-square value corresponds to a good fit and a large chi-square to a bad fit. The non-significant chi-square value suggests good fit. Joreskog and Sorbom (1993, p.124) point out that the use of chi-square is based on the assumption that the model holds exactly in the population, which may not be a reasonable assumption. A consequence of this assumption is that models which hold approximately in the population will be rejected in large samples. Browne and Cudeck (1993) suggest using Steiger's (1990) Root Mean Square of Approximation (RMSEA) and the 90% confidence interval of the RMSEA as a measure of discrepancy per degree of freedom. Browne and Cudeck (1993) further suggest that an RMSEA of .05 indicates a close fit, and values up to .08 represent a reasonable upper limit for the confidence interval. In the present study, we obtained an RMSEA of .04 and a 90% confidence interval upper limit for RMSEA of .07. Both these fit statistics suggest that the structural model fits the data well.

LISREL 8.12a output provided several other fit statistics, from which we selected Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) as recommended by Holye and Panter (1995). These fit statistics measure how much better the model fits as compared to a baseline model, usually the independence model (Joreskog and Sorbom, 1993, p124). The indices lie between 0 and 1, and values close to 1 indicate better model fit. For the present model, the fit statistics for these measures are: GFI=.97; CFI=1.00; and IFI=1.00. These fit statistics confirm that the structural model fits the data well.

Inspection of the path coefficients (beta weights) in Figure 2 shows, as predicted, a direct and significant negative effect of low supervisory support on emotional exhaustion (-.18, p<.01), on depersonalization (-.15, <.01), and on intention to quit the job (-.30, <.01) of nurses. There were also significant mediated effects of reduced levels of supervisory support transmitted through emotional exhaustion on depersonalization (.39, <.01), and on intention to quit (.21, <.05) of nurses. Lastly, we obtained the anticipated mediated effect of emotional exhaustion transmitted through depersonalization on intentions to quit (.27, <.05).

Discussion

The findings of the present study confirm that supervisory support is an important work environment variable that has both direct and mediated effects on job burnout experiences and intentions to quit among nurses. The structural model was well supported by the data, as evidenced by the obtained chi-square value and other goodness-of-fit measures. The parameter estimates and error terms of the good fitting model reflected items that measured the constructs reliably in the structural model. Taken as a whole, these findings support the argument that, in a stressful work environment such as a hospital, lack of supervisory support has negative consequences for nurses in the increased levels of their burnout experiences and intentions to quit.

The findings of the present study are in conformity with the general findings in the literature on the relationship between supervisory support and nurse burnout. In a meta-analysis of studies investigating burnout among psychiatric nurses, supervisory support was negatively correlated to burnout by a mean correlation of -.31 (Melchior, Bours, Schmitz & Wittich, 1997). Kilfeddes, Power and Wells (2001) reported that a lack of social support from supervisors was associated with higher levels of emotional exhaustion and depersonalization among 510 psychiatric nurses of a Scottish Trust hospital. Similar findings have been reported by Turnipseed (1994) and Schaufeli (1999). Constable and Russell (1986) found that support of supervisors was more effective in alleviating burnout among nurses than support of co-workers. The present study extends the findings of the previous studies in two respects a) it evaluates the mechanisms through which lack of supervisory support impacts nurses' burnout experiences and intentions to quit, and b) it validates the general findings in the literature sourced primarily in North America and Europe, in a sample of NZ nurses.

Figure 2 shows the mechanisms through which lack of supervisory support impacts burnout experiences of nurses. The path coefficients show that low supervisory support results in higher levels of exhaustion (-.18), depersonalization (-.15), and intentions to quit (-.30) among nurses. In addition to these direct effects, low levels of supervisory support also transmits sizable mediated effects through exhaustion on depersonalization (.39) and intentions to quit (.21). Further, depersonalisation in turn transmits mediated effects on intention to quit (.27). Note that the mediated effects through exhaustion and depersonalisation are sizable (.39 and .27); it is higher than the direct effect of low supervisory support on exhaustion (-.18). However, in case of intention to quit, the direct effect of low supervisory support was greater (-.30) than the mediated effect through emotional exhaustion (.21).

These results suggest that a careful look at supports available to nurses to combat the negative impact of emotional exhaustion and depersonalization are clearly indicated. In a recent review of occupational stress in nursing, Clegg (2001) advocated more investment in clinical supervision as a key element in the management of occupational stress among nurses. Clegg (2001) stated that the 'restorative' element in clinical supervision supported personal well-being through reflective management of work-related stress, "*helping nurses to make sense of the stressful work environment in the safe cocoon of clinical supervision*" (p. 105). The findings of the present study lend support to a strategy of increasing levels of supervisory

support as an antidote to combating job burnout among nurses.

The present study had several limitations. The most serious being that it is a cross-sectional study which limits our ability to test causal assumptions regarding the burnout syndrome or to test equivalent models (MacCallum et al., 1993). Nevertheless, the interplay between levels of supervisory satisfaction and burnout is of considerable interest to organizational researchers and nursing administrators. Second, the present analyses excluded other potential antecedents of burnout, such as job satisfaction, co-worker support, organizational commitment etc. We would recommend that future studies include more known antecedents of job burnout so that the relative contribution of each to burnout may be investigated.

Clearly, given the limitations of study, the present findings need to be interpreted rather cautiously. These findings need to be replicated in other settings in order to draw definitive conclusions. However, this does not preclude us from suggesting that nurse administrators consider some of the practical implications of these findings for nurses and for patient care in general. The findings raise questions about the practice of nurses experiencing job burnout staying on in their present jobs, without remedial intervention. There are negative consequences for the patients, as burnt out nurses may not be in a position to offer much comfort to their charges. There are also negative consequences for the quality of work environment, as burnt out nurses may find it difficult to maintain pleasant work relationships with co-workers. The cost to the organisation by way of reduced patient care and unpleasant work environment needs to be investigated further. The findings of the present study lend support to Clegg's (2001) call for increased investment in supervision as a strategy for reducing the negative impact of stress and burnout among nurses.

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