



When the going gets tough: Direct, buffering and indirect effects of social support on turnover intention

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ABSTRACT

We examined the role of social support in turnover intention among new teachers. First, we tested and found evidence for a direct negative relationship between social support and turnover intention. Second, we tested the social support buffer hypothesis, and found that teachers with higher social support had lower turnover intention in the face of higher workload, compared to teachers with lower support. Third, we examined a mediational hypothesis, and found that social support acts indirectly, through job satisfaction in relation to turnover intention. These findings suggest that social support can be a valuable resource for new teachers.

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Voluntary employee turnover is a problem within all occupations, but is especially critical within the human services. This is evident in occupational groups, such as teachers, of which less than 10% reach normal retirement age (Macdonald, 1999). Importantly, new teachers are 2.5 times more likely to leave the profession than those who have been teaching for more than 2 years (Huling-Austin, 1986). Smith and Ingersoll (2004) report that about 50% of new teachers leave within the first 5 years; Ewing (2001) reports rates of about 40%. Similar patterns of turnover in the beginning of one's career are observed in other occupations, such as social workers (Mor Barak, Levin, Nissly, & Lane, 2006), nurses (Hayes et al., 2006) and physicians (Heponiemi et al., 2009).

Employee turnover has important psychological and financial consequences for both individuals and their organizations (Macdonald, 1999). Research has thus focused on identifying potential predictors of turnover, especially in vulnerable occupational groups with high turnover rates. Turnover intention has been consistently found to be the strongest predictor of leaving itself (Griffeth, Hom, & Gaertner, 2000) and is viewed here as the

expressed inclination and deliberate willingness to quit one's job or one's profession (Tett & Meyer, 1993). The present study focused on turnover intention in new teachers and examined potential predictors and pathways associated with turnover intention. More specifically, we examined the role of social support in new teachers' intention to leave their job.

Occupational stress models (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Karasek, 1979) and more specific turnover models (Mobley, Griffeth, Hand, & Meglino, 1979; Price & Mueller, 1981) emphasize the importance of psychosocial stressors in turnover intention. Generally, the models suggest that psychosocial stressors, such as excessive workload and lack of social support can start a process of job dissatisfaction, turnover intention and finally turnover. Interestingly, support for the role of psychosocial stressors comes from studies with samples that combine new and experienced workers. It is thus unknown whether existing models can explain turnover intention in beginning employees and more specifically in beginning teachers.

There is indication that the psychosocial work environment of newcomers is different than that of their more experienced counterparts. Bradley (2007) has shown that new teachers differ from their experienced counterparts. In his study, new teachers reported decreasing levels of social support and increasing levels of job dissatisfaction and intention to turnover over the school year; this was not the case for more experienced teachers. In addition, control buffered the effect of job demands on turnover intention only for

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new teachers. These differences indicate that it is necessary to test existing turnover models in *new* workers. This is especially true for occupational groups, such as teachers, where most of the turnover occurs in the first five years.

1. Social support

One psychosocial factor that has been consistently linked to turnover intention is social support (e.g., Alexander, Lichtenstein, Oh, & Ullman, 1998). Supportive colleagues can make employees feel respected, help them acquire new skills, assist them in mobilizing other resources (Cohen & Wills, 1985) and provide opportunities for new perspectives to work-related issues (Kahn, Schneider, Jenkins-Henkelman, & Moyle, 2006). Supportive relationships can be particularly critical to new employees, because a new job often carries high levels of uncertainty and resulting stress (Saks, Uggerslev, & Fassina, 2007). For example, fellow employees can provide necessary affirmation of abilities, an opportunity to express and discuss work-related problems and exchange key information (Feldman & Brett, 1983). According to a recent meta-analysis of studies on adjustment of newcomers, feeling accepted and trusted by colleagues is a crucial predictor of successful adjustment, which is manifested in intention to remain on the job (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). In the present study, we were interested in social support from colleagues and defined social support as the perception that one receives emotional (e.g., respect) or instrumental (e.g., help with work tasks) support from fellow teachers (Cohen & Wills, 1985).

The job demands-resources model (JD-R; Bakker & Demerouti, 2007; Demerouti et al., 2001) also underlines the importance of social support and its link to the intention to stay on the job. According to this model, work disengagement outcomes (such as intention to turnover) can be predicted by lack of resources (e.g., social support, autonomy, feedback, and job security). Lack of resources is suggested to weaken motivation, reduce work involvement and lead to disengagement from one's work. Work disengagement can take several forms: emotional, cognitive, or behavioral.

That lack of resources leads to intention to turnover and not (or less so) to stress-related outcomes at work (rather, job demands are hypothesized to lead to stress) is a novel formulation and has received considerable empirical support (Llorens, Bakker, Schaufeli, & Salanova, 2006; for a review see, Bakker & Demerouti, 2007). A cross-sectional study in 1177 teachers showed that social support was a significant predictor of work engagement and work commitment (Jackson, Rothman, & van de Vijver, 2006). However, there have been no studies – to our knowledge – specifically looking at the JD-R model in either new employees or new teachers.

Outside the JD-R model, there are two studies that investigated the direct role of social support in relation to teachers' turnover intention. First, a cross-sectional study by Houkes, Janssen, de Jonge, and Nijhuis (2001) in 374 teachers found that social support had an inverse and direct effect on turnover intention. No main effect for workload on turnover intention was found. Workload was assessed with a general measure of job demands and was not specific to teachers. However, teacher-specific measures have been found to be stronger predictors of teacher outcomes than are more general measures (van der Doef & Maes, 2002). In the present study we used a teacher-specific measure to assess workload as well as social support from colleagues. Second, a longitudinal study by Bradley (2007) involved two samples: one sample consisted of 248 beginning teachers and a second sample included 422 experienced teachers. The findings indicated that social support was predictive of turnover intention eight months later, but job demands were not. Although a teacher-specific questionnaire was

used, job demands included 16 different job stressors (including interpersonal issues). This measure was very broadly defined, which may have resulted in conceptual overlap with other study variables, such as social support (Houkes et al., 2001). Based on the predictions made by the JD-R model and on supportive empirical evidence, we hypothesized that in a sample of new teachers:

1.1. H1. Social support has a direct and negative association with turnover intention

The JD-R model also hypothesizes that job resources such as social support can reduce the detrimental effect of high job demands on work disengagement outcomes (buffer hypothesis). More specifically, the buffer hypothesis suggests that job resources are *most* beneficial for individuals experiencing *high* job demands. Among potential job resources that can act as buffers against job demands, social support has received the most research attention (van der Doef & Maes, 1999). Social support can act as a buffer because supportive colleagues can facilitate employees in getting their work done and may thus reduce the negative impact of excessive job demands (Johnson & Hall, 1988). In addition, supportive colleagues can help employees engage in adaptive coping behaviors, which can then lead to more efficient and less stressful ways of working (DeLongis & Holtzman, 2005).

The JD-R model's buffer hypothesis has received empirical support (Xanthopoulou et al., 2007). In a study of 805 teachers (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007), social support from colleagues (termed appreciation) had the largest effect on work engagement only when teachers reported high levels of stress due to pupil misbehavior. However, the potential buffering role of social support has not been explicitly examined in relation to turnover intention in (new) teachers. This is important, because schools could adopt appropriate strategies to increase social support among new teachers as a way to help teachers deal with the challenges of a new job and, in turn, reduce costly and extensive turnover.

Research has shown that workload is one of the main concerns and challenges facing new teachers (Fantilli & McDougall, 2009). We were thus interested in examining whether social support can help new teachers deal with increased workloads. Here, we define workload as increased demands at work and work-related time pressures that can even impinge on one's private life (van der Doef & Maes, 2002). The present study examined the buffer hypothesis and hypothesized that:

1.2. H2. Social support is most beneficial with regard to turnover intention when teachers report higher levels of workload

In addition to the direct and buffering effects of social support on turnover intention, we investigated a third pathway through which social support may affect turnover intention. We examined whether job satisfaction acts as a mediator of this relationship. This is based on the Price and Mueller (1981) turnover model, which describes a path from psychosocial work stressors to job satisfaction to turnover intention to actual turnover. Job satisfaction is defined here as the positive attitude and affect for one's job (Weiss, 2002). Studies on the JD-R model have largely overlooked job satisfaction as a potential mediator of the work disengagement process. This is surprising, given that the Price and Mueller model has received considerable support during the past two decades. The model was initially designed to explain nurses' turnover, but more recent theorizing and empirical evidence has validated the basic premise of the model for other occupations, such as police officers (Brough & Frame, 2004), customer service representatives (Abraham, 1999) and white collar workers (Davy, Kinicki, & Scheck, 1997). A meta-

analysis by Carr, Schmidt, Ford, and DeShon (2003) showed that interpersonal relations among workers influenced turnover intention through job satisfaction. Based on this meta-analysis and other studies (e.g., Brough & Frame, 2004), we hypothesized that:

1.3. H3. *The association between social support and turnover intention is mediated by job satisfaction*

In our analyses, we controlled for the potential effects of gender and teaching experience on turnover intention. This is important, because we wanted to examine the roles of workload and social support after accounting for the potential effects of gender and teaching experience. Women and men may experience the first few years in teaching differently and may thus come to different conclusions around their intention to quit their job. In fact, women have been found to experience higher levels of work-related stress (Liu, Spector, & Shi, 2008) and have different preferences in terms of coping strategies at work (González-Morales, Rodríguez, & Peiró, 2010). Finally, although we focused on beginning teachers, it is possible that teachers in the first year of teaching may have differing perceptions of their work and thus also have differing intentions to turnover compared to teachers in subsequent teaching years.

To summarize, the present study focused on *whether* and *how* social support influences new teachers' willingness to leave their job. Based on two models, namely the job demands-resources model (Bakker & Demerouti, 2007; Demerouti et al., 2001) and the Price and Mueller (1981) turnover model, we investigated three routes through which social support may exert its influence on turnover intention: (a) directly, (b) as a buffer against workload, and (c) indirectly, through job satisfaction.

2. Method

2.1. Procedure and participants

All 71 new teachers that started teaching in 2005 and were part of the Hamilton-Wentworth District School Board (Canada) were invited to take part in the study in the beginning of the school year. All 71 of those teachers agreed to participate in the study (100% response rate). The high response rate is due to the strong relations between the School Board and their registered teachers. Of those teachers, 14 were men (19.7%) and 57 were women (80.3%). The majority of the teachers (90%) were in the first 3 years of their teaching career. The remaining 10% had previous occasional teaching experience outside this School Board.

2.2. Measures

The questionnaire package included measures of workload, social support, turnover intention and job satisfaction that came from the teacher-specific version of the Leiden Quality of Work Questionnaire (LQWQ; van der Doef & Maes, 2002). The general LQWQ was initially developed by van der Doef and Maes in order to assess dimensions of the J-DCS model in a variety of occupational groups. This general questionnaire was later adapted for the teaching profession. The new teacher-specific questionnaire was tested in terms of its utility compared to the general LQWQ. It was found that the teacher-specific version yielded stronger associations with strain outcomes in the teaching population than the general LQWQ (van der Doef & Maes, 2002). All answers were given on a 4-point scale (1 = *strongly disagree*, 4 = *strongly agree*).

The workload experienced by the participants was measured with seven items: "I have limited time to prepare my courses", "The teaching programme is overloaded", "There is practically no time left

to keep up to date with regard to my teaching subject", "I lack the time to counsel individual students", "I need more time to do my job well as a teacher", "My teaching profession claims a lot of my leisure time" and, "My work is never finished".

The amount of perceived colleague social support was measured with five items: "I feel that my colleagues value the work that I do", "At my school colleagues get on together well", "At my school colleagues stick to what has been agreed upon", "In the process of educational innovation I experience a lot of support from my colleagues" and, "I can ask my colleagues for help when I have problems at work".

Four items were designed to measure turnover intention: "There is a fair chance that I will look for another job next year", "If the opportunity arises, I would like to work at another school", "If the opportunity would arise, I would quit the teaching profession" and, "I'm not sure whether I can carry on in this job until my retirement".

Finally, job satisfaction was assessed with the following four items: "I often don't feel like going to work" (reverse scored), "If I would have to choose again, I would still become a teacher again", "I enjoy my work as a teacher" and, "Being a teacher is the best profession there is".

Scale internal reliabilities in the present study were comparable to those reported previously in the literature (van der Doef & Maes, 2002). Cronbach alphas were .80 for workload, .85 for colleague social support, .66 for turnover intention and .78 for job satisfaction. We also assessed background variables that included the participants' gender and teaching experience (i.e., the number of years they had been teaching). These were treated as controls in the regression analyses.

3. Results

3.1. Descriptive statistics

Table 1 shows the means, standard deviations and correlations of the variables. As can be seen, colleague support was significantly negatively correlated with workload and turnover intention. There was no significant correlation between workload and turnover intention.

3.2. Social support is directly associated with turnover intention

As can be seen in Table 2, multiple regression analysis indicated that colleague support was significantly associated with turnover intention, even after controlling for workload, years of teaching experience, and gender. There was no significant main effect of workload on turnover intention. In the present study then, we found support for Hypothesis 1.¹

3.3. The buffer hypothesis of social support

We used hierarchical regression analysis to test the buffer hypothesis. All variables were standardized (Aiken & West, 1991). We hypothesized that social support would moderate the

¹ We also tested JD-R model's exhaustion hypothesis, by regressing feelings of stress (measured by the question 'Place an X on the line to show your overall level of workplace stress in the past week' which was answered on a visual analogue scale ranging from 0 = *no stress at all* to 100 = *extreme stress*) on workload and social support, after controlling for gender and teaching experience. The results supported the JD-R model's assumptions: workload was significantly associated with stress ($\beta = .27, p \leq .05$) explaining 7% of the variance, while social support was not ($\beta = -.07, p > .10$). Taking all the main effects together, our data supported the JD-R model's basic premise that there are two distinct paths from work conditions to outcomes: the exhaustion path, whereby job demands are associated with stress-related outcomes and the work disengagement path, whereby lack of job resources relate to work disengagement outcomes.

Table 1

Means, standard deviations and intercorrelations for gender, teaching experience, job satisfaction, workload, colleague social support and turnover intention.

Variable	M	SD	1	2	3	4	5	6
1. Gender	–	–	–	.01	–.07	.03	–.11	.17
2. Teaching experience	1.82	1.71	–	–	.02	–.08	.17	–.09
3. Workload	3.10	.49			–	–.43***	.14	–.15
4. Colleague social support	3.20	.47				–	–.35**	.35**
5. Turnover intention	1.95	.57					–	–.60***
6. Job satisfaction	3.30	.52						–

Note: ** $p \leq .01$; *** $p \leq .001$. Higher value on gender denotes women.

relationship between workload and turnover intention. As the results in Table 2 indicate, a statistically significant interaction was found between workload and colleague social support. In order to determine the nature of the interaction, we constructed a plot by computing the unstandardized beta values of all variables at values one standard deviation above and below the mean. As shown in Fig. 1, it is under conditions of high workload that social support becomes particularly important. Under high workload, teachers with high levels of social support were less likely to indicate intention to turnover than were those with low social support. Social support was less critical when workload was lower. As suggested by these findings, the buffering hypothesis (H2) was supported by our data.

Furthermore, typically under the buffering hypothesis, one would expect that as workload increases, teachers with high social support would report fairly *stable* – as opposed to decreasing – turnover intention. As can be seen in Fig. 1, however, the high social support group showed a proportionate *decrease* in their desire to leave as their workload increased.

3.4. The mediation hypothesis

We tested whether job satisfaction mediates the relationship between social support and turnover intention. We repeated the previous regression analysis, but included job satisfaction in a last additional step. Job satisfaction explained an additional 24% ($p \leq .001$) of the variance in turnover intention (total adjusted R^2 was 39% for this analysis). The interaction between social support and workload also remained significant. Regarding the main effect of social support, following Baron and Kenny (1986), all conditions for mediation were met: (a) the predictor (i.e., social support) was significantly correlated ($r = .35, p \leq .01$) with the mediator (i.e., job satisfaction); (b) the mediator (i.e., job satisfaction) was significantly correlated ($r = -.60, p \leq .001$) with the outcome (i.e., turnover intention); (c) the predictor (i.e., social support) was significantly correlated ($r = -.31, p \leq .01$) with the outcome (i.e., turnover intention) and finally, (d) when we entered job

satisfaction in the last step of the regression analysis, social support was no longer significant ($\beta = -.16, p \geq .10$). This finding shows that the effect of social support was fully mediated by job satisfaction (H3).

We repeated all analyses including only those teachers who were in their first year of their teaching career. These analyses yielded identical results.²

4. Discussion

The present study investigated the role of social support in turnover intention in a sample of new teachers. As expected and as indicated by the results, teachers' levels of perceived social support from colleagues were inversely related to their intention to turnover, and this effect remained significant after controlling for gender and years of teaching experience. In addition, we did not find a significant association between workload and turnover intention. These findings are in line with the JD-R model's proposition, according to which, job resources, such as social support, are part of a motivational cycle and are thus associated with work disengagement outcomes. Because job demands, such as workload, are part of an exhaustion cycle that leads to stress-related outcomes, job demands are less likely to be associated with work disengagement outcomes.

Previous studies by Houkes et al. (2001) and by Bradley (2007) found similar results. Interestingly, the Houkes et al. study included older and presumably more experienced teachers, whereas Bradley examined both experienced and new teachers. These findings taken together suggest that social support is an important resource for teachers in various career stages. They also indicate that the JD-R model can explain both stress and work disengagement outcomes in new hires.

With regard to the source of social support, Houkes et al. (2001) included a general measure of social support, whereas Bradley

Table 2

Summary of hierarchical regression analyses for variables predicting turnover intention.

Variable	B	SE B	β
Step 1			
Gender	–.28	.30	–.11
Teaching Experience	.10	.07	.17
Step 2			
Workload	.14	.13	.13
Step 3			
Colleague social support	–.36	.13	–.34**
Step 4			
Workload \times Support	–.22	.11	–.23*

Note: $R^2 = .04$ for Step 1 ($p > .05$); $\Delta R^2 = .02$ for Step 2 ($p > .05$); $\Delta R^2 = .10$ for Step 3 ($p < .01$); $\Delta R^2 = .05$ for Step 4 ($p < .05$); Cumulative adjusted $R^2 = .14$. ** $p < .01$; * $p < .05$.

² We also collected longitudinal data 8 months after the initial assessment. Although we had 100% participation rate in our study for the first measurement point, of those 71 teachers only 36 participated in the study at T2 (51%). Comparison of the respondent group (those who participated at both time points, $n = 36$) to non-responders (those who did not participate at T2, $n = 35$) by means of t -tests revealed no significant differences with regard to the study variables. Using the longitudinal data, inspection of the correlations table revealed that T1 and T2 turnover intention were strongly correlated with each other ($r = .71, p \leq .001$). Also, T1 and T2 social support from colleagues were strongly correlated with T2 turnover intention ($r = -.60, p \leq .001$ and $r = -.54, p \leq .001$ respectively). T1 workload was marginally associated with T2 turnover intention ($r = .32, p = .06$), whereas T2 workload was significantly correlated with T2 turnover intention ($r = .51, p \leq .01$). Finally, T1 and T2 job satisfaction were significantly correlated with T2 turnover intention ($r = -.55, p \leq .001$ and $r = -.73, p \leq .001$ respectively). Due to our limited sample size we could perform regression analyses with only two variables at a time. Controlling for T1 turnover intention (which explained 50% of the variance in T2 turnover intention), T1 workload was not a significant predictor of T2 turnover intention ($\beta = .12, p > .10$), whereas social support explained an additional 7% of variance in T2 turnover intention ($\beta = -.31, p \leq .05$). We were unable to examine moderated or mediated effects. These results confirm the importance of the main effect of social support on turnover intention over a longer period of time.

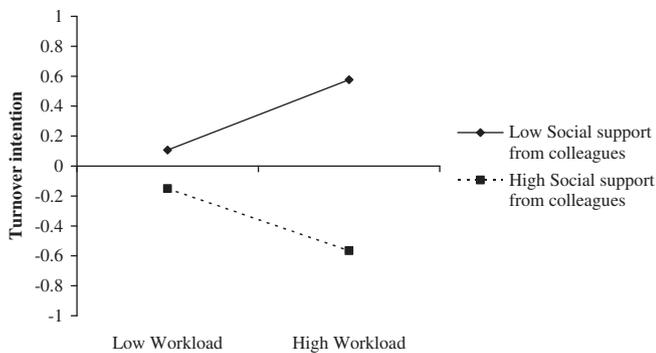


Fig. 1. New teachers' reported turnover intention depicted as a function of workload and perceived colleague social support.

(2007) found that only social support from supervisor was significantly associated with turnover intention. Interestingly, our findings indicate that social support from colleagues is a significant predictor of turnover intention. Given the limited number of studies examining the relationship between specific sources of social support and turnover intention in (new) teachers, it is premature to conclude that only certain sources of support are relevant to this population; further research in this area is warranted. However, support from coworkers might provide a particularly good match with the needs of new teachers, and therefore might be particularly beneficial (Cohen & Wills, 1985).

The second hypothesis – that social support would act as a buffer in the relationship between workload and turnover intention – was supported. As is suggested by the results, it is specifically under conditions of high workload that the role of social support becomes even more important. Teachers with high levels of social support reported lower intention to turnover than those with low levels of social support. In addition to finding support for the buffer hypothesis, the results indicate that for teachers with high levels of social support, their desire to stay in the profession increased despite increasing levels of workload. This is an interesting pattern, given that under the buffer hypothesis one would expect to find the high support group to differ from the low support group in that their turnover intention would remain *stable*, as opposed to decreasing, under conditions of higher workload.

Perhaps as social support from colleagues becomes increasingly important with the increase in workload, these teachers come to value their supportive environment and strengthen their willingness to stay on the job. Higher levels of colleague social support may have reparative properties in terms of teachers' willingness to quit their job. Teachers, and perhaps other workers as well, may have a sense of being "in it together" under conditions of high stress and high social support. Generally, conditions of stress tend to activate group identities as is suggested by social identity theory (Tajfel & Turner, 1986). For example, among employees whose organization undergoes a merger exercise, those who stick together have been found to enjoy higher levels of well-being and satisfaction (Terry, Callan, & Sartori, 1996). Another analogy comes from members of the military who report that they wish to remain with their units despite highly stressful, even life threatening, conditions (Bartone & Adler, 2000). Were they to leave their jobs, they would be leaving their coworkers to deal with the situation without them, perhaps even increasing the stress on their coworkers. This process may play a key role in keeping them on the job. Military policy on keeping units together seems to be geared towards taking advantage of this sense of duty to one's social unit that may come about through a combination of high levels of both stress and social support (Oliver, Harman, Hoover, Hayes, & Pandhi, 1999). This is

a potentially important and interesting phenomenon that should be further explored in future research. It suggests a previously unexplored function of social support in serving as a "glue" in keeping social units together under stress.

While existing evidence on the buffer hypothesis of social support has been mixed, especially in the teaching profession (Pomaki & Anagnostopoulou, 2003), the present findings are consistent with both a meta-analysis (Viswesvaran, Sanchez, & Fisher, 1999) and a number of studies that have found support for this effect (Bakker, Demerouti, & Euwema, 2005; Russell, Altmaier, & van Velzen, 1987). There are several possible reasons the buffering effect has not been found consistently within the work context. According to the matching hypothesis (Cohen & Wills, 1985), for buffering to occur, social support offered must be relevant to the stressor one is coping with. In other words, social support must offer the person what is needed to deal with the stressor successfully and has to come from a source that can be helpful with that particular stressor.

With regard to the type of support, Cohen and Wills (1985) suggested that emotional support is likely to be relevant for a broader range of stressful events compared to instrumental support, which might be effective only in relation to specific situations. In the present study, we focused primarily on perceptions of emotional support: teachers who felt respected by their fellow teachers and who considered their work environment as collegial benefited from those perceptions. We also included instrumental support (namely "I can ask my colleagues for help when I have problems at work"). It is possible that social support helps teachers not feel isolated. Also, feeling valued and respected at an early career stage as well as getting the right kind of assistance provides teachers with much needed confidence or information. This way, teachers can better battle high workloads, pressures and multiple tasks. New teachers face many challenges: developing curricula for the first time, organizing classrooms, implementing effective classroom management, learning the organizational structure of the school, and learning to work with new colleagues, students and parents (Kent, 2000). Under such challenges, teachers may feel uncertain about their performance, or about the expectations of the job and emotional or instrumental social support may provide them with necessary reassurance.

With regard to the source of support, Blau (1981) has argued that in order for social support to be effective, the support must be provided by a source different than the source in which the stress originates. In teaching, high workloads do not usually stem from colleagues. In addition, teachers are in frequent contact with colleagues, and this may be especially true in the beginning of a teacher's career whereby colleagues can be an important source of information and assistance. For those reasons, colleague support might be most influential among new teachers and would be expected to be more protective against job stressors such as workload.

Another reason for the inconsistent support of the buffer hypothesis could be that teachers and other employees in the beginning of their careers are particularly vulnerable to stressful work environments and buffer effects are thus stronger. Those specific buffer effects may decrease in significance as employees gain more experience and are more able to utilize various resources and coping strategies to deal with job demands (Bradley, 2007). This has been described as the adjustment model to stress (Frese & Zapf, 1988). Most studies, however, include both beginning and experienced workers in their samples, which may have limited the potency of social support as a buffer factor.

Finally, taking into consideration Houkes et al.'s (2001) suggestion regarding specificity, the present study delineated specific variables as opposed to measuring general categories of

variables. In other words, instead of measuring such variables as “job demands” and “social support” we focused on a specific type of demand (i.e., workload) and a specific type of support (i.e., colleague support) that we expected to be particularly important. In so doing, we may have avoided the conceptual overlap that otherwise arises when measuring broadly defined variables.

We also found that job satisfaction fully mediated the effect of social support on turnover intention. To our knowledge, our study is a first attempt to integrate the mediating role of job satisfaction as suggested by the Price and Mueller's (1981) turnover model into the JD-R model's work disengagement hypothesis. Future research should examine the role that job satisfaction plays in other job resources described by the JD-R model and in other occupations in relation to turnover intention. Also, it would be interesting to examine whether job satisfaction plays a role in the exhaustion pathway by mediating the relationship between job demands and stress-related outcomes.

Future longitudinal studies can be designed to rule out the possibility that individuals with an intention to leave the job invest less time in their relationships with their colleagues, and that this tendency explains the strong correlation between colleague social support and turnover intention. However, to date, existing longitudinal studies seem to yield identical results as cross-sectional studies do and show that it is job resources that lead to outcomes and not vice versa (ter Doest & de Jonge, 2006). In addition, future research should include alternate methods of assessing aspects of social support and workload. For example, group ratings of social support and teacher ratings of support offered could be examined, as well as objective charts of workload and tasks assigned. These measures can supplement the use of self-report data, which have been suggested as a possible cause of common method variance (but see, Spector, 2006). Finally, larger studies could examine processes that lead to turnover intention in other groups, such as male teachers and teachers in other educational settings or occupations in which turnover rates increase with job tenure.

4.1. Implications

There are several implications that arise as a result of the present study's findings. First and foremost, the salient importance of colleague social support as a resource and protective factor for new teachers has been illustrated. Social support from colleagues influences intention to turnover and this intention has been shown to be the strongest predictor of attrition (Griffeth et al., 2000). These linkages support local education services and districts implementing mentorship programs to inhibit further loss of new teachers (Eby, Lockwood, & Butts, 2007; Scherff, 2008). Mentors can help new teachers by providing guidance on how to navigate for the first time teaching and non-teaching tasks and also help with career and personal development (McCaughy et al., 2005). Given the high attrition rates among new teachers (Bobbitt, Leich, Whitener, & Lynch, 1994), it is necessary to recognize this issue as particularly salient in beginning teachers and aim such programs accordingly.

There has been a recent increase in efforts to implement mentorship programs in school systems internationally as part of national or state-based education strategies (for reviews of mentorship programs, see Ehrlich, Hansford, & Tennent, 2004; Ganser, 2005; Howe, 2006). For example, in Australia and Europe as well as Taiwan and Japan, there has been a growing emphasis on giving teachers more time and resources for mentoring and other collaborative work (Weiss, 1999).

Results suggest that the assignment of an appropriate on-site support teacher has acted as the most powerful and cost-efficient intervention in beginning teachers (Huling-Austin, 1986; Smith & Ingersoll, 2004). A review of the international literature on

teacher induction programs indicated that mentoring is one effective strategy to reduce teacher turnover, along with teacher acculturation, availability of internships and reduction of teaching loads (Howe, 2006).

Recent research has tried to explore the conditions under which mentorship programs can be most effective. For example, recent work indicates that utilizing school district–university partnerships can be an effective way to implement mentorship programs (Davis & Higdon, 2008) or that matching teachers with the same-grade level mentor is most effective in reducing turnover intentions (Parker, Ndoye, & Imig, 2009). Other research shows that mentorship programs should be embedded in wider professional learning activities (Long, 2009). Despite the intensive and valuable work done so far about understanding the elements of a successful mentorship program, more work is needed to explore the most effective ways of mentoring: What should the mentor's qualifications be? What are the most effective principles of a mentorship program, what is the optimal duration or mode of communication? Finally, given the present study's results, it is important to further understand how to best advance and optimize perceptions of social support from colleagues in such programs.

Given the potential of colleague social support to buffer the negative effects of workload on turnover intention in beginning teachers, as was demonstrated in this study, school districts may need to implement other strategies, in addition to formal mentorship programs, to enhance perceptions of social support. These strategies will need to facilitate beginning teachers' interactions with colleagues by allowing more time and opportunity for such interactions. Through informal communications, beginning teachers may be able to create needed professional contacts with colleagues that can result in perceptions of value, esteem and support. Examples of strategies can include changes to the physical environment of the school to allow for more frequent interactions among teachers, restructuring of the workload, teaching and breaks so that time can be set aside for social interactions, or informal activities that can help beginning teachers better integrate.

In conclusion, the present study suggests that social support from colleagues is a key factor in new teachers' intention to turnover in three ways: First, teachers may wish to leave the school when they do not receive adequate support and do not feel respected by their colleagues. Second, teachers who perceived their colleagues to be unsupportive were more likely to be dissatisfied with their job, which led them to think about leaving. Third, teachers who did not feel supported were also more likely to contemplate quitting when working under higher levels of workload, compared with teachers who found their colleagues more supportive. Practically, what the present findings may indicate is that implementing programs in the workplace that foster effective and supportive colleague interactions would be a cost-effective way to retain those new teachers who would otherwise show an increasing desire to leave their profession when the going gets tough.

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