



Social Support and Supervisory Quality Interventions in the Workplace: A Stakeholder-Centered Best-Evidence Synthesis of Systematic Reviews on Work Outcomes

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Abstract

Background: There is controversy surrounding the impact of workplace interventions aimed at improving social support and supervisory quality on absenteeism, productivity and financial outcomes.

Objective: To determine the value of social support interventions for work outcomes.

Methods: Databases were searched for systematic reviews between 2000 and 2012 to complete a synthesis of systematic reviews guided by the PRISMA statement and the IOM guidelines for systematic reviews. Assessment of articles for inclusion and methodological quality was conducted independently by at least two researchers, with differences resolved by consensus.

Results: The search resulted in 3363 titles of which 3248 were excluded following title/abstract review, leaving 115 articles that were retrieved and underwent full article review. 10 articles met the set inclusion criteria, with 7 focusing on social support, 2 on supervisory quality and 1 on both. We found moderate and limited evidence, respectively, that social support and supervisory quality interventions positively impact workplace outcomes.

Conclusion: There is moderate evidence that social support and limited evidence that supervisory quality interventions have a positive effect on work outcomes.

Keywords: Social support; Efficiency; Absenteeism; Workplace; Outcome assessment (health care)

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Introduction

Occupational health and well-being are fundamental facets of a healthy society. Work is the primary human activity and many working individuals spend more time at work than in any other activity. Maintaining worker health and reducing unnecessary interruptions in work participation contribute to the economic health and well-being of workers, employers and society at large.¹ In recognition of work's important contribution to overall human health, researchers and practitioners have investigated and identified both risk and protective factors and their impact on work outcomes.² The value of work-related interventions as contributors to positive workplace results has also been investigated.^{3,4} As a result, a growing body of primary studies and an increasing number of systematic reviews have focused on factors associated with beneficial work outcomes that are related to specific health conditions (*eg*, upper limb disorders⁵ or work-related stress⁶) and/or a broader range of health conditions (*eg*, musculoskeletal health conditions⁷ or mental health⁸).

The present review reports on the social support and supervisory quality components of a larger synthesis appraising workplace interventions that address modifiable risk factors for work absence. In earlier work, our research team established an Academic Community Partnership (ACP) with two occupational health and safety organizations and a public trust (managing benefits for health employees). The ACP engaged in a collaborative process to develop a research agenda and pilot-test academic and stakeholder work processes within a knowledge translation Web site called the Health and Work Productivity Portal (www.healthandworkproductivity.org). The ACP first conducted a synthesis to identify which risk factors, across

health conditions, increased the risk of work absence, or impacted performance, productivity or financial outcomes. In the first review, White, *et al*,² (2013) found several modifiable workplace factors that were relevant to two or more health conditions. These identified factors included lack of social support, lack of supervisory support, physical and psychological demands, job strain, low job control and satisfaction, and poor leadership quality.² Further details about the findings from the first synthesis and the ACP can be found in three publications reporting on modifiable worker factors,⁹ modifiable workplace factors,² and non-modifiable worker and workplace factors¹⁰.

As a follow-up to the first synthesis, members of the ACP decided to seek funding to conduct a second synthesis to identify workplace interventions that address the risk factors found in the first study. Once competitive grant funding was secured, additional researchers and stakeholders were invited to participate in the synthesis and as part of pilot-testing the Health and Work Productivity Web portal.

The purpose of the current paper is to report on the state of research regarding interventions that target the key modifiable workplace factors of social support and improved supervisory quality. For the purposes of our review we determined workplace social support to be any intervention intended to directly (*eg*, supportive counselling) or indirectly (*eg*, supportive workplace policies) support the worker. Similarly, for improved supervisory quality, we determined this concept to include any intervention intended to directly (*eg*, supervisory training) or indirectly (*eg*, improved workplace structure) improve the quality of workplace supervision. Our specific research question was: what level of evidence is available that social support and/or supervisory quality interventions impact work outcomes includ-

ing absenteeism, financial outcomes, and/or productivity? It should be noted that we did not aim at assessing the effectiveness of the interventions on the health of the worker or other clinical outcomes.

Materials and Methods

The present review was completed by the ACP, with researchers and stakeholders working together, through collaboration and consultation, to complete the synthesis process. Specifically, the team worked together using in-person or virtual meetings as well as e-mail to develop all aspects of this review, including the purpose, search terms, inclusion/exclusion criteria, data abstraction processes, results, and preparation of manuscripts. In particular, attention was paid to ensure that the data collected and analyzed had pragmatic value from the perspective of workplace stakeholders represented on the team. To assess workplace value, stakeholders provided feedback to a series of questions regarding relevance of the material (*eg*, “This review will save time spent searching for information relevant to my organization;” ranked from “definitely yes” to “definitely no”).

We followed the PRISMA Statement¹¹ and the Institute of Medicine's Standards for Systematic Reviews¹². Our process involved: a) a search strategy developed by researchers and stakeholders, with consultation from two library information specialists and an external review librarian; b) a pilot testing of the search strategies and review of results to refine search terms and validate them with ACP members for relevance and comprehensiveness; c) an assessment of article relevance from titles and abstracts using two or more independent reviewers; d) an in-depth review of selected and obtained full-text articles using two or more independent reviewers; e) a pilot-testing to check the data abstrac-

TAKE-HOME MESSAGE

- Social support interventions are likely to have a positive impact on work outcomes, regardless of the specific intervention initiated.
- Workplace stakeholders would be well-advised to spend organizational time and resources on developing meaningful, contextually appropriate, and resource-efficient social support interventions for the workplace.
- Interventions to improve supervisory quality may have a positive impact of work outcomes. However, at this time the evidence is not strong enough to conclusively recommend specific supervisory quality interventions that reduce absence, increase productivity or are cost-effective.

tion process for relevance and comprehensiveness based on review and feedback of stakeholders.

Search Strategy

In order to ensure validity and comprehensiveness of our search, the initial search strategy was developed by the ACP team in collaboration with a library information specialist and peer-reviewed by an additional information specialist. External librarians also reviewed the MeSH terms to ensure sensitivity and specificity. Databases searched for suitable systematic reviews included Medline, the Cochrane Database of Systematic Reviews, CINAHL, PsycINFO, EMBASE, DARE, and TRIP. We also searched for grey literature in *health-evidence.ca*, National Rehabilitation Information Center (NARIC); Rehab+, and Institute for Work and Health (IWH). Finally, we completed hand searches of reference lists and asked members of the research team to review their personal collection of references.

Inclusion/Exclusion Criteria

Our inclusion criteria covered systematic reviews of workplace interventions (conducted in, or managed by, the workplace)

For more information on search strategy see the online version of the article.

Table 1: Methodological Quality Review (Questions and Weighting)

Common Criteria for both Qualitative and Quantitative Methodological Review		
Question	Answer Choice	Score
Did the authors have a clearly focused question?	Yes	1
	No	0
Were inclusion/exclusion criteria used?	Yes	1
	No	0
	Not specified	0
Did the authors describe a search strategy that was comprehensive and reproducible?	Yes	1
	No	0
	Not specified	0
Please click the search strategies used	(selected/unselected)	a. Five or more databases: 2 b. Two to four databases: 1 c. One database: 0
Did search strategy cover an adequate number of years? (10+ years)	Yes	1
	No	0
Does the data support the author's interpretation?	Yes, mostly	1
	No	0
Are there any concerns related to COI?	Yes	0
	No	1
Specific Criteria Quantitative Methodological Quality		
Question	Answer Choice	Score
Did the review assess the methodological quality of the primary studies?	Yes	1
	No	0
What methods did the authors use to combine or compare results across studies?	Meta-analyses	2
	Descriptive + quality weight	2
	Descriptive no weight	1
	Other	0
How strong was the level of evidence supporting the strongest conclusions of the study?	Level 1 (RCT)	2
	Level 2 (non-random)	1
	Level 3 (uncontrolled)	0
	Unclear	0
		Total score possible: 13

for work-focused, adult populations (15+ years and working or attempting to work). We initiated the search in September 2012 and review articles published between January 1, 2000 and September 30, 2012 were included. We limited the search date range to reduce potential overlap of primary articles between older systematic reviews and current systematic reviews. For the full review, both quantitative (including meta-analysis) and qualitative systematic reviews were considered. All articles were required to specifically address the work-related outcomes of workplace absenteeism, productivity, and/or cost (*ie*, retraining, medical cost *etc*, as identified by the respective articles). For the larger synthesis, articles must have addressed one or more modifiable risk factors for work absence identified in the prior synthesis.² For the purpose of this report, which is a subset of the larger synthesis, articles must have included workplace interventions specifically targeting social support or supervisory quality. We excluded reviews addressing severe or rare physical or mental conditions, or highly specific employee groups, which may be difficult to generalize to other populations (*eg*, surgeons). For each review under consideration, two reviewers from the team independently evaluated full-text articles against these criteria, with any disagreements resolved through consensus procedures.

Quality Assessment

Quality assessment for each included review was completed using a form developed for this study based on a modified version of the EBM Glasgow Checklist for Systematic Reviews.¹³ A team consensus process was used for the review and refinement of the quality assessment form as well as to address information needs of stakeholders for inclusion on the Health and Work Productivity Portal. Non-scored questions included identification of

strengths and weaknesses of the research design, scientific key messages, implementation recommendations, and relevance to small employers. In total, 18 questions were included as part of the methodological review and translation process, with numerical quality scores based on 10 quality assessment questions. Three questions were assigned weighted scores to a maximum of 2 points (Table 1) resulting in a total possible score of 13 points. The overall numerical quality score was subsequently translated into the percent of the total possible quality rating, with “high-quality” reviews requiring a score of 85% or over, “medium-quality” from 75% to 84%, and “low-quality” from 50% to 74%. Any study with less than 50% quality was removed from the data (Table 2).

Data Abstraction

Development and review of data abstraction forms were created by research team members in collaboration with workplace stakeholder members. Categories for data abstraction were considered by the ACP, with initial categories based upon previously identified risk factors for workplace absence. To assess comprehensiveness and relevance a selection of 10 systematic reviews were abstracted by two research assistants. Stakeholders reviewed these articles and highlighted content they felt was relevant by responding to a short stakeholder question (*eg*, “Overall, this review is relevant to my organization,” answered from “definitely no” to “definitely yes”). Using e-mail and meetings, members of ACP considered and further refined the abstraction table.

Results

The comprehensive search resulted in 3363 titles (after duplicates were removed), which were uploaded into RefWorks® for review. Relevance was assessed by an ini-

Table 2: Characteristics of Relevant Studies Included in Synthesis

Citation	Quality Score	Total Studies Included	Relevant Studies	Occupation/Industry
Bond, 2006	77% (Medium)	6 studies	4	Not Reported
Brewer, 2007	100% (High)	46	46	Office, researchers, construction workers, insurance office, national laboratory (professional/scientific/technical services), nurses and health care specialists, university, postal, engineers, telemarketers, reservation agents, revenue services, city administration, nursing aides (geriatric hospital), shipyard (assembly and boiler shop), office, auto manufacturing, driver (trucking), supermarket and merchandise, factories (metal/construction/ceramic/wood workers), timber (fellers etc), electric company, hospital, home care workers, airport, blue collar, white collar, mining, sanitation, police, food service companies, nursing schools, maintenance/repair, food processing plant, hospital cleaning staff, copper-smelter workers, software workers
Cancelliere, 2011	100% (High)	14	14	Not Reported
Carroll, 2010	92% (High)	13 (12 articles)	13	Not Reported
Corbière, 2009	92% (High)	24	11	Staff working with developmental disabilities, customer service representatives, industrial employees, caregivers, nurses, post office employees, dentists, orderlies, health care workers, pharmaceutical company employees; health care, customer services, municipal employees, industrial
Dick, 2011	92% (High)	28	7	Not Reported
Franche, 2005	85% (High)	10	10	Not Reported
Pearson, 2007	77% (Medium)	44	2	Nurses
Richardson, 2008	92% (High)	36 studies (38 articles)	11 articles	Office workers, teachers, nurses, hospital staff, factory workers, maintenance personnel, social services staff
Shaw, 2008	54% (Low)	22 (51 articles)	21	Hospital workers, airline workers, university workers, federal government workers, glass workers, bank employees, and others; Health care, aviation, education, government, and others

tial title review conducted by two team members, with 115 articles that were selected for full-text review. Of the 115 full-text articles that were reviewed, 48 were excluded because they did not address

work absence, productivity or financial outcomes; 36 were excluded because the interventions did not have a social support or supervisory quality component; and 21 were excluded for other reasons such as

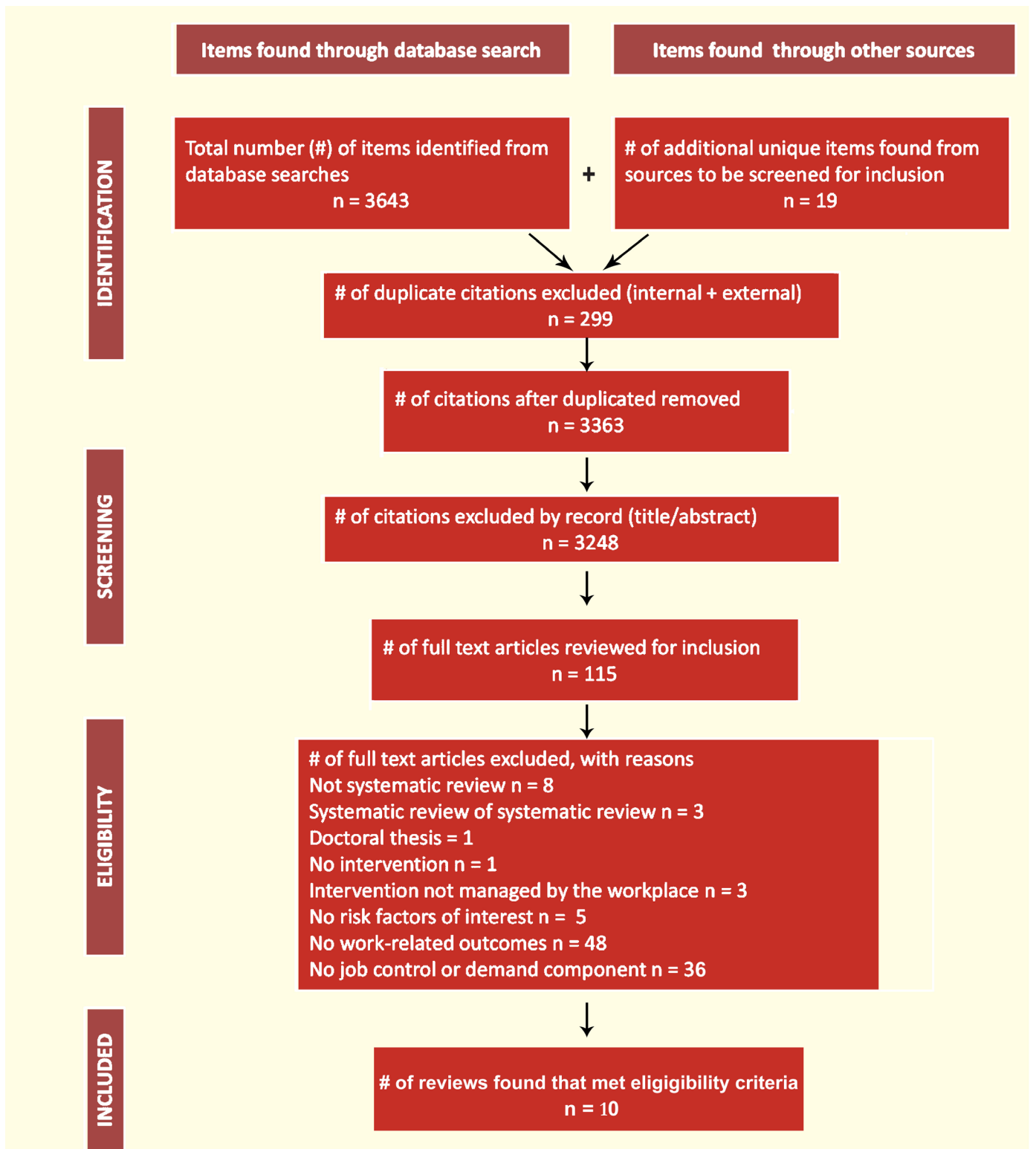


Figure 1: PRISMA Diagram

targeting factors not being managed by the workplace (Fig 1). In total, 10 high-quality systematic reviews were found that examined social support or supervisory quality interventions and their effects on outcomes related to productivity, financial outcomes, or absenteeism. This paper describes the results and interpretation for the social support (8 reviews) and supervisory quality factors (3 reviews).

Data Treatment

In order to most effectively interpret our data, the included reviews were ranked for quality, categorized according to our previously determined risk factors,² and then evaluated for level of evidence as reported by the author(s) of the respective reviews. In cases where the author(s) did not state a specific level of evidence but suggested a positive outcome or outcomes, a ranking of “limited” was assigned.

Social Support

High-Quality Reviews

Moderate Evidence: Cancelliere, *et al*,³ (2011) reviewed available literature regarding the benefit of health promotion programs on presenteeism (*ie*, non-productive work attendance). These authors searched from 1990 to 2010 using database searches, reference list review, hand-searching of key journals, and expert contacts. They included original studies that evaluated the workplace impacts of workplace health promotion programs. Only studies that were ranked “strong” or “moderate” were included and further, studies were required to include original research that involved 20 or more adult (18 years of age and older) participants. Following their search, 14 studies were included, with four listed as “strong” and 10 listed as “moderate.” According to these authors, successful interventions included organizational leadership, health risk screening,

individually tailored programs, and supportive workplace culture. From the collection of studies reviewed, only a single primary study was relevant to our synthesis; a randomized controlled trial (RCT) was determined to provide moderate evidence that a telephone outreach program for depressed workers was among those interventions considered effective at improving productivity.

Carroll, *et al*,⁴ (2010) completed a review looking at return to work rates for workplace interventions to improve outcomes for employees with back pain. The selected studies for inclusion had to include employees currently at work and involved in an intervention provided by the workplace. Only controlled, longitudinal studies were permitted for inclusion and articles were identified via database search, reference list searches and expert consultation. The authors identified 12 relevant articles—nine that considered effectiveness generally and three that specifically addressed cost-effectiveness. Of these 12 articles, a group of four articles (three RCTs and one non-RCT) was determined to have relevance for workplace social support interventions. Three of four trials that involved cooperative meetings among the employee, employer and occupational health practitioner found that those undergoing the intervention returned to work significantly faster than any of the control groups. The authors concluded that interventions that included structured consultations involving the employee, workplace and health practitioners as well as specific agreements around work modifications/accommodations improved return to work rates for employees on long-term sick leave due to back pain, whereas interventions without these components were not as effective.

Franche, *et al*,¹⁴ (2005) completed a systematic review looking at the effectiveness of workplace-based return to work

interventions. They included literature published from January 1990 to December 2003 that was available through electronic database searches, review of peer-reviewed working papers, and a review of personal libraries. These authors included articles considering interventions that provided early contact with the worker by the workplace, work accommodation offers, contact between the health care provider and the workplace, ergonomic work site visits, supernumerary replacements, and return-to-work coordination. The results of this review provided moderate evidence that early contact with the worker resulted in reduced work disability duration (seven studies) and net cost savings (four studies). Similarly, strong evidence was found that contact between the health care provider and the workplace was linked with reduced disability duration (six studies), and moderate evidence was found for positive impacts on financial outcomes (four studies).

Limited Evidence: Corbière, Shen, Rouleau, and Dewa⁸ (2009) completed a systematic review of mental health interventions and reviewed literature published between 2001 and 2006. They searched six databases and ultimately included 24 papers in their review. To be included, studies must have included interventions intended to promote employee health and well-being, be prevention-orientated, and be available to all employees or employees at risk of mental health problems. The authors stated that 42% of the studies reported positive work outcomes, although only half of these specifically addressed absenteeism.

Dick, *et al*,⁵ (2011) selected RCTs evaluating the value of interventions intended to treat musculoskeletal disorders of the upper limbs. They completed an electronic database search to identify seven selected papers that specifically addressed workplace interventions for carpal tunnel syn-

drome. These authors found a single cohort study that met the criteria and, based on this single study, they concluded that the evidence for having supportive employers was very limited in terms of work outcomes after surgery for carpal tunnel syndrome.

No Evidence: Richardson and Rothstein¹⁵ (2008) completed a meta-analysis of occupational stress management intervention programs. Their intent was to build on van der Klink, *et al*'s review⁶ (2001), so the original studies from this review were obtained as a starting point. From there they completed an electronic database search, a network search, and a search of government-sponsored Web sites; they also attended and reviewed a related conference and sought expert advice from colleagues. To be included, the study must have been a randomly-assigned experimental evaluation of a stress management intervention and include working population participants. Using the 55 obtained articles, the authors coded the studies according to intervention types, including cognitive-behavioral, relaxation, organizational, multimodal, and alternative. In this case, the five studies coded as organizational were primarily social support interventions (four studies) with the fifth study described as an innovation promotion program (*eg*, goal setting, participatory action, *etc*). According to the meta-analysis completed, such organizational/social support interventions resulted in limited or no effect.

Medium-Quality Reviews

Moderate Evidence: Bond, *et al*,¹⁶ (2006) conducted a series of meta-analyses looking at workplace demand, control, support, relationships, role and change. They completed computer-driven database searches, manual searches, examination of reference lists, and contacting of experts in the field in order to reveal rele-

Table 3: Results table for Social Support

Population	Type of intervention	Return to work/sick leave			Work Productivity		
		Effect (+/-)	Level of evidence ^a	Subgroup	Effect (+/-)	Level of evidence	Subgroup
At work	Simple	0*	Inconclusive (HQ ^c) ^{5**} included both at and off work	MSD ^d specific to neck pain	+	Limited (MQ ^c) ¹⁶	Variety of occupations
	Complex	-	No effect (HQ) ¹⁵				
Off work ^b		+	Strong (HQ) ⁴ – 7/10 studies	Low back pain (7/9) other two were MSD or variety of reason	+	Moderate (HQ) ³	Depression
	Simple	+ ^e	Moderate (HQ) ¹⁴	MSD or chronic pain related condition			
	Complex	+	Moderate (LQ) ¹⁷				
			—	—	—	—	—

^a Based on authors' and reviewers' interpretation of results and recommendations

^b Based on workers who are on sick leave / disability at baseline

^c Systematic review quality: high-quality (HQ), moderate-quality (MQ)

^d MSD: musculoskeletal disorder

^e Insufficient evidence to support effect beyond one year

* Reflects no effect

** "Simple" refers to an intervention with a single component; "Complex" interventions were those with more than a single component

vant articles. In their analysis of workplace support, they identified seven studies that looked at business outcomes. Specifically, two studies indicated there were “fairly large and significant” effects of social support on objective performance, three studies indicated a “small-to-medium and significant” effect for turnover intention, one study indicated a “small and significant” effect for absenteeism, and one study provided no effect for performance ratings. The authors concluded that there was consistent positive evidence that greater levels of social support led to better business outcomes.

With respect to the impact of work relationships, Bond, *et al.*,¹⁶ (2006) found 28 articles that linked work relationships to business outcomes. Twenty-four of the

28 reviewed articles linked work relationships to team performance and, overall, suggested a “small-to-medium and significant” level of evidence. Two articles linked work relationships with withdrawal behaviors and also suggested a “small-to-medium and significant” level of evidence. A single article was found for both absenteeism and turnover intention, and in both cases no meta-analytic estimate was provided due to the lack of studies. The conclusions drawn by the authors suggest that problematic relationships at work can result in withdrawal behaviors, poor team performance, absenteeism and turnover intention. They suggest that, although for each of these effects the estimates are small-to-medium, their economic impacts can be large.

Low-Quality Reviews

Moderate Evidence: Shaw, *et al*,¹⁷ (2008) completed a literature search to review articles from 1980 through 2007 that assessed the role of return-to-work coordinators in workplace disability prevention interventions. These authors searched two bibliographic databases and selected articles that reviewed interventions tied to the workplace and intended to reduce lost time due to physical health conditions. The studies were also required to include employees with work disability with absence duration of less than one year. The selection criteria resulted in a total of 51 articles that described 22 unique studies. According to the data selected, Shaw, *et al*,¹⁷ (2008) reported that rapport with workers, communication, and collaborative problem-solving were important aspects of the return-to-work process. Similarly, they reported that responding to individual worker needs and addressing the worker's concerns with interest and respect increases employee satisfaction with the return-to-work coordinator. The authors concluded that “return-to-work interventions including workplace coordination have shown moderate to large effects on disability outcomes, and that return-to-work coordination can involve multiple activities.”

Summary—Social Support

Considering social support interventions as they relate to work outcomes, our data provided three high-quality reviews with moderate evidence, two with limited evidence, and one with no evidence (Table 3). We also found one medium-quality review with moderate evidence and one low-quality review with moderate evidence. Using our pre-determined criteria for degree of evidence, we determined that there is moderate evidence that social support interventions have a positive effect on work outcomes (five reviews with moderate evi-

Table 4: Level of evidentiary support across systematic reviews. For syntheses with limited number of studies, we looked at the high-, moderate-, low-quality reviews and the original methodological review tool for making conclusions about strength of evidence.

STRONG: (over 70% effect positive—eg 5/7 positive) AND
A minimum of 3 strong evidence
A minimum of 2 strong AND 2 moderate evidence

MODERATE: (60%–69% effect positive—eg 3/5 positive) AND
A minimum of 1 strong AND 2 moderate evidence
A minimum of 3 moderate evidence

LIMITED: (50%–59% effect positive) AND
A minimum of 1 moderate and 2 weak/limited evidence
A minimum of 3 weak/limited evidence

INCONSISTENT: (50% or less of a positive effect)
Does not meet the above criteria

INSUFFICIENT: Information is not inconsistent but does not meet the criteria for weak evidence

dence [three high-quality; one medium-quality; one low-quality] plus two reviews with limited evidence [both high-quality]; seven out of eight studies were positive giving a total of 87.5% [60%–74% required for moderate]; Table 4).

Supervisory Quality

High-Quality Reviews

Strong Evidence: Cancelliere, *et al*,³ (2011) as described above, contributed findings on both social support and improved supervisory quality. With respect to supervisory interventions, these authors found strong evidence for the positive effects of providing supervisors with mental health promotion education. Specifically, these authors referenced a RCT that considered the effects of job stress education with supervisors and its impact on psychological distress and job performance among those they supervised.

Moderate Evidence: Brewer, *et al*,⁷ (2007) completed a systematic review with the primary intent of determining whether

Table 5: Results for Supervisory Support and Quality Leadership

Type of intervention	Return to work/sick leave			Work Productivity			Financial Outcomes			
	Effect (+/-)	Level of evidence ^a	Sub-group	Effect (+/-)	Level of evidence	Subgroup	Effect (+/-)	Level of evidence	Subgroup	
At work	Simple	+	Limited (MQ) ^c ¹⁸	Nurses	+	Strong-moderate (HQ) ³	Variety of health conditions including low back pain, neck pain, mental health			
	Complex									
Off work ^b	Simple							+	Moderate (HQ) ⁷	Mostly office environments and data entry jobs
	Complex									

^a Based on authors' and reviewers' interpretation of results and recommendations

^b Based on workers who are on sick leave/disability at baseline

^c Systematic review quality: high-quality (HQ), moderate-quality (MQ)

the literature supported the value of injury prevention and control programs as contributing to reduced injury/illnesses and/or workers' compensation claims. In searching the literature, these authors selected articles based on relevance and methodological quality, from which data were extracted and synthesized. Using this process, they revealed 53 articles relevant to their search of which, nine were high-quality and 44 additional articles were medium-quality. These 53 articles were then subsequently coded into respective intervention categories, including regulatory programs, policy (employer-level), return-to-work/disability management, data entry (office), arm support (office), workstation adjustment alone, workstation adjustment and training, training (manual lifting), supervisor practices, ergonomic training, and other (only a single available study per intervention, *eg*, skin care training). With respect to supervisory practices, Brewer, *et al*, found two relevant medium-

quality studies and determined that there was a moderate level of evidence that programs to improve the quality of supervisory practice can positively affect worker injuries and illnesses.

Limited Evidence: Pearson, *et al*,¹⁸ (2007) completed a comprehensive systematic review that looked at the impact of nursing leadership on health work environments. They searched the English language literature for quantitative and qualitative papers that considered nursing leadership and work environments, including studies that considered those in, and those affected by (staff and patients), leadership positions. The authors were specifically interested in revealing articles that looked at nursing staff outcomes, patient outcomes and system outcomes. Although Pearson, *et al*,¹⁸ (2007) outlined nursing staff outcomes as one of their primary outcomes of interest, much of the data provided for nursing staff was linked to personal fulfillment variables such as job satisfaction and

meaningfulness. No specific conclusions regarding absenteeism, productivity, or financial outcomes were clearly drawn by these authors. However, from a detailed review of their description of included studies, there appeared to be no evidence for reduced absenteeism (two studies with no positive findings), but positive evidence for improved productivity (four studies with positive findings).

Summary—Supervisory Quality

Our synthesis of interventions to improve supervisory quality as they related to work-outcomes included three high-quality reviews: one with strong evidence, one with moderate evidence, and one with limited evidence (Table 5). Using our pre-determined criteria for degree of evidence, we determined that there is limited evidence that supervisory quality interventions have a positive effect on work outcomes (three high-quality reviews, one strong evidence, one moderate evidence and one limited evidence; three out of three studies were positive [50%–59% required for weak]; Table 4).

Discussion

Despite theoretical recognition that social support and supervisory quality are important determinants of employee health and well-being, which are presumably also related to business outcomes, research specifically linking the value of social support and improved supervisory quality interventions to work outcomes is limited. Furthermore, workplace stakeholders report that their own ability to interpret, access and evaluate research literature is limited, such that they require clear and interpretable data providing direct advice about the value of particular workplace interventions. To address this issue, the present study was intended to provide a best-evidence synthesis of systematic re-

views on both social support and improved supervisory quality as they relate directly to work outcomes, including reduced absenteeism, increased productivity, and decreased cost. It was our goal to provide a broad summary of the research literature on work outcomes and social support/supervisory quality so that workplace stakeholders can make more confident decisions regarding the value of human and financial investment into social support and improved supervisory quality interventions.

Social support and improved supervisory quality are often discussed as important contributors to overall workplace health and well-being. The generally accepted value of these workplace factors is evidenced by their inclusion in well-tested models of workplace health (*eg*, Karasek¹⁹). However, from the perspective of workplace stakeholders, without measured outcome data as additional support, these models do not provide enough clear evidence that social support and supervisory quality intervention are worth the allocation of precious organizational resources. As a result, this present best-evidence synthesis was completed in order to provide clear and easily interpretable evidence, directed to workplace stakeholders, evaluating the value of social support and supervisory interventions with respect to work outcome variables important from a business perspective. According to our best-evidence synthesis of systematic reviews, moderate evidence for the organizational value of social support interventions was available, and weak evidence for the organizational value of supervisory quality interventions is available at this time.

Given the high-level of our best-evidence synthesis, it was not possible to identify specific social support and/or supervisory interventions that could result in direct and positive work outcomes in the workplace. The types of interventions

covered in our included reviews ranged from co-worker support programs to supportive telephone-based interventions and yet, despite the variability in intervention types, nearly all systematic reviews that were included revealed positive outcomes as a result of social support interventions. Based on this finding, our results suggest that social support interventions are likely to have a positive impact on work outcomes, regardless of the specific intervention initiated. We propose that workplace stakeholders would be well-advised to spend organizational time and resources on developing meaningful, contextually appropriate, and resource-efficient social support interventions for the workplace.

In contrast to social support interventions, the evidence for supervisory interventions was not as easily interpreted for use in the workplace. Although three high-quality systematic reviews provided evidence of the positive value of supervisory interventions as they relate to work outcomes, the level of evidence provided by the respective studies was variable with one study finding strong evidence, one moderate and one limited. In addition, for the one review that listed strong evidence, the authors were only referencing a single, albeit high-quality, RCT. Therefore, our best-evidence synthesis provides an overall suggestion that interventions to improve supervisory quality may have a positive impact of work outcomes. However, at this time the evidence is not strong enough to conclusively recommend specific supervisory quality interventions that reduce absence, increase productivity or are cost-effective. Future research linking supervisory quality interventions directly to work outcomes will be necessary to provide more conclusive recommendations.

According to Karasek and Theorell's Job-Demand-Control-Support Model²⁰ of workplace health, demands, control and social support interact to increase or de-

crease overall job strain. In the original version of this model, Karasek proposed that workplace strain could be predicted from occupational environments with high levels of psychological job demands and low levels of personal control the employee holds over the respective job tasks, in terms of how and when they are completed.^{19,21,22} In addition to the negative outcomes of high demands and low control, another research²³ suggested that situations of low demands and low control may also create a negative workplace environment by reducing motivation and engagement and increasing feelings of resignation towards the workplace. In contrast, the same authors suggested that positive outcomes could be found in workplace environments with increased demands, but a suitable level of accompanying control, potentially leading employees to experience an increased desire to learn, improved motivation, and augmented engagement. Despite the popularity of the original Job-Demand-Control Model, it was subject to criticism, including a lack of recognition for the importance of social support as a predictor in workplace well-being.²⁴ In response to this criticism, Karasek and Theorell²³ (1992) worked together to revise the original model, and eventually created the Job-Demand-Control-Social Support Model. According to the revised version of this popular model, the greatest levels of job strain would occur in situations of high demands, low control, and low social support. Both social support and supervisory quality are important and interactive components in understanding and employing this model.

Supervisors often have significant influence with respect to the organization of work, which affects job demands and employee control over job tasks. More frequently, they have a direct influence on the quality and quantity of social support available to the employees they supervise.

For more information on job demand see <http://www.theijoem.com/ijoem/index.php/ijoem/article/view/553>



Therefore, a supervisor's leadership style can be a contributor to occupational health in its own right, and can also create healthier workplaces through directed efforts at increasing co-worker social support. Our present results provide good evidence for the value of social support, either through supervisory support/quality or other means, as a contributor to overall workplace health, and specifically workplace outcomes. In particular, interventions that include early contact with workers on leave for disability,³ structured consultations involving the employee, and specific agreements around work modifications⁴ are most likely to result in reduced absence and related costs. Interventions that educate supervisors about mental health, stress and job demands are also likely to have a positive effect on the outcomes of interest.¹⁶

We recommend in the future that primary studies more frequently consider variables that are of interest to employers and other stakeholders in order to increase the body of evidence available and to encourage implementation of effective workplace interventions. We further suggest that researchers consider explicating working assumptions linked to robust theoretical and empirical findings to better understand factors contributing to intervention successes and failures. In addition, in future research, the social support variable could be further unpacked and stratified to incorporate different types and levels of support, including organizational support, supervisory support and peer support to provide more precise intervention findings.

Limitations of the present study include the fact that our search was limited to systematic reviews published in English language and available on primarily English language databases. In addition, because our work was a best-evidence synthesis of systematic reviews, our conclusions are

limited by the quality of the systematic reviews we chose for our research, as well as by the primary studies included in the chosen systematic reviews. Our synthesis was focused on absence, productivity and financial outcomes, and should not be generalized to include the effectiveness of the interventions on overall employee health or other important disability outcomes. Finally, the interpretability of our results was somewhat limited by the variability of the types of interventions and work outcomes described, the lack of integration of theories and robust models, as well as by the limited number of systematic reviews specifically addressing the topics of social support and/or supervisory quality as they relate to work outcomes.

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