

The Initial Validation of the Support Mobilisation for Work Stressors Inventory.

Sandra A. Lawrence
Faculty of Business
Queensland University of Technology
Gardens Point, QLD 4000
Australia
Phone: 61-7-3138-7731
Fax: 61-7-3138-5054
sandra.lawrence@qut.edu.au

Peter J Jordan
Griffith Business School
Griffith University
Nathan, QLD 4111
Australia
Ph 37353717
Fax 37353887
Email Peter.Jordan@griffith.edu.au

Victor J. Callan
The University of Queensland
UQ Business School
Australia
Ph 61-7-3365-9009
Fax 61-7-3365-6988
Email V.Callan@business.uq.edu.au

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SUMMARY:

Support mobilisation has been largely overlooked in the occupational stress literature to the extent that there has been no comprehensive assessment of the mobilisation of support in response to work-related stressors. To address this gap in the literature, we developed and initially validated a multidimensional measure of support mobilisation that is applicable to workplace contexts. A series of three studies revealed that the Support Mobilisation for Work Stressors (SMWS) Inventory, adapted from the SAWS measure of perceived available support, showed evidence of reliability, construct validity and replication across samples, and criterion-related validity. The 12-item inventory assesses four supportive functions (emotional, informational, instrumental, appraisal). Respondents rate each item with reference to 3 sources of support (supervisor, work colleagues, non-work people). Thus, 12 distinct constructs are derived from the inventory: three sources of support and within each source, four distinct supportive functions. Limitations and potential uses in organisational psychology research are discussed.

The Initial Validation of the Support Mobilisation for Work Stressors Inventory

For decades, researchers have investigated the links between work stress, coping responses, and health and organisational outcomes (see Sutherland & Cooper, 2000). Coping is a process enacted by individuals to alleviate the effects of stress, which, in turn, has longer-term consequences (Lazarus & Folkman, 1984). Coping responses can range from intrapersonal ‘problem-focused’ strategies such as planful problem-solving, intrapersonal ‘emotion-focused’ strategies such as wishful thinking, to interpersonal behaviors such as support mobilisation (Folkman & Lazarus, 1985; Skinner, Edge, Altman, & Sherwood, 2003). Whilst employees use of intrapersonal coping strategies has been extensively researched (see Dewe, Cox, & Ferguson, 1996; Masel, Terry, & Gribble, 1996) and the conceptualisation and operationalisation of such strategies been thoroughly critiqued (e.g., Guppy, Edwards, Brough, Peters-Bean, Sale, & Short, 2004; Skinner et al., 2003), little attention has been paid to support mobilisation coping, conceptually, operationally or empirically.

This lack of attention is quite surprising given the associated social support literature. Social support, whether in the guise of social integration, social network structure, or relational support concepts such as perceived support availability or received support, has been extensively researched and critiqued (see reviews by Cohen and Wills, 1985; Schwarzer & Leppin, 1991; Winemiller, Mitchell, Sutcliff & Cline, 1993). Like the area of coping responses, the conceptualisation and operationalisation of social support has been inconsistent and complex (Lawrence, Gardner, & Callan, 2007; Schwarzer & Leppin, 1991).

The purpose of this paper is threefold. After a brief review of the literature, we integrate the coping and support literatures to conceptualise and operationalise work-related support mobilisation to reflect the multidimensional nature of the construct. Mobilizing support is thought to have a positive effect on adjustment to stress (Masel et al., 1996), but to date, researchers have not systematically examined the influence of mobilisation different supportive functions (e.g., emotional) from different sources of support (e.g., colleagues). After development of the new inventory, Support Mobilisation for Work Stressors (SMWS), we conduct a series of tests to gather initial evidence of its validation.

Conceptualisation of Social Support Mobilisation

In the literature, there is an inconsistent conceptualisation of support mobilisation (see reviews by Schwarzer & Leppin, 1991; Skinner et al., 2003). Support mobilisation can be categorized as one form of behavioural social support, support which is activated in order to deal with specific stressful situations (Schwarzer & Leppin, 1991). Although Eckenrode and Wethington (1990) argue broadly that support mobilisation can be both solicited or unsolicited by an individual, Cutrona, Suhr and MacFarlane (1990) argue for a more finely grained distinction which identifies a broad range of differing support seeking behaviours from direct complaint, to expressing doubt, and indirectly, via nonverbal emotional displays. It is the overt help-seeking component of support mobilisation that has been the focus in the stress and coping literature. Researchers such as Lazarus and Folkman (1984) consider help-seeking, that is, the planful seeking and utilisation of social support, to be a positive coping strategy employed by individuals in response to a specific stressful event.

In line with coping researchers (e.g., Gore, 1985; Lazarus & Folkman, 1984), we contend that support mobilisation is an active coping response to perceived organisational stressors. We similarly define support mobilisation as the extent to which an individual seeks and utilizes supportive transactions. However, utilizing the social support literature, we further argue that supportive transactions come from a variety of sources within a person’s social network and can serve different functions (House, 1981). Individuals can seek emotional (e.g., shows of concern or listening to the individual’s problems), informational

(e.g., the provision of advice); instrumental (e.g., the provision of active help with regards to aid in kind, money, labor, time or modifying the environment), or appraisal support (e.g., the provision of information relevant to self-evaluation, in the form of affirmation, feedback and social comparison) from sources such as their supervisor, colleagues or non-work sources, such as their partner, family, friends (House, 1981; Terry, Rawle, & Callan, 1995). Recent work by Lawrence et al. (2007), for example, has adopted and operationalized this multidimensional conceptualisation of support with regards to perceptions of support availability. Comparatively, support mobilisation is behavioural in nature and perceived available support, that is, the degree to which individuals perceive that they can rely on others for support, is cognitive in nature (Lawrence et al., 2007; Schwarzer & Leppin, 1991).

Whilst a functional view of support mobilisation has been tacitly acknowledged in the coping literature, it has not covered the range of supportive functions suggested by House (1981), a notable social support researcher, nor has it explicitly encompassed the dimension of different sources of support (e.g., Carver, Scheier, & Weintraub, 1989; Folkman & Lazarus, 1980; Wills & Shinar, 2000). Given the need for a comprehensive conceptualisation of support mobilisation, we argue that such a conceptualisation that is application to the workplace should adopt House's (1981) supportive function framework of four supportive functions (emotional, instrumental, informational, appraisal) and, in line with the occupational stress literature, should adopt the differentiation of at least three specific sources of support categories (supervisor, colleagues and non-work people [partner, family and friends]). Using the source of support framework (Cohen & McKay, 1984; Thoits, 1986), occupational stress researchers have previously found differential findings for different sources of social support (e.g., Lawrence et al., 2007; Terry et al., 1995).

We argue that our conceptualisation of support mobilisation provides an opportunity to expand on our theoretical understanding of the significance of both the source of support and particular supportive functions when investigating employees' support mobilisation behaviors. It will also have significant practitioner implications because from an intervention viewpoint, it is important to understand the circumstances under which individuals will actively solicit help in response to workplace problems.

Existing Measures of Support Mobilisation Applicable to the Work Context

The literature reveals some inconsistency in the operationalisation of the solicited support mobilisation construct. A review of the literature suggests only two primary approaches to the measurement of the construct. The first, which has not been widely used, is a measure constructed by Eckenrode (1983) which focuses on five event areas (neighbourhood, family relationships, health, work and finances) and asks respondents to count of the number of people who aided the respondent in each event area within the previous year. Thus, the support mobilisation measure represented the mean number of contacts per event. From the description alone, it is obvious that this is not so much a measure of support mobilisation as that of received support, or as Gore (1985) coins it, a social contact variable.

The second approach to support mobilisation originates with the coping process work of Lazarus and Folkman (1984) and the Ways of Coping Questionnaire (WOCQ). This questionnaire covers the degree to which a variety of coping strategies are enacted when confronted with a stressful situation. The items themselves are generalised and independent of any reference to a potential source of stress. Researchers tend to specify a specific coping episode or specific period of time in the preamble in order to tap situational behavioural responses as opposed to a dispositional coping style (i.e. what a person usually does under stress; Carver et al., 1989; O'Driscoll & Cooper, 1996). The compound support mobilisation measure consists of 7 items using a five-point anchor scale (1 = "hardly ever do this", 5 =

“almost always do this”; Folkman & Lazarus, 1980). The items measure efforts to obtain informational and emotional support from others, although each of the different mobilisation functions is not represented by an equal number of items. Although subsequent research investigating the reliability and construct validity of the WOCQ has revealed some inconsistencies, results show that the support mobilisation measure consistently produces a one-factor solution, predominantly consists of 6 items of virtually identical content, demonstrates adequate internal consistency across a variety of sample populations, ranging from .65 to .85 (e.g., Aldwin & Revenson, 1987; Edwards & Baglioni, 1993; Masel et al., 1996), and is highly situationally-dependent, and thus is more likely to reflect situational behavioural responses as theorised (e.g., Folkman, Lazarus, Gruen, & DeLongis, 1986).

Another scale, the COPE Scales, developed by Carver et al. (1989), was devised to overcome the liabilities of the WOCQ and provide a more theoretically rigorous approach to conceptualising coping strategies. The researchers propose two separate scales for support mobilisation, 4 items reflecting seeking social support for instrumental reasons and 4 items reflecting seeking social support for emotional reasons. A *prima facie* inspection of the COPE items, however, reveals that some of the instrumental support seeking items could in fact be aligned with House's (1981) conceptualisation of informational support. Items are rated on a four-point anchor scale (1 = “I usually don't do this at all”, 4 = “I usually do this a lot”) and can be answered from either a situational response or dispositional coping style orientation, depending on the pre-ambule used. Whilst the resultant factor analysis produced a single factor structure combining both scales and the simple correlation between the two composite scales was $r = .69$, Carver et al. (1989) argue that there is merit in conceptualising a distinction between the two support mobilisation functions and that future research may also reveal an empirical distinction.

There is a measure of social support that has been developed that is multidimensional in nature and applicable to work-related contexts. Lawrence et al.'s (2007) Support Appraisal for Work Stressors (SAWS) inventory assesses perceptions of support availability (how much they can rely on others for support) for work-related problems, from both a functional and source perspective. It consists of 12 items, 3 items for each of the four supportive functions (emotional, informational, instrumental, appraisal). Respondents rate each item with reference to 3 sources of support: direct supervisor, work colleagues and people outside work (partner/family/friends), thus producing a measure of four supportive functions for each of the three sources of support (12 variables). Internal consistency reliability for the 12 subscales has been reported to range from .76 - .90 (Lawrence et al., 2007). The inventory is also reported to show evidence of content validity, construct replication across samples, discriminant and criterion-related validity, and predictive validity.

Aim of the Current Research

To more comprehensively examine support mobilisation coping behaviors in organisational settings, a multidimensional scale of support mobilisation is required. Such a scale needs to measure both function and source of support mobilisation for the specific context of work related problems. As already discussed, existing measures of support mobilisation are not source specific and at best only assess two supportive functions, emotional and informational support.

In order to address these issues, a new scale was developed, the Support Mobilisation for Work Stressors (SMWS) inventory, followed by evaluation and validation tests. It is proposed that the inventory will demonstrate further evidence for the conceptualisation of support mobilisation as distinguished by both supportive function and source. Following House's (1981) conceptualisation, it is expected that each source of support can provide four distinct supportive functions: emotional, informational, instrumental, and appraisal. It is also

predicted, based on source of support framework (Cohen & McKay, 1984; Thoits, 1986), that each source of support will demonstrate a distinctive pattern of the supportive functions they can provide. Thus, support mobilisation is conceptualized as a superordinate construct, such that supportive functions from specific sources represent the first-order factors, and the sources of support represent the distinct second-order factors (see Edwards, 2001; Williams, Edwards & Vandenberg, 2003).

INVENTORY DEVELOPMENT

Lawrence et al.'s (2007) SAWS measure was used as a basis for the new support mobilisation inventory. This scale was adopted because 1. SAWS is a comprehensive, multidimensional measure that could be easily adapted, 2. SAWS has been initially validated, 3. SAWS is applicable to a work context and yet no specific work setting terminology has been used, and 4. SAWS is a brief measure which is an important consideration for researchers collecting data in applied contexts (Jones & Bright, 2001). The SAWS consists of 12 items, which assess the four functions of perceived available support: Emotional, Informational, Instrumental, and Appraisal (3 items per function). Respondents are asked to respond three times for each item (e.g., How much can you rely on your ... to help you feel better when you experience work-related problems?) on a 4-point scale (1 = not at all, 4 = very much), once for each source of support: Supervisor, Colleagues, Non-work people (partner, family, friends).

The 12 items in the support mobilisation inventory, SMSW, contain exactly the same content as the perceived available support inventory items. However, rather than being asked to respond to the item with regards to how much they could rely on a source for a supportive function, we adapted the items to ask the respondent how often they approached a source for a supportive function. For example, "How often have you approached your ... to help you feel better when you experience work-related problems?" The scale anchors were also adapted so that respondents rated each item with regards to each of the three sources of support on a four-point scale such that 1 = "not at all" and 4 = "often".

Instructions to respondents, adapted from Lawrence et al. (2007) were the following: "Please respond to each question by circling a number from the rating scale below in all three columns. In this way, for each question, you will rate separately you immediate supervisor, your work colleagues and your partner/family/friends. Think about your workplace in the last month. How often did you approach the people listed below when you experienced problems at work?" The support mobilisation inventory therefore assesses twelve constructs, which represents every possible combination of the three sources and four supportive functions.

STUDY 1: INVENTORY EVALUATION

Method

Procedure

Data were collected through a cross-sectional survey from employees working for private pathology company. One thousand, nine hundred and seventy-three employees received a self-administered survey via the pathology company's internal mail system and were requested to fill them in anonymously and return them to researchers via a postage-paid return envelope.

Participants

Six hundred and eight (31%) useable surveys (Sample 1) remained from the overall employee response of 657. Of the respondents, 84% were female. The mean age category of respondents was 41-45 years, ranging from under 20 to over 60 years. Ten percent had completed postgraduate studies, 20% had completed graduate studies, 41% had completed a diploma, certificate or apprenticeship training and 29% had completed high school as their

highest educational achievement. Respondents worked across all 10 possible staff classifications in the company (e.g., but not limited to, administration, pathology collection, laboratory assistants/technicians, pathologist/medical officer, scientists). In terms of employment status, 50% were full-time, 46% part-time and 4% were casually employed. The mean tenure at the company was 8 years.

Results

Data screening for respondent errors and omissions were conducted prior to analysis. Forty-nine cases were deleted where more than half the items were systematic missing from a particular support source scale. As the remaining proportion of missing data for any particular scale item was 1% or less, it was deemed to be missing at random (Cohen & Cohen, 1983). The missing data were replaced by values estimated by the EM (Maximum Likelihood) imputation method in SPSS 10.0.5 (Kline, 1998).

All model estimations in this paper were conducted on covariance matrices, using the Maximum Likelihood (ML) procedure in EQS 6.1 (Bentler & Wu, 2005). Adhering to the recommendations of Hu and Bentler (1999), good model fit was deemed to be demonstrated when the CFI, IFI and NNFI were close to .95, the RMSEA was close to .06 and the SRMR was close to .08. Corrected test statistics (the Satorra-Bentler rescaled chi-square statistic and the CFI Robust) are reported when assessing model fit using non-normal data (Kline, 1998).

Measurement Model

Anderson and Gerbing's (1988) recommended two-step procedure was used to conduct the confirmatory factor analyses. Step One consisted of assessing the fit of the four support functions separately for each source. The a priori four-factor measurement models for the supervisor, colleague and non-work sources all revealed good fits (see Table 1). For all three models, the CFI, IFI and NNFI were close to or reached .95, the SRMR were below .06, the RMSEA were acceptable, the factor loadings were moderately high and each functional subscale had a moderate to high level of reliability (see Table 2). Given the combined results, all models were deemed to show good fit (Anderson & Gerbing, 1988; Hu & Bentler, 1999).

Insert Tables 1, 2

Step Two of the procedure assessed the Step One measurement models together in two alternative super-ordinate factor structures. The source-based super-ordinate factor structure consistent with our conceptualisation revealed adequate fit. As can be seen in Tables 1 and 2, the CFI, IFI and NNFI all reached .90, the SRMR was below .08, and the factor loadings were moderately high. The RMSEA, however, was above .10. The overall measurement model was deemed to be an acceptable fit, given the combined results. We also examined an alternative function-based superordinate model, in which the four supportive functions were represented as correlated second-order constructs, with sub-scale composites representing each of the sources at the first-order level. For example, informational support was represented as a second-order factor with three source variable indicators (informational support from supervisor, colleagues, and non-work people) formed from mean composites. Equivalent structures were defined for the other three functions. The alternative function-based superordinate factor structure revealed poor fit. Table 1 shows the CFI, IFI and NNFI failed to reach .55, the RMSEA was .31 and the SRMR was .19. A comparison of these two models based clearly revealed that a super-ordinate factor structures where functions form first-order constructs under second-order sources better represent the data ($\Delta\chi^2(3) = 2287.51, p < .001$). This result provides support for our conceptualisation that sources of support form the more fundamental distinction in respondents' perceptions of available support. Table 2 presents standardized coefficient factor loadings and Cronbach's alpha coefficients for the SMSW

inventory. Table 3 presents the correlation table for the four functional subscales within each of the three sources of support.

Insert Table 3

Model Comparisons

As can be seen in Table 3 the subscale functions within each source of support have moderate to high correlations with one another. These correlations may be suggestive of multicollinearity and therefore a lack of discriminant validity amongst the functional subscales. To verify that the four-factor structure, consistent with our conceptualization, was the best representation of the items in the SSWS-M, all possible alternative models were estimated for each source of support, based on item-set derived from the a priori models (Mathieu & Farr, 1991). The models included one-factor, 3 two-factor, and 6 three-factor structures. The two-factor models represented all possible pairings of the four support mobilization functions for a particular source. Similarly, the three-factor models represented all possible three-way combinations of the four supportive functions. The evaluation of these models, and the chi-square difference tests conducted to compare all of the alternative models to the four-factor solution, are shown in Tables 4, 5, and 6.

Insert Tables 4, 5, 6

Results from the alternative model estimations and chi-square difference tests strongly defend a four-factor supportive functional structure for the three sources of support mobilization. Respondents did distinguish between the supportive functions they mobilized from each source of support. For supervisor support, the four-factor structure fitted the data significantly better than all but two of the alternative models: a three-factor structure of instrumental support, informational support and a combined emotional and appraisal support factor; and a three-factor structure of emotional support, appraisal support and a combined instrumental and informational support factor. Importantly, the four-factor solution was neither significantly poorer than these two alternative models, although the fit indexes for all three models were equivalent. For colleague support, the four-factor structure fitted the data significantly better than all but one of the alternative models: a three-factor structure of instrumental support, informational support and a combined emotional and appraisal support factor. Importantly, the four-factor solution was not significantly poorer than this alternative model and whilst most fit indexes across the two models were equivalent, the SRMR in the three-factor model solution was higher (and therefore worse) than in the four-factor model solution. Finally, for non-work support, the four-factor structure fitted the data significantly better than all but one of the alternative models: the three-factor structure of emotional support, appraisal support and a combined instrumental and informational support factor. Again, the four-factor solution was not significantly poorer than this alternative model and the SRMR fit index in the three-factor model solution was higher (and therefore worse) than in the four-factor model solution.

Thus, it can be concluded that the model comparison analysis does substantiate the notion that there are four supportive functions for each support mobilisation source. The results, however, are not definitive in this matter. Results for some of the other alternative models were also fairly strong, but did not exceed the efficacious fit of the four-factor solution. One factor structure which was comparable to the four-factor solution for both supervisor and non-work sources was the three-factor structure combining instrumental and informational support. The factor structure that was comparable to the four-factor solution for both supervisor and colleague sources was the three-factor structure combining emotional and

appraisal support. Such a finding suggests that whilst the four supportive functions are independent from one another, the items for instrumental and informational support mobilisation may not be completely conceptually distinct, nor the items for emotional and appraisal support mobilisation. Importantly, however, this conceptual overlap may only occur when supportive functions they are mobilized from a particular source.

SMSW Validation

To provide further evidence of the construct validity of the SMSW we conducted additional analyses in a series of studies. We conducted model replication analyses in Study 2 using a nursing sample, and assessed the new inventory's criterion-related validity in Study 3.

STUDY 2: REPLICATIVE CONFIRMATORY FACTOR ANALYSES

To assess whether the analysis results are a pervasive phenomenon and not an artifact of the particular sample used during data collection (see DeVellis, 1991), the confirmatory factor analyses were repeated on data obtained from a second sample (Sample 2). The four-factor model for each source of support was replicated using Sample 2 data to verify the construct validity and reliability of the SMSW inventory.

Method

Procedure

A self-administered survey containing the support mobilisation inventory was distributed through a large public hospital's internal mail system to all 475 of the nursing staff working in four departments (emergency, ICU, operating theatre, orthopedics). The survey was completed anonymously by the nurses and returned to the researcher by postage-paid return envelope.

Participants

From this replication sample (Sample 2), 155 respondents completed usable surveys out of a total of 475 potential respondents, yielding a response rate of 33%. Of the respondents, 20% were male and 80% were female. 7% were nurse managers, 83% were clinical nurses and 10% were assistant nurses. In terms of employment status, 62% were full-time and 38% part-time. The mean age category of respondents was 31-35 years. The mean tenure at the hospital was 6 years.

Results

Data screening for respondent errors and omissions was conducted using the previously stated procedure. Nine cases were deleted due to systematic missing data and the remaining missing at random data (2% or less) was replaced by values estimated by the EM imputation method in SPSS 10.0.5. The resulting sample size was deemed adequate for performing further analyses (Kline, 1998).

Fit indexes and cutoff values used when conducting confirmatory factor analyses adhered to recommendations of Hu and Bentler (1999). These researchers acknowledge that their cited cutoffs for NNFI and RMSEA are too stringent when the sample size is less than 250. Given that the replication sample is less than 200, we applied a more liberal cutoff value of .90 for the NNFI and adapted Browne and Cudeck's (1993) suggested cutoffs for the RMSEA, so that values of .08 and below demonstrate good model fit, and values of .10 and below demonstrate acceptable fit. Corrected test statistics (the Satorra-Bentler rescaled chi-square statistic and the CFI Robust) were again reported to account for non-normal data.

Measurement Model

Confirmatory factor analyses again followed the two-step procedure recommended by Anderson and Gerbing (1988) and outlined in the inventory evaluation section. The Step One

analyses assessing the modified four-factor model for each source of support revealed comparable results to the evaluation analyses of Sample 1. The four-factor measurement models for the supervisor, colleague and non-work sources all revealed good fits (see Table 7). For all three models, the CFI, IFI and NNFI were close to or exceeded .95, the SRMR were below .06, the RMSEA were good, the factor loadings were moderately high and each functional subscale had a moderate to high level of reliability (see Table 8). Given the combined results, the three source measurement models were deemed to demonstrate good fit.

Insert Tables 7, 8

Step Two of the procedure again assessed the Step One measurement models together in two alternative superordinate factor structures. The analyses revealed comparable results to the inventory evaluation analyses in Study 1 (see Table 7). The source-based superordinate factor structure consistent with our conceptualisation revealed acceptable fit. The factor loadings were moderately high and the SRMR was good, the CFI and IFI was only acceptable, with the NNFI and RMSEA being mediocre. Although the chi-square statistic was still significant, the overall measurement model was deemed to be an acceptable fit, given the combined results. The alternative function-based superordinate factor structure revealed poor fit. Table 4 shows the CFI, IFI and NNFI failed to reach even .60, the RMSEA was .19 and the SRMR was .29. As for Sample 1, a comparison of these two models based on Sample 2 data clearly revealed that a superordinate factor structures where functions form first-order constructs under second-order sources better represent the data ($\Delta\chi^2(3) = 454.69, p < .001$). Table 8 presents the correlation table for the four functional subscales within each of the three sources of support.

Model Comparisons

As with the Sample 1 evaluation analyses, the subscale functions within each source of support in this study have moderate to high correlations with one another (see Table 8). To verify our conceptualization of the four-factor structure, all possible alternative models were again estimated for each source of support, based on item-set derived from the Sample 2 a priori models (Mathieu & Farr, 1991). Discussion of the evaluation of these models, as compared to the four-factor solution, follows.

Results from the alternative model estimations and chi-square difference tests again defend a four-factor supportive functional structure for the three sources of support mobilization. For supervisor support, the four-factor structure fitted the data significantly better than all but three of the alternative models: a two-factor structure combining emotional and appraisal support into one factor, and instrumental and informational support into the other; and the two three-factor structures highlighted in the supervisor-based model comparisons in Study 1. Importantly, the four-factor solution was neither significantly poorer than these three alternative models, and the fit indexes were equivalent across models. For colleague support, the four-factor structure fitted the data significantly better than all but five of the alternative models, one of which was previously highlighted in the colleague-based model comparisons in Study 1. Importantly, the four-factor solution was not significantly poorer than these five alternative models, and the fit indexes were equivalent across models. Finally, for non-work support, the four-factor structure fitted the data significantly better than all but one of the alternative models, identical to that identified in Study 1 model comparisons. The four-factor solution was not significantly poorer than this alternative model and the fit indexes were identical.

Again, it can be concluded that the model comparison analysis does substantiate the notion that there are four supportive functions for each support mobilisation source. Respondents did distinguish between the supportive functions they mobilized from each

source of support. Results for some of the other alternative models were also fairly strong, but did not exceed the efficacious fit of the four-factor solution. In particular, the three-factor structure combining instrumental and informational support was consistently comparable (but not significantly better) to the four-factor solution for all three sources. Additionally, as in Study 1, the three-factor structure combining emotional and appraisal support was comparable (but not significantly better) to the four-factor solution for both supervisor and colleague sources. The fact that other additional alternative models were also shown to be comparable (particularly in relation to colleague support) also possibly points to the fact that with smaller sample sizes, or in certain sample contexts (e.g., 80% women), the ability to detect discrete support mobilisation attempts from particular sources may be diminished.

STUDY 3: CRITERION-RELATED VALIDITY

We assessed the criterion-related validity of the support mobilisation inventory by examining the bivariate correlations between the twelve inventory constructs and closeness perceptions (see Hinkin, 1998). In the present study, the additional measured variables were closeness with supervisor, colleagues and people outside work.

Closeness reflects the interdependent nature of relationships between a person and those in their work and social networks, in terms of how much a person is both behaviourally and subjectively involved with others (Reis & Collins, 2000; Schwarzer & Leppin, 1991). The closer the relationship, the more each individual's behaviour influences the other's (Reis & Collins, 2000). As a consequence, closeness shapes supportive behaviors, such as the mobilisation of support (Pierce et al., 1992; Reis & Collins, 2000). Wills (1991; Wills & DePaulo, 1991) argues that these close relationships have a history of mutual self-disclosure and reciprocal help giving and receiving and thus minimize perceptions of self-esteem threat which can act as a barrier to help seeking attempts. Field researchers have found that the majority of respondents actively seek informal help when they experience personal problems (e.g. Wills & DePaulo, 1991) and are much more likely to particularly seek help from partners and friends (e.g. Norcross & Prochaska, 1986; Tinsley, de St. Aubin, & Brown, 1982). Whilst individuals typically experience close relationships with non-work people, they also report having close friendships with colleagues, and sometimes supervisors (c.f. Wills 1991). We expect that when perceptions of closeness to a source are high, they will positively influence employees' mobilisation of support from this source.

Method

Procedure and Participants

As in Study 2, the sampling frame consisted of 475 nurses from four hospital departments (emergency, ICU, operating theatre, orthopaedics). The data relating to the predictor (closeness) and criterion (support mobilisation) variables were collected in two different phases, separated by an interval of three weeks. Participants received Part 1 of the survey via the hospital's internal mail system. Four weeks later, Part 2 of the self-administered survey was distributed to the same nurses. Both surveys were returned through the post, using reply-paid envelopes. The nurse response rate for both Part 1 and Part 2 of the survey was 197 (41%) and 162 (35%), respectively. One hundred and twenty nurses completed usable responses to both parts of the survey (25% response rate). Of the respondents, 17% were male and 83% were female. Twenty-five percent were nurse managers, 65% were clinical nurses and 10% were assistant nurses. Sixty-five percent worked full-time and 35% part-time. The mean age of respondents was 36-40 years. The mean tenure at the hospital was 6 years.

Measures

Closeness was assessed with 4 items from Lawrence, Gardner, & Callan (2007). The measure reflected both a behavioral and subjective sense of closeness. Participants were asked to respond to each of the items with regards to three sources: direct supervisor, work colleagues and partner/family/friends, on a 5-point scale (1 = not at all, 5 = extremely close/very frequently). Thus, a measure of closeness was gained for the respondent's supervisor, for their colleagues and for non-work people. The internal consistency reliabilities calculated for these measures were acceptable (see Table 6).

Results

Insert Table 9

As indicated in Table 9, all bivariate correlations between the four supervisor supportive functions and the closeness with supervisor measure were significant and positive, as hypothesized. The same pattern was also found for correlations between colleague supportive functions and closeness with colleagues. This pattern did not occur for non-work supportive functions and closeness with non-work people. These results provide good support for the criterion-related validity of the SMWS constructs with respect to the source-based closeness constructs, but only in relation to supervisor and colleague support.

GENERAL DISCUSSION

In order to more comprehensively understand the role of support mobilisation as a coping response to workplace stressors, the SAWS inventory (Lawrence et al., 2007) was adapted to develop a new multidimensional measure of support mobilisation. An adequate measure of support mobilisation that is assessed from both a functional and source perspective, and is applicable in a workplace context, is currently lacking in the literature. An evaluation of the scale was followed by some initial validation tests. The inventory showed evidence of reliability, construct and discriminant validity, construct replication across samples and criterion-related validity.

Contribution to Theory and Practice

At a broad theoretical level, the use of the SMWS inventory will enable a more systematic and comprehensive exploration of the role of support mobilisation as a coping response in relation to work stressors. Currently, the research in this area is limited. Importantly, the inventory validates a more comprehensive conceptualisation of support mobilisation. Overall, the results of three studies revealed sound evidence for the psychometric properties of the SMWS measure. Existing measures of support mobilisation are not source specific and at best only assess two supportive functions, emotional and informational support. The SMWS inventory assesses source by supportive function. Thus, there is further evidence for the construct validity of the conceptualisation of support mobilisation, distinguished by both supportive function and source. Scale validation results confirm House's (1981) conceptualisation that for each source of support, there are four distinct supportive functions. Additionally, consistent with the source of support framework (Cohen & McKay, 1984; Thoits, 1986), each source of support demonstrated distinctive supportive characteristics.

At a practical level, the new inventory provides researchers and practitioners with a short, efficient tool for measuring support mobilisation in work contexts (Jones & Bright, 2001). At a psychometric level, as the inventory measures supportive functions with regards to specific predefined sources of support, it allows for valuable psychometric statistics to be calculated to ensure reliability and validity of the measure. Previous measures of support

mobilisation have not overtly assessed mobilisation sources at all (Carver et al., 1989; Lazarus & Folkman, 1984).

Limitations and Future Directions

The most serious limitation of this research is the presence of moderate bivariate correlations between supportive functions within each source of support. This phenomenon is not uncommon, however. Moderately high correlations have also been found when support mobilisation is functionally assessed with regards to both instrumental and emotional support mobilisation (e.g., Carver et al., 1989). Additionally, Lawrence et al. (2007) reported high bivariate correlations when assessing perceptions of support availability with the SAWS inventory, the measure of which our inventory is based. Model comparison analyses in Study 1 and Study 2 did substantiate the notion that there are four supportive functions for each support mobilisation source. There were two alternative models, however, that whilst not significantly better than the four-factor model, were comparable across Study 1 and 2: three-factor structure combining instrumental and informational support mobilisation (from all three sources); and the three-factor structure combining emotional and appraisal support (from supervisors and colleagues). These results underlie why moderate bivariate correlations between supportive functions within each source of support were also found.

Theoretically, the conceptual overlapping of supportive functions mobilized from particular sources of support is to be expected to some degree (c.f. Lawrence et al., 2007). When people solicit support from others, they may range from wanting the other person to display one supportive function (e.g., wanting instrumental help to change roster times), to wanting the other person to display a number of functions within the one supportive interaction episode (e.g., wanting emotional, appraisal and informational help when experiencing an interpersonal conflict with another work colleague). Additionally, as with Lawrence et al. (2007), our samples also consisted of mostly women which may have exacerbated the correlations between support mobilisation functions for a particular source. Women have been shown to mobilise more support (in all forms) than men (Ptacek, Smith & Zanas, 1992; Stone & Neale, 1984; Sutherland, 1995; Vitaliano et al., 1985).

Despite these issues, however, we argue the results in this paper provide good initial evidence for the construct validity of the support mobilisation inventory as consisting of four support mobilisation functions for each source of support. Future research needs to further assess the construct validity of the inventory using different sample compositions and organizational contexts. Given that the role of support mobilisation as a coping response has been largely overlooked in the occupational stress literature, future research should also assess the predictive validity of the SMWS inventory in relation to work-related adjustment outcomes such as job satisfaction and turnover intentions.

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TABLE 1

Inventory Evaluation Confirmatory Factor Analysis Results for Sample 1^{ab}

Models	χ^2	<i>p</i>	<i>df</i>	CFI	IFI	NNFI	SRMR	RMSEA
Supervisor model	204.24	< .001	48	.96	.96	.95	.03	.07
Colleague model	200.48	< .001	48	.97	.97	.96	.03	.07
Non-work model	238.69	< .001	48	.95	.95	.94	.05	.08
Combined three sources model	580.17	< .001	51	.91	.91	.90	.04	.13
Combined four functions model	2867.68	< .001	48	.53	.53	.35	.19	.31

^a n = 608. ^b Robust statistics reported for χ^2 and CFI.

TABLE 2

Standardised Confirmatory Factor Analysis Coefficients and Cronbach's Alpha
Coefficients for Inventory Evaluation Sample 1

Subscale Labels and Items	Standardised Coefficient Factor Loadings	Cronbach's Alpha Coefficients
Emotional Support from Direct Supervisor		.84
MSEMOT1: How often have you approached your ... seeking help to feel better when you experience work-related problems?	.79	
MSEMOT2: How often have you asked your ... to listen to you when you need to talk about work-related problems?	.83	
MSEMOT3: How often have you approached your ... for sympathy and understanding about your work-related problems?	.77	
Informational Support from Direct Supervisor		.84
MSINFO1: How often have you approached your ... for suggestions on ways to find out more about a work situation that is causing you problems?	.75	
MSINFO2: How often have you asked your ... to share their experiences of a work problem similar to yours?	.77	
MSINFO3: How often have you asked your ... to provide information which helps to clarify your work-related problems?	.79	
Instrumental Support from Direct Supervisor		.84
MSPRAC1: How often have you asked your ... for practical assistance when you experience work related problems?	.74	
MSPRAC2: How often have you asked your ... to spend time helping you resolve your work-related problems?	.83	
MSPRAC3: How often have you asked your ... for help when things get tough at work?	.81	
Appraisal Support from Direct Supervisor		.81
MSAPPR1: How often have you approached your ... for reassurance about your ability to deal with your work-related problems?	.79	
MSAPPR2: How often have you approached your ... for acknowledgement of your efforts to resolve your work-related problems?	.80	
MSAPPR3: How often have you approached your ... for help in evaluating your attitudes and feelings about your work-related problems?	.80	

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Subscale Labels and Items	Standardised Coefficient Factor Loadings	Cronbach's Alpha Coefficients
Emotional Support from Colleagues		.83
MCEMOT1 ^a	.72	
MCEMOT2	.78	
MCEMOT3	.84	
Informational Support from Colleagues		.83
MCINFO1	.76	
MCINFO2	.76	
MCINFO3	.81	
Instrumental Support from Colleagues		.84
MCPRAC1	.73	
MCPRAC2	.82	
MCPRAC3	.83	
Appraisal Support from Colleagues		.82
MCAPPR1	.75	
MCAPPR2	.81	
MCAPPR3	.79	
Emotional Support from Non-work People		.89
MNEMOT1	.84	
MNEMOT2	.87	
MNEMOT3	.84	
Informational Support from Non-work People		.85
MNINFO1	.80	
MNINFO2	.76	
MNINFO3	.81	
Instrumental Support from Non-work People		.80
MNPRAC1	.72	
MNPRAC2	.82	
MNPRAC3	.73	
Appraisal Support from Non-work People		.83
MNAPPR1	.84	
MNAPPR2	.77	
MNAPPR3	.80	

^a Items worded as shown above for direct supervisor source.

Note: All factor coefficients significant at $p < 0.001$

TABLE 3

Means, Standard Deviations, Correlations and Inter-Item Reliabilities for Inventory Evaluation Sample 1^a

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
Supervisor Support														
1. Emotional	1.88	.84	(.84) ^b											
2. Informational	2.01	.86	.75	(.84)										
3. Instrumental	2.04	.86	.78	.86	(.84)									
4. Appraisal	1.63	.73	.81	.78	.80	(.81)								
Colleague Support														
5. Emotional	2.35	.85	.41	.33	.35	.35	(.83)							
6. Informational	2.34	.86	.34	.48	.43	.37	.76	(.83)						
7. Instrumental	2.38	.86	.33	.39	.44	.38	.79	.84	(.84)					
8. Appraisal	1.91	.81	.37	.37	.39	.50	.79	.73	.78	(.82)				
Non-work Support														
9. Emotional	2.46	1.04	.18	.16	.17	.20	.38	.28	.29	.32	(.89)			
10. Informational	1.69	.86	.27	.21	.22	.29	.39	.34	.34	.43	.66	(.85)		
11. Instrumental	1.76	.86	.27	.20	.22	.30	.37	.28	.32	.40	.70	.83	(.80)	
12. Appraisal	1.87	.91	.21	.18	.19	.27	.39	.33	.37	.46	.77	.78	.78	(.83)

^a n = 608. ^b Figures in parentheses indicate inter-item reliabilities.
p < .001 for all *r* > .15.

TABLE 4
Results of Supervisor Support Mobilisation Model Comparisons using Modified Model Items Sample 1^{ab}

Model	χ^{2b}	<i>df</i>	<i>p</i>	$\Delta\chi^2$	Δdf	CFI	ΔCFI	IFI	NNFI	SRMR	RMSEA
4-factor: Emot Inst Info Appr	204.24	48	< .001	---	---	.96	---	.96	.95	.03	.07
3-factor: (Emot/Inst) Info Appr	253.84	51	< .001	49.60***	3	.95	.01	.95	.94	.04	.08
3-factor: (Emot/Info) Inst Appr	260.80	51	< .001	56.56***	3	.95	.01	.95	.93	.04	.08
3-factor: (Emot/Appr) Inst Info	210.75	51	< .001	6.51	3	.96	.00	.96	.95	.04	.07
3-factor: Emot (Inst/Info) Appr	211.71	51	< .001	7.47	3	.96	.00	.96	.95	.03	.07
3-factor: Emot (Inst/Appr) Info	227.00	51	< .001	22.76***	3	.96	.00	.96	.94	.04	.08
3-factor: Emot Inst (Info/Appr)	234.98	51	< .001	20.74***	3	.96	.00	.96	.94	.04	.08
2-factor: (Emot/Inst) (Info/Appr)	262.37	53	< .001	58.13***	5	.95	.01	.95	.94	.04	.08
2-factor: (Emot/Info) (Inst/Appr)	262.44	53	< .001	58.20***	5	.95	.01	.95	.94	.04	.08
2-factor: (Emot/Appr) (Inst/Info)	218.90	53	< .001	14.66***	5	.96	.00	.96	.95	.04	.07
1-factor: (Emot/Inst/Info/Appr)	263.65	54	< .001	59.41***	6	.95	.01	.95	.94	.04	.08

^a n = 608.

^b Sartorra-Bentler χ^2

TABLE 5
Results of Colleague Support Mobilisation Model Comparisons using Modified Model Items Sample 1^a

Model	χ^{2b}	<i>df</i>	<i>p</i>	$\Delta\chi^2$	Δdf	CFI	ΔCFI	IFI	NNFI	SRMR	RMSEA
4-factor: Emot Inst Info Appr	200.48	48	< .001	---	---	.97	---	.97	.96	.03	.07
3-factor: (Emot/Inst) Info Appr	229.91	51	< .001	29.43***	3	.97	.00	.97	.96	.03	.08
3-factor: (Emot/Info) Inst Appr	248.96	51	< .001	48.48***	3	.96	.01	.96	.95	.09	.08
3-factor: (Emot/Appr) Inst Info	206.29	51	< .001	5.81	3	.97	.00	.97	.96	.08	.07
3-factor: Emot (Inst/Info) Appr	209.07	51	< .001	8.59*	3	.97	.00	.97	.96	.03	.07
3-factor: Emot (Inst/Appr) Info	239.16	51	< .001	38.68***	3	.96	.01	.96	.95	.03	.08
3-factor: Emot Inst (Info/Appr)	246.54	51	< .001	46.06***	3	.96	.01	.96	.95	.03	.08
2-factor: (Emot/Inst) (Info/Appr)	262.02	53	< .001	61.54***	5	.96	.01	.96	.95	.04	.08
2-factor: (Emot/Info) (Inst/Appr)	262.17	53	< .001	61.69***	5	.96	.01	.96	.95	.04	.08
2-factor: (Emot/Appr) (Inst/Info)	213.25	53	< .001	12.77*	5	.97	.00	.97	.96	.03	.07
1-factor: (Emot/Inst/Info/Appr)	262.76	54	< .001	62.28***	6	.96	.01	.96	.95	.04	.08

^a n = 608.

^b Sartorra-Bentler χ^2

TABLE 6
Results of Non-work Support Mobilisation Model Comparisons using Modified Model Items Sample 1^a

Model	χ^2 ^b	<i>df</i>	<i>p</i>	$\Delta\chi^2$	Δdf	CFI	ΔCFI	IFI	NNFI	SRMR	RMSEA
4-factor: Emot Inst Info Appr	238.69	48	< .001	---	---	.95	---	.95	.94	.05	.08
3-factor: (Emot/Inst) Info Appr	448.49	51	< .001	209.80***	3	.90	.05	.90	.87	.06	.11
3-factor: (Emot/Info) Inst Appr	480.88	51	< .001	242.19***	3	.90	.05	.90	.86	.06	.12
3-factor: (Emot/Appr) Inst Info	339.57	51	< .001	100.88***	3	.93	.02	.93	.91	.06	.10
3-factor: Emot (Inst/Info) Appr	241.98	51	< .001	3.29	3	.95	.00	.95	.94	.10	.08
3-factor: Emot (Inst/Appr) Info	274.16	51	< .001	35.47***	3	.95	.00	.95	.93	.05	.09
3-factor: Emot Inst (Info/Appr)	303.36	51	< .001	64.67***	3	.94	.01	.94	.92	.05	.09
2-factor: (Emot/Inst) (Info/Appr)	472.96	53	< .001	234.27***	5	.90	.05	.90	.97	.14	.11
2-factor: (Emot/Info) (Inst/Appr)	486.32	53	< .001	247.63***	5	.89	.06	.89	.87	.06	.12
2-factor: (Emot/Appr) (Inst/Info)	341.82	53	< .001	103.13***	5	.93	.02	.93	.91	.06	.10
1-factor: (Emot/Inst/Info/Appr)	485.01	54	< .001	246.32***	6	.90	.05	.90	.87	.06	.12

^a n = 608.

^b Sartorra-Bentler χ^2

TABLE 7

Inventory Replication Confirmatory Factor Analysis Results for Sample 2^a

Models	χ^2	<i>p</i>	<i>df</i>	CFI	IFI	NNFI	SRMR	RMSEA
Supervisor model ^b	70.06	.021	48	.98	.98	.97	.04	.06
Colleague model	88.94	< .001	48	.95	.95	.94	.05	.07
Non-work model ^b	74.66	.008	48	.96	.97	.95	.05	.06
Combined three sources model ^b	197.10	< .001	51	.90	.90	.86	.06	.13
Combined four functions model ^b	651.79	< .001	48	.57	.57	.41	.29	.19

^a n = 155. ^b Robust statistics reported for χ^2 and CFI.

TABLE 8

Means, Standard Deviations, Correlations and Inter-Item Reliabilities for Inventory Replication Sample 2^a

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
Supervisor Support Mobilization														
1. Emotional	1.79	.72	(.87) ^b											
2. Informational	1.83	.73	.70	(.78)										
3. Instrumental	1.86	.74	.72	.79	(.84)									
4. Appraisal	1.59	.65	.76	.71	.68	(.84)								
Colleague Support Mobilization														
5. Emotional	2.37	.71	.38	.30	.29	.29	(.75)							
6. Informational	2.27	.69	.16	.39	.27	.25	.71	(.70)						
7. Instrumental	2.37	.72	.29	.37	.43	.26	.71	.78	(.79)					
8. Appraisal	1.92	.67	.31	.32	.26	.47	.66	.69	.66	(.74)				
Non-work Support Mobilization														
9. Emotional	2.56	.91	.17	.31	.28	.27	.35	.38	.39	.43	(.81)			
10. Informational	1.62	.72	.07	.20	.18	.26	.26	.38	.33	.44	.60	(.78)		
11. Instrumental	1.67	.78	.06	.19	.18	.19	.25	.39	.37	.44	.65	.81	(.81)	
12. Appraisal	1.87	.82	.14	.27	.21	.28	.30	.42	.42	.51	.76	.75	.78	(.76)

^a n = 155. ^b Figures in parentheses indicate inter-item reliabilities

p < .05 for all *r* > .15, *p* < .01 for all *r* > .20 and *p* < .001 for all *r* > .25.

TABLE 9

Means, Standard Deviations, Correlations and Inter-Item Reliabilities for Inventory Sample 3^a

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Dependent Variables																			
Supervisor Support Mobil.																			
1. Emotional	1.80	.72	(.81) ^c																
2. Informational	1.85	.72	.69	(.77)															
3. Instrumental	1.86	.72	.74	.81	(.84)														
4. Appraisal	1.60	.65	.77	.67	.67	(.83)													
Colleague Support Mobil.																			
5. Emotional	2.39	.72	.44	.32	.33	.40	(.71)												
6. Informational	3.30	.67	.21	.39	.28	.30	.73	(.80)											
7. Instrumental	2.39	.70	.29	.36	.39	.29	.73	.80	(.78)										
8. Appraisal	1.97	.71	.31	.28	.24	.48	.72	.72	.67	(.81)									
Non-work Support Mobil.																			
9. Emotional	2.57	.95	.21	.37	.33	.32	.38	.44	.42	.44	(.84)								
10. Informational	1.66	.75	.08	.20	.18	.27	.31	.40	.34	.42	.61	(.78)							
11. Instrumental	1.74	.81	.06	.20	.19	.20	.28	.41	.39	.41	.67	.81	(.80)						
12. Appraisal	1.91	.85	.16	.32	.24	.33	.32	.47	.42	.50	.76	.75	.78	(.79)					
Predictor Variables																			
13. Closeness with Supervisor	2.62	.83	.22	.25	.18	.25	.11	.04	.01	.07	.03	.02	.07	.06	(.85)				
14. Closeness with Colleagues	3.70	.62	.02	.01	-.08	.07	.26	.20	.23	.21	.08	.05	.05	.04	.47	(.74)			
15. Closeness with Non-work	4.01	.87	.18	.17	.10	.12	.12	.11	.14	.10	.10	.01	.13	.09	.34	.25	(.84)		

^a n = 120. ^b $p < .05$ for all $r > .17$, $p < .01$ for all $r > .22$ and $p < .001$ for all $r > .28$.

^c Figures in parentheses indicate inter-item reliabilities.