

THE ROLE OF PARTICIPATION IN SAFEGUARDING WORKERS' HEALTH WHEN CHANGING SHIFT SCHEDULES

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ABSTRACT

In the last two decades, increasing numbers of workplaces in Australia have introduced 12-hour shifts. This increase is due, in part, to government policies aimed at encouraging employers and employees to abandon the traditional award system and decide on their terms and conditions of work at the workplace level through negotiation. The purpose of this paper is to examine whether the level of consultation and participating used during the negotiation process has an impact on workers' health and safety when changing from 8- to 12-hour shifts. Responses from 137 plant and machinery operators drawn from two manufacturing sites that differed in the process used to implement 12-hour shifts were used for the research. Results indicated that in workplaces where a low consultation approach was used to changing shift roster, employees reported an increase in physical and psychological ill-health symptoms after 12 months on 12-hour shifts.

Key words: Work schedules, participation, health and well-being

LE RÔLE DE LA PARTICIPATION POUR SAUVEGARDER LA SANTÉ DES TRAVAILLEURS LORS DU CHANGEMENT DES HORAIRES DE TRAVAIL

RÉSUMÉ

Au cours des deux dernières décennies, de plus en plus de milieux de travail en Australie ont adopté les quarts de travail de douze heures. Cette augmentation est due, en partie, aux politiques gouvernementales qui visent à encourager les employeurs et les employés à abandonner le système de primes traditionnel et à négocier eux-mêmes leurs modalités et conditions de travail. Le présent article vise à examiner si le degré de consultation et de participation dans le cadre des négociations exerce une influence sur la santé et la sécurité des employés par suite de la modification des quarts de travail de 8 à 12 heures. Aux fins de cette recherche, nous avons utilisé les réponses fournies par 137 opérateurs d'usines et de machinerie choisis parmi deux usines de fabrication ayant utilisé des processus différents pour la mise en œuvre des quarts de 12 heures. Selon ces résultats, les milieux de travail où le degré de consultation en vue de la modification des horaires de travail s'est révélé faible, les employés font état d'une hausse des symptômes liés à des problèmes de santé physique et psychologique après douze mois de travail selon des quarts de douze heures.

Mots clés : horaires de travail, participation, santé et bien-être

Despite the increasing use of flexible work schedules in Australia and overseas, the effects of these practices on workers remains unclear and highly controversial. This is particularly relevant when considering an increasingly common form of work scheduling, 12-hour shifts. Although it is widely acknowledged that shiftworkers in general, and nightworkers, in particular, suffer acutely and chronically impaired health and well-being, the impact of using innovative shift arrangements such as 12-hour shifts remains one of the most strongly debated issues in shiftwork research.

The situation has arisen, in part, because existing research on 12-hour shifts is inconsistent and often contradictory. For example, there is a growing body of evidence indicating that compared to 8-hour shifts, 12-hour shifts have a negative impact on reaction time, performance and subjective alertness (17), drowsiness and fatigue (12), major injuries and accidents (10) and ill-health symptom levels (9). At the same time, other studies provide evidence indicating no difference between the two shift lengths on indices of fatigue (19), performance (18), accidents (13), and health (11). There are also some studies suggesting that 12-hour shifts have a beneficial impact on health and well-being (15), sleep quality, and subjective alertness (14). Despite these inconsistencies, 12-hour shifts are being adopted in an increasing number of workplaces in Australia and worldwide. Evidence from Australia, for example, indicates that they are being used in approximately 17% of workplaces where employees work shifts or are on call, representing about 10% of all workplaces (3).

The overriding aim of this research is to contribute towards resolving inconsistencies in the literature on 12-hour shifts. The central tenet of the paper is that 12-hour shifts can, but do not necessarily, have a negative impact on employees' health and well-being depending on the process used to introduce the shift change. It is argued that, to minimise any negative effects on workers from 12-hour shifts, the change process has to encompass the participation, consultation and support needed for employees to make informed decisions about roster choices.

The paper begins by noting the lack of empirical and theoretical information on the relationship between organisational variables and health. Evidence from shiftwork research in general is then used to show that this paucity of information is significant as processual issues may account for many of the inconsistencies in research on 12-hour shifts. Lastly, a model of worker participation for introducing work schedule changes is proposed and justified. Following these reviews, results are reported from a study designed to investigate the relationship between shift length and physical and psychological health, and assess the impact of consultation during roster changes on this relationship.

RESEARCH ON ORGANISATIONAL VARIABLES, SHIFTWORK AND HEALTH

In shiftwork research there is a dearth of empirical and theoretical information on the relationship between organisational variables and health. In particular, the importance of consultation and participation when introducing shift changes has consistently been stressed but not empirically examined (1; 2; 6; 7; 8; 19).

Wallace, Owens, and Levens (21), for example, retrospectively concluded after three years that the success of a 12-hour nursing roster was dependent on how, and why the schedule was implemented. Smith, Hammond et al. (19) drew similar conclusions. Examining two police stations changing from 8- to 12-hour shifts, they found few differences between the two shift lengths but considerable differences between the workplaces. The authors concluded that these differences arose due to variations in the workers' ability to negotiate

their rosters. Supporting their views, Conrad-Betschart (1) found that giving employees the ability to have input into deciding on working conditions during a roster change (such as provisions for an extra break during 12-hour shifts and improved meal facilities at night) was critical for the acceptance of a new roster. In the general area of changing shiftwork rosters, Kogi and Martino (8) reviewed International Labor Organisation (ILO) reports on common steps taken during shift rosters changes. They concluded that three tasks were essential in the change process: a combined study of operational needs and worker needs; establishing options to achieve those requirements; and, consensus building while acting on conflicting interests.

These researchers make a valuable contribution to the literature. Their research findings point to potentially important process variables. A more detailed examination is needed, however, to assess the veracity of many of their arguments, which while persuasive, are as yet untested. The purpose of this research was to provide such an examination. It sought to investigate the impact of roster implementation process on the health and well-being of workers when changing from 8- to 12-hour shifts.

Responses from 137 plant and machinery operators drawn from two manufacturing sites that differed in the process used to implement 12-hour shifts were used for the research. The groups were labelled: low consultation group, high consultation group, and control group (no shift change). A longitudinal design was used for the study with participants completing a measure of physical and psychological health while on 8-hour shifts (Stage One) and again after 6 months (Stage Two) and 12 months (Stage Three) on 12-hour shifts. Comparisons were made between shift lengths and between groups.

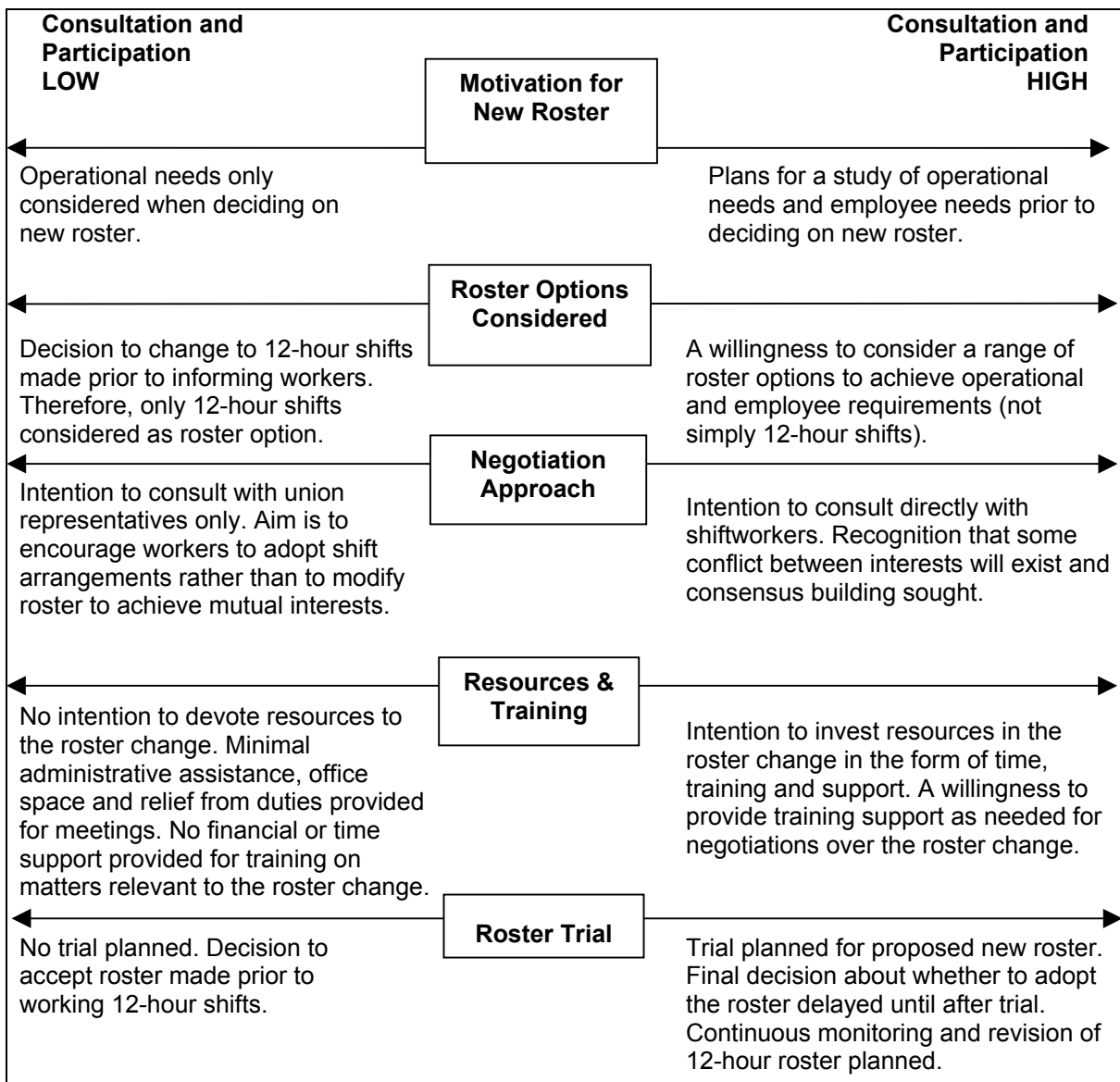
Roster-implementation process was measured using unstructured interviews and observations during the roster change. Decisions about which variables to focus on within the roster-implementation process were made by drawing on the work of Costa (2), Kogi (6; 7) and Kogi and Martino (8). Combining arguments from these researchers, it was decided that the following issues differentiate between a roster-implementation process high in consultation and participation and a process low in these variables: motivation for the roster change; input workers have into the roster change; training and resources devoted to the roster change. An additional item called, 'roster trial' was also included because workers are often unclear how they will respond to changes in work practices until after the changes have been introduced (5). These issues were broken into five steps and plotted on continua along with practices indicative of high or low consultation (see Figure 1).

Results of repeated measures analysis of variance and profile analysis indicated that workers in the low consultation group reported an increase in physical and psychological ill-health symptoms. The significant results only became apparent in the medium- to long-term. Twelve months was required before levels of physical and psychological ill-health scores of workers in this group increased to a point that was significantly higher than their scores on 8-hour shifts. However, ill-health symptoms in the low consultation group were significantly higher than those found for the high consultation group after only six months. Importantly, no group reported an overall improvement in health after changing to 12-hour shifts.

These results provide general support for the notion that changing from 8- to 12-hour shifts can result in a decline in physical and mental health. The existence of the interaction with groups, however, suggests that the relationship between these variables is more complex than acknowledged by researchers to date and the process used to implement 12-hour shifts mediates the relationship between shiftwork and health.

These findings are significant both theoretically and practically. In theoretical terms the research makes a significant contribution to resolving ongoing debate on the impact of 12 hour shifts on health and well-being and to more general debate on the impact of labour flexibility on workers. In practical terms, the research provides detailed evidence of the effects of consultation processes used to introduce 12-hour shifts on outcomes for health and well-being. In doing so, a model to structure the implementation process is provided. Unions, employees, employers, and governments can use the information derived from this examination as a means to inform the formulation of policy and practice aimed at reducing the health problems suffered by many shiftworkers.

Figure 1: Consultation & Participation in Relation to Shift Roster Changes



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