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Review article

The consequences of sickness presenteeism on health and wellbeing over time: A systematic review

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ABSTRACT

Rationale: The association between sickness presenteeism, defined as going to work despite illness, and different health outcomes is increasingly being recognized as a significant and relevant area of research. However, the long term effects on future employee health are less well understood, and to date there has been no review of the empirical evidence. The aim of this systematic review was to present a summary of the sickness presenteeism evidence so far in relation to health and wellbeing over time.
Methods: Eight databases were searched for longitudinal studies that investigated the consequences of workplace sickness presenteeism, had a baseline and at least one follow-up point, and included at least one specific measure of sickness presenteeism. Of the 453 papers identified, 12 studies met the eligibility criteria and were included in the review.
Findings: We adopted a thematic approach to the analysis because of the heterogeneous nature of the sickness presenteeism research. The majority of studies found that sickness presenteeism at baseline is a risk factor for future sickness absence and decreased self-rated health. However, our findings highlight that a consensus has not yet been reached in terms of physical and mental health. This is because the longitudinal studies included in this review adopt a wide variety of approaches including the definition of sickness presenteeism, recall periods, measures used and different statistical approaches which is problematic if this research area is to advance. Future research directions are discussed.

Sickness presenteeism (SP) has been receiving a growing amount of attention among researchers because of its potential impact upon both the organization and the employee. As Johns (2010) points out, the concept of presenteeism has suffered from "definitional creep" (p. 521) as the term has been defined in a number of ways over time. Recently the focus on the term SP has centred on two definitions: One emphasises the economic consequences of employees absence, by for example, measuring productivity losses as a result of chronic health conditions such as arthritis, migraine, allergies, depression/anxiety and cancer and has primarily been researched from a North American context (see for example Schultz and Edington, 2007; for a review). A second emphasis, and the focus of this review, is the health consequences to employees reporting SP, defined by Aronsson et al. (2000) as "people, despite complaints and ill health that should prompt rest and absence from work, still turning up at their jobs" (p. 503). This definition of SP incorporates health in general terms and does not focus on specific chronic conditions; it concerns individuals who go to work despite being ill and the work-related and personal factors that influence SP. The prevalence of SP, defined as going to work while being ill one or more times during a pre-defined period, ranges from 47% in a Swedish police cohort (Leineweber et al., 2011) to 73% in a Danish workforce sample (Hansen and Andersen, 2008) using a single item question and a recall period of the previous 12 months. Thus, it appears that SP is a common organizational behaviour.

Nonetheless, as Johns (2010) points out, research around SP has been largely atheoretical. Aronsson and Gustafsson (2005) proposed a model for future research into SP which suggests that the decision to attend work when ill or take sickness absence (SA), is influenced by attendance demands, which can be personal and/or work related. Personal factors include having a conservative attitude to taking sick leave (Hansen and Andersen, 2008), boundarylessness (the ability to say no), and financial constraints (Aronsson and Gustafsson, 2005). Work demands include time

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pressures, the worker's replaceability, (Aronsson and Gustafsson, 2005) and workload (e.g., Biron et al., 2006). Overall, there has been some support for the first part of Aronsson and Gustafsson's (2005) model, which concentrates on the demands which lead to SP (e.g., Hansen and Andersen, 2008; Claes, 2011). However, there has been less research into the second half of their model, which focusses on whether SP affects an individual's future health.

Aronsson et al. (2000) suggest that SA can promote health by allowing time for physical and psychological recovery. Kristensen (1991) found that slaughterhouse workers used SA as a way of coping with work conditions. Indeed, taking short spells of time off work may allow individuals who are ill or stressed to recover, so that more serious conditions are avoided (Kristensen, 1991). The ability to recover from work appears to be important as Kivimaki et al. (2005) found that employees who rarely recovered from work during free weekends had an increased risk of death through cardiovascular disease. In contrast to SA, SP has been associated with more negative outcomes such as productivity loss, aggravating existing conditions (Johns, 2010) and negatively affecting the health of colleagues (Baker-McClearn et al., 2010). Studies based on cross-sectional data suggest that higher SP is associated with poorer self-rated health (Aronsson and Gustafsson, 2005; Leineweber et al., 2011), higher levels of psychological distress and psychosomatic complaints (Biron et al., 2006), as well as reduced physical and mental health and increased exhaustion (Lu et al., 2014).

The relatively few longitudinal studies that examine the impact of SP on health outcomes over time indicate that SP at baseline may have future negative health and wellbeing consequences for an individual. For example, SP has been found to be an independent predictor of future poor self-rated health (e.g., Bergström et al., 2009a; Gustafsson and Marklund, 2011; Dellve et al., 2011). This may have significant implications when we consider that self-rated health has been found to be a good predictor of mortality (Fayers and Sprangers, 2002). Indeed, Kivimaki et al. (2005) found that males with poor health who did not take SA over a two-year period had twice the risk of cardiovascular disease than men who took moderate (0–14 days) SA. Thus, this is potentially an important area of research. However, a consensus is still to be reached in terms of the consequences of SP over time. This is because researchers adopt diverse research designs, and while studies include similar health and wellbeing outcomes, such as physical and mental health, how they are measured and the data analysed vary greatly across studies. The aim of this systematic review, therefore, is to explore the impact of SP on future health and wellbeing. By focussing on SP our review differs from that of Schultz and Edington (2007), who explored the links between health and productivity presenteeism. In this article, we take a wide view of wellbeing that takes into consideration the whole person in order to encompass a range of outcomes of SP that have been included in the selected papers. It should be noted that studies concentrated upon negative health outcomes, and did not consider the positive outcomes that workers with, for example, chronic health conditions may experience by remaining in work.

1. Methods

This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati et al., 2009). Prior to carrying out the systematic literature search, the inclusion and exclusion criteria were specified and documented in a research protocol. The criteria for inclusion were that studies adopted a prospective study design with at least one follow-up after baseline (initial measurement), included an explicit measure of SP and had been published in a peer-reviewed journal. Studies that focussed on economic evaluations or employees with chronic diseases or adopted a retrospective approach were excluded.

1.1. Search strategy

The literature search was conducted in the following electronic databases with no limits applied for language, as non-English written articles were translated: PubMed Medline (1966 – present), Web of Science (1945 – present), EconLit (1968 – present), Academic Search Complete (1970 – present), EMBASE (1970 – present), CINAHL (Cumulative Index to Nursing and Applied Health) (1961 – present), PsycINFO (1967 – present) and Directory of Open Access Journals (2003 – present). The last search was conducted on the 28th of January 2015. Furthermore, we scanned reference lists to make the search as wide as possible. The following search string was applied to search all the databases: Presenteeism OR "sickness attendance" OR "SP" AND "cohort OR prospective OR follow-up OR panel OR longitudinal." If there was any doubt whether an article should be excluded, it was included to the following stage. Abstracts for all the included articles were retrieved, and each abstract was screened independently by both authors. The reason for exclusion was recorded for all excluded articles. A list of articles was drawn up and compared by both authors, and any disagreements were resolved by consensus.

1.2. Data extraction and quality assessment

We developed a data extraction tool that took into consideration the review question (Khan et al., 2001). The developed tool was pilot tested on two articles leading to minor corrections to the extraction tool. The two review authors extracted the data from included studies and the extractions were compared and documented. Due to the heterogeneous nature of SP studies in terms of SP definitions, differing methods, as well as different outcome measurements, we undertook a thematic approach to the review. We adopted an interpretive approach in an attempt to broaden our understanding of SP by identifying key emerging themes. Using quality scoring scales, which generate a numerical summary score and weight one item over another, to assess study quality is no longer encouraged (Higgins and Green, 2011). We therefore assessed each paper for quality by identifying the strengths and limitations of the study design and methods that limit bias and increase internal validity (Crowe and Sheppard, 2011; Higgins and Green, 2011; Sanderson et al., 2007). The dimensions we considered were:

- Length of time between baseline and follow-up(s)
- The sampling method: to examine whether the participants in the study are representative of the target population
- The appropriateness of the sample size
- Control of variables: including the appropriateness of control variables, and omitted variables
- Measurement of health and wellbeing outcome variables (including use of validated instruments)
- How attrition from the studies was managed

We applied the above dimensions to the included papers to identify strengths and limitations, summarised in Table 1. We concluded that the quality of the studies did not differ greatly and therefore treated all included studies equally.

2. Results

A total of 453 papers were found through the literature search (Fig. 1) and duplicates were removed. The remaining abstracts were