

APPLYING THE TRANSTHEORETICAL MODEL OF CHANGE TO ERGONOMIC INTERVENTION

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IDEAS FOR TODAY AND TOMORROW

INTRODUCTION: RELEVANCE OF THE STUDY

Workplace injuries and fatalities in the United States of America cost employers \$198.2 billion a year (Michaels, 2014).

Figures from the large, private not-for-profit university showed average cost per injury for 2009 was \$1,806.58 and in 2012 was \$1,606.75. The increase in medical only claims between year 2009 and 2012 showed 2.7655% with the increase happening in 2012. This was significant to the employer because these were claims with low dollar values that closed within 90 days.

Somewhere between 85% and 95% of all accidents are due to unsafe behaviors/practices - Borbidge (2006) argued that a behavior change model was one critical process that slowed the increase of workplace injuries, and ultimately costs associated with these injuries.

The study evaluated the effects of the transtheoretical model of change (TTM) on ergonomic intervention to identify a more effective method of preventing workplace injuries in a large, private not-for-profit university, in southern Florida.

The TTM is used to establish the relationship of individual decision making self-efficacy and characterized (a) the relationship between tailoring interventions to match a person's readiness (stage of change) and ergonomic intervention; (b) the TTM in symptoms occurrence; and (c) personal choices including those that extended to the workplace causing work related injuries.

WHY IS UNDERSTANDING BEHAVIOR IMPORTANT IN A BUSINESS CONTEXT?

Safety is an ethical decision. The National Safety Council during its annual Congress and Expo Sept. 13-19 in San Diego advised that workplace injuries and fatalities cost our economy \$198.2 billion a year (Michaels, 2014).

Contributors against change

- Inadequate motivation
- Resistance to therapy
- Defensiveness
- Inability to relate

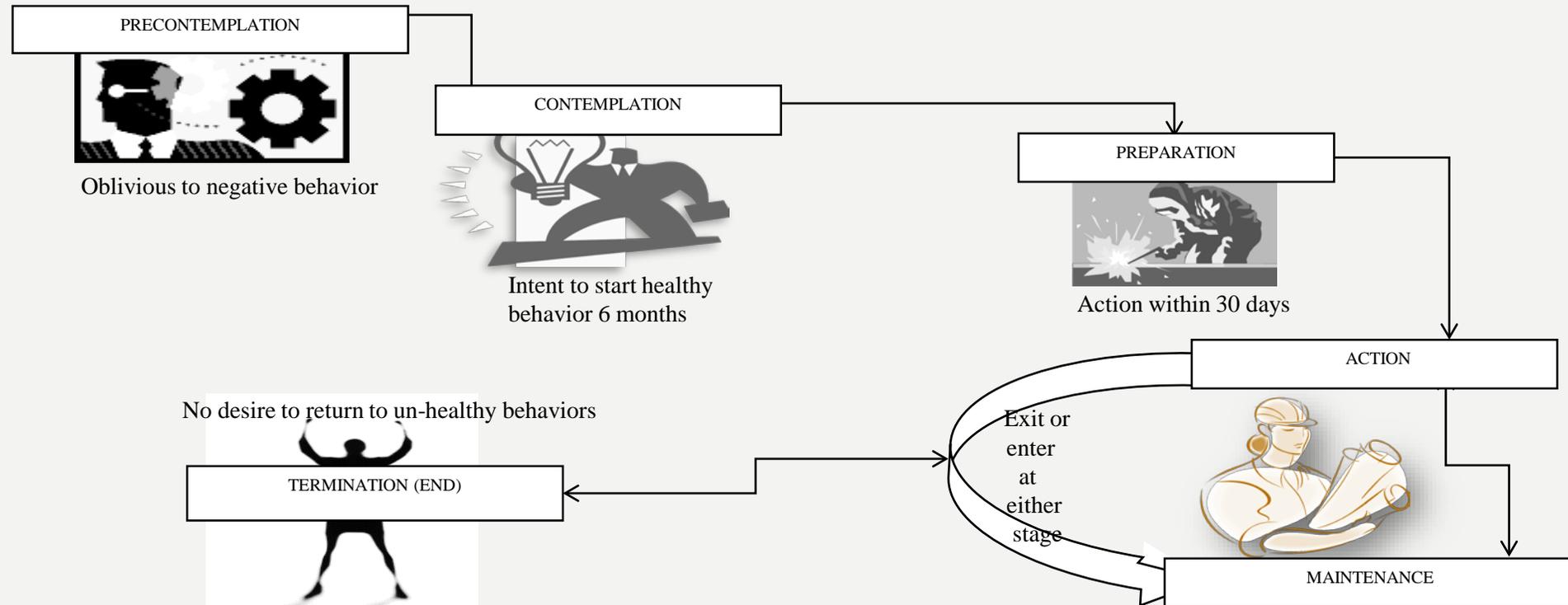
Barriers Against Reduction of Workers' Comp Claims

- Focusing exclusively on the frequency of accidents may not result in long-term savings for an employer.
- Lack of data caused from unreported injuries and accidents.
- Lack of understanding about employees' readiness for change.
- Changes introduced in an organization causes chain reactions.

PHENOMENON OF INTEREST

Intentional behavior : Exploration of intentional behavior change and the theoretical and clinical aspects of psychotherapy orientation (i.e. the transtheoretical model of change-its promise in detecting along the change process where an intervention may be effective).

STAGES OF CHANGE



TTM VALUE

Theoretically, the transtheoretical model of change (TTM) supports greater sensitivity in injury prevention because it allows employees and employers detect along the change process where an intervention would be effective and enlighten individual self-efficacy as a guide to characterize

- (a) the relationship between tailoring interventions to match individual readiness (stage of change) and ergonomics intervention.
- (b) the role that the TTM played in symptoms occurrence.
- (c) personal choices that extended to the workplace causing work related injuries.

The TTM on ergonomic intervention was used to identify (a) effective methods of training besides peer monitoring, (b) best practices to protect employees from work-related injuries, and (c) any patterns or trends in employees' behaviors, which could lead to workplace injuries.

STUDY DESIGN

- ❑ The transtheoretical model of change (TTM – stages of change) utilized five change theories (precontemplation, contemplation, preparation, action, and maintenance) and 10 processes of change (covert and overt activities that people use to progress through the stages) to help the participants understand that behavioral changes did not happen in one step, but through a series of distinct, predictable stages. By knowing the stage of change each participant was helped to move through the continuum and to succeed.
- ❑ The stage constructs were used to identify participants' positions in goal outcomes. The Stages of Change Construct Represents a Temporal Dimension and Implies Phenomena Occurring Over Time.
- ❑ Applying the stages of change to tailored interventions shifts the focus of individual encounter from pre-contemplation to maintenance then termination.
- ❑ The decisional balance construct of the transtheoretical model of change determined individual attitude frame, behavior, time, and condition about change.

THE STUDY

- ❑ The study introduced three facets characterizing the research strategy: qualitative, 47-questions questionnaire, 12 interview sessions over two months, which included instruments such as a questionnaire designed to learn about individual self-efficacy including shared decision-making, and perceived quality of work life/satisfaction and a quality of work life module.
- ❑ Two stakeholders were studied - supervisors and employees at a large, private not-for-profit university in southern Florida.
- ❑ Approximately 40 employees comprised of supervisors and employees received a 47-question questionnaire to assess their view about safety measures at the private not-for-profit university.
- ❑ Response rate was 11 respondents (25%).
- ❑ The study, involved analysis of data from a total of 12- interview sessions over a period of two months with three participants selected because of the employment level, which exposed the employees to significant computer usage.
- ❑ The role of phenomenology explored whether, although good, ergonomics implemented in the belief that it drove safety worked for everyone in a company as a standalone-intervention method, or if the TTM was an effective influencer in risk prevention.

RESEARCH QUESTIONS FINDINGS

- ❑ **Research Question 1:** 60% of respondents believed change happened, specific to management of workplace injuries, because of risk control measures and timely risk reporting (Question 45). At least three respondents reported uncertainty to how change happened. Experts such as Galonek (2015) argued that safety and the creation of a zero-incident culture required an engaged workforce.
- ❑ **Research Question 2:** respondents demonstrated different levels of understanding about causes for musculoskeletal disorders (MSDs). White (2015) supported the need for employers to address problems before they happened.
- ❑ **Research Question 3:** all respondents had limited understanding of what the university's efforts were in providing work fitness assessments. Meng, Zhang, and Huang found, "Perceived organizational health was positively related to job self-efficacy and job satisfaction" (2014, p. 365). Paton (2015) found the question of self-efficacy as it related to knowledge outcomes was of considerable importance since workload requirements on individual person caused stress.
- ❑ **Research Question 4:** commitment to health and safety as a core value was consistent with what the American Society of Safety Engineers (2014). Gross and Niemeläinen (2012) found correlation between a person's self-efficacy about their ability, altered beliefs and expectations about conditions and improvement following onset of musculoskeletal conditions.

FINDINGS

- ❑ Emerging themes: (a) preferences and risk exposure, (b) expressive controls - high-self monitors vs. low self-monitors, (c) a lack of awareness, and (d) health issues and decrease in quality of life.
- ❑ Psychological factors drove risk aversion differences among members of this group.
- ❑ Equal number of respondents answered Question 31 noting they experienced pain in the hands, wrists, arms, or shoulders every day for a week or more.
- ❑ A mixed group of high self-monitors (HSMs) and low self-monitors [LSMs]). The LSMs demonstrated a propensity to uncommon compliance to social cues and who infrequently adapted their behavior from one situation to another.
- ❑ Question 6 on the quality of work life module showed low awareness about risks associated with Musculoskeletal injuries.
- ❑ A qualitative measure of risk aversion increased after crisis.
- ❑ Participants were at the precontemplation, contemplation, and action stages.
- ❑ Behavior change was gradual with levels of difficulty.
- ❑ Results of the 47-question questionnaire and interview sessions showed that the private university's potential for risk from musculoskeletal conditions and transference of other illnesses was real.
- ❑ There was a trend of individuals taking on more and more work with fewer people, or having to work faster (questions 6, 7, 8, 11, and 22).
- ❑ Findings of the study indicated that the employer should use behavior change as a primary model of preventing injuries in line with ergonomic intervention efforts.

FUTURE RESEARCH

Limitations:

- Time constraints (2-month timeframe – no follow up of participants to the in-depth interview).
- The small number of respondents.
- Use of structured questions. The questions confined to the decisional balance exercise, interview instruments composed of a questionnaire designed to learn about individual self-efficacy including shared decision-making and perceived quality of work life/satisfaction, and quality of work life module initially intended as a guide during the interview stage of the study.

Recommendations:

- The discussion left room for further studies to assess potential utility of qualitative findings as evidence in human resource employee relations management including ways in which to apply to practice.
- Expand study to one year.
- Include more subjects.
- Develop an instrument.

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