

NCITEC Project Summary

Project Title: Safe and Competent Intermodal Transportation Workers

Principal Investigator: A. Bondanza & P. Sherry

Start Date: July 2012

Completion Date: December 2014

NCITEC Funds: \$50,000

Matching Funds: \$56,000

Category: Safety & human factors, freight transportation

Project Description:

Considerable attention has been placed on the total number of hours worked and the number of consecutive hours worked by persons in the transportation industry. In fact limiting the total number of hours worked was one of the key provisions of the rail safety improvement act of 2008. However, little is known about the interaction between various types of shifts and how they might interact with the circadian rhythm, basic work attitudes, the personality orientation of transportation workers to contribute to overall worker safety and health. In their studies, the FRA demonstrated a relationship between shift work and the occurrence of accidents. Sherry et. al. (2012) have demonstrated a relationship between worker attitudes and personality with the frequency of accidents and incidents. However, the interrelationship between the shift work, accidents and health in the rail industry has not been sufficiently studied. For example, while it is well known that working during the midnight hours has a greater association with accidents in the trucking industry, might it be the case that persons who are more conscientious, less impulsive, and more safety sensitive or risk-averse might be less likely to be involved in accidents. In a society where demands for 24-hour service exist, demands for labor must also be met. (Dean, Fletcher, Hursch, Klerman, 2007). Recent communications for railroad officials indicate that plans to add significant numbers of individuals to the workforce are underway. Thus, the development of appropriate tools to identify persons most likely to work safely under adverse (i.e. shift work) conditions may be particularly timely. Therefore, the purpose of this research will be to examine the overall effects of shift work, amount and types of shift work, the characteristics of specific individuals including attitudes towards safety and personality on the occurrence of worker accidents, incidents and their general health. The results and significant findings from this research will be made available to intermodal transportation executives in the form of recommendations for selection tools that can be used to identify high potential candidates for the industry. The researchers will then present these findings to both private and public companies in the transportation industry and educate current executives on how to use both the performance assessment instrument and competency model generated from this study. Data to be collected include work histories of the individuals as well as the accidents, incidents and health of these same individuals. Investigators will administer a survey which will assess attitudes, personality characteristics, work habits and practices, etc. related to safe and effective shift work. Upon completion of the analyses a set of indicator variables will be selected that identify the effects that shift work has upon the occurrence of accidents and incidents and health. Work attitudes and individual characteristics associated with resilience in the face of shift work will be identified. A final report will describe the project to TRB or TRF for presentation at the next available conference.