

# Chapter XLVI

## Psychometric Methods for Work Ethic Research: Factor Analysis and Structural Equation Modeling

Gregory C. Petty  
University of Tennessee, USA

### ABSTRACT

*Research in career and technical education stresses job skills, training, as well as knowledge of team work and positive work behavior. However, information regarding affective work performance is often misunderstood or misrepresented, even by well meaning teachers. This chapter is a review of salient factors affecting worker attitudes and behaviors that can be used by CTE educators and researchers to improve their educational strategies. The Occupational Work Ethic Inventory (OWEI) has been used to collect work ethic data from business and industry workers and their supervisors from several occupational areas. These results have been investigated and their relative rating of work ethic factors are reported. CTE specialists and teachers should consider research methods that utilize 21<sup>st</sup> Century statistics and techniques to assist students in working with groups and in developing work relevant curriculum. Additional research in affective workplace performance utilizing the OWEI could be useful in developing performance standards for performance improvement of workers.*

### INTRODUCTION

The Occupational Work Ethic Inventory<sup>®</sup> (OWEI) was developed by Gregory C. Petty in an effort to simplify the understanding of the important affective domain by career and technical educators

(Petty, 1990; Petty, 1991a). This new instrument was based partly on established psychometric principles of instrument design and partly on the basis of Petty's ongoing work with the dynamics of workplace behavior. In the past 20 years the OWEI has been used successfully by researchers

around the world to explore different phases of the work ethic.

Psychometric methods for developing instruments is a successful research methodology for Career and Technical Educators but has been woefully underutilized. The recent surge of qualitative research has left little attention to quantitative methodologies. This chapter is a primer of sorts, for the history of and development of an instrument to be used to accentuate and promote study of the affective domain of education.

The original purpose of the OWEI was to share a tool with interested and legitimate researchers who wish to study this important topic. It was designed to be a simple, quantifiable measure of a complex subject (Petty, 1991a). Though this was a difficult task, data keeps coming in and each study confirms Petty's belief that the OWEI is a reliable and valid measure of the important construct of positive intrinsic attributes of work (Hill and Petty, 2007).

When Petty first began to study the work ethic, Max Weber's (1904,1905) well-known phrase "the Protestant work ethic", as delineated in his famous work *The Protestant Work Ethic and the Spirit of Capitalism*, was probably the most well known descriptor of "work ethic". Work ethic has been the term used by many to describe the desirable traits that employers seek in employees (Cherrington, 1980; Maccoby & Terzi, 1981; Miller & Coady, 1984). These early studies stressed that hard work, diligence, and industry would be rewarded; either because of a belief that one was fulfilling his "daily calling" to God, or because of a belief that labor is important because it produces wealth. However in the 21<sup>st</sup> century most Career and Technical Education (CTE) professionals view the meaning and value of work as consistent with societal needs and economic demands (Brauchle & Azam, 2004), not necessarily religious beliefs. Even though the meaning of work has changed, some of these changes are due to the transformations brought about by technology (Haynes, 1992).

As evidence of how societal changes can influence how we perceive work, it should also be considered that events seemingly external to an individual's life can influence their perceived work ethic (McCortney, & Engels, 2003; Niles, & Harris-Bowlsbey, 2002). Hill and Petty (2007) in their paper to the ACTE proposed that over the last ten years aspects of work ethic have changed significantly from year to year with a low point immediately following the 9/11 disaster of the World Trade Center. The only plausible reason for this change in this sample of 76,000 subjects was from overall shifts in society's mores.

Presented here is a study of the beginnings of Petty's effort to measure the work ethic as perceived in today's workplace followed by results of a factorial validation and the most recent Structural Equation Model of these data. This methodology attempts to describe the process of conception to operation so that other researchers may gain from this experience.

## **BACKGROUND**

Historically, from 1956 to 2000, over 25 concepts/ measures of worker commitment (work ethic) were generated by researchers (Dawson, 1999; Morrow, 1983). Morrow (1983) cited some of the more commonly used forms of the definition and operationalization for worker commitment as: (1) the protestant work ethic (the belief that hard work is intrinsically good and an end in itself; Mirels and Garrett, 1971), (2) career salience (the importance of work and a career in one's total life; Greenhaus, 1971; Greenhaus and Simon, 1977), (3) job involvement (the degree of daily absorption an individual experiences in work activity; Lodahl and Kejner, 1965), (4) work as a central life interest (an individual's preferred locale for carrying out activities; Dubin, 1956); Taveggia and Ziemba, 1978), and (5) organizational commitment (the extent to which an employee desires to remain in an organization, exerts effort on its behalf, and

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