

**Safety culture assessment in campus recreational sports: Item development, validity evidence development, and reliability analyses**

*Nathan Martin, The University of New Mexico*

*Todd Seidler, The University of New Mexico*

*David Scott, The University of New Mexico*

**Research  
Session 18**

**Saturday, May 31, 2008  
8:00 AM - 8:25 AM**

**Presentation (25-minute)  
Abstract 441**

Safety culture theorists posit that by measuring an organization's "value and priority placed on worker and public safety by everyone in every group at every level of an organization" or "safety culture," and then implementing interventions to enhance the culture of the organization, an organization can affect its safety measures (Wiegmann et al., 2002, p. 8). Organizations within numerous industries, from nuclear and aviation to off-shore diving and healthcare, invest significant resources assessing and attempting to enhance their cultures with the expectation that any implemented interventions will positively affect culture, ultimately enhancing safety within the organization.

By developing a survey instrument to measure safety culture of campus recreational sport organizations (CRSOs), the present study may provide an instrument by which these organizations can identify deficiencies in their safety culture that contribute to the harm of their participants. Furthermore, once these deficiencies are identified, these organizations could develop strategic initiatives and interventions that could be implemented to enhance their safety culture, ultimately reducing harm to participants.

The purpose of the present study was to develop, pilot test, and refine an assessment instrument that produced reliable scores and facilitated the creation of validity evidence to support score interpretations as representing a campus recreational sport organization's safety culture. An initial web-based assessment instrument was distributed by email to the professional and student employees of two campus recreational sports organizations (n=615, n=247 respectively). The data collected from the initial assessment instrument were analyzed for evidence of validity and score reliability in order to further refine the instrument for future research.

The results of the present study indicated that subject matter experts' review of items provided validity evidence based on the content of the instrument. Additionally, evidence based on the internal structure of the instrument was provided by factor analysis. Specifically, the final four safety culture sub-scales developed from the present study accounted for 55.6 percent of the variance in the items. The four safety culture sub-scales were described as Employee Training, Proactive Safety Priority, Safety Reinforcement, and Universal Responsibility. Furthermore, analyzing the relationship between the safety culture sub-scales and measures of perceived risk and perceived injuries provided evidence based on relations to other variables. Only the Employee Training and Proactive Safety Priority sub-scales were statistically significant explainers of the variance in any of the perceived risk or perceived injuries items.

The scores developed from the final four safety culture sub-scales also had adequate reliability ( $\alpha=.923$  for Employee Training (9 items),  $\alpha=.831$  for Proactive Safety Priority (6 items),  $\alpha=.892$  for Safety Reinforcement (6 items), and  $\alpha=.834$  for Universal Responsibility (6 items)).

The results of the present study indicated that there is some evidence that the final four sub-scales and their respective 27 items represent elements of the construct of safety culture in a campus recreational sports setting. Since the study was highly exploratory and had little sport-specific foundation on which to begin, the process and resulting evidence was one successful outcome for the present study. However, much of the evidence was ambiguous or underdeveloped, requiring further research to help clarify or bolster evidence to support the understanding and assessment of safety culture in campus recreational sports.

This presentation will provide the methods, results, and conclusions of the present study.