

Prepared by Talos Analytics for
Nova Scotia Construction Safety Association

Factors of Safety Culture

“Deeply held but often unspoken safety-related beliefs, attitudes, and values that interact with an organization’s systems, practices, people, and leadership to establish norms about how things are done in the organization. Safety culture is a subset of, and clearly influenced by, organizational culture. Organizations often have multiple cultures or subcultures, and this may be particularly true in construction.” (NIOSH/CPWR, 2013, p.14)



Factors of Safety Culture

Nazaruk summarized six meta-analyses that have reviewed a total of 62 safety culture and climate research papers (2011). The goals of these meta-analyses were to identify common safety culture factors found across multiple studies. The logic of this method is that if there are similar factors amongst multiple studies of safety culture then there is support for a “true” form of safety culture. However, this line of reasoning may not be without its deficiencies. Since most of the studies included in the meta-analyses are often required to build on the structure of past research to get published, homogeneity over diversity will likely be the result. Nonetheless, a summary of past safety culture factors will help guide the development of a new measure and provide us the context of how past researchers envisioned safety culture.

The most common factor across all six meta-analyses (62 studies) was leadership and management commitment to safety. The next most common factor was employee involvement and empowerment. The following factors were identified by two of the meta-analyses: competence, safety management systems, communication, and reporting systems. In summary, there is not a lot of consensus on the factors of safety culture; however, leadership and employee involvement will likely be important. Do these meta-analyses clarify or tell us anything new about safety culture? Not really. One critique is that the past studies exclude the shared beliefs, values, and attitudes of employees towards safety. This provides an opportunity to develop a safety culture scale that focuses on the root definition of safety culture, that is, “safety-related beliefs, attitudes, and values that interact with an organization’s systems, practices, people, and leadership to establish norms about how things are done in the organization”. Culture is not abstract and mystical, it is the sum of its parts.

References

- Clarke, S. (2000). Safety culture: underspecified and overrated? *International Journal of Management Reviews*, 2(1), 65-91. doi: 10.1111/1468-2370.00031
- Farrington-Darby, T., Pickup, L., & Wilson, J. R. (2005). Safety culture in railway maintenance. *Safety Science*(43), 39-60. doi: 10.1016/j.ssci.2004.09.003
- Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety climate: Identifying the common features. *Safety Science*(34), 177-192. doi: 10.1016/S0925-7535(00)00012-6
- HSE. (2005b). A review of safety culture and safety climate literature for the development of the safety culture inspection toolkit. In H. Engineering (Ed.), *HSE Books: Health and Safety Executive*.
- Nazaruk, M. (2011). Developing safety culture interventions in the manufacturing sector (Doctoral Dissertation). University of Bath, Bath, UK.
- Seo, D.-C., Torabi, M. R., Blair, E. H., & Ellis, N. T. (2004). A cross-validation of safety climate scale using confirmatory factor analytic approach. *Journal of Safety Research*(35), 427-445. doi: 10.1016/j.jsr.2004.04.006
- Wiegmann, D. A., Zhang, H., von Thaden, T. L., Sharma, G., & Gibbons, A. M. (2004). Safety Culture: An Integrative Review. *The international journal of aviation psychology*, 14(2), 117-134. doi: 10.1207/s15327108ijap1402_1