

Attachment J: Survey Design and Intended Application

The survey that will be used for this data collection (Attachment F) contains 6 individual scales. All of the scale constructs are driven by theory, the existing literature base, and input from research partners (community and academic).

Items 1 – 20 are intended to measure work adjustment (coping) styles. Conceptually, these items are driven by the Theory of Work Adjustment which posits that individuals tend to use one of two basic response options when attempting to address problems at work – *active* or *reactive*. When dissatisfied, individuals who respond in an *active* manner seek to have the workplace modify itself to better meet their needs. Individuals who respond in a *reactive* manner try to modify own expectations and/or behaviors to better meet the needs of their workplace. A large body of literature exists that suggests Latino immigrants are likely to be more reactive than American-born workers. The 20 items in this scale reflect the 20 work reinforcer dimensions of the Theory of Work Adjustment.

Items 21 – 30 are intended to measure *flexibility*, another construct of the Theory of Work Adjustment. *Flexibility* refers to how much tolerance an individual has for a mismatch between their desired and actual workplace circumstances. The literature suggests that Latino immigrants are likely to be more flexible than American-born workers.

Items 31 - 40 are intended to measure *perseverance*, another construct of the Theory of Work Adjustment. *Perseverance* refers to how much time and effort an individual will put into attempting to adjust to or modify unsatisfactory work circumstances. Again, the literature suggests that Latino immigrants need to exhibit far more perseverance than American-born workers.

Items 41 – 54 are intended to assess job commitment and turnover intentions, constructs that are important to nearly all models of workplace behavior in industrial/organizational psychology.

Items 55 – 70 are intended to assess workplace safety climate. Safety climate has repeatedly been identified as central to maintenance of a safe and healthy workplace.

Items 71 – 75 are intended to assess risk acceptance. Again, the literature suggests, for a variety of reasons, Latino immigrants need to accept higher levels of risk on the job than American-born workers.

It is important to note that although the overall scale content was driven by theory and the existing literature, the exact phrasing of items and the work situations portrayed were guided by analysis of focus group and individual interview data collected from Latino immigrant workers and input from both research partners. Although the very first draft of the scale items were in English, they were translated into Spanish for further development, including review by Spanish-speaking research partners. Cognitive testing was then done with representative members of the Latino immigrant community. Feedback from these efforts led to the development of a final version in Spanish, which was then translated into English. Again, the English-language version was reviewed by NIOSH research partners and cognitively tested with English-speaking, American-born workers employed in jobs similar to those held by the Latino immigrants interviewed earlier. Feedback from this second round of efforts led to modifications of the English-language version to insure conceptual equivalence with the Spanish-language version. This is in accordance with numerous recommendations in the literature for developing questionnaires for use with Latino immigrants.

This project differs from many public health studies in its development and use of discrete individual scales to assess constructs rather than using a smaller number of more loosely connected items. As such, it represents more of a psychological than an epidemiological approach. In epidemiology, statistical power is attained through asking a smaller number of items, sometimes only 1 or 2 questions per construct, to a very large and representative sample of the target population. In many respects, such an approach lends itself best to “surveying” the topic areas and the identification of potential public health problems. In the approach used in this study, statistical power arises from asking a larger number of items to a more modest number of individuals. Although, the smaller sample size may make it less representative, the payoff is a deeper and more nuanced investigation of a given construct and greater psychometric reliability due to increased scale length. In addition, in contrast to the often atheoretical data collections in epidemiology, this approach allows additional statistical power through the testing of theory driven, a priori hypotheses regarding group differences in responding.

Although all due diligence was exercised in the development of this questionnaire, it is expected that data analysis may indicate that some individual items perform poorly and need to be revised and/or dropped. It is possible, though not expected, that some scales may also perform poorly enough to require significant revisions. Our literature review of current practices in this area of research suggests that very few researchers subject their survey items or scale constructs to rigorous scrutiny, either in development or in follow-up psychometric. Many researchers also develop “one off” surveys for use in a single project, thereby making it extremely difficult compare findings across studies. It is hoped that due to its rigorous development and refinement process, as well as by addressing topics of central importance to

Latino immigrant workers, this survey will be used by others in the future, thereby allowing more direct comparison and synthesis of findings.

The ultimate goal of this survey development is application to the tailoring of public health interventions for Latino immigrant workers. The constructs measured by the six scales in this survey have all been identified by the literature as relevant to understanding and improving the occupational safety and health of Latino immigrant workers. In the past, trainings and other interventions tended to focus on the transmission of knowledge. However, more recently it has been recognized that actually having knowledge of what should be done is frequently independent of being motivated to perform a given behavior. The industrial organizational literature refers to this as the distinction between “can do” and “will do” factors. The health communication literature recognizes both of these factors and a third – behaviors to performance. In some employment settings, management and/or other circumstances do not allow certain safety behaviors to easily be or routinely practiced.

Taken together, to be most successful, trainings need to transmit knowledge, motivate application, and provide strategies to overcome barriers to implementation. The survey items are intended to tap into constructs important to motivation and implementation of knowledge. For example, if as hypothesized, Latino immigrants do tend to be more *reactive* in their coping strategies, training for these workers could focus on identifying the most effective reactive strategies for a given workplace and help them to identify the limitations inherent to adopting a reactive adjustment style as opposed to a more *active* approach. Clearly, in any workplace, asking the employer to make changes to better match worker needs is riskier than attempting to adapt one’s self to circumstances. For individuals, such as immigrants, in tenuous employment situations, it poses even greater risks of negative consequences. By directly addressing this

reality in terms relevant to the Latino immigrant workers, it is hoped that they will become persuaded and empowered to become active decision-makers regarding their occupational safety and health rather than passive recipients of whatever workplace circumstances they find themselves in.