Activity 1: Scale Development and Analysis

Add that an overall item to serve as validity check is needed.

Purpose

The purpose of this activity is to develop six scales to measure the latent variables shown in Figure 1. The goal is to obtain scores for each latent variable that display both reliability (internal consistency) and validity (both content and construct). The model shows four predictors – Work Autonomy, Job Stress, Financial Well-being, and Work-Life Conflict – and two outcomes, Job Satisfaction and Life Satisfaction. The model also specifies that Job Satisfaction is a predictor of Life Satisfaction.

Figure 1: Predictors of Job Satisfaction and Life Satisfaction

Activity Expectations

1. Develop Items
   a. Develop a draft of at least 9 items to measure the latent variable to which you have been assigned.
   b. Post draft items on the “Activity 1” discussion board in Folio for class feedback:
      • First post the latent variable name to which you have been assigned and a brief description of the latent variable plus any dimensions that should be included in the measure (e.g., Test Anxiety – fear one senses before or during tests and this usually occurs in two dimensions, physiological and psychological). This should be a text post, not an attachment.
      • Below the latent variable description, post item wording as text, not as an attachment, and indicate response scale that should be used for each item (e.g., 1 = Not at all like me, 5 = Very much like me; 1 = Very Dissatisfied, 7 = Very Satisfied, etc.). For this activity, use a 4, 5, 6 or 7-point Likert-type scale like the examples above, but use whichever scale description wording
seems best for your items (e.g., Strongly Disagree, Very Infrequently, Not at all like me, etc.), and you may change response scale options for different item (i.e., not all items must use the same response scale descriptions).

- Do not plagiarize items – borrowing words and ideas is acceptable but provide citation with the post of draft items to sources used. As a minimum, you must develop at three original items; the remaining items can be reworded items found in the literature. Do not use exact wording of any items found. Identify which items you developed and which you reworded; below the reworded items include copies of the original wording (e.g., Reworded item: “I have an upset feeling in my body when I face important tests.” Original item: “Sometimes I have an upset stomach when taking tests.”).

- Item justification: Below each item provide a brief justification for why that item is included in the scale. For example, if measuring test anxiety, the following item might be included “I have an upset feeling in my body when I face important tests.” Explain the theoretical rationale for including this item, for example: Spielberger & Vagg (1995) explain that those with high levels of test anxiety often report experiencing nervousness or an upset feeling. This item addresses that experience and fits with the physiological dimension of test anxiety.

- Below items list references of material used in development of your items (i.e., any scales or articles used from which item wording was selected). Include as attachments to the discussion board post copies of that material (e.g., if you used Menon 2001, include copy of Menon’s 2001 article as an attachment).

2. Review Classmates’ Items
   Once a classmate posts items on the “Activity 1” discussion board, please review each item and provide feedback for clarification, rewording, and any other type of improvement that comes to mind. The goal is to help a classmate improve items and give you practice in critically reviewing items.

3. Revise Items
   Once you have feedback on your items, make revisions, then submit all items (revised and not revised) in the Activity 1 dropbox and mark those 3 or 4 you think will be best to use to measure your assigned latent variable.

4. Electronic Questionnaire Construction
   An electronic questionnaire will be created. All EDUR 8331 students will be given access to the questionnaire. Open the linked questionnaire and include the 3 or 4 items you think will be the best indicators for the latent variable you were assigned. Be sure to include both item and response scale in the questionnaire.

5. Questionnaire Administration
   Once the questionnaire is constructed, it will be administered to students in one of the instructor’s classes.

6. Item Analysis
   The instructor will post a data file of all responses obtained to the questionnaire. Once the data file is posted, you are to perform an item analysis of responses to your latent variable. This should include
   - frequencies of item responses,
   - reverse scoring of items that are reverse coded (i.e., those with a negative valence),
   - correlations among items (both original and reverse scored),
   - various item fit statistics (e.g., item-total correlation, alpha if item deleted, etc.),
   - overall Cronbach’s alpha, and
• interpret and discuss your findings and make recommendations about which items should be used to form a composite variable for your construct.

• Lastly, if you see areas in which the items could be improved now that results were obtained, discuss those revisions. With the development of any questionnaire, the first data collection attempt should be viewed as a pilot study and the goal is to use this information to make revisions and improve the questionnaire.

• Submit your item analysis as a PDF attachment in the Activity 1 dropbox.

7. Validity Assessment

After everyone submits an item analysis of their construct, the instructor will form composite variables based upon the recommendation of each student as to which items should be used to form constructs. A data file with these composite variables will be provided to each student.

For the validity assessment, there should be two parts. First, address issues of content validity – explain briefly the process of item development, and the theory/logic/rational for each item included – this is like the item justification posted above. Also indicate the changes made because of feedback received.

Second, use the data with composite variables and create a correlation matrix among all composites (i.e., among the six variables in the study). Use this table of correlations to assess evidence for construct validity for your latent variable. Hypothesize how it should relate to the other latent variables then compare the results against correlations. The demographic variable sex will also be sought from participants, and you may be able to use sex differences in responses to assess further construct validity evidence (e.g., research shows that females tend to have higher levels of text anxiety, and the results from this sample reflect that: Females M = 3.59 and Males M = 2.77, t = 2.89, p = .02).

Submit your validity assessment as a PDF in the Activity 1 dropbox.

Sample Scales

Below are links to scales used by others for research purposes. Item wording is presented usually in the Instrumentation or Measures section, or in a table. These examples should help you understand better that latent variable you have been assigned. Let me know if you have questions.

Job Autonomy


Job Stress

This article has good examples of job stress.

This article also has items to measure job stress, but these items seem to focus more on physiological reactions (e.g., headache, migraine) which may be too narrow and therefore not cover well the range of job stress behaviors and thoughts that can occur.
Financial Well-being


Work-life Conflict

This article shows items that focus on work-life conflict – these are the types of items that should be developed. Shukla, A., & Srivastava, R. (2016). Development of short questionnaire to measure an extended set of role expectation conflict, coworker support and work-life balance: The new job stress scale. Cogent business & management, 3(1), 1.

This article shows items with work-family and family-work conflict; while these items focus on family and work conflict, they may prove helpful as examples for developing work-life conflict items. Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. Journal of applied psychology, 81(4), 400.

Job Satisfaction


Life Satisfaction


References