



*Using Structural Equation Modeling to Investigate Change in Health-Related
Quality of Life*

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Structural equation modeling (SEM) can be used to investigate different types of change in health-related quality of life (HRQL) outcomes, among which so-called ‘response shift’. Response shift refers to a change in the meaning of one’s self-evaluation, caused by a change in internal standards of measurement (i.e., recalibration), values regarding the relative importance of subdomains (i.e., reprioritization), or definition of the target construct (i.e., reconceptualization). Response shift effects may cause changes in observed scores that are not directly caused by changes in the construct of interest (e.g., HRQL). Therefore, taking into account possible response shift is important for a valid assessment of change.

This thesis focused on several methodological issues with regard to the SEM approach for the detection of response shift and the assessment of change in HRQL outcomes. We compared the SEM approach to the ‘then-test’ approach, which is one of the most commonly applied methods for the detection of response shift ([Chapter 2](#)). We extended the SEM approach for detection of response shift to the situation in which there are many measurement occasions ([Chapters 3, 4 and 5](#)), and for the analysis of discrete data ([Chapters 6 and 7](#)). Finally, we explained how to calculate and interpret effect-size indices of change to enable interpretation of the clinical significance of response shift ([Chapter 8](#)).

The overall aim of this thesis is to facilitate applications of response shift detection, and thereby contribute to a better understanding of response shift phenomena and thus change in HRQL.