**Statistically Measuring and Describing Psychological Constructs with Words, not Numbers**

Psychological constructs such as emotions[1](#_ENREF_1), thoughts[2](#_ENREF_2),[3](#_ENREF_3), attitudes[4](#_ENREF_4), and personality[5](#_ENREF_5) are often measured by asking individuals to reply to questions using closed-ended, numerical rating scales[4](#_ENREF_4). However, when we ask people about their state of mind in a natural context (“How are you?”), we receive open-ended answers in words (“fine and happy”), not closed-ended answers in numbers (“7”). Closed-ended rating scales measure the degree of a one-dimensional construct, but do not fully describe it. Open-ended questions, on the other hand, as the natural way of communicating mental states, enable multi-descriptive responses including unique descriptions of an individual’s personal experience. However, open-ended questions have to this date been difficult to objectively quantify for the measurement of psychological constructs. This project aims to show that our open-ended semantic questions approach analyzed with statistical semantics[6](#_ENREF_6) yields good statistical properties; with competitive, or higher, validity and reliability than corresponding numerical rating scales. Although rating scales are widespread, easily quantifiable and have led to important findings in different fields, they come with drawbacks[7](#_ENREF_7), which our approach addresses. Open-ended questions, as the natural way of communicating mental states, enable multi-descriptive responses including unique descriptions of an individual’s personal experience. Thus, semantic questions have the potential to complement and extend the traditional numerical rating scales as they are based on natural language and both *measure* and *describe* psychological constructs. Supervisor: Sverker Sikström

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