

THE IMPACT OF ADMINISTRATION MODES ON PATIENT-REPORTED OUTCOME SURVEY: A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY (CCSS)

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Type of presentation preference: Oral (primary) and poster (secondary)

Purpose:

The impact of survey administration by postal mail, telephone interview and web-based modes on survey completion and measurement properties in cancer survivor-based research is unknown.

Methods:

This study included 7,064 survivors from the CCSS expansion cohort who engaged in the baseline survey and completed the Brief Symptom Inventory-18 (BSI-18). The impact of survey administration was evaluated in three domains (anxiety, depression, and somatization). We evaluated survey completion as the percentage of survivors who completed every BSI-18 item. Measurement properties of the BSI-18 were examined within each mode using Cronbach's alpha coefficients (internal consistency), confirmatory factor analysis (CFA, dimensionality), and measurement non-invariance methodology (whether survivors using different modes answered the response category of an item differently given the same level of BSI-18 domain). Multiple Indicators & Multiple Causes models were employed to test measurement non-invariance.

Results:

4,068 (58%), 1,014 (15%), and 1,892 (27%) survivors chose mail, telephone, and web-based modes to complete the surveys, respectively. Compared to mailed-surveys, responders who chose the telephone mode were more likely to have been male, black/Hispanic, less educated, single/widowed/divorced, uninsured, brain tumor survivors, treated with radiotherapy, and have poorer self-reported health status (p 's<0.001); web-based survey responders were more likely to have higher income and report better health status (p 's<0.001). Mailed surveys produced slightly more missing data on each BSI-18 item than did telephone and web-based surveys (1.3% vs. <0.5%; p 's<0.001). Telephone surveys had slightly lower internal consistency (0.70-0.88) than mailed and web-based surveys (0.75-0.91). CFA revealed equivalent dimensionality of the BSI-18 across the three modes. Telephone surveys resulted in more items with measurement non-invariance than did web-based surveys (7 vs. 1 items); however, non-invariance did not distort domain score calculation.

Conclusions:

Characteristics of CCSS survivors influenced the selection of survey modes, but measurement properties of the BSI-18 were not affected by administering different modes.