Does Revising the Intrinsic and Extrinsic Subscales of the Minnesota Satisfaction Questionnaire Short Form Make a Difference?

Robert R. Hirschfeld

Educational and Psychological Measurement 2000 60: 255
DOI: 10.1177/00131640021970493

The online version of this article can be found at:
http://epm.sagepub.com/content/60/2/255

Published by:
SAGE
http://www.sagepublications.com

Additional services and information for Educational and Psychological Measurement can be found at:

Email Alerts: http://epm.sagepub.com/cgi/alerts

Subscriptions: http://epm.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations: http://epm.sagepub.com/content/60/2/255.refs.html

>> Version of Record - Apr 1, 2000

What is This?
VALIDITY STUDIES

DOES REVISING THE INTRINSIC AND EXTRINSIC SUBSCALES OF THE MINNESOTA SATISFACTION QUESTIONNAIRE SHORT FORM MAKE A DIFFERENCE?

ROBERT R. HIRSCHFELD
Louisiana State University

This study compared the original intrinsic and extrinsic subscales of the Minnesota Satisfaction Questionnaire short form to revised subscales using data from two samples. The revised subscales were formed according to critiques by several researchers. Confirmatory factor analysis of the original and revised subscales supported the discriminant validity of scores on the intrinsic and extrinsic job satisfaction measures. Several hierarchical regression models were tested that included job involvement, overall job satisfaction, and volitional absence variables, in addition to the job satisfaction components. The analyses from both samples indicated that revising the intrinsic and extrinsic subscales made little difference in the results obtained.

Simply put, job satisfaction is the extent to which people like their jobs (Spector, 1997). Job satisfaction is an important attitude for several reasons. For employees, job satisfaction has ramifications for subjective well-being (Judge & Hulin, 1993) and life satisfaction (Judge & Watanabe, 1993). Among managers, job satisfaction is often considered an important influence on employee behavior and, ultimately, organizational effectiveness (Spector, 1997). Due to its importance in organizational life, job satisfaction is studied more frequently by organizational researchers than any other variable in the domain of industrial-organizational psychology (Spector, 1997). For research on job satisfaction to be useful, it is imperative that job satisfaction scales are precise in measuring what they are designed to assess (Spector, 1997; Stone-Romero, 1994).

Job satisfaction has been conceptualized and operationalized as both a global construct and a multifaceted construct. One presumable advantage of multidimensional measures of job satisfaction is that the components may

I thank Paul Spector for his helpful comments on a previous draft of this article. Address correspondence to Robert R. Hirschfeld, Rucks Department of Management, E. J. Ourso College of Business, Louisiana State University, Baton Rouge, LA 70803-6312, e-mail: rhirsic1@LSU.edu.
relate differently to other variables of interest in a manner that advances the science and practice of industrial-organizational psychology. Spector (1997) identified the 20-item short form of the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967) as a popular facet measure that is frequently used in job satisfaction research. One advantageous feature of the MSQ short form is that it can be used to measure two distinct components: intrinsic job satisfaction and extrinsic job satisfaction. Intrinsic job satisfaction is how people feel about the nature of the job tasks themselves, whereas extrinsic job satisfaction is how people feel about aspects of the work situation that are external to the job tasks or work itself (Spector, 1997). Evidence exists supporting some degree of discriminant validity between these two components of job satisfaction in their relationships with other relevant variables. For example, Brown’s (1996) meta-analysis results suggest that intrinsic job satisfaction is more strongly related to job involvement than is extrinsic job satisfaction. Also, the results of Moorman’s (1993) study suggest that intrinsic job satisfaction has an affective basis, whereas extrinsic job satisfaction does not. Furthermore, intrinsic job satisfaction seems to be influenced to a greater degree by genetic factors than is extrinsic job satisfaction (Bouchard, 1997).

Although there exists empirical evidence involving the MSQ short-form subscales that is consistent with the theoretical distinction between intrinsic and extrinsic job satisfaction (e.g., Arvey, Bouchard, Segal, & Abraham, 1989; Arvey, McCall, Bouchard, Taubman, & Cavanaugh, 1994; Day & Bedeian, 1991), many researchers have suggested that assigning MSQ short-form items to intrinsic and extrinsic subscales as specified by the MSQ manual (Weiss et al., 1967) results in a lower-than-optimal level of construct validity (e.g., Arvey, Dewhirst, & Brown, 1978; Cook, Hepworth, Wall, & Warr, 1981; Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993; Spector, 1997). In light of existing construct validity questions, the objective of the present study was to test whether revising the intrinsic and extrinsic subscales of the MSQ short form makes a difference in the relations that intrinsic and extrinsic job satisfaction demonstrate with several germane variables.

The Revised MSQ Short-Form Subscales

Schriesheim et al. (1993, pp. 397-404) conducted a thorough content adequacy assessment of the MSQ short-form intrinsic and extrinsic subscales. These subscales initially were constructed through an empirical approach that relied on factor-analytic results (Weiss et al., 1967). On the basis of their content adequacy analysis, however, Schriesheim et al. (1993) concluded that the content adequacy of the original MSQ short-form subscales is questionable. They also recommended that appropriate revisions be made to the
subscales’ composition. Specifically, Schriesheim et al.’s results indicated that two general satisfaction items (items assigned to neither the intrinsic nor the extrinsic subscale) theoretically measure extrinsic satisfaction, that three extrinsic items theoretically measure both intrinsic and extrinsic satisfaction, that one intrinsic item measures extrinsic satisfaction, and that one other intrinsic item assesses both extrinsic and intrinsic satisfaction. Table 1 shows the 20 MSQ short-form items and indicates to which subscale, if either, each item is assigned in the original version and in the revised version (based on Schriesheim et al.’s results).

Although Schriesheim et al. (1993) concluded that Items 1, 2, and 10 are correctly assigned to the intrinsic subscale by the MSQ manual (Weiss et al., 1967), these items may be problematic nonetheless. Cook et al. (1981) suggested that some of the MSQ short-form items may not represent universally valued aspects of a job. Because Items 1, 2, and 10 seemingly suffer from this deficiency, they were excluded from the revised intrinsic subscale used for the present study, as indicated in Table 1. Cook et al. also commented on the troublesome disparity in the number of items allocated to the original intrinsic subscale (12 items) and to the original extrinsic subscale (6 items). The elimination of Items 1, 2, and 10 results in a 7-item revised intrinsic subscale that better matches the number of items (6) comprising the revised extrinsic subscale.

Research Question

The objective of the present study was to test whether revised intrinsic and extrinsic subscales (shown in Table 1) relate with relevant variables in a manner that differs from the relations between the original intrinsic and extrinsic subscales and the other variables. This study included three variables that, along with the job satisfaction components, comprised several multivariate models used to test the research question.

Job Satisfaction Components and Job Involvement

Job involvement is the degree to which a person is cognitively preoccupied with, engaged in, and concerned with his or her present job (Paullay, Alliger, & Stone-Romero, 1994). Because, like job satisfaction, job involvement is an attitude toward the present job, it is an appropriate criterion variable to use in testing alternative measures of the two job satisfaction components. Brown’s (1996) meta-analysis of job involvement substantiated distinct links between job involvement and intrinsic and extrinsic job satisfaction; the results suggested that job involvement is more strongly linked to intrinsic job satisfaction than to extrinsic job satisfaction. In light of these
demonstrated relations between job involvement and the job satisfaction components, job involvement was incorporated in several models used to test the research question in the present study.

**Job Satisfaction Components and Overall Job Satisfaction**

Overall job satisfaction is a construct distinct from the composite of specific job facet satisfactions (Highhouse & Becker, 1993; Scarpello & Campbell, 1983; Wanous, Reichers, & Hudy, 1997). Overall job satisfaction measures are more encompassing than are job facet satisfaction measures and consequently can be used to provide data to support the validity of scores on facet measures (Scarpello & Campbell, 1983). Thus, overall job satisfaction

---

**Table 1**

*Assignment of Minnesota Satisfaction Questionnaire (MSQ) Short-Form Items to Intrinsic and Extrinsic Subscales*

<table>
<thead>
<tr>
<th>MSQ Short-Form Item</th>
<th>Original</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Being able to keep busy all the time.</td>
<td>Intrinsic</td>
<td>Intrinsic(^a)</td>
</tr>
<tr>
<td>2. The chance to work alone on the job.</td>
<td>Intrinsic</td>
<td>Intrinsic(^a)</td>
</tr>
<tr>
<td>3. The chance to do different things from time to time.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>4. The chance to be “somebody” in the community.</td>
<td>Intrinsic</td>
<td>General(^b)</td>
</tr>
<tr>
<td>5. The way my boss handles his/her workers.</td>
<td>Extrinsic</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>6. The competence of my supervisor in making decisions.</td>
<td>Extrinsic</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>7. Being able to do things that don’t go against my conscience.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>8. The way my job provides for steady employment.</td>
<td>Intrinsic</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>9. The chance to do things for other people.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>10. The chance to tell people what to do</td>
<td>Intrinsic</td>
<td>Intrinsic(^a)</td>
</tr>
<tr>
<td>11. The chance to do something that makes use of my abilities.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>12. The way company policies are put into practice.</td>
<td>Extrinsic</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>13. My pay and the amount of work I do.</td>
<td>Extrinsic</td>
<td>General(^b)</td>
</tr>
<tr>
<td>14. The chances for advancement on this job.</td>
<td>Extrinsic</td>
<td>General(^b)</td>
</tr>
<tr>
<td>15. The freedom to use my own judgment.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>16. The chance to try my own methods of doing the job.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>17. The working conditions.</td>
<td>General(^b)</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>18. The way my co-workers get along with each other.</td>
<td>General(^b)</td>
<td>Extrinsic</td>
</tr>
<tr>
<td>19. The praise I get for doing a good job.</td>
<td>Extrinsic</td>
<td>General(^b)</td>
</tr>
<tr>
<td>20. The feeling of accomplishment I get from the job.</td>
<td>Intrinsic</td>
<td>Intrinsic</td>
</tr>
</tbody>
</table>

*Note. Items 1 to 20 of the Minnesota Satisfaction Questionnaire Short Form reproduced by permission of Vocational Psychology Research, University of Minnesota, copyright 1967, 1977.*

\(^a\) Although these items are classified as representing intrinsic job characteristics in both the original intrinsic subscale (Weiss, Dawis, England, & Lofquist, 1967) and the revised intrinsic subscale (Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993), these three items were eliminated from the revised intrinsic subscale in the present study because they likely do not represent universally valued aspects of a job (Cook, Hepworth, Wall, & Warr, 1981).

\(^b\) General job satisfaction items are not classified as representing either intrinsic or extrinsic job characteristics.
Job Satisfaction and Volitional Absence

The present study also included a volitional absence variable intended to reflect the affective or emotive source of motivation (Bagozzi, 1992; Lazarus, 1991). According to Bagozzi (1992), the cognitive appraisal of the implications that situational conditions (e.g., a job) has for one’s well-being stimulates an affective response that, in turn, influences coping responses or behavior. When employees perceive their job tasks as providing the means for experiencing satisfaction and well-being, they are likely to exhibit greater positive (and less negative) anticipatory affect toward undertaking work tasks (Bagozzi, 1992; Lazarus, 1991). This anticipatory, affect-based motivation should be manifested in less frequent volitional absence behavior. Because volitional absence reflects the motivation to temporarily avoid an encounter with one’s work assignments, it was posited that reactions to intrinsic job characteristics (i.e., intrinsic job satisfaction) would be more predictive of volitional absence than would be reactions to extrinsic job characteristics (i.e., extrinsic job satisfaction). As another test of the research question, the present study included a hierarchical model predicting volitional absence that entered extrinsic job satisfaction at the first step, job involvement at the second step, and intrinsic job satisfaction at the third hierarchical step.

Method

Participants and Data Collection Procedures

The data collected for the present study were part of a larger data collection effort that involved two samples.

Sample 1. The first sample was recruited from full-time employees working at the corporate headquarters of a Fortune 200 financial services corporation. There was appreciable task content overlap among the jobs represented in the sample as the jobs involved written and oral communications with customers. Group meetings were held with employees to describe the purpose of the study (a study of work attitudes) and to solicit their participation. Employees were given company time to answer surveys at their workstations and, on completion, deposited them into a sealed collection box at a centralized departmental location. Seventy-two percent of potential respondents participated in the study. The respondent sample of 99 participants was predominantly female (87%) with an average educational level of some formal
education beyond high school. Average job tenure was 42.5 months, whereas organizational tenure averaged 78.1 months. Racial composition of the participant sample was as follows: White (69%), Black (19%), Hispanic (7%), and other (5%).

Sample 2. Data for the second sample were collected from employed adults working full-time who were enrolled in graduate and undergraduate classes at a metropolitan state university that offered academic degree program courses on weekday evenings and weekends. Group meetings were held with the employees in their university classes to describe the general purpose of the study (a study of work attitudes) and to solicit their participation. Requirements for participation in the study were that each respondent had a full-time job that involved a minimum of 30 hours per week of paid employment. Participants were given class time to complete surveys at their desks and to deposit them into a collection envelope in each classroom. Approximately 80% of the potential participants returned completed questionnaires. The participant sample of 250 respondents was predominantly female (73%) with an average age of 35 years. Most participants were graduate students (78%) with the remainder (22%) being undergraduate students. Respondents reported their job titles, which are summarized by the following categories: teacher (47%), administrative/management (18%), clerical(secretary) (10%), school administration (7%), school counseling (6%), finance/analyst (4%), sales/customer service (4%), technical/science (2%), counseling (1%), and law enforcement (1%). The number of hours worked per week as reported by participants ranged from 30 to 70 with a mean of 44. Racial composition of the participant sample was as follows: White (67%), Black (29%), Hispanic (2%), and other (2%).

Measures

The volitional absence measure was used for Sample 1. The order in which the measures are listed below corresponds with the order in which they appeared on the surveys. A 6-point Likert-type response scale ranging from strongly disagree (1) to strongly agree (6) accompanied the job involvement items. A 5-point Likert-type response scale ranging from very dissatisfied (1) to very satisfied (5) was used for the MSQ short-form items. The response formats for overall job satisfaction and volitional absence are described below.

Job involvement. Paullay et al.’s (1994) 13-item job involvement-role scale was employed to assess the extent to which employees were engaged psychologically in the tasks that comprised their jobs. A sample item from the scale is “I am absorbed in the type of work that I do in my present job.”
alpha reliability coefficient for the scale scores was .84 in Sample 1 and .86 in Sample 2.

**Intrinsic and extrinsic job satisfaction.** The 20-item short form of the MSQ (Weiss et al., 1967) was used to measure employees’ intrinsic and extrinsic job satisfaction. Table 1 indicates which items are assigned to the original (Weiss et al., 1967) intrinsic and extrinsic subscales as well as which items are assigned to the revised subscales used in this study. For Sample 1, the alphas for the subscale scores were as follows: original intrinsic (12 items) = .85, revised intrinsic (7 items) = .81, original extrinsic (6 items) = .82, and revised extrinsic (6 items) = .81. For Sample 2, alpha coefficients for the subscale scores were as follows: original intrinsic = .84, revised intrinsic = .82, original extrinsic = .88, and revised extrinsic = .88.

**Overall job satisfaction.** Overall job satisfaction, an expansive job satisfaction construct (Highhouse & Becker, 1993; Scarpello & Campbell, 1983; Wanous et al., 1997), was measured with two items. The single-item job-in-general scale used by Judge, Cable, Boudreau, and Bretz (1995) and Scarpello and Campbell (1983) was employed with the very dissatisfied (1) to very satisfied (5) response scale. For the second overall job satisfaction item, Andrews and Withey’s (1976) Delighted-Terrible 7-point response scale was used by respondents in responding to the question, “How do you feel about your job overall?” These two overall job satisfaction items were combined to form a composite measure with an alpha of .85 for Sample 1 scores and .87 for Sample 2 scores.

**Volitional absence.** To assess volitional absence in Sample 1, Meyer, Allen, and Smith’s (1993) self-reported measure of voluntary absence was used. Due to the nature of the volitional absence variable used in this study, the measure could not be culled from organizational records and could only be assessed through self-report. Respondents in Sample 1 were asked to report how many days they were absent from scheduled work over the past year because they did not feel like going to work. This measure used a free-response format as recommended by Johns (1994) to mitigate common method variance concerns. It was anticipated that this type of absence would occur relatively infrequently in the sample used for the present study. Consequently, the 1-year time interval was intended to be long enough to enhance reliability and variance but short enough to minimize memory loss and underreporting of absences.

Self-report measures of absence often have some advantages over archival data, and evidence exists supporting the reliability and validity of self-report absence measures (Harrison & Shaffer, 1994; Johns, 1994). For example, Spector (1987) reported a high degree of correspondence between self-report
absenteeism and absenteeism data from organizational records and concluded that using self-reports to collect absence data does not pose a methodological (i.e., common method variance) problem.

**Statistical Analyses**

Prior to testing the research question, confirmatory factor analyses were used to test whether intrinsic and extrinsic job satisfaction are two distinct components when measured with the original subscales and the revised subscales. Bentler (1992) recommended a sample size to estimated parameter ratio of at least 5:1 to derive reliable parameter estimates in confirmatory factor analyses. Because sample size restrictions in Sample 1 \( (n = 99) \) precluded item-level confirmatory factor analyses of data from each sample separately, data from both samples were combined for the purpose of conducting item-level confirmatory factor analyses. Comparisons between two-factor and one-factor models tested the discriminant validity of intrinsic and extrinsic job satisfaction scores for both the original and revised measures. The two-factor models allowed the two factors to correlate and were the hypothesized measurement models. Because each comparison involved hierarchically nested models, the chi-square difference test \( (\Delta \chi^2) \) indicated which model fit the data better. The goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA) also were included to assess the absolute fit of the models to the data.

After examining the measurement models for intrinsic and extrinsic job satisfaction, hierarchical regression analyses (Cohen & Cohen, 1983) were used to test the research question. Hierarchical regression analyses permit an examination of the contribution of variables entered at subsequent hierarchical steps in accounting for variance in a criterion beyond the variance accounted for by the variable(s) entered at the preceding hierarchical step(s). For each of the three hierarchical regression models in the present study, intrinsic job satisfaction was entered at the last hierarchical step. This allowed for several comparisons of incremental explained variance between the original and revised intrinsic satisfaction subscales.

**Results**

Table 2 presents the means, standard deviations, and correlations for the study variables. The correlation between the original and revised intrinsic job satisfaction measures was .96 in both samples. The correlation between the original and revised extrinsic job satisfaction measures was .89 in Sample 1 and .92 in Sample 2. In Sample 1, the correlation between intrinsic and extrinsic job satisfaction was .70 for the original measures and .73 for the
Table 2
Means, Standard Deviations, and Correlations for the Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intrinsic</td>
<td>3.73</td>
<td>0.60</td>
<td>—</td>
<td>.96**</td>
<td>.56**</td>
<td>.57**</td>
<td>.57**</td>
<td>.71**</td>
<td>NA</td>
<td>4.00</td>
<td>0.59</td>
</tr>
<tr>
<td>2. Intrinsic-R</td>
<td>3.71</td>
<td>0.71</td>
<td>.96**</td>
<td>—</td>
<td>.55**</td>
<td>.56**</td>
<td>.56**</td>
<td>.73**</td>
<td>NA</td>
<td>4.10</td>
<td>0.68</td>
</tr>
<tr>
<td>3. Extrinsic</td>
<td>3.14</td>
<td>0.88</td>
<td>.70**</td>
<td>.74**</td>
<td>—</td>
<td>.92**</td>
<td>.28**</td>
<td>.61**</td>
<td>NA</td>
<td>3.31</td>
<td>0.88</td>
</tr>
<tr>
<td>4. Extrinsic-R</td>
<td>3.43</td>
<td>0.81</td>
<td>.73**</td>
<td>.73**</td>
<td>.89**</td>
<td>—</td>
<td>.30**</td>
<td>.59**</td>
<td>NA</td>
<td>3.62</td>
<td>0.82</td>
</tr>
<tr>
<td>5. Involvement</td>
<td>4.68</td>
<td>0.65</td>
<td>.53**</td>
<td>.49**</td>
<td>.33**</td>
<td>.31**</td>
<td>—</td>
<td>.58**</td>
<td>NA</td>
<td>4.89</td>
<td>0.69</td>
</tr>
<tr>
<td>6. Overall</td>
<td>4.25</td>
<td>1.05</td>
<td>.72**</td>
<td>.74**</td>
<td>.62**</td>
<td>.66**</td>
<td>.39**</td>
<td>—</td>
<td>NA</td>
<td>4.70</td>
<td>1.07</td>
</tr>
<tr>
<td>7. Absence</td>
<td>1.56</td>
<td>2.25</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. Sample 1 values are located to the left of the diagonal. For Sample 1, n = 96-99. Sample 2 values appear to the right of the diagonal. For Sample 2, n = 250. NA = not applicable; Intrinsic = original intrinsic job satisfaction subscale; Intrinsic-R = revised intrinsic job satisfaction subscale; Extrinsic = original extrinsic job satisfaction subscale; Extrinsic-R = revised extrinsic job satisfaction subscale; Involvement = job involvement; Overall = overall job satisfaction; Absence = volitional absence. **p < .01.
revised measures. In Sample 2, the correlation between intrinsic and extrinsic job satisfaction was .56 for the original measures as well as for the revised measures.

Measurement Model Evaluation

Table 3 presents the confirmatory factor analyses results. The chi-square difference test results indicate that for each comparison, the hypothesized two-factor model resulted in a better fit than did the one-factor model. Moreover, the other fit indices confirmed the chi-square difference test results and further demonstrated that the two-factor models generally produced a better fit to the data. The correlation between the two factors was .67 for the original subscales as well as for the revised subscales. Supplemental analyses not reported in the present study also were performed; item-composite confirmatory factor analyses were conducted on the Sample 1 data and separate item-level confirmatory factor analyses were performed on the Sample 2 data. The results of these analyses were congruent with the results of confirmatory factor analyses of the combined data from both samples. That is, for all comparisons, chi-square difference tests indicated that the two-factor models fit the data better than did the one-factor models. Consequently, the confirmatory factor analyses results in both samples confirm the discriminant validity of intrinsic and extrinsic job satisfaction for the original subscales as well as for the revised subscales.

Although the fit of the two-factor models was better than the fit of the one-factor models, it is notable that the fit of the two-factor models was nonetheless below what is generally considered acceptable. These results suggest that there is room for improvement in the measurement model. However, given that more than 30 years of job satisfaction theory and research has

<table>
<thead>
<tr>
<th>Model</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>( \Delta \chi^2 ) (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original subscales</td>
<td>One factor</td>
<td>643.55</td>
<td>135</td>
<td>.83</td>
<td>.78</td>
<td>.81</td>
<td>.10</td>
</tr>
<tr>
<td>Two factor</td>
<td>593.69</td>
<td>134</td>
<td>.84</td>
<td>.80</td>
<td>.83</td>
<td>.10</td>
<td>49.86 (1)***</td>
</tr>
<tr>
<td>Revised subscales</td>
<td>One factor</td>
<td>536.62</td>
<td>65</td>
<td>.79</td>
<td>.71</td>
<td>.78</td>
<td>.14</td>
</tr>
<tr>
<td>Two factor</td>
<td>469.49</td>
<td>64</td>
<td>.81</td>
<td>.73</td>
<td>.81</td>
<td>.13</td>
<td>67.13 (1)***</td>
</tr>
</tbody>
</table>

Note. \( N = 349 \) for Sample 1 and Sample 2 combined. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

a. The two-factor models were hypothesized in each comparison; covariance matrices served as input, and all models were tested using maximum-likelihood estimation.

*** \( p < .001 \).
treated the MSQ short form as either a unidimensional or two-dimensional measure, other alternative models were not examined in the present study due to the absence of supporting theory. A data-derived measurement model could offer superior fit to the data in the present study, yet such a model would not be consistent with either existing job satisfaction theory or with the purpose of the present study and might not be replicable in future studies.

**Research Question Tests**

The first comparison of the original and revised MSQ short-form subscales was conducted with a hierarchical model predicting job involvement; the results are reported in Table 4. Extrinsic job satisfaction was entered first in the regression equation for each sample. In Sample 1, the original extrinsic measure explained 11% ($p < .01$) of the variance, whereas the revised extrinsic measure explained 9% ($p < .01$) of the variance. In Sample 2, the original extrinsic measure explained 8% ($p < .01$) of the variance, whereas the revised extrinsic measure explained 9% ($p < .01$) of the variance. Intrinsic job satisfaction was entered at the second hierarchical step. In Sample 1, the original intrinsic measure explained an incremental 17% ($p < .01$) of the variance, whereas the revised intrinsic measure explained an incremental 16% ($p < .01$) of the variance. In Sample 2, the original intrinsic measure explained an incremental 26% ($p < .01$) of the variance, whereas the revised intrinsic measure explained an incremental 22% ($p < .01$) of the variance.

Table 5 shows the results of a comparison of the original and revised subscales in predicting overall job satisfaction for both samples. As in the preceding analysis, extrinsic job satisfaction was entered first in the regression equation for each sample. In Sample 1, the original extrinsic measure explained 39% ($p < .01$) of the variance, whereas the revised extrinsic measure explained 43% ($p < .01$) of the variance. In Sample 2, the original extrinsic measure explained 37% ($p < .01$) of the variance, whereas the revised extrinsic measure explained 35% ($p < .01$) of the variance. Intrinsic job satisfaction was entered at the second hierarchical step. In Sample 1, the original intrinsic measure explained an incremental 16% ($p < .01$) of the variance, whereas the revised intrinsic measure explained an incremental 14% ($p < .01$) of the variance. In Sample 2, the original intrinsic measure explained an incremental 20% ($p < .01$) of the variance, whereas the revised intrinsic measure explained an incremental 23% ($p < .01$) of the variance.

Table 6 presents the results of a hierarchical model test in Sample 1 predicting volitional absence that enters extrinsic job satisfaction at the first step, includes job involvement at the second hierarchical step, and enters intrinsic job satisfaction at the third hierarchical step. Extrinsic job satisfaction was entered first in predicting volitional absence, and neither the original nor the
revised extrinsic measure accounted for variance. Job involvement was entered at the second hierarchical step and explained considerable incremental variance. The inclusion of intrinsic job satisfaction on the third step of the hierarchical analysis resulted in the same amount of incremental variance explained ($\Delta R^2 = .05$, $p < .01$) in volitional absence for both the original and the revised intrinsic measure.

Discussion

Prior to testing the research question, confirmatory factor analyses results in both samples demonstrated that intrinsic and extrinsic job satisfaction are distinct components when measured with either the original or the revised MSQ short-form subscales. In addition, the goodness-of-fit values produced by the two-factor models indicate that the original subscales have psychometric properties that are at least equivalent to those of the revised subscales. In other words, the confirmatory factor analyses results involving the two-factor models suggest that the construct validity of scores on the original subscales is in no way inferior to that of scores on the revised subscales. These results have more general ramifications in that they show that a rational approach to scale construction (such as that used to create the revised subscales), in and of itself, is not sufficient to establish or ensure greater construct validity of scores on the measures.

The objective of the present study was to investigate whether revising the intrinsic and extrinsic subscales of the MSQ short form makes a difference. This research question was tested by examining whether revised intrinsic and extrinsic subscales relate with relevant variables in a manner that differs from the relations between the original intrinsic and extrinsic subscales and the
other variables. More specifically, comparisons between the original and revised MSQ short-form subscales were conducted with hierarchical regression models predicting job involvement, overall job satisfaction, and volitional absence.

Overall, the findings of the present study suggest that revising the intrinsic and extrinsic subscales in a way that is consistent with Schriesheim et al.’s (1993) and Cook et al.’s (1981) criticisms and suggestions makes little difference in relations of job satisfaction components with relevant variables and ostensibly does not result in improved construct validity of MSQ short-form scores. For example, although the original intrinsic subscale accounted for

Table 5
Comparison of Original and Revised Minnesota Satisfaction Questionnaire (MSQ) Short-Form Subscales in Hierarchical Regression Equations Predicting Overall Job Satisfaction

<table>
<thead>
<tr>
<th>MSQ Short-Form Subscales</th>
<th>Original Subscale</th>
<th>Revised Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ΔR²</td>
<td>b</td>
</tr>
<tr>
<td>Sample 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1: Extrinsic subscale</td>
<td>.39**</td>
<td>.28</td>
</tr>
<tr>
<td>Step 2: Intrinsic subscale</td>
<td>.16**</td>
<td>.96</td>
</tr>
<tr>
<td>Sample 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1: Extrinsic subscale</td>
<td>.37**</td>
<td>.37</td>
</tr>
<tr>
<td>Step 2: Intrinsic subscale</td>
<td>.20**</td>
<td>.97</td>
</tr>
</tbody>
</table>

Note. n = 99 for Sample 1; n = 250 for Sample 2. b is the unstandardized regression coefficient and β is the standardized regression coefficient when both job satisfaction components have been entered in each complete equation.

*p < .05. **p < .01.

Table 6
Sample 1 Comparison of Original and Revised Minnesota Satisfaction Questionnaire (MSQ) Short-Form Subscales in Hierarchical Regression Equations Predicting Volitional Absence

<table>
<thead>
<tr>
<th>MSQ Short-Form Subscales</th>
<th>Original Subscale</th>
<th>Revised Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ΔR²</td>
<td>b</td>
</tr>
<tr>
<td>Step 1: Extrinsic subscale</td>
<td>.04</td>
<td>.44</td>
</tr>
<tr>
<td>Step 2: Job involvement</td>
<td>.22**−1.35</td>
<td>−.39</td>
</tr>
<tr>
<td>Step 3: Intrinsic subscale</td>
<td>.05**−1.23</td>
<td>−.33</td>
</tr>
</tbody>
</table>

Note. n = 99 for Sample 1; n = 250 for Sample 2. b is the unstandardized regression coefficient and β is the standardized regression coefficient when all three independent variables have been entered in each complete equation.

*p < .05. **p < .01.
slightly more incremental variance in job involvement than did the revised intrinsic subscale (for both samples), there was no practical difference between the original and revised intrinsic subscales in accounting for incremental variance in either overall job satisfaction (across both samples) or volitional absence (Sample 1). Moreover, in the complete predictive equations for all three criterion variables, the standardized regression coefficients were virtually identical for every comparison between the original and revised subscales for intrinsic satisfaction as well as for extrinsic satisfaction.

Given that considerable modifications were made to form the revised subscales, what could account for the finding that revising the MSQ short-form subscales makes essentially no difference? One plausible explanation is the notion that items common to both the original and revised subscales constitute the “essence” of intrinsic satisfaction and extrinsic satisfaction. For example, referring to Table 1, perhaps Items 3, 7, 9, 11, 15, 16, and 20 comprise the core of intrinsic job satisfaction. Although not shown in Table 3, these items had the highest coefficients on the intrinsic job satisfaction factor in the two-factor original-subscale measurement model (complete factor matrices are available from the author on request). In particular, the standardized weight for each of these items was at least .60, with an average weight of .69, whereas the average standardized weight for the remaining five items was .48. Similarly, in the two-factor revised-subscale measurement model, the average standardized factor coefficient for Items 3, 7, 9, 11, 15, 16, and 20 on intrinsic job satisfaction was .69.

In addition, Items 5, 6, and 12 (see Table 1) may comprise the core of extrinsic job satisfaction; these three items had standardized factor coefficients on extrinsic job satisfaction of at least .70 for both the original and revised subscales. Consistent with the findings of Schriesheim et al. (1993), Items 13 (standardized parameter estimate or $\lambda = .45$) and 14 ($\lambda = .59$) had comparatively lower standardized factor coefficients on extrinsic job satisfaction in the original subscale two-factor model, whereas Items 17 ($\lambda = .66$) and 18 ($\lambda = .63$) had sufficient coefficients on extrinsic job satisfaction in the revised subscale two-factor model. It should be noted, however, that Item 8 had a moderate factor coefficient on intrinsic satisfaction ($\lambda = .50$) in the original subscale two-factor model and a low factor coefficient on extrinsic satisfaction ($\lambda = .37$) in the revised subscale two-factor model.

Taken together, the patterns of factor coefficients from the two-factor measurement models suggest, indeed, that Items 3, 7, 9, 11, 15, 16, and 20 comprise the nucleus of intrinsic job satisfaction and that Items 5, 6, and 12 comprise the crux of extrinsic job satisfaction. However, given the relatively small number of high coefficients for the extrinsic satisfaction indicators, further research on the extrinsic job satisfaction construct should be pursued.

It is important to note that the present study has several limitations. First, the modest size of the combined sample ($N = 349$) may have yielded inade-
quate variance to obtain more stable fit statistics from the confirmatory factor analyses. Second, the small size of Sample 1 ($n = 99$) restricted the types of statistical analyses that could be conducted and may have resulted in somewhat unstable regression coefficients. Third, because self-report methods were used to measure all of the variables, common method bias may have inflated observed relationships. Finally, the cross-sectional nature of the data does not allow for any inferences about causal relationships among the variables.

Despite this study’s limitations, the results should allow researchers to place more confidence in research findings using the original MSQ short-form intrinsic and extrinsic subscales (e.g., Arvey et al., 1989, 1994; Day & Bedeian, 1991; Moorman, 1993; Steiner & Truxillo, 1987, 1989; Vanden-berg & Scarpello, 1990). It is very likely that the results of such studies are valid with regard to findings involving distinctions between intrinsic and extrinsic job satisfaction. However, it is advisable for researchers using the MSQ short form in the future to investigate and report any substantive differences between the original subscales and the revised measures used in the present study.

References


