

Figure 6. Satisfaction responses ordered in summary scale structure. This is a reorganisation of material presented in Figure 5.

TABLE 2. SIGNIFICANT EFFECTS ON SATISFACTION SCALES (HUT USERS ONLY). TO MINIMISE A DATA CONSTRAINT ASSOCIATED WITH MISSING VALUES, SATISFACTION ANALYSES SEPARATED THOSE NOT USING HUTS FROM THOSE NOT USING CAMPS.

SOURCE OF SIGNIFICANT EFFECT*	SIGNIFICANT SATISFACTION SCALES+	MEAN VALUES (ADJUSTED++)	
Crowded effect $F(4,708)=5.35, p=.000)$	Hut conditions $F(1,711)=18.80, p=.000$ Track standards $F(1,711)=4.76, p=.029$	Uncrowded 2.08	Crowded 2.38
Age-group effect  F(4,708)=4.34, p=.002)	Information services  F(1,711)=11.64, p=.001  Track marking/signs  F(1,711)=6.41, p=.065	Under 40 2.16 1.88	Over 40 1.76
Nationality effect <i>F</i> (4,708)=3.67, <i>p</i> =.006)	Information services <i>F</i> (1,711)=5.99, <i>p</i> =.015	New Zealand 1.92	Overseas 2.02
Nationality/Age interaction $F(4,708)=2.26$ , $p=.061$ )	Information services <i>F</i> (1,711)=6.26, <i>p</i> =.013)	New Zealand Under 40 1.99 Over 40 1.63	Overseas 2.03 1.91

Analysis in this table refers only to hut users, because no significant satisfaction results occurred for campsite users (this distinction is not required for other analyses).

- \* The significance of overall satisfaction effects was tested using the Wilks' criterion in the SPSS MANOVA.
- + A series of univariate ANOVAs in the MANOVA identified the contribution of each satisfaction scale to the overall significant effect, and identified these listed scales as being significant.
- ++ Mean values for the summary scales are divided by the number of constituent items to give an interpretation using the original question categories (e.g., 1 = Very satisfied 3 = Neutral 5 = Very dissatisfied).

## Crowded effect

Visitors who felt crowded were significantly less satisfied than uncrowded visitors with facilities and services. This difference was based most upon their relatively lower satisfaction with hut conditions, and with track standards to a lesser extent. However, this finding must be seen in context of the generally high levels of satisfaction, where their mean score of around 2.00 lies within the 'satisfied' category. This means that crowded visitors should be considered as being only less strongly satisfied rather than distinctly more dissatisfied. Reference to the other mean scores in Table 2 indicates this interpretation applies to all the effects summarised there.

Additional exploration<sup>7</sup> of the individual items comprising the hut and track satisfaction scales (refer to Figure 6) revealed that some items appeared to contribute more to the uncrowded/crowded difference. For the 'hut conditions' scale, insufficient bunk numbers and space to relax in huts appeared the most

Comparison of responses to the dependent variable, for each item comprising the significant scales, was carried out mainly using the Mann-Whitney test. This provided a conservative test to identify the items which appeared to contribute most to the overall effect. Multiple ANOVA tests were also run which supported Mann-Whitney test findings. This complementary approach was applied to the constituents of all significant scales identified in this report.

prominent items, while items related to space for cooking, washing-up and drying were of secondary importance. For the 'track standards' scale, satisfactions with bridges, boardwalks and steps appeared the most prominent contributing items. Visitors who felt crowded indicated significantly lower degrees of satisfaction with these items in particular. While this lower satisfaction seems logical for items related to congestion in the huts, reasons for lower satisfaction with the physical structures on the track are unclear.

#### Age-group effect

Younger visitors (under 40) were significantly less satisfied with facilities and services than were older visitors (over 40). This difference was based almost entirely on their relatively lower satisfaction with information services, in particular, advice and information from visitors centres, and the advice from hut wardens. The same distinction was also apparent, to a lesser extent, for the 'track marking/signs' scale, in particular the lower satisfaction with the provision of information signs along the track. These findings suggest that although satisfaction with information services is high overall, younger visitors appear relatively less positive about what they receive from direct sources (e.g., wardens and visitor centres).

# Nationality effect

Overseas visitors were significantly less satisfied than New Zealand visitors with facilities and services. While satisfaction levels were high, this difference was based most upon the relatively lower satisfaction of overseas visitors with information services. Additional exploration of the 'information services' scale (refer Figure 6) suggested that the advice and information received from wardens, and the quality of maps and brochures were most prominent contributors to this difference. These findings suggest that while satisfaction with information services is high, overseas visitors may have particularly greater information needs associated with undertaking such a track.

## Nationality/Age-group interaction

This result featured lowest satisfaction among younger overseas visitors, and highest satisfaction among older New Zealand visitors. This interaction was based most upon variation in satisfactions with information services. Additional exploration indicated that satisfactions with visitor centre information and advice from visitor centres, and the quality of maps/brochures were the most prominent contributing items. While not a strong interaction, it is consistent with the other effects reported in Table 2.

# 4.2 RELATING SATISFACTION SCALES TO OVERALL TRIP EVALUATIONS

None of the satisfaction scales were significantly associated with the overall satisfaction or use-level evaluations (e.g., crowding). No notable correlations or significant relationships (using SPSS Multiple Regressions) were found. The state of facilities and services experienced on the Tongariro Circuit did not appear to contribute at all to how the overall trip was evaluated. In particular, the lack of any notable relationships between the overall satisfaction scores and any of the specific facility and service satisfaction scales indicates these questions represent distinctly different visitor perspectives on visit satisfaction. This is an important distinction to acknowledge as simply applying a single overall evaluation of satisfaction appears unlikely to highlight any specific-issue satisfaction problems until they are of an order where visit quality may be already highly compromised, and the problems are more difficult to manage.

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