Demographic and psychological correlates of satisfaction with healthcare access in New Zealand

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ABSTRACT

AIMS: To explore the distribution of New Zealanders' satisfaction with their healthcare access and identify various demographic and psychological factors associated with this satisfaction.

METHODS: 15,822 participants responded to the 2014/15 New Zealand Attitudes and Values Study (NZAVS) survey. This survey included questions on participants' demographic and psychological characteristics, and an item asking for their level of satisfaction with "your access to healthcare when you need it".

RESULTS: The majority of participants were highly satisfied with their access to healthcare when needed (68.4%), while 25.3% were moderately satisfied and 6.1% expressed low satisfaction. Younger individuals, those of Māori, Pacific, or Asian ethnicity, and those with higher deprivation and lower income, exhibited lower satisfaction. Conversely, those with a partner, living in an urban area and non-parents showed greater satisfaction. These effects remained significant even after controlling for various psychological factors. In terms of personality, those high on Extraversion, Agreeableness, Conscientiousness and Honesty-Humility, but low on Neuroticism and Openness also expressed higher satisfaction. Lastly, higher self-rated health was associated with greater satisfaction.

CONCLUSION: The majority of New Zealanders are highly satisfied with their access to healthcare when needed, but a considerable number of people express some degree of dissatisfaction. This is broadly consistent with the New Zealand Health Survey (NZHS), and substantiates the finding that approximately 28–32% of New Zealanders experience low healthcare access. Our findings make a novel contribution to the literature by showing that the Big-Six personality traits are reliably associated with New Zealanders' satisfaction with their healthcare access.

O
ne primary goal of the New Zealand healthcare system is ensuring that all groups have equitable access to adequate healthcare services. However, many studies continue to note group disparities in healthcare access. The Kiwis Count Survey, which investigates New Zealanders' level of trust and satisfaction with public services over time, indicates that the majority of New Zealanders are generally satisfied with their experience of health services (see Table 1). However, the 2015/16 NZHS found that 29% of New Zealand adults reported experiencing ‘unmet need for primary healthcare’. In regard to group differences, Māori and Pacific peoples, those living in the most deprived areas, aged between 25–54 years, and women were found to exhibit higher rates of unmet need. Previous NZHS studies show similar findings, suggesting that certain groups are continuing to experience inequalities in healthcare access over time. Building on the NZHS, the current study uses a national probability sample of New Zealanders to explore the distribution of people's satisfaction with their healthcare access when needed. It also aims to identify various demographic and psychological correlates of people's satisfaction with access.

According to the 2015/16 NZHS, inability to get an appointment at their usual medical centre within a day (18%), and the cost of general practitioner (GP) consultations (14%) and after-hour services (7%) are
the most commonly reported barriers. However, the type or extent to which these barriers are experienced depends on one's demographic or psychological characteristics. For instance, women, those of Māori or Pacific ethnicity, with high deprivation and aged between 25–44 years were found to be more likely to report GP cost as a barrier to healthcare. Smokers and those with high levels of psychological distress were also found more likely to defer primary healthcare due to costs. As for those living in rural areas, longer travel times have been associated with a lower rate of healthcare utilisation.

Group disparities in the quality of healthcare service received have also been noted. The 2006/7 NZHS found that Māori, Pacific and Asian adults, and those living in deprived areas were less likely to report being ‘treated with respect and dignity all the time’, while Māori women and those from the most deprived areas were less likely to report being ‘listened to carefully all the time’. Additionally, the 2015 Kiwis Count Survey found that younger people, females and those of Pacific or Māori ethnicity showed lower levels of overall satisfaction in public services, which included healthcare. These findings have important implications, as experiences of low-quality healthcare experiences may negatively affect people's perception of medical professionals, leading to low healthcare utilisation, and eventually decrease their healthcare access.

The persistence of racial discrimination and cultural barriers in the health setting are likely contributing to Māori experiences of low-quality healthcare. Doctors were found to spend less time consulting Māori, and are less likely to order further tests for or build rapport with Māori patients. Consequently, a considerable proportion of Māori perceive that health professionals are disrespectful and do not appreciate Māori cultural values. Similarly, Pacific and Asian peoples commonly encounter language and cultural barriers to appropriate healthcare. Due to their lack of cultural competence, some New Zealand doctors are unable to effectively communicate with or provide culturally relevant care for Pacific and Asian peoples.

In addition to cultural factors, some studies have investigated the link between various psychological factors and satisfaction with healthcare. For example, Goldzweig et al found that cancer patients with higher levels of psychological distress tended to report lower patient satisfaction. Moreover, Breemhaar et al found that having greater gratitude and an external locus of control was associated with increased healthcare satisfaction. Extending on past research, the current study aims to investigate the effect of the Big-Six personality traits on people's satisfaction with healthcare access. These traits consist of: Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to Experience and Honesty-Humility (see Table 2). Personality traits have previously been associated with differences in health status or healthcare need, but little is known about their influence on people's satisfaction with their healthcare access. Although a study in the Netherlands found that the Big-Five personality traits (without Honesty-Humility) showed marginal associations with patient satisfaction with hospital care (including accessibility), this relationship has not been investigated using a population-based sample, and it remains an open question whether such research generalises to the unique context of New Zealand.

Therefore, the present study uses a large probability sample of New Zealanders to explore the distribution, and demographic and psychological correlates of people's satisfaction with their healthcare access when needed. We assess the association between satisfaction ratings and a wide range of variables including gender, ethnicity and the Big-Six personality traits. To our knowledge, this study is the first to investigate the relationship between the Big-Six personality traits and satisfaction with healthcare access in New Zealand. Ultimately, we aim to identify those with low satisfaction with their healthcare access and in need of improved healthcare services.
Table 1: Kiwi Count Scores for quality of public healthcare service.

<table>
<thead>
<tr>
<th>Type of service</th>
<th>2013 (N=2,371)</th>
<th>2014 (N=6,099)</th>
<th>2015 (N=2,365)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stayed in a public hospital</td>
<td>74</td>
<td>72</td>
<td>77</td>
</tr>
<tr>
<td>Received outpatient services from a public hospital</td>
<td>74</td>
<td>73</td>
<td>75</td>
</tr>
<tr>
<td>Used an 0800 number for health information</td>
<td>75</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Obtaining family services or counseling</td>
<td>69</td>
<td>70</td>
<td>66</td>
</tr>
<tr>
<td>Average scores</td>
<td>73</td>
<td>72.25</td>
<td>73.5</td>
</tr>
</tbody>
</table>

Source: 2015 Kiwis Count Survey.

Table 2: Interpretation of each Mini-IPIP6 factor, including example traits, and likely adaptive benefit and costs resulting from high levels of each personality dimension (adapted from Sibley et al., p. 144, which was in turn adapted from Ashton and Lee, p. 156).

<table>
<thead>
<tr>
<th>Factor</th>
<th>Interpretation</th>
<th>Example traits</th>
<th>Likely adaptive benefits of high levels (in evolutionary history)</th>
<th>Likely costs of high level (in evolutionary history)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>Engagement in social endeavours</td>
<td>Sociability, leadership, exhibition</td>
<td>Social gains (friends, mates, allies)</td>
<td>Energy and time; risks from social environment</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Ingroup cooperation and tolerance; reciprocal altruism in HEXACO model</td>
<td>Tolerance, forgiveness, (low) quarrelsome</td>
<td>Gains from cooperation, primarily with ingroup</td>
<td>Losses due to increased risk of exploitation in short-term exchanges</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Engagement in task-related endeavours</td>
<td>Diligence, organisation, attention to detail</td>
<td>Material gains (improved use of resources), reduced risk</td>
<td>Energy and time; risks from social environment</td>
</tr>
<tr>
<td>Neuroticism (low Emotional Stability)</td>
<td>Monitoring of inclusionary status and attachment relations; kin altruism in HEXACO model.</td>
<td>Anxiety, insecurity, (low) calmness</td>
<td>Maintenance of attachment relations; survival of kin in HEXACO model</td>
<td>Loss of potential gains associated with risks to attachment relations.</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>Engagement in ideas-related endeavours</td>
<td>Curiosity, imaginativeness, (low) need for cognitive closure and (low) need for certainty</td>
<td>Material and social gains (resulting from discovery)</td>
<td>Energy and time; risks from social and natural environment</td>
</tr>
<tr>
<td>Honesty-Humility</td>
<td>Reciprocal altruism (fairness)</td>
<td>Fairness, sincerity, (low) entitlement and (low) narcissism</td>
<td>Gains from cooperation, (mutual help and non-aggression)</td>
<td>Loss of potential gains that would result from the exploitation of others (and in particular outgroup members)</td>
</tr>
</tbody>
</table>

Annual service quality scores (out of 100)
Method

The NZAVS is a longitudinal panel survey that aims to track changes in New Zealanders’ attitudes and life circumstances over time. This not-for-profit study was first started by Professor Chris Sibley in 2009, and is funded from various not-for-profit research grant agencies and internal funding from the University of Auckland.

Sampling procedure

The Time 1 (2009) NZAVS recruited participants by randomly sampling from the New Zealand electoral roll (response rate: 16.6%).20 A booster sample was recruited at Time 3 (2011) through an unrelated survey posted on a major New Zealand newspaper website. Further booster samples were recruited from the 2012 and 2014 electoral roll in subsequent waves (response rates: 6.2–12.33%, retention rates: around 60% across waves). The Time 6 (2014/15) NZAVS sample, containing 15,822 participants, was used for this study (retention rate: 57.2% over five years, 81.5% from previous year).20 Although the Time 1 response rate of 16.6% may seem low, it is in keeping with other international studies. The Pew Research Centre, for example, have reported that their general survey response rates have been declining, with their 2012 telephone poll response rate being 9%.21 However, research by Pew and others highlight that after applying sample weighting, telephone surveys are still found to provide an accurate reflection of the general public on social and economic measures.21 Similarly, the NZAVS applies sample weighting on demographics and its validity in monitoring changes in New Zealanders’ political attitudes over time has been well-demonstrated.22

Participants

15,822 participants (10,003 female, 5,800 male; 19 missing) completed the Time 6 questionnaire. Participants’ mean age was 49.34 years (SD=14.04, range 18–95; 9 missing). The medians of the annual household income quartile groups were $33,900, $73,000, $110,000 and $190,000 (1,143 missing). Additionally, 74.6% (259 missing) were parents, 74.7% (640 missing) were in a committed romantic relationship and 77% (188 missing) were employed.

Measures

Participants were asked to “rate your level of satisfaction with the following aspects of your life in New Zealand” on a number of statements, which included “your access to healthcare when you need it (eg, doctor, GP)”, on a scale of 0 (completely dissatisfied) to 10 (completely satisfied). This scale was developed for the NZAVS.

Participants also provided demographic information, including their ethnicity, relationship status and annual household income. Ethnicity was measured using the standard New Zealand Census item, in which participants indicated their identification with one or more ethnic groups. Participants were priority coded into four mutually exclusive ethnic groups (order of prioritisation: ‘Māori’, ‘Pacific’, ‘Asian’, ‘European/Pākehā’, other ethnic groups coded as missing). Big-Six Personality traits were measured using the Mini-IPIP scale.19 Deprivation was measured using the 2013 New Zealand Deprivation Index,23 while socio-economic status was measured using the socio-economic index.24 Subjective health satisfaction was measured using three marker items from the Short-Form Health Questionnaire.25

To estimate representative population proportions, the NZAVS uses a post-stratification weight that corrects for sample bias in gender and ethnic group identification.26 As the Time 4 (2012) sample included regional booster samples, weights from Time 4 onwards included regional information. In this study (using Time 6 data), the weighting procedure weighted men and women from each of the four primary ethnic groups separately as well as region of residence based on data from the 2013 New Zealand Census.26

For descriptive purposes (see Table 3), the following scale ranges were used to describe high satisfaction (ratings of 8–10; 68.6% weighted, 69.4% unweighted), moderate satisfaction (ratings of 4–7; 25.3% weighted, 24.7% unweighted) and low satisfaction (ratings of 0–3; 6.1% weighted, 5.9% unweighted) in this study. The overall Education (1,114 missing) was coded as a 10-point ordinal variable ranging from 0 (none) to 10 (PhD/equivalent degree, \( M=5.05, SD=2.85 \)).
mean score was 7.84 (SD= 2.21) after applying weighting (M=7.89, SD=2.19 before weighting).

**Statistical analyses**

A step-wise regression predicting people's satisfaction with healthcare access was conducted on M plus. 'Model one' only included demographic predictors, while 'Model two' included both demographic and psychological predictors. This method allowed us to examine the extent to which psychological variables may explain or attenuate the effect of demographic variables on people's satisfaction with healthcare access. Missing data for exogenous variables were estimated using Rubin’s procedure²⁷ for multiple imputation procedure with parameter estimates averaged over 1,000 data sets (thinned every 200th iteration).

**Results**

As illustrated in Figure 1 and Table 4, most participants expressed high satisfaction with their healthcare access (68.6%), but almost one-third of participants (31.4%) indicated some degree of dissatisfaction. In terms of ethnic differences (see Figure 2 and 3), all ethnic groups showed a positively skewed distribution of satisfaction scores, but Europeans/Pākehā exhibited a significantly greater rate of high satisfaction, and lower rate of low satisfaction compared to ethnic minorities. While Māori, Pacific and Asian peoples showed similar levels of high satisfaction (around 61–63%), Asian peoples reported a significantly higher rate of moderate satisfaction compared to all other ethnic groups. Overall, Māori exhibited the lowest rate of high satisfaction and highest rate of low satisfaction. (Refer to Appendix for satisfaction ratings within district health boards).

### Table 3: Operationalisation of satisfaction groups in this study.

<table>
<thead>
<tr>
<th>Group</th>
<th>Operationalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High satisfaction</strong></td>
<td>Ratings of 8 to 10 on an 11-point scale assessing people’s satisfaction with their “access to healthcare when they need it (eg, doctor, GP)”</td>
</tr>
<tr>
<td><strong>Moderate satisfaction</strong></td>
<td>Ratings of 4 to 7 on the same scale as above</td>
</tr>
<tr>
<td><strong>Low satisfaction</strong></td>
<td>Ratings of 0 to 3 on the same scale as above</td>
</tr>
</tbody>
</table>

**Figure 1:** Satisfaction with healthcare access among the general New Zealand public (weighted on gender, ethnicity and region of residence).
Table 4: Weighted percentage of high, moderate and low satisfaction across ethnic groups.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>European/Pākehā (N=10,810)</th>
<th>Māori (N=1,932)</th>
<th>Pacific (N=889)</th>
<th>Asian (N=1,960)</th>
<th>Total (N=15,758)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High satisfaction</td>
<td>71.8%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>61.1%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>63.4%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>62.2%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>68.6%</td>
</tr>
<tr>
<td>Moderate satisfaction</td>
<td>23.4%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>27.9%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>26.9%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>31.5%&lt;sup&gt;c&lt;/sup&gt;</td>
<td>25.3%</td>
</tr>
<tr>
<td>Low satisfaction</td>
<td>4.8%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>11.0%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>9.7%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.3%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Note: Different subscript letters for proportions indicate significant differences across columns. Percentages for ‘Total’ included those who did not identify with the four primary ethnicities.

Figure 2: Box plots showing the distribution of satisfaction with healthcare access by ethnic group.

Figure 3: Satisfaction with healthcare access across priority-coded ethnic groups (Europeans/Pākehā, Māori, Pacific and Asian peoples) after applying sample weighting.
Regressions predicting satisfaction with healthcare access

**Model one:** As presented in Table 5, age showed a curvilinear effect ($b=.014$, $b^2=.001$), whereby satisfaction scores increased with age and showed a steeper rate of growth among those of older age. Compared to Europeans/Pākehā (reference group), Māori ($b=-.381$), Pacific ($b=-.262$) and Asian peoples ($b=-.288$) all exhibited lower satisfaction with their healthcare access. Those with a higher (log) household income ($b=.185$) or socio-economic status ($b=.006$) were more satisfied, while those with higher deprivation ($b=-.044$) were less satisfied with their healthcare access. Having a partner ($b=.596$) and living in an urban area ($b=.192$) were associated with greater satisfaction, while being a parent ($b=-.106$) was associated with lower satisfaction with healthcare access. Gender, religion, education and employment did not show a significant effect.

**Model two:** The effect of gender was significant after including psychological variables in our model. Compared to women, men expressed greater satisfaction with their healthcare access ($b=.107$). Most demographic variables continued to show relatively strong associations with satisfaction scores in Model two. For example, Māori ($b=-.356$), Pacific ($b=-.271$) and Asian peoples ($b=-.266$) were still found to express lower satisfaction than Europeans/Pākehā. Although the strength of relationship slightly decreased, having a partner ($b=.520$) also remained significantly associated with higher satisfaction. Furthermore, being high on the personality traits, Extraversion ($b=.091$), Agreeableness ($b=.108$), Conscientiousness ($b=.108$) and Honesty-Humility ($b=.056$) were associated with increased satisfaction with healthcare access. In contrast, being high on Neuroticism ($b=-.172$) and Openness ($b=-.037$) were associated with decreased satisfaction. Those with higher subjective health ratings also exhibited greater satisfaction with their healthcare access ($b=.305$). Overall, having a partner and higher subjective health exhibited the strongest association with people's satisfaction ratings.

### Table 5: Step-wise regression predicting satisfaction with healthcare access: Model one (without psychological predictors) and Model two (with psychological predictors).

<table>
<thead>
<tr>
<th>Beta</th>
<th>$b$</th>
<th>SE</th>
<th>Lower 95%CI</th>
<th>Upper 95%CI</th>
<th>t</th>
<th>bivariate r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.952</td>
<td>4.280</td>
<td>.206</td>
<td>3.775</td>
<td>4.786</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.001</td>
<td>-.003</td>
<td>.036</td>
<td>-.072</td>
<td>.065</td>
<td>-.088</td>
</tr>
<tr>
<td>Age</td>
<td>.090</td>
<td>.014</td>
<td>.001</td>
<td>.011</td>
<td>.017</td>
<td>9.771**</td>
</tr>
<tr>
<td>Age squared</td>
<td>.102</td>
<td>.381</td>
<td>-.053</td>
<td>-.502</td>
<td>-.260</td>
<td>-6.183**</td>
</tr>
<tr>
<td>Māori</td>
<td>-.057</td>
<td>-.381</td>
<td>.053</td>
<td>-.502</td>
<td>-.260</td>
<td>-6.183**</td>
</tr>
<tr>
<td>Pacific</td>
<td>-.021</td>
<td>-.262</td>
<td>.097</td>
<td>-.490</td>
<td>-.033</td>
<td>-2.244*</td>
</tr>
<tr>
<td>Asian</td>
<td>-.027</td>
<td>-.288</td>
<td>.085</td>
<td>-.457</td>
<td>-.120</td>
<td>-3.350**</td>
</tr>
<tr>
<td>Income (log)</td>
<td>.098</td>
<td>.185</td>
<td>.017</td>
<td>.143</td>
<td>.228</td>
<td>8.541**</td>
</tr>
<tr>
<td>NZ Deprivation</td>
<td>-.055</td>
<td>-.044</td>
<td>.007</td>
<td>-.058</td>
<td>-.031</td>
<td>-6.417**</td>
</tr>
<tr>
<td>Education</td>
<td>.014</td>
<td>.011</td>
<td>.008</td>
<td>.004</td>
<td>.026</td>
<td>1.413</td>
</tr>
<tr>
<td>Socio-economic status</td>
<td>.044</td>
<td>.006</td>
<td>.001</td>
<td>.003</td>
<td>.009</td>
<td>4.415**</td>
</tr>
<tr>
<td>Employed</td>
<td>.012</td>
<td>.061</td>
<td>.046</td>
<td>-.038</td>
<td>.161</td>
<td>1.214</td>
</tr>
<tr>
<td>Partnered</td>
<td>.118</td>
<td>.596</td>
<td>.043</td>
<td>.502</td>
<td>.690</td>
<td>12.338**</td>
</tr>
<tr>
<td>Parent</td>
<td>.021</td>
<td>-.106</td>
<td>.047</td>
<td>-.199</td>
<td>-.014</td>
<td>-2.252*</td>
</tr>
<tr>
<td>Religion</td>
<td>.012</td>
<td>.052</td>
<td>.035</td>
<td>-.017</td>
<td>.121</td>
<td>1.465</td>
</tr>
<tr>
<td>Urban area</td>
<td>.041</td>
<td>.192</td>
<td>.037</td>
<td>.116</td>
<td>.267</td>
<td>4.947**</td>
</tr>
</tbody>
</table>

Discussion

Using a nationally representative sample of New Zealand adults, the present study investigated people's satisfaction with their access to healthcare when needed. We assessed the distribution of people's satisfaction with their healthcare access and examined its association with a broad range of demographic and psychological factors. Results from our analyses reveal group inequalities in healthcare access.

Over two-thirds of New Zealanders (68.4%) were highly satisfied with their access to healthcare when needed, while 25.3% were moderately satisfied and 6.1% expressed low satisfaction. These findings are broadly consistent with previous NZHS studies, which found that around 28% of New Zealand adults reported an 'unmet need for primary healthcare'. This indicates that more than a quarter of New Zealanders express some degree of dissatisfaction in their healthcare access. Such dissatisfaction can be linked to a wide range of factors, including difficulty making appointments, transport, costs and perceptions of unfair treatment.

Our results revealed considerable ethnic differences in levels of satisfaction with healthcare access. Relative to Europeans/Pākehā, ethnic minorities exhibited a higher rate of low satisfaction (4.8% versus 6.3–11.0%) and a lower rate of high satisfaction (71.8% versus 61.1–63.4%). Compared to Māori and Pacific peoples, Asian peoples showed a smaller proportion of low satisfaction but higher proportion of moderate satisfaction (27.9%, 26.9% and 31.5% respectively). These findings are somewhat consistent with the 2015/16 NZHS, in which Māori (39.3%) and Pacific peoples (34.2%) reported higher rates of one or more ‘unmet need for primary healthcare’ than Asian peoples (22.8%) and European/Pākehā and Others (28.4%). However, it is important to note that the NZHS asked for instances of ‘unmet healthcare need’ in the past year due to various reasons (eg, cost, transport), while our study asked for participants’ general levels of satisfaction with their healthcare access when needed.

After controlling for various demographic and psychological factors, Māori, Pacific and Asian peoples were found to express lower satisfaction with their healthcare access than Europeans/Pākehā. This result can be linked to findings that ethnic minorities are more inclined to experience language, information and cultural barriers to healthcare, and the lack of cultural competence among medical professionals. Our findings further suggest that perceptions of low healthcare access among ethnic minorities cannot be fully explained by population differences in socio-economic or personality factors. Hence, in order to increase healthcare access for ethnic minorities, it is essential to develop tailored health interventions that target the unique cultural barriers encountered by these groups.

Similar to previous studies, those with lower income or socio-economic status and high deprivation exhibited decreased satisfaction with their healthcare access. Those who did not have a partner, were a parent or living in a rural area also expressed lower satisfaction. In contrast, age showed a curvilinear effect whereby satisfaction scores increased as age increased with a steeper rate of growth among those of older age. This may be because older people in New Zealand tend to receive focused support services and are less likely to defer primary healthcare due to costs. The effect of these demographic factors remained significant even after we controlled for individual differences in personality traits and subjective wellbeing. Interestingly, women were only found to express lower satisfaction compared to men after controlling for psychological factors.

Our study provides a novel contribution to the literature by revealing that the Big-Six personality traits are associated with New Zealanders’ satisfaction with their healthcare access. Specifically, those high on Extraversion, Agreeableness, Conscientiousness and Honesty-Humility expressed greater satisfaction, while those high on Neuroticism and Openness exhibited lower satisfaction with their healthcare access. As Conscientious people tend to engage in positive health behaviors and have good health, their higher rate of satisfaction is not surprising. On the other hand, those high on Neuroticism may be more inclined to express low satisfaction perhaps due to their higher susceptibility to various illnesses and increased healthcare need. Our findings
suggest that recognising differences in patients’ personality traits may help doctors identify and respond appropriately to those in need of greater reassurance and support.

Lastly, those who had a more positive subjective wellbeing showed higher satisfaction with their healthcare access. Put another way, those with negative perceptions of their own health, and hence higher healthcare need, tend to exhibit the lowest level of satisfaction with their healthcare access. This finding increases insight into the previously identified link between poor self-rated health and greater health decline, indicating that reduced healthcare access may be an important contributor to the health deterioration of those with negative subjective health. Further research on these novel effects is needed to identify the more accurate motives driving people’s attitudes towards healthcare services.

Caveats
The cross-sectional nature of our study is a major limitation, as we cannot imply causation from our results. Furthermore, our single item measure was unable to assess the specific reasons why people express high or low satisfaction, or account for potential differences in interpretation of the term ‘access’. According to Levesque, Harris and Russell, ‘healthcare access’ involves multiple subcategories, including one’s ability to seek or reach healthcare services as well as the appropriateness of the service received. It is vital that future studies employ more comprehensive measures of ‘healthcare access’ and examine the specific barriers experienced by diverse groups to inform the development of more effective healthcare interventions for target populations.

Concluding comments
This study investigated people’s satisfaction with their access to healthcare when needed using a national probability New Zealand sample. The majority of New Zealanders expressed high satisfaction, while over a quarter expressed moderate or low satisfaction. Those of Māori, Pacific or Asian ethnicity, younger age and those with higher deprivation and lower income exhibited lower satisfaction. Conversely, those with a partner, living in an urban area and non-parents showed greater satisfaction. After controlling for psychological factors, the effect of these demographic factors remained significant, and women were additionally found to express lower satisfaction. Furthermore, those high on Extraversion, Agreeableness, Conscientiousness and Honesty-Humility, but low on Neuroticism and Openness, and those with positive self-rated health expressed greater satisfaction. Our study presents novel findings regarding the effect of the Big-Six personality traits on New Zealanders’ satisfaction with healthcare access, and help identify target populations in need of healthcare interventions.
Appendix

Distribution of satisfaction ratings within district health boards
(Y-axis: percentage of participants, X-axis: healthcare access satisfaction scores from 0 (completely dissatisfied) to 10 (completely satisfied)).

Northland

Bay of plenty

Lakes

Waitemata

Auckland

Tairawhiti
ARTICLE
Competition interests:
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