

## Investigating the health-related quality of life (HRQOL) of surface and underground mine workers at a South African platinum mine

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**To the Editor:** Health-related quality of life (HRQOL) in the workplace is receiving increasing attention, probably because of findings that better functioning, general health and wellbeing and lower levels of pain are associated with higher productivity, dependability and creativity, overall higher work quality and lower absenteeism.<sup>1-2</sup> However, no research has been conducted on HRQOL in the South African mining industry.

In order to rectify this omission, a study was conducted with 275 male miners, performing surface and underground duties at one platinum mine, to ascertain their functioning, general health, wellbeing and level of pain. Ages ranged between 20 and 61 years (mean 40.3 years, standard deviation (SD) 9.6 years). Education ranged between none and 12 years (mean 7.4 years, SD 3.5 years). Age was negatively related ( $p < 0.001$ ) to years of education, indicating the lack of educational opportunities for older black Africans. Type of work ranged from labourer to artisan aide, driver, bricklayer, training officer and workplace assessor. The illness profile consisted of four categories: aches and pains, coughs/flu, chronic diseases, and other (haemorrhoids, plantar warts, weight and appetite loss). Underground workers were significantly younger and more skilled ( $p < 0.01$ ) than surface workers. They were also more likely to report coughs/flu, in contrast to the aches and pains reported by surface workers ( $p = 0.01$ ).

Scores on the six HRQOL sub-scales were transformed linearly from 0 to 100, where higher scores, with the exception of the pain sub-scale, denoted better functioning, general health and wellbeing. The three functioning and wellbeing sub-scales were negatively skewed, whereas the pain sub-scale was positively skewed, indicating high levels of functioning and wellbeing and low levels of pain. The scores on functioning, wellbeing and level of pain were similar to those reported previously for a sample of South African controls without any self-reported chronic diseases, and a US general population sample.<sup>3-4</sup> All six sub-scales were significantly inter-related ( $p < 0.01$ ), indicating that the better the functioning, the better the general

health and wellbeing and the lower the level of pain, substantiating previous South African and US findings.<sup>3-5</sup>

Underground workers had significantly ( $p < 0.01$ ) better functioning and general health than surface workers (Fig. 1), but there were no significant differences between the two groups with regard to wellbeing and level of pain ( $p > 0.05$ ). These findings suggested that underground duties are physically, but not mentally, more demanding than surface work.

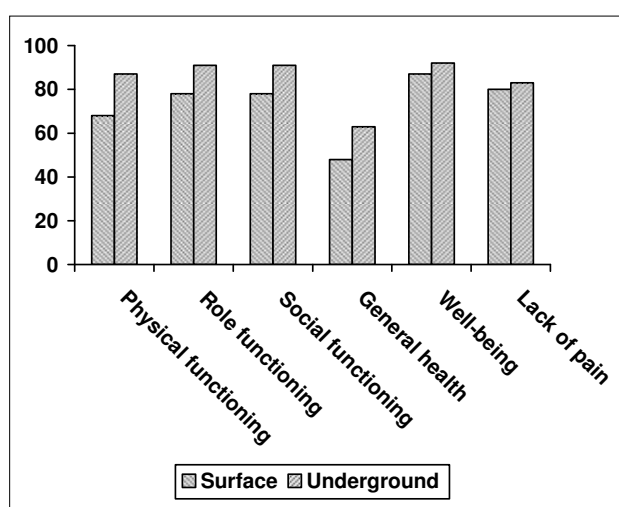


Fig. 1. Proportions of surface and underground mine workers reporting good health-related quality of life.

It was concluded that this six-dimensional HRQOL measure was as useful for the mining industry as for the general South African population.<sup>3</sup>

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