FORGET any show of indignation at the ubiquity of the mobile phone - it's far too late.

By the end of next year there will be more than 17million mobiles in Australia, the equivalent of one for everyone aged between 10 and 80, a new study has found.

The study, by technology analyst IDC, said the number of mobile services in Australia would grow from 16.47million at the end of this year to 17.23 million at the end of 2005 - a population penetration rate of 85per cent.

While this proportion represented the "natural saturation" point for mobiles in Australia - the point at which anyone who was likely to own a phone already did - the penetration rate would continue to climb, reaching 89per cent, or 18.58million services, by 2008, the report said.

Countries in Scandinavia already had penetration rates in excess of 90per cent, noted IDC senior analyst Warren Chaisatien.

The penetration rate of 77per cent calculated at the end of 2003 was already the equivalent of every Australian between 15 and 70 owning a mobile phone.

While the number of individual phones was increasing, the rising penetration rate was also indicative of the number of subscribers who now had more than one phone, Mr Chaisatien said.

The increase in mobile use was having its most profound effect among younger users, said social analyst David Chalke. About 70per cent of 16- to 17-year-olds and 60per cent of 14- to 15-year-olds had their own mobiles.

Where teenagers once had to use the family phone to talk to their friends, "what's going on now is that these kids have no parental moderation of their social connections", Mr Chalke said.

Similarly, schoolyard behaviour such as bullying and flirting could take place without the knowledge of parents and teachers.

For some teenagers, connections made via mobile phones were more important than those within their own family.

Fuelled in part by the youth market, pre-paid services continued to be the most popular way for new phone owners to connect, growing from 29per cent to 40per cent of all subscriptions from the end of 2001 to the end of 2003, the IDC study found.

This could change with the increasing availability of third generation, or 3G, mobile services, which have only been available on contract, Mr Chaisatien said.

With internet connections several times faster than a dial-up PC modem, 3G phones have the capability for services such as video calls and music downloads.

With more carriers offering 3G services, subscriber numbers for third-generation services would "skyrocket" from around 300,000 at the end of this year to 3.55million in 2008, the study found.

Users of normal mobiles could also expect to be offered more services based on fun and entertainment, Mr Chaisatien said.

"What you can expect is that they will try to squeeze more money out of you."