

Effects of Premenstrual Symptoms on Young Female Singers

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A thesis submitted in fulfilment of the requirements for the degree of
Master of Music (Applied Research in Music Performance)

Sydney Conservatorium of Music
The University of Sydney
2006

DECLARATION

I, Maree Carol Ryan, hereby declare that this submission is my own work and that it contains no material previously published or written by another person except where acknowledged in the text. It does not contain material that has been accepted for a higher degree.

Ethical approval from the University of Sydney Human Ethics Committee was granted for the study presented in this thesis. Subjects were required to read a subject information sheet and informed consent was gained prior to data collection.

Signed: _____ Date: _____

Supervisor's signature: _____ Date: _____

Supervisor's certification

I certify the thesis of Maree Carol Ryan "Effects of Premenstrual Symptoms on Young Female Singers" to be suitable for examination.

Signed: _____ Date: _____

ACKNOWLEDGEMENTS

I would sincerely like to thank my supervisor Associate Professor Dianna Kenny for her continued support and encouragement, availability and expert assistance in guiding me through this project to its completion. Her warm friendship and her never-ending perseverance with my questions and comments were outstanding.

I would also like to thank my husband, Dr Peter Lorenz, medical practitioner, without whose support and encouragement this project could not have been completed. His voluntary approach to being my research assistant and proof reader cannot be underestimated and his knowledge of the medical aspects of the topic, as well as his computer skills, have been given freely at all times.

Assistants to my cause need also to be acknowledged; Dr Helen Mitchell, whose patience during her involvement with her own PhD thesis was very generous; Robert Sazdov, for his expertise with recording and editing for the perceptual voice analysis is greatly appreciated; the pedagogues, all voice teachers at the Conservatorium, who gave freely of their time and support to the project, I thank very much; and of course, the students, whose belief in the outcome and their personal involvement are recorded forever.

Thanks also to my daughters, Nicole and Michelle, for their moral support and understanding.

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ABSTRACT

Throughout the 20th Century, female operatic singers in most of the major European opera houses were given “grace days” (where they were not required to sing) in recognition of the effect of hormonal changes on the singing voice. Financial constraints in professional companies have resulted in a reduction of such considerations, but to date, there has been no systematic study of the effects of hormonal fluctuations on the quality of the female singing voice, or of its potential adverse effects on the vocal apparatus for singers who are affected by pre-menstrual syndrome.

This study investigated the effects of hormonal fluctuations on young professional female classical singers. Female and male professional singers in training (students) at the Sydney Conservatorium of Music, University of Sydney, were asked to participate as volunteers in the study by keeping daily diaries. The female singers kept a diary for two separate months beginning on the first day of menstruation, in which they recorded their daily basal temperature, mood, voice state and physical well being. The male control subjects kept daily diaries for one month. Acoustic analysis of two vocal samples taken during the second month, on days 1 and 14 of the cycle, were completed on the six most severely affected female subjects, who were identified through their diary ratings of changes in vocal quality during menstruation.

The selected students assessed their own vocal samples, presented in random order, to determine whether they could reliably identify which of their samples were affected by menstruation. Vocal staff at the Conservatorium (pedagogues), who were blind to the purpose of the study, also assessed recordings presented randomly. Results indicated that

self-perceived vocal quality varied over the course of the menstrual cycle, particularly during the first seven days of the cycle, that negative changes in mood affected the voice, and that fatigue, effort, hoarseness, weakness & peak performance were the most frequently affected vocal states. A surprising finding was that male self-perceived voice quality also varied over the course of one month of diary keeping.

There was no consistent change in direction of scores during menstrual and non-menstrual phases. Five of the six most affected singers correctly identified their performance during menstruation but pedagogues were not consistently able to do so.. These results indicate that perceived quality of the voice through changes in the menstrual cycle may not be as obvious to a highly trained observer even though they were reliably perceived by the singer.

This study demonstrates that menstruation has a discernible impact on the self-perception of female singers' vocal quality and implies that the premenstrual or menstrual female may not feel able to present her peak performance at these times of hormonal fluctuation. Further detailed research in this area may be warranted on a larger scale to elaborate a more precise clinical management of the problem.