

**Determinants of Sun-Related Behaviours in Young Adults: The Role of
Knowledge, Sociocultural Influences, and Appearance Ideals**

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ABSTRACT

Skin cancer is one of the most common cancers in Australia (Australian Institute of Health and Welfare, 2013). The aim of this research was to test and validate predictors that contribute to young adults' sun-related behaviours (namely tanning behaviours, sun-protective behaviour, and incidental sun exposure), and therefore skin cancer risk.

A systematic review of 34 quantitative studies assessed the correlation between skin cancer knowledge and sun-related behaviours in the general population. A positive relationship between higher skin cancer knowledge and greater sun-protective behaviour was found in the majority of cases. Overall, the capacity to determine the impact of skin cancer knowledge on sun-related behaviours was compromised by heterogeneity in measurement of the construct, and results indicated the need for a standardised, multi-item measure of skin cancer knowledge.

Study two describes the development and testing of the 25-item Skin Cancer and Sun Knowledge (SCSK) scale in a sample of 514 young adults reporting Western heritage. Skin cancer knowledge was associated with sun-related behaviour, with the final model accounting for 12.3 to 23.2% of variance in female sun-related behaviours, however relationships were not significant among the male sample. Thus, consideration of additional factors, beyond skin cancer knowledge, was recommended.

Tanning behaviour was considered from a body image perspective in the third study. In a sample of 246 young adults of Western heritage, predictors based on the Tripartite Influence Model (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999b) successfully explained tanning behaviour among young women, but not young males. Although both genders internalised a tanned ideal, influences on the decision to engage in tanning behaviour were gender specific.

The final two studies in this thesis explored the role of Asian heritage in the sun-related behaviours of young adults. The fourth study assessed predictors of sun-related behaviours among 140 young adults of Asian heritage. Tanning behaviour was common, and was more likely among those who endorsed Western sociocultural tanning norms. Skin cancer knowledge levels were low, and were not associated with sun-related behaviour. The fifth and final study considered the role of sociocultural variables, including Australian-acculturation, in the prediction of sun-related behaviours among young adults with Asian heritage ($N = 399$). Skin tone perceptions and endorsement of sociocultural tanning norms that value tanned skin were significantly associated with tanning behaviour, however acculturation was not. These results indicate the pervasiveness of the effect of social normative influences and skin tone attractiveness perceptions on tanning behaviour, among diverse cultural samples.

The series of studies presented in this thesis improve understandings of young adults' sun-related behaviour. There is a need for consistent measurement of skin cancer knowledge and improvement of knowledge levels, beyond awareness, and improving skin cancer knowledge may be a key area to target for Asian Australians. Sociocultural tanning norms and skin tone preferences are central to understanding tanning behaviour across cultural groups, and the results suggest that conceptualisation of female tanning as a body image behaviour may be appropriate. Importantly, results suggest the role of these predictors differs across genders, and suggestions for future research addressing young men's sun-related behaviour are discussed.

DECLARATION

I, Ashley Day, declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, except where due reference has been made in the text. I certify that this work contains no material that has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution. No part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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Published works

Chapter 2: Paper One

Day, A. K., Wilson, C., Hutchinson, A. D., & Roberts, R. M. (2013). The role of skin cancer knowledge in sun-related behaviours: A systematic review. *Journal of Health Psychology*. Advance online publication. doi: 10.1177/1359105313485483

Chapter 3: Paper Two

Day, A. K., Wilson, C., Roberts, R. M., & Hutchinson, A. D. (2014). The Skin Cancer and Sun Knowledge (SCSK) scale: Validity, reliability, and relationship to sun-related behaviors among young Western adults. *Health Education and Behavior*, 41, 440-448. doi: 10.1177/1090198114529129

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Signed: _____

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OVERVIEW

Outline of Thesis

This research explored determinants of sun-related behaviours (tanning behaviours, sun protection, and incidental sun exposure) that influence skin cancer risk. There are key gaps in the literature with respect to our understandings of the relationship between skin cancer knowledge and sun-related behaviours. As skin cancer knowledge accounted for modest amounts of variance in sun-related behaviours, additional influencing factors were also considered. The role of skin tone based appearance ideals and sociocultural tanning norms were explored due to the significance of appearance motivations underlying sun-related behaviour. Specifically, the aims were to 1) determine the extent to which skin cancer knowledge predicts sun-related behaviours, 2) examine tanning behaviour from the theoretical perspective of the Tripartite Influence Model, and 3) examine the sun-related behaviours of Asian Australians.

This research represents one of the first attempts to explore sociocultural influences on tanning behaviour from a body image theoretical perspective. Furthermore, this research is among the first in Australia to consider specifically the factors contributing to sun-related behaviour in not only those with Western heritage but also those with Asian heritage, a group with rising skin cancer incidence, poor prognostic outcomes, and a social endorsement of fair, rather than tanned, skin (Bellew, Del Rosso, & Kim, 2009; Kim, Del Rosso, & Bellew, 2009; Li, Min, Belk, Kimura, & Bahl, 2008). Young adults were the target group due to their high levels of participation in behaviours that impact skin cancer risk (D. B. Buller et al., 2011; Heckman et al., 2013; Wickenheiser, Baker, Gaber, Blatt, & Robinson, 2013). Findings from one systematic review, three cross-sectional studies, and one retrospective cohort study are

presented in five papers reported here as chapters. Of these papers, two have been accepted for publication and the remaining three have been submitted for publication.

Chapter 1 provides an introduction to the issue of skin cancer in Australia, sun-related behaviours, and factors that contribute to our understanding of these behaviours. The aims of the thesis are also outlined. Chapters 2 to 6 contain the five papers produced as parts of this thesis, with statements outlining author contributions, as well as opening and closing sections that outline the rationale for each study in the context of the broader research goals, and provide information beyond the scope of the papers. Chapter 7 synthesises the findings of each of the studies and presents a discussion of the broader thesis conclusions. Limitations of the project are addressed, as are the implications of the conclusions reached. Suggestions for future research are also discussed.

References for all chapters are provided at the end of the thesis and a copy of the published manuscripts (reported in Chapters 2 and 3) are included as Appendices (Appendix A and B, respectively). Tables and figures are numbered consecutively within each chapter.

Outline of Candidature

The current thesis was undertaken to fulfil the requirements of a combined Doctor of Philosophy/ Master of Psychology (Health) degree undertaken at the University of Adelaide, South Australia. This program (*4 years fulltime*) combines a full Psychology Masters (Health) course load (*equivalent 2 years fulltime*) and a full research program for a Doctor of Philosophy (*equivalent 3 years fulltime*), and stipulates that the research undertaken has to adopt a health psychology focus. The five papers that form the body of this work, along with nine masters subjects and three placements (with a combined total of 1,098.5 placement hours) were completed within

3.5 years of fulltime study. A total of \$3,750 in funding over and above the standard support provided to Doctor of Philosophy students was received from the School of Psychology to fund conference travel as well as website hosting for online data collection. All subject and practical requirements of the Masters component of the program were completed successfully. The following thesis is submitted to fulfil the requirements of the Doctor of Philosophy degree.