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Pacific Islands families study: intimate partner stressors and psychological distress among pacific adults

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ABSTRACT

Although there has been increased research about the nature and predictors of sexual problems, relatively little is known about sexual health and well-being among minority ethnic groups across the world. This study explored stressful intimate relationship events that made a significant impact on psychological distress among Pacific adults living in New Zealand. The Pacific Islands Families (PIF) study is a longitudinal investigation of Pacific children born in New Zealand, and their parents. The 12-item General Health Questionnaire (GHQ12) and intimate partner stress items were used to assess the relationship between these stressful events and psychological distress among Pacific mothers and fathers ($n = 3963$ interviews with 2114 individuals). For both men and women, the most significant partner stress associated with psychological distress was problems with sex. These findings show how stressful events around sexuality and intimate relationships affect Pacific psychological well-being. These intimate issues need to be considered when designing intervention and treatment programmes that are adaptive for long-term family stability and sexual well-being. The relationship between culture, sexuality, and psychological distress needs further investigation. Using a qualitative methodology would provide a more intensive exploration of the role that cultural context plays in intimate relationships and sexuality in Pacific adults.

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Pacific families; intimate partner stress; psychological distress; sexuality; sexual problems

Background

Over the past decade, there has been increased interest and research about the nature, predictors, and sociopolitical aspects of sexual problems (Laumann et al., 2005; Nicolosi, Moreira, Shirai, Bin Mohd Tambi, & Glasser, 2003). Amongst this burgeoning research, there are very few studies of intimate partner stressors in minority groups and in developing nations (Laumann et al., 2006). In this study of Pacific adults living in New Zealand (NZ), we wanted to examine what intimate partner stressors had the most significant impact on psychological distress.

Pacific people living in NZ are an ethnically heterogeneous (Sāmoan, 49%; Cook Islands Māori; 21%; Tongan, 20%; and Niuean, 8%), rapidly growing, youthful, and highly urbanized group (Statistics New Zealand, 2013). A wave of migration to NZ took place in the 1950s and 1980s when Pacific peoples arrived from the islands of Samoa, Tonga, Cook Islands, Niue, Fiji, and the Tokelaus. This migration was driven primarily by the need for a labor force in NZ (Macpherson, Spoonley, & Anae, 2001) alongside the economic sustainability of small island groups such as the Tokelaus (Prior, Welby, Ostbye, Salmond, & Stokes, 1987). Since this migration wave, Pacific people have actively participated in NZ economy and society and have significant social, sporting, and cultural links across NZ society (Sang and Ward, 2006).

A central tenet of Pacific culture is the family unit, with families playing a crucial role in the economic, social, and spiritual lives of Pacific peoples (Ministry of Social Development, 2004). Pacific people, however, suffer from an excess of social, health, and economic deprivation in NZ (Ministry of Health, 2013). The relatively low socioeconomic status of Pacific people and experiences of rapid acculturation and sociocultural change have been linked to concerns about mental illness and risk-taking behaviors in this population (Ministry of Health, 2008). Two national studies, Te Hinengaro (Foliaki, Kokaua, & Shaaf, 2006; Kokaua, Shaaf, Wells, & Foliaki, 2009) and the Ministry of Health's New Zealand Health Survey (Ministry of Health, 2014) revealed higher rates of psychological distress among the Pacific population than the general NZ population.

Attitudes towards sexuality among the Pacific population tend to be more conservative than those of European descent in NZ (Ministry of Health, 2008). This perspective stems largely from cultural norms and the strong role religion plays in the Pacific community. Little research exists regarding the attitudes of NZ Pacific adults in relation to sex. However, research with young people indicates that although sexual health is a primary concern for them, it is deemed culturally inappropriate for them to talk to their parents about sex (Statistics New Zealand and Ministry of Pacific Island Affairs, 2011; University of Auckland, 1999). This norm also leads to inhibitions in accessing information and services related to sexuality, contraception, and sexual health, as young people worry that their parents will find out they are having sex (Ministry of Health, 2008). Furthermore:

In Pacific families there are often protocols and etiquettes to be observed for discussion on issues such as sex, sexuality and reproduction. It may be inappropriate to include in the same group, for example, older and younger siblings, mothers and daughters, or church leaders and non-church leaders. (Ministry of Health, 2008, p. 20).

Such protocols suggest that open discussions on matters related to sex might be a difficult task, even among the adult Pacific population.

The interrelationship between culture and health, including psychological distress, has been a recurrent theme in the social science literature over several decades (Helman, 2000). Culture is now accepted as an important determinant of health status (Snowden, 2005; Spector, 2002) and it is acknowledged that the well-being of a migrant group is regulated by interlinking factors that relate to the society of origin, the migration itself, and the society of resettlement (Sam, 2006).

International research has reported a consistent relation between current life stress and psychological distress (Kuh, Hardy, Rodgers, & Wadsworth, 2002; Tennant, 2002). Psychological distress is generally associated with a number of potential factors, including

the presence of stressful situations, perception by the individual that such problems are stressful, and the ability to cope with the situation. Life event research identifies external events that have the potential to influence family functioning relations (Hamilton, McCubbin, & Olson, 1987; Rabkin & Struening, 1976). It has been suggested that common events represented on life events checklists may be largely irrelevant to different ethnic and socioeconomic groups (Dohrenwend & Dohrenwend, 1969).

The Pacific Islands Families (PIF) study is a successful and unique longitudinal investigation of Pacific families based on the recruitment of Pacific infants born in South Auckland, NZ in 2000 ($n = 1398$) and their mothers and fathers. Children and their families have been visited when the children were aged 6 weeks, 1, 2, 4, 6, 9, 11, and 14 years. PIF research findings have been disseminated widely and over the last decade have provided an empirical evidence-base for Pacific ethnic groups in NZ (Paterson et al., 2008). Numerous factors have been identified that converge to influence health behaviors and outcomes in Pacific peoples, including poor housing (Carter, Paterson, & Williams, 2005), fathering (Tautolo, Schluter, & Paterson, 2015), acculturation (Borrows, Williams, Schluter, Paterson, & Langitoto Helu, 2010), and health issues (Paterson, Iusitini, Taylor, & Mann, 2014; Sundborn et al., 2009). This paper focuses on a neglected area concerning the effect of stressful intimate partner events on psychological distress among Pacific adults.

Method

Participants

All potential participants from one hospital were selected from births where at least one parent identified as being of a Pacific ethnicity and was a NZ permanent resident. The original cohort included 1376 mothers of 1398 Pacific infants (including 44 twins). Ongoing contact with the family was managed via the primary contact, usually the mother. Fathers were included in the cohort at several measurement waves (including 6 and 11 years postpartum) when the mother gave permission for the father of the child to be contacted and interviewed. Compared with data available from Statistics New Zealand's 1996 and 2001 censuses (Statistics New Zealand, 2002), the inception cohort was broadly representative of the Pacific census figures (Paterson et al., 2008).

Procedures

At 6, 9, and 11 years postpartum, individual interviews were carried out with the primary caregiver (typically the mother) and the secondary caregiver (typically the father) in their homes. Once informed consent was obtained, an interview concerning family functioning and the health and development of their child took place. Within the context of the wider interview, issues of adult health were measured using various screening tools, including the General Health Questionnaire (Goldberg & Williams, 1988), and Intimate Partner Stress items from the Social Readjustment Scale (Holmes & Rahe, 1967). Adults who were interviewed at these time points participated in these two measures (3963 interviews with 2114 individuals). Due to resource constraints, secondary caregivers were not interviewed

at year 9; nevertheless, all adults completing the two measures were included. Details of recruitment and procedures are available elsewhere (Paterson et al., 2008).

Measures

Adult Mental Health: The 12-item General Health Questionnaire (Goldberg & Williams, 1988) is a self-report tool that is widely used to identify recent minor psychiatric disorders in adults. It screens for non-psychotic disorders and focuses on two major areas, the inability to carry out normal functions and the appearance of new and distressing psychological phenomena. Items include “Have you recently felt you couldn’t overcome your difficulties?”; “Have you recently been able to enjoy your normal day to day activities?” and “Have you recently felt capable about making decisions about things?” High convergent and divergent validity coefficients for the GHQ12 of between 0.83 and 0.93 have been reported in a number of settings (Goldberg and Williams, 1988; Makowska, Merez, Moscicka, & Kolasa, 2002). The GHQ12 was scored to give a total of 12 using the binary method of scoring. Each item was scored 1 if the answer was “rather more than usual” or “much more than usual”, otherwise it was scored 0. A cut-point of 2 is recommended for screening psychological disorder. Mothers who scored above the cut-point (3 or more) are referred to in this study as symptomatic and mothers who scored below as non-symptomatic. Reliability coefficients of the GHQ in the PIF Study were 0.87, 0.85, and 0.83, at ages 2, 4, and 6, respectively (Tautolo, Schluter, & McDonald-Sundborn, 2009).

Intimate partner stress

Eleven items that were associated with intimate partner stress were derived from items from the 43-item Social Readjustment Rating Scale (Holmes & Rahe, 1967). The full scale determines the occurrence of stressful events that had been experienced by the family in the past 12 months. High internal consistency ranging from 0.89 to 0.96 has been reported (Gerst, Grant, Yager, & Sweetwood, 1978). The full scale includes a wide range of common stressors and is designed to estimate the total stress an individual is experiencing by adding up the values corresponding to events that had occurred in the past year. Preliminary analysis with this cohort revealed that problems with sex were the most significant in life event associated with psychological distress. In order to explore this issue in more depth for this paper, we focused solely on the intimate partner stressors that have occurred over the past year.

Sociodemographic characteristics

Sociodemographic variables included marital status, highest educational qualification (dichotomized to tertiary-educated versus not tertiary-educated), postnatal depression, and unemployment. These variables were included as they may be confounding factors in the analysis of the association of life intimate partner stressors with the outcome of psychological distress.

Following the interviews, data were coded and entered into an electronic database (SPSS Data Entry Builder 4.0) that employed comprehensive data validation and checking rules.

Data analysis

Associations of life events with the binary outcome variable of psychological distress were examined using logistic multiple regression models, while allowing for a small number of confounding variables. Two generalized linear models were fitted, one for the men and one for the women. Life event variables where fewer than 10 events were observed were excluded from analysis. The potential impact of the repeated measures design was evaluated using generalized estimating equations. It was found to be negligible in one model (women) and was inestimable due to lack of model convergence in the other model (men). The observed negligible effect of repeated measures may be due to the transient nature of the outcome combined with the non-overlapping time periods covered by the questions at consecutive measurement waves. Therefore, allowance for repeated measures was not included in the analysis. No model selection procedures were used. Model fit diagnostics were conducted, specifically for over-dispersion, goodness of fit, and independence of residuals. All analyses were conducted using R3.0.2 (R Core Team, 2013) and $p < 0.05$ was used to determine statistical significance.

Results

Model fitting

Three intimate partner stress variables (reconciliation with partner, assault by partner, your partner was given a jail sentence, etc.) were dropped from the model of men due to insufficient numbers of events; no variables were dropped from the model of women. Both of the logistic multiple regression models (of men and of women) passed all diagnostic tests of model fit. No over-dispersion was evident in either model, with estimates of dispersion being 0.90 and 0.97, respectively; both are less than one. Goodness of fit was assessed using the Hosmer–Lemeshow test and was acceptable ($p = 0.16$ and $p = 0.39$, respectively). Independence of residuals in both models was tested using the Durbin–Watson test and no significant auto-correlation was detected ($p = 0.09$ and $p = 0.07$).

Associations

Figure 1 presents the estimated effects of intimate partner stressors (sorted by Adjusted Odds Ratio, AOR) on the odds of psychological distress among (a) men and (b) women. The statistically significant ($p < 0.05$) effects found were as follows. For both men and women, *problems with sex* had the biggest effect (AOR = 16.99 and 5.30, respectively, both $p < 0.001$), followed for both by *serious arguments with partner* (AOR = 3.64 and 3.19, respectively, both $p < 0.001$). Distress among men was increased when their *partner's job required significant absence from home* (AOR = 3.57, $p < 0.01$). Finally, for both men and women, greater distress was seen when their *partner became unemployed* (AOR = 2.21, $p < 0.01$ and AOR = 2.57, $p < 0.001$, respectively). No other intimate partner stressors exhibited a significant association ($p > 0.05$).

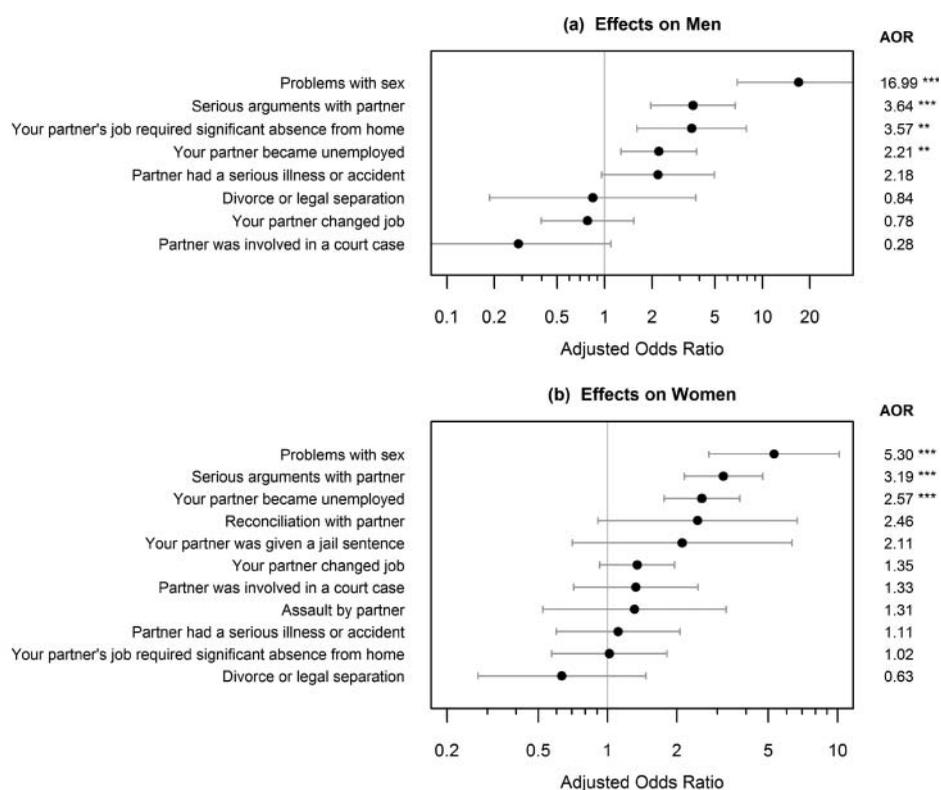


Figure 1. Adjusted odds ratios for the effect of specific life events on the odds of psychological distress, derived from logistic multiple regression models and sorted by effect size.

Notes: Adjusting variables: unemployment, marital status and education (men); postnatal depression, marital status, education (women). ** $p < 0.01$; *** $p < 0.001$.

Descriptives

Across the three measurement waves, a total of 1379 interviews were conducted with men and 2584 with women. Psychological distress was identified in 109 (7.9%) interviews of men and 238 (9.2%) interviews of women (Table 1). The intra-cluster correlation for repeated measures on the same individual was low at 12% for both men and women which suggests that the outcome is transient rather than persistent for individuals.

Discussion

The most important finding in this study was that, among this Pacific cohort, the item related to *problems with sex* was the most strongly associated intimate partner stressor with psychological distress (for both men and women). To our knowledge, this finding has not previously been reported when it comes to the Pacific population (inside or outside NZ) and requires further empirical investigation.

Epidemiological and clinical studies have demonstrated the link between impairments of sexual function and satisfaction and psychological distress (Baldwin, 2001; Dunn,

Table 1. Sample characteristics and outcome prevalence, by measurement wave.

(a) Men		Year 6 (N = 598)		Year 9 (N = 48)*		Year 11 (N = 733)	
		N	%	N	%	N	%
Currently married	No	21	4	19	40	27	4
	Yes	577	96	29	60	706	96
Tertiary education	No	408	68	35	73	458	62
	Yes	190	32	13	27	275	38
Currently unemployed	No	541	90	44	92	642	88
	Yes	57	10	4	8	91	12
Outcome: psychological distress	No	554	93	46	96	670	91
	Yes	44	7	2	4	63	9
		Year 6 (N = 924)		Year 9 (N = 853)		Year 11 (N = 807)	
(b) Women		N	%	N	%	N	%
Postnatal depression (baseline)	No	781	85	718	84	694	86
	Yes	143	15	135	16	113	14
Currently married	No	123	13	173	20	44	5
	Yes	801	87	680	80	763	95
Tertiary education	No	512	55	523	61	426	53
	Yes	412	45	330	39	381	47
Outcome: psychological distress	No	871	94	796	93	679	84
	Yes	53	6	57	7	128	16

*Men at year 9 include only male primary caregivers, as secondary caregivers were not interviewed at year 9.

Croft, & Hackett, 1999). The shift in social attitudes, represented in advertisements and entertainment, may have exacerbated this by increasing the number of people who feel anxious that their sexual performance is less than ideal (Laumann, Park, & Rosen, 1999). The expectation that everyone is interested in and proficient at sex has been described as a socially normative prescription but this is not the actual state of affairs (Richters, Grulich, de Visser, Smith, & Rissel, 2003). This situation may be exacerbated for Pacific peoples in NZ, as the broader cultural context is likely to be less restrictive than Pacific culture when it comes to matters related to sex and sexuality.

The expectation and willingness to discuss problems with sex varies widely between different cultures (Bhugras & De Silva, 1993). There is some evidence that Pacific peoples are reluctant to be open and frank in discussing issues around sex, sexual behavior, practices, and attitudes (Ministry of Health, 2008). This general attitude may be a barrier to addressing the association between intimate relationships and psychological distress. Research with young Pacific people has revealed a secretiveness around sexual relationships due to a fear of judgment from their family and wider community (McMillan and Woth, 2010; University of Auckland, 1999). Adequate sexual expression is a vital part of intimate human relationships and has the capacity to enhance quality of life by providing a sense of physical, psychological, and social well-being. Difficulties in sexual communication among the Pacific population require further research and educational attention.

Descriptions of problems with sex are subjective and are dependent on ideas of what is perceived as “normal.” Problems with sex can be regarded as a stressful life event that is contributing to psychological distress. However, in some cases, psychological distress may be the starting point, rather than the consequence of sexual problems. Some findings have suggested that psychological distress can impair the ability to maintain intimate relationships and may produce difficulties in sexual relationships and family functioning (Baldwin, 1996).

Serious arguments were significantly associated with psychological distress for both male and female participants. In the field of life event research, conflict in the relationship has been consistently revealed as a significant predictor of psychological distress (Cupina, 2009; Dunn et al., 1999; Maughan & Taylor, 2001). It is possible that in some cases psychological distress has driven the conflict in a relationship (Rabkin & Struening, 1976). The breakdown of a relationship often brings with it a loss of social support which is a protective buffer against the effects of stressful life events (Blasco-Fontecila et al., 2012).

The PIF study provides information from a large and culturally diverse sample of Pacific adults within NZ. This longitudinal programme has a strong study design, and has utilized sophisticated analytical techniques to examine the PIF data over time (Gao, Paterson, & Abbott, 2007). Some evidence of differential attrition has previously been reported in the PIF study (Sundborn, Paterson, & Jhagroo, 2011); however, there was no evidence that missingness was associated with the GHQ12 outcome variable. The GHQ12 is an internationally recognized screening tool which has been used with numerous population groups worldwide. Although the use of self-report can lead to underreporting, in large-scale studies such as the PIF study, self-report is usually the most feasible option for measurement.

There are methodological and conceptual issues around the measurement of intimate partner stressors that need consideration. In line with most studies of the depressive effect of stressful life events, the current study is non-experimental, and thus cannot make causal inferences. In addition, the accuracy of retrospective reporting is an important consideration.

In the current study, we revealed that intimate partner stressful events, particularly around problems with sex, were found to significantly affect psychological distress in Pacific adults. These issues are impacted by religious and cultural expectations and norms around family and community that are deeply implicated in health and well-being (McDade & Worthman, 2004).

The relationship between culture, sexuality, and psychological distress needs further investigation. Further research, within and outside the PIF longitudinal study, which uses qualitative methodology to provide a more in-depth exploration of intimate relationships and sexuality in Pacific adults is needed. Building on the current study, such research would shed light on the cultural contexts, interpersonal factors, and psycho-emotional issues surrounding these intimate problems. Issues related to intimate relationships, problems with sex, and Pacific norms surrounding sexuality need to be considered when designing intervention and treatment programmes that are adaptive for short term outcomes, but also for long-term family stability and well-being.

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Disclosure statement

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Professor Janis Paterson is the co-director of the National Institute of Public Health & Mental Health Research at Auckland University of Technology which is focused on advancing both the quantity and quality of research activities within the Faculty of Health and Environmental Sciences. Professor Paterson is Foundation Director of the Pacific Islands Families Study and plays a central role in the growth and development of a variety of research areas.

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Dr Pantea Farvid is a senior lecturer in Psychology at Auckland University of Technology in New Zealand. Her research examines the intersection of gender, sexuality, power, culture, technology and identity. She has carried out critical analysis of contemporary heterosexual relationships in the domain of casual sex, online dating, mobile dating and men who buy sex. Currently, her work is focused on mapping the nature and meanings of intimacy in the domain of technologically mediated relationships, as exemplified by heterosexual Tinder-use.

References

- Baldwin, D.S. (1996). Depression and sexual dysfunction. *Journal of Pharmacology*, 10, 30–34.
- Baldwin, D.S. (2001). Depression & dysfunction. *British Medical Bulletin*, 57, 81–99.
- Bhugra, D., & De Silva, P. (1993). Sexual dysfunction across cultures. *International Review of Psychiatry*, 5, 243–252.
- Blasco-Fontecila, H., Delgado-Gomez, D., Legido-Gil, T., de Leon, J., Perez-Rodriguez, M.M., & Baca-Garcia, E. (2012). Can the holmes-rahe social readjustment scale (SRRS) be used as a suicide risk scale? An exploratory study. *Archives of Suicide Research*, 16, 13–28.
- Borrows, J., Williams, M., Schluter, P., Paterson, J., & Langitoto Helu. S. (2010). Pacific Islands Families Study: The association of infant health risk indicators and acculturation of Pacific island mothers living in New Zealand. *Journal of Cross-Cultural Psychology*, 42, 699–724.
- Carter, S., Paterson, J., & Williams, M. (2005). Housing tenure: Pacific families in New Zealand. *Urban Policy and Research*, 23, 413–428.
- Cupina, D. (2009). Life events, gender and suicidal behaviours in the acute community setting. *Australasian Psychiatry*, 17, 233–236.
- Dohrewend, D.P., & Dohrewend, B.S. (1969). *Social status and psychological disorder*. New York, NY: Wiley International Science.

- Dunn, K.M., Croft, P.R., & Hackett, G.I. (1999). Association of sexual problems with social, psychological and physical problems in men and women: A cross sectional population survey. *Journal of Epidemiology & Community Health*, 53, 144–148.
- Foliaki, S., Kokaua, J., & Shaaf, D. (2006). Pacific people. In M.A. Oakley Brown, J.E. Wells, & K.M. Scott (Eds.), *Ministry of health* (pp. 178–208), Te Rau Hinengaro. Wellington: The Mental Health Survey.
- Gao, W., Paterson, J., & Abbott M. (2007). Maternal mental health and child behavior problems at 2 years: Findings from the Pacific Islands Families Study. *Australia & New Zealand Journal of Psychiatry*, 41, 885–895.
- Gerst, M., Grant, I., Yager, J., & Sweetwood, H. (1978). The reliability of the social readjustment rating scale: moderate to long-term stability. *Journal of Psychosomatic Research*, 22, 519–523.
- Goldberg, D., & Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Hamilton, Y.L., McCubbin, I., & Olson, D.H. (1987). The effect of stressful life events and transitions of family functioning and well-being. *Journal of Marriage & the Family*, 49, 857–873.
- Helman, C.G. (2000). *Culture, health and illness* (4th ed.). London: Arnold.
- Holmes, T.H., & Rahe, R.H. (1967). The social readjustment scale. *Journal of Psychosomatic Research*, 11, 203–228.
- Kokaua, J., Shaaf, D., Wells, J.E., & Foliaki, S.A. (2009). Twelve-month prevalence, severity, and treatment contact of mental disorders in New Zealand born and migrant Pacific participants in Te Rau Hinengaro: The New Zealand mental health survey. *Pacific Health Dialog*, 15, 9–17.
- Kuh, D., Hardy, R., Rodgers, B., & Wadsworth, M.E.J. (2002). Lifetime risk factors for women's psychological distress in midlife. *Social Sciences Medicine*, 55, 1957–73.
- Laumann, E.O., Nicolosi, A., Glasser, D.B., Paik, A., Gingell, C., & Moreira, E. (2005). Sexual problems among women and men aged 40–80 y: Prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. *International Journal of Impotence Research*, 17, 39–57.
- Laumann, E.O., Paik, A., Glasser, D.B., Kang, J., Levinson, B., Moreira, E., ... Gingell, C. (2006). A cross-national study of subjective sexual wellbeing among older women and men: Findings from the Global Study of Sexual Attitudes and Behaviors. *Archives of Sexual Behavior*, 35, 145–161.
- Laumann, E.O., Park, A., & Rosen, R.C. (1999). Sexual dysfunction in the United States: Prevalence and predictors. *JAMA*, 281, 537–44.
- Macpherson, C., Spoonley, P., & Anae, M. (2001). Pacific peoples in Aotearoa: An introduction. In C. Macpherson, P. Spoonley, & M. Anae (Eds.), *Tangata O Te Moana Nui —the evolving identities of Pacific peoples in Aotearoa/New Zealand* (pp. 11–15). Palmerston North: Dunmore Press.
- Makowska, Z., Merez, D., Moscicka, A., & Kolasa, W. (2002). The validity of the General Health Questionnaires, GHQ-12 and GHQ-28, in mental health studies of working people. *International Journal of Occupational Medicine & Environmental Health*, 15, 353–362.
- Maughan, B., & Taylor, A. (2001). Adolescent psychological problems, partnership transitions and adult mental health: an investigation of selection effects. *Psychological Medicine*, 31, 291–305.
- McDade, T., & Worthman, C. (2004). Socialization ambiguity in Samoan adolescence: A model for human development and stress in the context of culture change. *Journal of Research on Adolescence*, 14, 49–72.
- McMillan, K., & Woth, H. (2010). The impact of socio-cultural context on young people's condom use: Evidence from two Pacific Island countries. *Culture, Health & Sexuality*, 13, 313–326.
- Ministry of Health. (2008). *Pacific youth paper: A paper for the Pacific health and disability action plan review*. Wellington: Author.
- Ministry of Health. (2013). *The health of Pacific adults and children*. Wellington: Author.
- Ministry of Health. (2014). *The health of New Zealand adults 2013/2014: Key findings of the New Zealand health survey*. Wellington: Author.
- Ministry of Social Development. (2004). *New Zealand families today*. Wellington: Auhtor.
- Nicolosi, A., Moreira, E., Shirai, M., Bin Mohd Tambi, M.I., & Glasser, D.B. (2003). Epidemiology or erectile dysfunction in four countries: Cross-national study of the prevalence and correlates of erectile dysfunction. *Urology*, 61, 201–206.

- Paterson, J., Iusitini, L., Taylor, S., & Mann, L. (2014). Pacific Islands Families Study: Oral health of Pacific children living in New Zealand. *The International Journal of Interdisciplinary Global Studies*, 8(4), 1–14.
- Paterson, J., Percival, T., Schluter, P., Sundborn, G., Abbott, M., Carter, S., ... Gao, W. (2008). Cohort profile: Pacific Islands Families (PIF) study. *International Journal of Epidemiology*, 37, 273–279.
- Prior, I.A., Welby, T.J., Ostbye, T., Salmond, C.E., & Stokes, Y.M. (1987). Migration and gout: The Tokelau Island migrant study. *British Medical Journal (Clinical Research Edition)*, 295(6596), 457–461.
- Rabkin, J., & Struening, E.L. (1976). Life events, stress, and illness. *Science*, 194, 1013–1020.
- R Core Team. (2013). *R: Language & environment for statistical computing*. Vienna: R foundation for statistical computing. Retrieved from www.R-project.org
- Richters, J., Grulich, A.E., de Visser, R.O., Smith, A.M., & Rissel, C.E. (2003). Sexual difficulties in a representative sample of adults. *Australian & New Zealand Journal of Public Health*, 27, 164–170.
- Sam, D.L. (2006). Acculturation: Conceptual background. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge handbook of acculturation psychology* (pp. 11–26). Cambridge: Cambridge University Press.
- Sang, D.L., & Ward, C. (2006). Acculturation in Australia and New Zealand. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge handbook of acculturation psychology* (pp. 253–273). Cambridge: Cambridge University Press.
- Snowden, L.R. (2005). Racial, cultural and ethnic disparities in health and mental health: Towards theory and research at community levels. *American Journal of Community Psychology*, 35(1–2), 1–8.
- Spector, R.E. (2002). Cultural diversity in health and illness. *Journal of Transcultural Nursing*, 13(3), 197–199.
- Statistics New Zealand. (2002). *Pacific progress. A report on the economic status of pacific peoples in New Zealand*. Wellington: Author.
- Statistics New Zealand. (2013). *2013 Census*. Wellington: Author.
- Statistics New Zealand and Ministry of Pacific Island Affairs. (2011) *Health and Pacific peoples in New Zealand*. Wellington: Author.
- Sundborn, G., Metcalf, P.A., Gentles, D., Scragg, R., Schaaf, D., Dyall, L., ... Jackson, R. (2009). 'From Kava to Lager' – alcohol consumption and drinking patterns for older adults of Pacific ethnic groups, and Europeans in the Diabetes Heart and Health Study (DHAHS) 2002-2003, Auckland New Zealand. *Pacific Health Dialogue*, 15, 47–54.
- Sundborn, G., Paterson, J., & Jhagroo, U. (2011). Cohort profile: A decade on - the Pacific Islands Families (PIF) study. *Pacific Health Dialog*, 17, 9–22.
- Tautolo, D., Schluter, P., & McDonald-Sundborn, G. (2009). Mental health wellbeing amongst fathers within the Pacific Islands Families Study. *Pacific Health Dialogue*, 15, 69–78.
- Tautolo, E., Schluter, P., & Paterson, J. (2015). Pacific father involvement and child behaviour outcomes: Findings from the Pacific Islands Families Study. *Journal of Child & Family Studies*, 24, 3497–3505.
- Tennant, C. (2002). Life events, stress and depression: A review of recent findings. *Australia & New Zealand Journal of Psychiatry*, 36, 173–182.
- University of Auckland. (1999). *Evaluation of Pacific Island sexual health project: Family life education pasifika (FLEP)*. Auckland: Author.