The influence of alcohol consumption among partners in newly cohabiting relationships.

Running Title: Influence of drinking among cohabiting partners.

Geoffrey Leggat, Research Officer, [a], MSc
(Corresponding Author)
Plenty Rd & Kingsbury Dr, Bundoora VIC 3086
(03) 94798748
G.Leggat@latrobe.edu.au

Michael Livingston, Research Fellow, [a, b], PhD
M.Livingston@latrobe.edu.au

Emmanuel Kuntsche, Director, [a, c], PhD
E.Kuntsche@latrobe.edu.au

Sandra Kuntsche, Research Fellow, [a], PhD
S.Kuntsche@latrobe.edu.au

Sarah Callinan, Research Fellow, [a], PhD
S.Callinan@latrobe.edu.au

[a] Centre for Alcohol Policy Research (CAPR), La Trobe University, Australia

[b] Karolinska Institutet, Department of Clinical Neuroscience, Stockholm, Sweden

[c] Behavioural Science Institute, Radboud University Nijmegen, the Netherlands

Conflict of Interest
None to declare.

Abstract

Introduction and Aims

Research has linked exposure to the drinking of one's partner or spouse and changes in alcohol-related behaviours. However, there is a dearth of studies which consider only cohabiting relationships. More couples are preferring to cohabit prior to and in place of marriage. As a result, studies focused on cohabiting couples may provide a more representative consideration of modern long-term relationships. The present study uses a representative, longitudinal sample with annual follow-up and aims to determine if cohabiting partner's drinking habits are influenced by their partner's consumption, as well as, consider the role of intimacy as a key component of these influences compared to a relationship's label or legal status.

Methods

Data from the Household, Income and Labour Dynamics in Australia (HILDA) survey identified 1,483 newly cohabiting, Australian heterosexual couples between 2001 and 2016. Individual alcohol consumption was analysed using a cross-lagged, three-wave actor-partner structural equation model.

Results

A respondent's own drinking was a stable and significant predictor of future consumption, and a greater predictor of later drinking than their partner's. Female consumption generally exerted significant influence on their male partner's later consumption, while male drinking was non-significant for all but the first year following cohabitation. Overall, women generally had greater influence on their partner's drinking than men.

Discussion and Conclusions

This study furthers our understanding of each partner's role in influencing consumption within intimate relationships. Cohabiting couples appear to have some similarities with married couples

regarding partner influence and may better represent the typical contemporary long-term relationship.

1. Introduction

A range of individual and community level factors are associated with risky drinking, [1-4] including the alcohol consumption of partners and household members. Alcohol consumption of others in the household is believed to be associated with changes in alcohol-related habits, [5-7] and many studies have examined the role of different relationships in shaping these changes. [6-9] With the majority of alcohol consumed in the home, [10], it is important to better understand the role of the type of relationship and the intimacy within it in contributing to and influencing these changes in alcohol-related behaviours.

As a result, the present study aims to evaluate the reciprocal influence of alcohol consumption among cohabiting couples and contrast these findings with the current literature to evaluate the shifting nature of partner influences and household composition on drinking. This will help inform future research and health promotion directions on the nature of alcohol consumption among and within couples. This research also aims to provide additional consideration of the role of intimacy within a cohabiting relationship, as opposed to the legal marital status, as a key factor in the development of these influences. Further studies and interventions specifically interested in interdependence among couples may benefit from these findings.

1.1 Relationship Influences

Close and intimate relationships are key drivers of behavioural changes, [11, 12] including drinking. [13] Built on familiarity and shared experiences, these relationships involve exposure to each partner's habits.

The reciprocity of alcohol consumption among intimate couples has been studied previously, generally finding significant effects among partners across short and long-term relationships. [6, 7, 14, 15] However, the role of gender in shaping these influences appears less certain. With some studies indicating that both partners exert similar influences, [7, 14, 15] and others finding female drinkers to have greater influence. [6, 9] This may be the result of each study's chosen relationships of interest and alcohol use measures. These studies feature a mix of intimate relationships, (marriage, cohabitation, dating, etc) and a mix of drinking behaviours (average daily, heavy episodic, etc), making for varying results. Generally, those studies concerned with heavy drinking found little gender differences in influence, in stark contrast to those studies of day-to-day drinking.

Overall, however, studies of partner influence on alcohol consumption have all noted significant influence on partner drinking. So, while methodological details and specific results vary, intimate partners influence on the development and change of alcohol related behaviours is consistently found across the literature.

1.2 Living Situations

The living situation or type of union is also of importance when considering interpersonal influences among couples. Many studies of partner influence have focused on married or newlywed couples, [6, 9, 15] or a mixture of relationships including dating [7, 14] but few have specifically considered cohabiting relationships. Cohabitation is of particular interest due to the shifting nature of long-term relationships over the past few decades. While marriage was once seen as the ultimate goal for a couple, the increasing prevalence of cohabitation and declining marriage rates [16, 17] indicate that there may be a substantial shift in the social norms regarding long-term relationships occurring. [18, 19]

Reduced social stigma associated with sexual relationships, co-residence and childbirth for non-married couples [20] means these behaviours are no longer primarily found in married couples. [21] These social shifts, coupled with the potential for loss of independence or other losses

accompanying the dissolution of marriage, [19] means some couples may choose to cohabit instead of marry. There are very few observable differences in relationship satisfaction or quality between couples married following cohabiting and those cohabiting couples planning to marry. [21, 22] It should also be noted that couples who cohabited prior to marriage now represent a substantial proportion of all marriages, (81.3% of Australian marriages in 2017 followed a period of cohabitation). [16]

Cohabitation has been commonly linked with an apparent increased risk of adverse relationship and health impacts such as antisocial behaviour, drug use, and of particular interest, alcohol use disorders. [23-25] Many studies have linked cohabitation with increased risk of heavy drinking and alcohol dependence, [23, 24, 26] particularly compared to married couples. However, recent studies have also shown that many of the differences between marriage and cohabitation with regard to alcohol-related behaviours can be attributed to environmental and genetic factors. [25, 27] In a twin study from 2016, Dinescu, Turkheimer, Beam et al. [27] identified that differences in quantity of consumption between married and cohabiting women were non-significant, while married men consumed more than cohabiting men, after controlling for genetic and environmental selection effects. These observed protective effects of marriage, above cohabitation, may be a result of lighter drinkers being more likely to marry rather than cohabit. [27] While there does appear to be some risks of harm for those cohabiting compared to marriage, these findings would suggest that protective effects for alcohol use do exist for cohabitation, as they do for marriage. [25, 27] These findings may suggest that the occurrence of cohabitation and the strengthening of intimacy that accompanies it may provide an earlier, clearer indicator of the development of influence among intimate partners than marriage. This might suggest that the benefits of intimate relationships on alcohol consumption may be tied to the intimacy within the relationship, rather than how it is labelled. [27] This is supported by recent studies which have indicated that the differences between married and cohabiting couples may not be as great as previously observed, particularly those couples cohabiting with intent to marry. [21, 22]

Overall, this is supportive of the choice to focus on cohabiting couples, in studies related to alcohol among relationships. Although both cohabitation and marriage appear associated with similar effects regarding alcohol use, those studies that focus exclusively on marriage may be missing some level of interpersonal influence that is developed prior. In addition to excluding those heavier drinkers who are not predisposed to marriage, and as such are using a sample that is not necessarily representative of all drinkers.

All of the aforementioned factors point to the shifting nature of modern long-term relationships. These changes coupled with the increasing number of couples who have chosen to cohabit in place of, and prior to, marriage and the increasing intimacy, influence and protective effects tied to cohabitation may suggest the beginning of cohabitation to be a more suitable point to represent and assess the influences among contemporary couples following either cohabitation or marriage.

1.3 Hypotheses

Based on current evidence, [6, 7, 14] we hypothesised that each partner's alcohol consumption would exert significant influence on their partner's consumption. For example, a higher individual alcohol use would contribute to an increase in their partner's consumption at the next time. As past studies have consistently observed past behaviour to be greater predictors of future behaviour, we also hypothesised that each individual's past drinking behaviour would be the greatest predictor of their subsequent drinking. Although gender effects differ among studies, those studies focusing on longer-term, intimate heterosexual relationships have found female influence on male partners to be greater over time. Thus, considering our focus on long-term cohabiting couples, and average drinks per day measure of alcohol consumption, we also hypothesised that our findings would most closely resemble those studies of non-risky drinking among married couples. That is, that female consumption will have a greater influence on their partner's alcohol consumption than male consumption.

2. Methods

2.1 Study Population

Participant data used in this study is from the Household, Income and Labour Dynamics in Australia (HILDA) survey, a household-based panel survey comprising thousands of Australian households. Survey details are available in Watson and Wooden [28]. Briefly, each member of a participating household over the age of 15 is interviewed annually regarding individual and household details such as employment, education, relationships and income. Participants are also asked to complete a self-completion questionnaire (SCQ) concerning more confidential, personal information regarding topics such as alcohol consumption. Each participant is followed as they move to a new home, the new occupants of the selected residence are then included in the survey. Due to this, a HILDA participant's intimate relationship partner will not be surveyed prior to beginning a co-residing relationship. As a result, few relationships included in the present study have survey responses for both partners prior to cohabitation, with most partners not entering the survey's scope until they begin cohabiting. This is reflected in the smaller number of responses at time 1, which represents the year prior to cohabitation, compared to the later times (Table 1).

The sample's representativeness and relatively high retention rate, compared to similar household surveys [29, 30] are HILDA's key strengths. 65.7% of all households selected for the initial survey participated. In the following years, 87-97% of households were retained. The SCQ, which contains HILDA's alcohol measures, response rate ranges between 89-95% from Wave 1 to Wave 16. Participant recruitment is also a key feature of HILDA, with new respondents at each wave generally accounting for non-respondents or those leaving the survey's scope. [29, 31] The ongoing government support, large body of published work using the data and the relatively high re-interview rate all point to the survey's quality. [28]

Inclusion criteria were applied to couples across all 16 waves of release 16 of HILDA. To be eligible, couples had to have:

- Been in a relationship during the survey period. We limited this to the years 2002-2014 to ensure consumption data one year prior and two years following cohabitation was available; 20402 couples identified.

- Begun cohabiting as part of this relationship and remain with the same partner for two consecutive years; 18837 couples excluded.

- Same-sex couples were excluded as gender is built into the model and low numbers made separate analysis infeasible; 45 couples excluded.

- Only appeared as the same couple once (to avoid partners having already lived together and influenced each other, in cases where this occurred the first instance of the relationship was still included in the analysis.

1483 couples, (2966 individuals), met these criteria.

2.2 Measures

2.2.1 Covariates:

HILDA records participant age, sex and attained education, as well as, further details concerning participant household composition and relationship status. Cohabitation status was adapted from responses to the question "were you living with your current partner/spouse when we last interviewed you?".

2.2.2 Alcohol Consumption:

Frequency and quantity of alcohol consumption over the past year are provided by participants as part of the self-completed questionnaire (SCQ) in the HILDA survey. Participants provided frequency and quantity of alcohol consumption through responses to the questions "Do you drink alcohol?" and "On a day that you have an alcoholic drink, how many standard drinks do you usually have?". Frequency responses include "I have never drunk alcohol" and "I no longer drink" (both coded as 0), then ranging from "Yes, but only rarely" (coded as 12 times per year) to "Yes, I drink alcohol everyday" (coded as 365). Quantity measures from "1 to 2 standard drinks" (coded as 1.5) to "13 or

more standard drinks" (coded as 13.5). HILDA defines a standard drink as "a small glass of wine, a 285ml glass of regular beer, a nip of spirits, or a mixed drink".

Overall consumption was assessed through an average standard drinks per day variable derived by multiplying quantity and frequency responses divided by 365.

2.3 Statistical Analyses

All study procedures were approved by a La Trobe University Human Research Ethics Committee.

An actor-partner interdependence model (APIM), [32] assessing how much a person's drinking was influenced by their partner's and their own past drinking for three years following initiation of cohabitation, was estimated. Each time point corresponded to data from different waves of HILDA, with cohabitation beginning between times 1 and 2. Structural equation modelling was used, with age, highest attained education and relationship satisfaction as covariates. We also adjusted for additional control variables (children, pregnancy and marriage), however, their inclusion worsened the overall model fit, so have not been included. In addition, we also ran a sensitivity analysis, only including those couples who had not been previously married, however this also worsened the overall fit, and had little impact on the results obtained.

Robust maximum likelihood estimation (MLR) accounted for potential non-normally distributed reported consumption [33]. Only 23 couples were missing data at all times, and they were excluded from this analysis. Missing alcohol consumption data ranged from 12-13% among each year of consumption. A full information maximum likelihood algorithm in MPlus accounted for missing data. It should be noted that alcohol measures are likely missing due to being part of the SCQ. Much of the missing data in this study is from non-returned SCQs, rather than missing responses. Missing consumption data for those participants who did return an SCQ ranges from 4% to 6% per wave.

To further test if each reciprocal partner's consumption had equivalent influence, additional models with partner effects constrained to equality at each time were compared against freely varying

effects. A chi-square difference test with a scaling factor to account for the MLR determined if model fit improved. [34, 35]

Further models incorporating k values were estimated to more formally test for patterns within the APIM. [36] These k parameters represent the ratio of partner effects to actor effects. Where partner effects are the influence an individual exerts on their partner, and actor effects are the influence an individual has on their self. These models were run to observe and determine what pattern of influence exists among the couples included in this study. The obtained k values suggest whether each partners alcohol consumption at each time was more greatly influenced by their own past drinking or by that of their partner. For example, k=1 suggests a couple pattern, where an individual's consumption is equally influenced by their own and their partner's past consumption. While k=0 indicates an actor only pattern, where an individual is only influenced by their own past consumption and not by their partner's.

3. Results

<INSERT TABLE 1 HERE>

The majority of the sample was between 20 and 29 years of age (45.0% of the total sample). The distribution of ages at which people are cohabiting observed in this study appear similar to those reported among the Australian public. [17]. Within the sample, males were generally older than females.

On average, reported consumption was greater for males than females, while average reported consumption generally decreased over the relevant time periods (Table 1). The biggest decrease occurred between times 1 and 2, coinciding with the inclusion of additional partner responses upon joining a participating household.

<INSERT FIGURE 1 HERE>

Significant actor effects were observed for males and females at all times. While significant partner effects were observed for females from time 2 to time 4. Male partner effects were generally non-significant, save for between time 2 and time 3 (Figure 1). In addition, female alcohol consumption consistently exerted greater influence than male consumption on partner drinking at the next time. Overall, however, actor effects had greater influence on drinking behaviour for males and females.

Testing constrained, and freely varying-partner effect models indicated male and female partner effects may be equivalent between times 1-2 and times 2-3 (time1-2: $\Delta\chi^2$=2.89, p<0.10, time 2-3: $\Delta\chi^2$=2.72, p<0.10). Suggesting gender differences to be minimal over the first year of the relationship. Observed k-values generally supported patterns where partner effects were significant, but smaller than actor effects. Constrained model test results and k-values are included alongside Figure 1.

4. Discussion

This study aimed to investigate the reciprocal influence of alcohol consumption among newly cohabiting couples. As hypothesised, we observed significant actor and partner effects, suggesting that a person's alcohol consumption is influenced by their partner's and their own past drinking behaviour. As hypothesised actor and partner effect sizes and the k-values obtained suggest that a person's own past behaviour is more influential than their partner's behaviour. Despite our constrained analyses indicating that male and female partner effects may be equivalent over the first two years of cohabitation, when considered overall, our model appears to support our third hypothesis, indicating female influence to be greater over time. While female partner influence appeared to decline and stabilise after the first year of cohabitation, male partner influence appeared initially weaker overall, and returned to non-significance over the third year of cohabitation

The present study's findings appear to additionally reflect a level of similarities in the way in which the influence of alcohol consumption manifests among married and cohabiting couples. Some studies of married couples have identified female alcohol consumption to be more influential, similarly to the present study. [6, 9] Our overall findings differed from those of Leonard and Homish [15], who identified more consistently similar levels of influence among both partner's drinking. However, their interest in heavy drinking may explain this discrepancy. Our study's findings do appear most similar to studies of day-to-day drinking rather than those with heavy or episodic drinking measures.

Overall, the similarities between our findings and findings of samples involving only married couples provides further evidence of the erosion of differences between married and cohabiting couples, particularly regarding the influence of health-related behaviours. Our findings also lend weight to the idea that there is very little lost by choosing cohabitation as the point to consider union formation compared to marriage, while using marriage runs the risk of missing the growing population of couples choosing to cohabit, as well as, those heavier drinkers who are less predisposed to enter into marriage.

4.1 Scope and Limitations

There are several factors to be kept in mind when considering these results. Similar to other household surveys, HILDA's alcohol measures are self-reported. Although this study was concerned with trends, for which any bias should hypothetically remain consistent, participant misestimation may exist. Common to many similar studies, there is missing data within each wave as well as loss of respondents to the sample that may impact on results. HILDAs household focus means participants are only included when entering a participating household, so we cannot ascertain when each relationship first began. As a result, baseline drinking and possible adaptations or changes in behaviour as a result of partner influence occurring before cohabitation may be unaccounted for. Future research that could include this information would be beneficial.

Although same-sex couples were outside of the present study's scope, further work may provide valuable insights into the relationship dynamics shaping partner influence, and alcohol-related behaviours among same-sex partners.

Changes in social and interpersonal expectations and roles, possibly resulting from life or relationship events, such as pregnancy, can contribute to changes in alcohol use. [37, 38] However, cohabitation, which is prevalent among those aged 15 to 34, [17] often occurs at a similar age to social and family role changes. [37] Although there did not appear to be a substantial number of events occurring concurrently with beginning cohabitation, observed changes in drinking habits may be occurring due to a combination of societal, interpersonal and relationship factors. [24, 37] These factors may also explain the shifts in partner influence observed in this and other studies. Further studies incorporating these events may provide further insight into the factors underpinning the development of interpersonal alcohol-related influences.

Although we adjusted for relationship satisfaction, other issues may stem from poor relationship health. In particular, discordant drinking is often linked with worsening relationship viability and interaction. Further studies could consider the interaction between male and female partner and actor effects of both drinking and relationship satisfaction.

4.2 Conclusion

The results presented generally indicated each cohabiting partner's drinking exhibited modest, yet significant influence on their partner's consumption. The strength of these effects appears to vary over time and by gender. Female drinking appeared to exert significant influence on male partner drinking at the next time, at most times. Comparatively, male partner drinking had non-significant influence on partner drinking, save for the year following cohabitation. Overall, partner effect sizes appeared to be larger for female influence on male drinking, although constrained analyses suggested they may be equivalent from the beginning of cohabitation through the first year following, after which male influence was non-significant.

These findings support past research that suggests partners to be important contributors in the development of alcohol-related behaviours. Policies and treatment options for curtailing the burden of harms associated with alcohol-related behaviours should consider the entire spectrum of interpersonal factors that exist among intimate relationships. While couple-based therapies may assist with cases of alcohol disorders, non-risky drinking couples may benefit from being encouraged to engage in concordant drinking, which can improve relationship satisfaction and longevity, which is in turn protective from alcohol disorders. [15]

Although further work may be required to better understand the role that different levels of alcohol consumption play in the manifestation of partner influence, the present study's findings do indicate similarities in the way in which influence develops within a relationship transition. Our findings suggest that the influence between partners in a newly cohabiting relationship will resemble that of a newlywed couple. As a result, and considering the increasing social similarities between marriage and cohabitation and the changing prevalence of both. It might be argued that cohabitation presents as an equally if not more suitable point at which to consider partner influences among long-term relationships. Especially as it now encompasses a substantial proportion of couples who choose to cohabit prior to marriage, as well as a number of couples cohabiting without intent to marry.

5. References

1.   Australian Department of Health. National Drugs Strategy 2017-2026. Canberra: Commonwealth of Australia; 2017.
2.   Australian Institute of Health and Welfare. National Drug Strategy Household Survey (NDSHS) 2016 - Detailed Findings. Australian Institute of Health and Welfare (AIHW); 2017.
3.   Bränström R, Sjöström E, Andréasson S. Individual, group and community risk and protective factors for alcohol and drug use among Swedish adolescents. European Journal of Public Health. 2008;18(1):12-8.
4.   Sudhinaraset M, Wigglesworth C, Takeuchi DT. Social and Cultural Contexts of Alcohol Use: Influences in a Social–Ecological Framework. Alcohol Research : Current Reviews. 2016;38(1):35-45.
5.   Ryan SM, Jorm AF, Lubman DI. Parenting Factors Associated with Reduced Adolescent Alcohol Use: A Systematic Review of Longitudinal Studies. Australian & New Zealand Journal of Psychiatry. 2010;44(9):774-83.
6.   Windle M, Windle RC. A Prospective Study of Alcohol Use Among Middle-Aged Adults and Marital Partner Influences on Drinking. Journal of Studies on Alcohol and Drugs. 2014;75(4):546-56.
7.   Bartel SJ, Sherry SB, Molnar DS, Mushquash AR, Leonard KE, Flett GL, et al. Do romantic partners influence each other's heavy episodic drinking? Support for the partner influence hypothesis in a three-year longitudinal study. Addictive Behaviors. 2017;69:55-8.
8.   Quine S, Stephenson JA. Predicting smoking and drinking intentions and behaviour of pre-adolescents: The influence of parents, siblings and peers. Family Systems Medicine. 1990;8(2):191-200.
9.   Leonard KE, Mudar P. Husbands' Influence on Wives' Drinking: Testing a Relationship Motivation Model in the Early Years of Marriage. Psychology of Addictive Behaviors. 2004;18(4):340-9.
10.   Callinan S, Livingston M, Room R, Dietze P. Drinking Contexts and Alcohol Consumption: How Much Alcohol Is Consumed in Different Australian Locations? Journal of Studies on Alcohol and Drugs. 2016;77(4):612-9.
11.   Akers RL, Krohn MD, Lanza-Kaduce L, Radosevich M. Social Learning and Deviant Behavior: A Specific Test of a General Theory. American Sociological Review. 1979;44(4):636-55.
12.   Latané B. The Psychology of Social Impact1981. 343-56 p.
13.   Falba TA, Sindelar JL. Spousal Concordance in Health Behavior Change. Health Services Research. 2008;43(1p1):96-116.
14.   Mushquash A, Stewart S, Sherry S, P Mackinnon S, Antony M, Lee-Baggley D. Heavy episodic drinking among dating partners: A longitudinal actor-partner interdependence model2013. 178-83 p.
15.   Leonard KE, Homish GG. Predictors of Heavy Drinking and Drinking Problems over the First Four Years of Marriage. Psychology of addictive behaviors : journal of the Society of Psychologists in Addictive Behaviors. 2008;22(1):25-35.
16.   Australian Bureau of Statistics Marriages and Divorces, Australia, 2017: Australian Bureau of Statistics (ABS); 2018 [updated 27/11/2018. Available from: http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3310.02017?OpenDocument.
17.   Australian Institute of Family Studies. Living Together in Australia. Australian Institute of Family Studies (AIFS); 2013.
18.   Cherlin AJ. The deinstitutionalization of American marriage. Journal of Marriage and Family. 2004;66(4):848-61.
19.   Lundberg S, Pollak RA. Cohabitation and the Uneven Retreat from Marriage in the U.S., 1950-2010. Human Capital in History: The American Record: University of Chicago Press; 2014. p. 241-72.
20.   Thornton A, Young-DeMarco L. Four Decades of Trends in Attitudes Toward Family Issues in the United States: The 1960s Through the 1990s. Journal of Marriage and Family. 2001;63(4):1009-37.

21.   Musick K, Bumpass L. Reexamining the Case for Marriage: Union Formation and Changes in Well-being. Journal of Marriage and Family. 2012;74(1):1-18.

22.   Brown SL, Manning WD, Payne KK. Relationship Quality Among Cohabiting Versus Married Couples. Journal of Family Issues. 2017;38(12):1730-53.

23.   Duncan GJ, Bessie W, England P. Cleaning up Their Act: The Effects of Marriage and Cohabitation on Licit and Illicit Drug Use. Demography. 2006;43(4):691-710.

24.   Li Q, Wilsnack R, Wilsnack S, Kristjanson A. Cohabitation, Gender, and Alcohol Consumption in 19 Countries: A Multilevel Analysis. Substance Use & Misuse. 2010;45(14):2481-502.

25.   Horn EE, Xu Y, Beam CR, Turkheimer E, Emery RE. Accounting for the physical and mental health benefits of entry into marriage: a genetically informed study of selection and causation. J Fam Psychol. 2013;27(1):30-41.

26.   Joutsenniemi K, Martelin T, Kestilä L, Martikainen P, Pirkola S, Koskinen S. Living arrangements, heavy drinking and alcohol dependence. Alcohol and Alcoholism. 2007;42(5):480-91.

27.   Dinescu D, Turkheimer E, Beam CR, Horn EE, Duncan G, Emery RE. Is marriage a buzzkill? A twin study of marital status and alcohol consumption. J Fam Psychol. 2016;30(6):698-707.

28.   Watson N, Wooden M. The HILDA Survey: A case study in the design and development of a successful household panel study2012. 369-81 p.

29.   Watson N, Wooden M. Data Survey: The HILDA Survey: Progress and Future Developments. Australian Economic Review. 2010;43(3):326-36.

30.   Wilkins R, Lass I. The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 16. Melbourne Institute: Applied Economic & Social Research, University of Melbourne. 2018.

31.   Australian Department of Social Services. Sample sizes and response rates for the Centre studies 2018 [updated 30/01/2018. Available from: https://www.dss.gov.au/about-the-department/national-centre-for-longitudinal-studies/growing-up-in-australia-the-longitudinal-study-of-australian-children-lsac/sample-sizes-and-response-rates-for-the-centre-studies.

32.   Cook W, Kenny D. The Actor-Partner Interdependence Model: A model of bidirectional effects in developmental studies2005. 101 p.

33.   Muthén LK, Muthén BO. MPlus User's Guide. 8 ed2017.

34.   Muthén LK, Muthén BO. Chi-square difference testing using the S-B scaled chi-square. 2005 [Note on Mplus website.]. Available from: http://www.statmodel.com/chidiff.shtml.

35.   Satorra A, Bentler PM. Ensuring Positiveness of the Scaled Difference Chi-square Test Statistic. Psychometrika. 2010;75(2):243-8.

36.   Kenny D, Ledermann T. Detecting, Measuring, and Testing Dyadic Patterns in the Actor–Partner Interdependence Model Journal of Family Psychology. 2010;24(3):359-66.

37.   Staff J, Schulenberg JE, Maslowsky J, Bachman JG, O'Malley PM, Maggs JL, et al. Substance Use Changes and Social Role Transitions: Proximal Developmental Effects on Ongoing Trajectories from Late Adolescence through Early Adulthood. Development and psychopathology. 2010;22(4):917-32.

38.   Leonard KE, Eiden RD. Marital and Family Processes in the Context of Alcohol Use and Alcohol Disorders. Annual review of clinical psychology. 2007;3:285-310.

Table 1; Mean ages and average standard drinks consumed for men and women across each year of

a cohabiting relationship.

* Cohabitation begins between times 1 and 2.

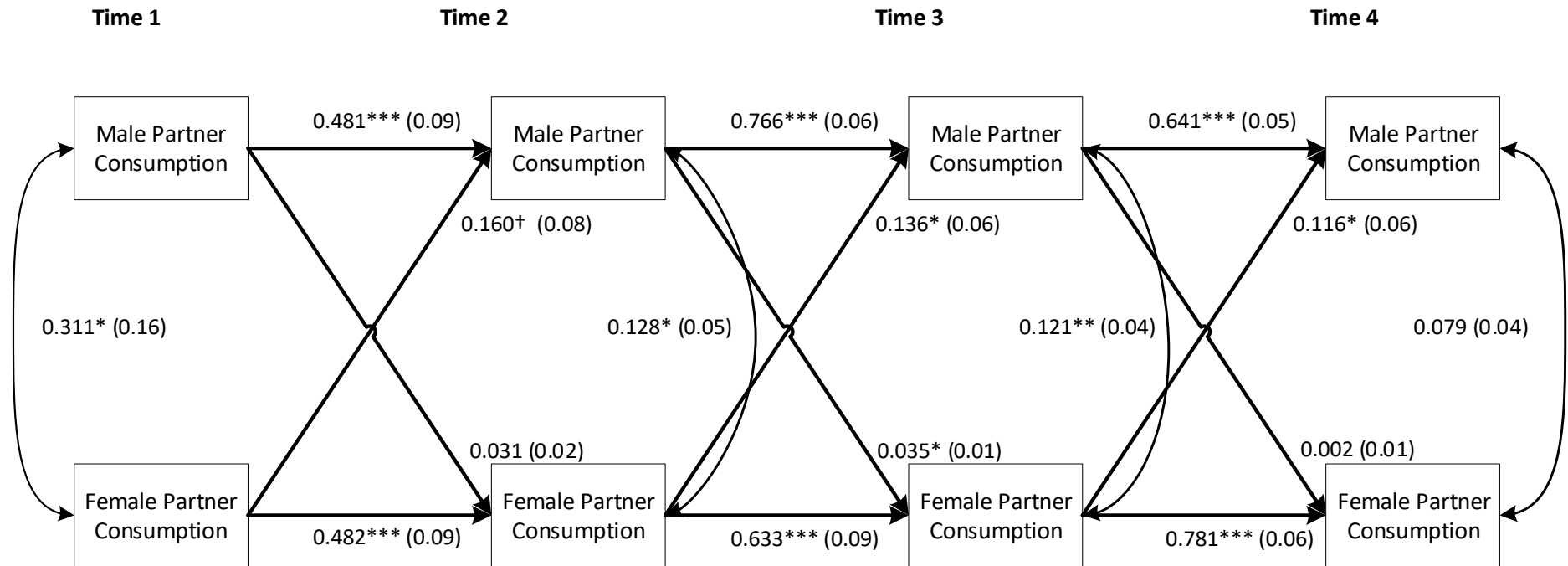|	MALES			FEMALES		
MEAN AGE (AT TIME 1) (SD)	31.6 (12.0)			28.7 (10.5)		
TIME	**Mean Standard Drinks Per Day (SD)**	**Median Standard Drinks Per Day**	**N**	**Mean Standard Drinks Per Day (SD)**	**Median Standard Drinks Per Day**	**N**
1	1.37 (1.87)	0.78	561	0.70 (1.07)	0.47	635
2*	1.27 (1.74)	0.64	1173	0.59 (0.88)	0.30	1252
3	1.27 (1.84)	0.64	1181	0.55 (0.92)	0.21	1258
4	1.22 (1.72)	0.64	1192	0.54 (0.96)	0.21	1275

Figure 1; APIM observing actor and partner effects on alcohol consumption. Each rectangular box represents a measured consumption variable.

Note: Unstandardized coefficients have been presented as they better compare the equivalence between male and female consumption at each time point [36]. Standard errors are included in parenthesis.

† p ≈ 0.05. * p < 0.05. ** p < 0.01. *** p < 0.001.

Model Fit: RMSEA = 0.023 (0.018, 0.028), CFI = 0.957, SRMR = 0.028.

Constrained model results: Time 1-2: $\Delta\chi^2(1)$ =2.89, p<0.10. Time 2-3: $\Delta\chi^2(1)$ =2.72, p<0.10. Time 3-4: $\Delta\chi^2(1)$ =4.32, p<0.05.

K-values: Time 1-2: k1=0.33[-0.08,0.75], k2=0.70[-0.03,0.17]. Time 2-3: k3=0.18[0.01,0.35], k4=0.05[0.00,0.11]. Time 3-4: k5=0.18[-0.002,0.31], k6=0.02[-0.03,0.03].