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Personal injury problems: new insights from the Legal Australia-Wide Survey

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Abstract: *Traditional sources of data give only partial insight into the nature of legal problems related to injury. These data sources typically say little about personal injury that does not result in hospitalisation or in compensation or claims processes. The present paper uses data from the Legal Australia-Wide (LAW) Survey, a population-level survey, to shed light on four different types of personal injury problems that are likely to be 'justiciable' or have legal aspects – problems associated with motor vehicle injury, work-related injury, product injury and injury due to other negligence. The paper estimates the prevalence of these different types of personal injury problems, their severity, their links to other legal and non-legal problems, and people's responses to them. The findings reveal the distinctive nature of each type of personal injury problem. They are associated with different demographic profiles and different responses. Importantly, personal injury problems are relatively common, can be severe and are often not stand-alone problems. They are connected to the experience of other legal problems and can have considerable negative knock-on effects on broader life circumstances beyond the original injury. The results highlight the value of the effective legal resolution of personal injury problems. They suggest the potential benefit of broad legal diagnosis and coordination between legal advisers to manage the interconnection between personal injury problems and other legal problems. The results also indicate that coordination between legal and non-legal professionals may be beneficial, with the potential for referral in both directions. Health professionals are well placed to notice that injury problems may have legal implications and to act as gateways to legal advice. In addition, the adverse knock-on effects of personal injury problems on broader health, social and financial circumstances suggests that legal clients may benefit from broader support from human services.*

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Legal definition of personal injury

In health and medical contexts, 'injury' clearly refers to harm to the individual, and while sometimes used narrowly to refer only to physical harm, it is also used more broadly to include psychological harm or to acknowledge that psychological harm is sometimes intrinsically linked to physical harm.

Many injuries, but not all, have a legal dimension. In the legal context, the term 'personal injury' is typically used to refer only to injury or harm to the person for which *another person or organisation is legally liable* and, hence, for which compensation is claimable (Finkelstein & Hamer 2015). Legally, both physical and psychological harm to the person can constitute personal injury, and personal injury is distinct from injury to a person's reputation or

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property, which are covered by different legal actions (Finkelstein & Hamer 2015).[2] Examples of 'personal injuries' – that is, injuries for which compensation or claims processes are typically available – include motor vehicle injuries; work-related injuries or illnesses; and other injuries or illnesses occurring due to the liability or negligence of another person or organisation, such as injuries or illnesses resulting from falls due to negligence and product faults.

In keeping with these definitions, 'personal injury' is used in the present paper to refer to injury to the person which *potentially has legal implications*, whereas the term 'injury' per se is used more inclusively to refer to the broader category covering both injuries with and injuries without potential legal consequences.

Furthermore, it is important to note that personal injury can have legal implications for both the injured person and any other person or organisation at fault. Both parties can have legal problems related to the personal injury and may take steps to resolve these legal issues.

Data sources about injury

Traditionally, two leading information sources shed light on legal problems related to injury. The first is injury and health service surveillance data, typically from hospital admissions and surveys, which tells us about the scale and circumstances of injury. The second kind of data, from compensation systems and insurance claims, provides insight into injury that becomes the basis for legal claims for compensation. As will be detailed later, neither of these traditional data sources comprehensively captures personal injury. Health data is not restricted to injury that has legal implications, but covers injury more broadly. While claims data is restricted to personal injury, it does not include personal injuries for which people do not seek compensation.

In addition to these two major data sources, there are a number of population-level surveys that measure the incidence of certain types of injury, and discrete cohort studies that measure injury outcomes in specific groups. Finally, 'legal needs' surveys, which typically measure a broad range of problems that have legal aspects, are another source of data on legal problems related to injury.

The magnitude of injury as a problem

Globally, injury makes a significant contribution to mortality (Lozano, Naghavi, Foreman et al. 2012). In Australia, hospital admission and trauma registry datasets provide a good sense of the incidence and prevalence of injury that results in hospitalisation (Gabbe, Sutherland, Hart et al. 2010). The main causes of hospitalised injury are falls (40%), other unintentional injury (33%) and transport accidents (12%). In 2013–14, there were 461,000 hospitalisations in Australia as a result of injury, with males being more likely than females to be hospitalised for most injury types, and people aged over 85 years having the highest rate of hospitalisation (Australian Institute of Health and Welfare (AIHW) 2016). Aboriginal and Torres Strait Islander people experience injury-related hospitalisations at a higher rate than other Australians (3,521 versus 1,863 per 100,000 population; AIHW 2016).

Focusing on key categories of injury circumstances resulting in hospital admissions enables us to dig a little deeper into the profile of injury as a problem and who experiences it. Falls account for more than 170,000 hospitalisations annually, and 53 per cent of these hospitalisations occur in adults aged 65 years or over, with twice as many females in this age group sustaining a fall injury (Pointer 2013).

More than 50,000 hospital admissions occur annually as a result of land transport accidents (Henley & Harrison 2012). Males are seriously injured as a result of land transport accidents at a rate 2.3 times greater than females, and nearly half of the people seriously injured as a result of such accidents are aged under 30 years (Henley & Harrison 2012).

Estimates suggest that 36,000 people aged 15 years or over are hospitalised each year following a sporting injury; 65 per cent are under 35 years and more than 75 per cent are male (Kreisfeld, Harrison & Pointer 2014).

Information on work-related injury or illness comes from both claims data and population-level surveys. The Australian workers' compensation system acknowledges that work-related injury or illness can encompass psychological as well as physical harm, and includes mental stress and psychological illness among the injuries that can result from employment (Australian Safety and Compensation Council 2008).

From population-level surveys, we know that more than half a million Australians experience a work-related injury or illness each year, and 61 per cent of these are males (Australian Bureau of Statistics (ABS) 2014b). By age, the highest rate of work-related injury or illness is for those aged 50–54 years (52 per 1,000 persons who had worked in the previous 12 months), followed closely by those aged 15–19 years (50 per 1,000 persons; ABS 2014b). When the rate of work-related injury or illness is measured according to the number of hours worked, younger workers have the highest rate (Safe Work Australia 2012a). The experience of work-related injury or illness is also linked to occupation. Serious

2 See also, for example: <http://www.legalaid.wa.gov.au/InformationAboutTheLaw/BirthLifeandDeath/Personalinjury/Pages/PersonalInjuryGeneralInformation.aspx>; <http://www.pilchnsw.org.au/compensation-claims-for-personal-injury-in-australia/>.

work-related injury or illness, and serious workers' compensation claims, are more likely in blue collar occupations (e.g. labourers, machine operators and drivers, and technicians and trade workers) than in white collar occupations (e.g. professionals, clerical and administrative workers and sales workers; ABS 2011, 2014b; Safe Work Australia 2012a, 2012b). A small proportion of accepted workers' compensations claims (6%, on average, from 2008–09 to 2012–13) are for mental health disorders, and these types of claims are more common for females and for professionals (Safe Work Australia 2015).

With respect to assault-related injury, population-level crime victimisation surveys indicate that 2.1 per cent of Australians aged 15 years or over (N=400,400) report experiencing one or more physical assaults in the previous 12 months and 0.3 per cent of Australians aged 18 years or over (N=58,600) report experiencing at least one sexual assault in this period (ABS 2016b). Assault victimisation is most prevalent in young males, with 24 per cent of males aged 18–24 years experiencing violence in the previous 12 months (ABS 2013f).

The scale of some other categories of injury, however, such as product-related injury or illness, is difficult to identify because of gaps in the data collected (Productivity Commission 2006; Access Economics 2007). One estimate suggests that consumer product injuries or illnesses result in 24,000 hospitalisations each year (Access Economics 2007). Product injury or illness arising out of genuine product fault is, however, regarded as being a relatively minor contributor to accidental injury sustained in the home (Productivity Commission 2006).

Major claims processes for personal injury

An injured person's ability to claim personal injury compensation and the kind of compensation available depend not only on the injury circumstances, as noted above, but also on the jurisdiction in which the injury occurred (Luntz, Hambly, Burns et al. 2013).

Compensation schemes exist in each Australian state and territory for personal injuries or illnesses arising from transport accidents and employment. Australia has 11 major workers' compensation schemes and 8 sets of arrangements for motor vehicle accident compensation, with substantial variation in the access and benefits provided (Productivity Commission 2011; Safe Work Australia 2014). While these schemes were once categorised as providing 'fault-based' or 'no-fault' compensation, reforms over time have made many schemes 'hybrid', combining elements of no-fault compensation (particularly for very severe personal injury) and common law damages.

Claims datasets generated by transport accident and workers' compensation schemes are an increasingly useful source of insight into claiming and health outcomes in the wake of injury (Collie, Ruseckaite, Brijnath et al. 2013). Claims datasets indicate that more than 50,000 motor accident compensation claims and more than 250,000 new workers' compensation claims are made each year in Australia (Grant 2015).

The health care and social assistance industry accounted for the highest number of serious workers' compensation claims in 2012–13, while the agriculture, forestry and fishing sector had the highest rate of serious claims (21 serious claims per 1,000 employees). Workers' compensation claims for mental stress tend to be among the most expensive because of the often lengthy periods of absence from work typical of these claims (Safe Work Australia 2013).

For personal injuries or illnesses arising out of faulty products, and falls, slips and trips in public and private premises, claimants must generally rely on claims in the tort system for compensation (Luntz et al. 2013). Australia-wide data on such claims is available from the National Claims and Policies Database (NCPD) maintained by the Australian Prudential Regulation Authority (APRA). The NCPD is designed to provide the government, the insurance industry and other stakeholders, including the community, with an understanding of public, products liability and professional indemnity insurance and claim trends (APRA 2014). NCPD product and public liability claims data indicates that an average of 9,543 bodily personal injury claims were made per year between 2005 and 2013, with an average of 10,583 such claims being finalised per year in the same period (Misra, Liu & Peng 2014)[3]. Fall-related claims accounted for 51 per cent of this total (N=5,369), with claims connected to faulty products or workmanship making up just 4 per cent (N=399; Misra et al. 2014). A further 18 per cent arose out of impact injuries, defined as impact or damage by an object, vehicle or person, including assaults and circumstances where the injured person was trapped by machinery or equipment (Misra et al. 2014).

Gaps in our understanding of personal injury problems

Taken together, traditional data sources – namely, injury and health service surveillance data and claims data – give us only partial insight into 'personal injury', that is, into justiciable or legal problems associated with injury. Although these data sources provide valuable information on the nature of particular types of injury and also on the nature of claims related to personal injury, they do not capture the full spectrum of personal injury nor cover responses to personal injury problems outside

3 These average figures are based on the year in which the accident occurred.

health responses and claims processes (cf. McInnes, Clapperton, Day et al. 2014).

First, health surveillance data does not distinguish personal injury problems from other injury problems that do not have legal implications. Thus, this data source covers a broader range of injury circumstances than those that are justiciable.

Second, health surveillance data and claims data provide little systematic information on personal injury that results neither in hospitalisation nor in a claims process (AIHW 2016; McInnes et al. 2014). For example, little is known about injury at the lower end of the severity spectrum (Berecki-Gisolf, Collie & McClure 2013).

Third, some personal injury types and circumstances, particularly transport accident and work-related injury, are better captured by health surveillance and claims datasets than other injury types, such as product-related injury. Thus, these data sources leave gaps in knowledge about the prevalence and nature of certain kinds of personal injury problems.

Fourth, these data sources also do not help us to understand whether injured persons perceive that they have experienced a legal problem, or how they decide whether to pursue a legal remedy (Engel 2010; Safe Work Australia 2009). In addition, claims datasets focus on the nature of the legal problems associated with personal injury from the claimant's perspective and say less about legal issues from the perspective of any other party allegedly at fault.

Fifth, claims data provides incomplete information about how people respond to the personal injury problems they experience. While claims data can be informative about the pathways taken by injured persons who make a formal claim, it tell us little about the decisions and experiences of injured people who do not claim compensation. The limited information we have about this 'non-claiming' group is predominantly confined to work-related injury. That evidence suggests that 39 per cent of Australians who sustained a work-related injury in 2013–14 applied for workers' compensation (ABS 2014b). The most commonly-cited main reason for not claiming was that the injury was too minor (44% of those who did not claim; ABS 2014b). Other leading reasons were doubts or a lack of knowledge about coverage (10%), perceived ineligibility (10%), concern about negative impacts on employment (9%), the employer's agreement to pay costs (7%) and the inconvenience of the claim process (5%; ABS 2014b). Similar factors have been identified in international studies of 'benefit take-up' in social welfare programs: administrative barriers, transaction costs and stigma are known to be influential (Currie 2006). Further, claims data also does not typically comment on pathways taken outside formal compensation processes by people sustaining personal injury nor on the intervening steps taken before a claim is made. Thus, there are considerable gaps in our knowledge about the sources of advice that claimants rely on to deal with their personal injury problem.

Finally, traditional data sources also do not typically explore the extent to which injury contributes to other kinds of problems that shape the recovery and experience of the injured person, including the knock-on effects of personal injury problems on claimants' lives. The adverse impacts of injury have been explored in qualitative studies (e.g. Grant 2015; Murgatroyd, Cameron & Harris 2011; Roberts-Yates 2003), but typically not in large-scale quantitative research. Thus, information is lacking about the scale of these adverse impacts.

Legal needs surveys

Since their emergence in the mid-1990s, many 'legal needs' surveys around the globe provide another source of data on personal injury problems. These surveys focus on the general public's experience and handling of a broad range of everyday problems involving the law, and often include personal injury problems among the problems they measure (e.g. Coumarelos, Macourt, People et al. 2012; Currie 2007; Dignan 2004; Genn 1999; Genn & Paterson 2001; Pleasence 2006).

To date, there have been at least 39 national legal needs surveys worldwide (Pleasence 2016; Pleasence, Balmer & Sandefur 2013). Following Genn's (1999) approach in the United Kingdom, most of these surveys measure everyday problems that have legal aspects or are 'justiciable' in that the law provides a *potential* route to their resolution, regardless of whether any action was taken involving the justice system.[4] These surveys also typically examine a broad range of responses to these justiciable problems, both within and outside the legal sphere.

Legal needs surveys show that legal problems, including those related to personal injury, are widespread, and that many people ignore their legal problems, face barriers to resolving them or resolve them without legal advice. These surveys also indicate a close link between legal problems and socioeconomic disadvantage. Disadvantaged people have high vulnerability to many types of legal problems, and legal problems can create or further perpetuate disadvantage through substantial impacts on broad life circumstances, including health, social and economic circumstances (e.g. Balmer, Buck, Patel et al. 2010; Coumarelos et al. 2012; Currie 2007; Dignan 2004; Genn 1999; Genn & Paterson 2001; Pleasence 2006; Pleasence & Balmer 2009; Pleasence, Balmer & Buck 2008; Pleasence et al. 2013; Sandefur 2008).

4 The term 'legal problem' is used throughout this paper for easy reference to a problem that is justiciable.

Thus, legal needs surveys can provide valuable data on the experience of legal problems related to personal injury, their flow-on effects and the legal and non-legal pathways that are taken in response to these problems. In addition, some of these surveys are population-level surveys that provide estimates of the prevalence of personal injury problems in the general population.

The Legal Australia-Wide Survey

In Australia, the most comprehensive legal needs survey is the Legal Australia-Wide (LAW) Survey, which is a representative population-level survey (Coumarelos et al. 2012). With over 20,000 interviews, it is also the largest legal needs survey conducted anywhere in the world. Personal injury problems were among the legal or justiciable problems measured by the LAW Survey. The questions about injury problems were carefully limited to capture only the types of injury problems for which legal compensation processes are typically available.

Coumarelos et al. (2012) estimated that, per annum, 7.0 per cent of Australians aged 15 years or over experience a problem related to personal injury that is likely to be justiciable. In addition, 3.3 per cent are likely to experience a problem related to personal injury that is 'substantial' in that it has a 'moderate' or 'severe' impact on their everyday life.[5] As will be detailed later, Coumarelos et al. (2012) also demonstrated the considerable impacts that personal injury problems can have on broad life circumstances, and that people do not always address the legal aspects of personal injury problems.

Aims of the present study

Coumarelos et al. (2012) reported on personal injury problems as a single category but did not examine different types of personal injury problems separately. Using LAW Survey data, the present study builds on their work by further exploring the nature of personal injury problems and people's responses to them. In particular, we extend their work by breaking down legal problems related to personal injury into:

- motor vehicle injury problems
- work-related injury problems
- product injury problems
- other negligence injury problems.[6]

The LAW Survey provides us with an unprecedented opportunity to gain insight into the experience of these main types of personal injury problems at the population level across Australia. The aims of the present analyses were to provide new, population-level evidence about each of these personal injury problem types, detailing:

- their prevalence, severity and coexistence with other types of legal problems
- their broader impacts on life circumstances
- the people more likely to experience them
- how people respond to them, both within and outside the traditional legal sphere.

Method

LAW Survey method

The LAW Survey provides detailed information about the nature and pattern of respondents' experiences of, and responses to, legal problems (Coumarelos et al. 2012). In all, 20,716 landline telephone interviews with household residents aged 15 years or over across Australia were conducted by Roy Morgan Research (via computer assisted telephone interviewing). Just over 2,000 interviews were conducted in each state/territory, apart from NSW and Victoria, in which more than 4,000 interviews were conducted. Random digit dialling was used to yield a quota sample that matched the general population in terms of age, gender, geographical area and cultural and linguistic diversity according to the 2006 Census of Population and Housing (ABS 2007). Additional quotas (oversamples) were also set for people living in the six local government areas that formed the basis of the 2003 NSW Legal Needs Survey (Coumarelos, Wei & Zhou 2006), those in remote and outer regional areas of Victoria and Indigenous people in Victoria. The average length of interviews was 26 minutes, and the response rate was 60 per cent.[7]

The LAW Survey measured legal problems that began or were still ongoing in the 12 months prior to interview. It covered a broad range of civil, criminal and family law problems, capturing 129 specific types of legal problems. These problems were categorised into 12 problem groups for analyses – accidents, consumer, credit/debt, crime, employment, family, government, health, housing, money, personal injury and rights (Coumarelos et al. 2012). The LAW Survey adopted the justiciable problem approach introduced by Genn's (1999) landmark *Paths to justice* survey and thus did not restrict the scope of legal problems to those resolved within the formal justice system but also included those that are resolved by non-legal means, remain unresolved or fail to be recognised.

5 Note that these estimates for personal injury problems exclude problems related to motor vehicle accidents that did not result in injury and clinical negligence problems. Problems related to injury-free motor vehicle accidents were categorised within the 'accidents' legal problem group and clinical negligence problems were categorised within the 'health' legal problem group.

6 The LAW Survey questions on personal injury problems are provided in Table 1 and discussed in the method section. Consistent with Coumarelos et al. (2012), problems related to injury-free motor vehicle accidents and clinical negligence were not categorised as personal injury problems but as 'accidents' and 'health' legal problems, respectively.

7 The response rate was calculated using the American Association for Public Opinion Research (2009) classification.

Consequently, like Genn's (1999) survey, the LAW Survey was carefully limited to include only problems that are likely to be justiciable in that, by definition, they have potential legal consequences and remedies, without explicitly labelling the problems as 'legal'. Each problem was described in sufficient detail to allow respondents to say whether they had experienced it, without requiring them to know that the problem was likely to have legal implications.

For each type of legal problem reported, the LAW Survey measured the number of such problems experienced. It also measured the severity of each problem type in terms of its impact on everyday life, with respondents choosing between no, slight, moderate and severe impact (see Coumarelos et al. 2012). In addition, the survey asked in-depth follow-up questions about the three 'most serious' types of legal problems experienced, including questions about the impact of these problems on life circumstances, the responses to them and the outcomes.[8]

The LAW Survey also collected extensive demographic information at the outset and conclusion of interviews.

Measurement of personal injury problems

The LAW Survey asked about legal problems arising from accidents or injuries that either happened 'in the last 12 months' or happened 'earlier for which insurance, compensation or legal proceedings were still an issue in the last 12 months'. As with the other types of problems captured by the survey, the injury problems captured were likely to have legal implications. As shown in Table 1, the survey questions restricted the types of injury problems captured to those for which legal compensation processes are typically available – namely, problems related to motor vehicle injuries, work-related injuries, product-related injuries and other negligent accidents (such as sports injuries and injuries from accidents in other public or private places).[9]

As the LAW Survey focused on all legal problems experienced by individuals, it included not only legal problems arising from injury to the respondent, but also legal problems experienced by the respondent as a result of being blamed for injuring someone. It is important to note that, while it is possible that the LAW Survey may have interviewed both the injured person and the person at fault for *the same injury* matter, this would not constitute double counting the *legal problems* associated with this injury as there are potential legal implications for both parties.[10]

Accordingly, the problem categories of motor vehicle injury and other negligence include legal problems arising from both injuries sustained by respondents and injuries allegedly caused by respondents (see Table 1).[11]

However, for the problem categories of work-related injury and product injury, it was only possible to include problems experienced by the *injured party* in the present analysis (see Table 1 for the relevant survey questions.) The party at fault in these types of injury matters is typically an organisation – usually an employer or business. As the survey concentrated on legal problems experienced by *individuals* rather than *organisations*, it contained only a few broad-brush questions on business-related problems, and did not capture the specific type of problem experienced. As a result, legal problems experienced by businesses related to workers' compensation claims and potential litigation for faulty products, cannot be separated from other business-related problems for analysis.[12]

In summary, the present study focuses on legal problems experienced by *individuals* that relate to personal injury, whether as the injured party or as the party at fault, but it excludes legal problems experienced by *organisations* that relate to personal injury.

As with other types of legal problems, the LAW Survey measured the number and severity of each type of personal injury problem reported, and it followed up in depth those personal injury problems that were among the most serious problems types experienced.

8 The LAW Survey measured 129 specific types of legal problems, including the types of personal injury problems examined in this paper. Respondents were asked in-depth follow-up questions about their three most serious types of legal problems. Respondents with three or fewer types of legal problems were asked these follow-up questions about all of the legal problem types they experienced. Those with more than three legal problem types were asked about their three most serious types. See Coumarelos et al. (2012) for further details.

9 While verbatim responses sometimes revealed the specific types of circumstances leading to a personal injury problem, the LAW Survey did not explicitly ask about these circumstances. For example, information about the type of faulty product in the case of product injury or illness problems was not systematically collected. The survey also did not capture information on the specific nature of the injury sustained, such as the type of physical or psychological injury. Consequently, it was not possible to break down the four types of personal injury problems into smaller subgroups for analysis purposes.

10 Furthermore, the possibility that both parties were interviewed for the same injury incident is very remote, given that the random sample of 20,716 respondents constituted only 0.001% of the population.

11 In the case of motor vehicle injury problems, it is not possible to separate problems where the respondent was the injured person from problems where the respondent was the party allegedly at fault, as these problems were both captured at a single question (i.e. question P21.1).

12 See questions P14.1 and P14.2, which captured legal problems for business owners (Coumarelos et al. 2012).

TABLE 1: TYPES OF PERSONAL INJURY PROBLEMS EXAMINED IN THE PRESENT STUDY

Personal injury problem type	*Survey question number*	*LAW Survey question*	*Injury to:*
Motor vehicle	P21.1	Have you had a motor vehicle accident where someone was injured?	Self or other
Work-related	P21.3	Have you had a work-related injury?	Self
Product	P21.4	Have you had an injury or illness due to a faulty product? For example, due to electrical goods, toys or food products?	Self
Other negligence	P21.5	Have you been accused of injuring or harming someone else in any other accident?	Self or other (e.g. sports injury; injury from slips/trips/accidents in public/ private places)
	P21.6	Have you had any other injury from an accident that didn't happen at home and was caused by someone else?	

Note: See Coumarelos et al. (2012), Appendix A1, pp. 261–294, for a copy of the survey instrument. Consistent with Coumarelos et al. (2012), problems related to injury-free motor vehicle accidents and clinical negligence were not categorised as personal injury problems but as 'accidents' and 'health' legal problems, respectively.

New LAW Survey analyses

Nature of each type of personal injury problem

We examined the experience of each type of personal injury problem by producing descriptive and/or bivariate inferential statistics on:

- the prevalence of each type of personal injury problem
- the prevalence of substantial problems of each type of personal injury
- the experience of other types of legal problems among those who experienced each type of personal injury problem
- the adverse impacts on broad life circumstances resulting from each type of personal injury problem.[13]

Demographic characteristics associated with each type of personal injury problem

We also fitted a series of six binary multilevel logistic regression models using MLwiN (Rasbash, Steele, Brown et al. 2009) to examine the demographic characteristics associated with increased prevalence of the following types of personal injury problems:

1. motor vehicle injury problems
2. work-related injury problems
3. product injury problems
4. other negligence injury problems
5. 'substantial' personal injury problems (i.e. problems that had a 'moderate' or 'severe' impact on everyday life)
6. multiple (i.e. two or more) personal injury problems.[14]

The dependent variables in the first five regression models were binary indicators that compared respondents who had experienced the type of personal injury problem in question with all other LAW Survey respondents. The sixth binary logistic regression examined the prevalence of multiple personal injury problems of any type among those who reported at least one personal injury problem. The binary dependent variable in this model compared respondents who had reported only one personal injury problem with those who had reported at least two personal injury problems.

All six models examined whether gender, age and various demographic characteristics related to socioeconomic disadvantage are independent predictors of personal injury problems. Thus, these models considered the association of each demographic characteristic with each type of personal injury problem when the effects of the other demographic characteristics have been taken into account (e.g. Agresti 1996; Hosmer & Lemeshow 2013; Menard 2002). The full set of predictors is presented in Table 5.[15] Predictors were entered

13 The bivariate inferential statistics conducted are presented in the notes of results tables and figures.

14 Note that there were insufficient numbers to conduct separate, reliable regression models for substantial problems related to each personal injury type. Similarly, there were insufficient numbers to model multiple problems related to each personal injury type.

Regarding multiple personal injury problems of any type, in addition to modelling the experience of *at least two* personal injury problems, we also examined the possibility of modelling the *number* of personal injury problems experienced via Poisson regression, zero-truncated Poisson regression and negative binomial regression. However, the data did not meet the underlying assumptions of these models. Specifically, the assumption of Poisson regression and zero-truncated Poisson regression requiring equi-dispersion of the number of personal injury problems was not met. Although negative binomial regression provides for a wider distribution of counts than does Poisson regression, we obtained a large alpha, indicating that this model also did not fully account for the dispersion of the data. See Hilbe (2014), for further information about modelling count data.

15 The demographic variables used as potential predictors in the present regression models are identical to those used by Coumarelos et al. (2012) – see pp. 316–317 for further information about these demographic variables.

simultaneously in each model as main effects only. The data was weighted for survey non-response. Multilevel models (Goldstein 2011) were used in order to correctly take into account the hierarchical structure of the datasets whereby respondents were nested in states/territories. We fitted data as random intercept models that allowed the probability of experiencing problems to vary across states/territories.

Responses to each type of personal injury problem

Finally, we provide descriptive and/or bivariate inferential statistics on:

- people's responses to the different types of personal injury problems that they experienced
- the reasons why some people took no action to resolve their personal injury problems.[16]

Findings and discussion

Nature of each type of personal injury problem

Prevalence and severity

As already noted, Coumarelos et al. (2012) estimated that, per annum, 7.0 per cent of Australians aged 15 years or over experience a personal injury problem – that is, a problem related to injury that is likely to have legal implications.[17] They found that personal injury problems constituted the sixth most prevalent legal problem group of the 12 problem groups examined, with the most prevalent being the consumer (20.6%), crime (14.3%), housing (11.8%) and government (10.7%) problem groups.

The results of the present analyses on the prevalence of each of the four types of personal injury problem are presented in Table 2. Work-related injury problems were the most prevalent type of personal injury problem, with 3.9 per cent of LAW Survey respondents experiencing this type of problem in the 12 months prior to interview. The other types of personal injury problems were reported by one to two per cent of respondents. The lowest prevalence (1.0%) was for product injury problems. Converting these percentages to population estimates suggests that within a 12-month period approximately 748,000 Australians aged 15 years or over experience a work-related injury problem, 245,000 experience a motor vehicle injury problem, 195,000 experience a product-related injury problem and 285,000 experience a problem related to an injury due to other negligence. In total, 7.0 per cent, or approximately 1.3 million Australians aged 15 years or over, are estimated to experience a personal injury problem of some type within a 12-month period.[18]

These population estimates based on LAW Survey data are very roughly what might be anticipated on the basis of other data sources, when differences in measurement are taken into consideration. As noted earlier, data on injury-related hospitalisations captures broader types of injury circumstances than the LAW Survey, given that hospitalisation data includes injury problems that are not justiciable. However, hospitalisation data is typically restricted to injury at the severe end of the spectrum, while the LAW Survey includes less severe personal injury problems experienced by individuals, and also includes not only legal problems experienced

TABLE 2: PERCENTAGE OF RESPONDENTS REPORTING EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA

Personal injury problem type	*Injury to:*	*Respondents reporting 1+ problems*		*Respondents reporting 1+ substantial problems*	
		%	*N*	*%*	*N*
Motor vehicle	Self or other	1.3	263	0.7	136
Work-related	Self	3.9	802	1.8	365
Product	Self	1.0	209	0.3	61
Other negligence	Self or other (e.g. sports injury; injury from slips/trips/accidents in public/private places)	1.5	306	0.8	159
Any personal injury problem		**7.0**	**1,444**	**3.3**	**680**

Note: N=20,716 respondents. Consistent with Coumarelos et al. (2012), legal problems related to injury-free motor vehicle accidents and clinical negligence were not categorised as personal injury problems, but within the 'accidents' and 'health' legal problem groups, respectively. The percentages in the table can be applied to the estimated population number (19,309,501) of Australian residents aged 15 years as at March 2016 to obtain the estimated prevalence of different types of personal injury problems in this population (see ABS 2016a). See Coumarelos et al. (2012), Appendix A1, pp. 261–294, for a copy of the survey instrument.

16 The bivariate inferential statistics conducted are presented in the notes of results tables and figures.

17 In total, 1,444 of the 20,716 respondents reported experiencing one or more personal injury problems, with 2,369 personal injury problems being reported in all.

18 These figures are drawn from the census and based on the estimated resident Australian population aged 15 years or over at March 2016 of 19,309,501 (ABS 2016a).

by the injured person but also some legal problems experienced by the person allegedly at fault. Thus, we would not necessarily expect close alignment between these sources in their estimates of overall (personal) injury problems. Presumably reflecting the inclusion of less severe personal injury problems and legal problems from the perspectives of both parties, the LAW Survey estimate of approximately 1.3 million Australian people experiencing a personal injury problem of any type is more than twice the number of hospitalisations due to injury (of almost half a million; AIHW 2016).

For each specific type of personal injury problem, we might generally expect the LAW Survey to provide a somewhat higher estimate than both injury-related hospitalisation data and claims data, given that the LAW Survey includes less severe cases. A further difference is that claims data excludes personal injury cases that only resulted in responses outside formal claims processes. In the case of motor vehicle injury problems and other negligence problems, the LAW Survey also differs from these other data sources in that it includes problems faced by both the injured person and the person allegedly at fault. In keeping with these measurement differences, the estimated number of motor vehicle injury problems based on the LAW Survey (245,000) was noticeably higher than the estimated number of hospital admissions for motor vehicle injuries (more than 50,000; Henley & Harrison 2012) and the estimated number of such injuries resulting in motor accident injury compensation claims (more than 50,000; Grant 2015). Similarly, the estimated prevalence of product injury problems experienced by individuals from the present analyses of the LAW Survey was higher (approximately 195,000) than the number of hospitalisations for product injuries (24,000; Access Economics 2007).

Finally, measurement differences may also have contributed to the somewhat higher population estimate for work-related injury problems from the LAW Survey compared to another population-level survey, the ABS Multipurpose Household Survey (approximately 748,000 versus 532,000; cf. ABS 2014b). The ABS survey measured the *incidence of new cases of work-related injury in the previous 12 months*. In contrast, the LAW Survey measured the *prevalence of work-related injury problems that were still ongoing in the previous 12 months*, whether they began in the previous 12 months or earlier. In addition, the ABS question on personal injury was more circumscribed than the LAW Survey question in that it asked about injury that caused 'suffering'.[19] Both of these estimates from population surveys would also be expected to be higher than the number of work-related injuries that resulted in new workers' compensation claims each year (more than 250,000; Grant 2015).

Table 2 also shows, for each type of personal injury problem, the proportion of respondents experiencing a 'substantial' problem of that type – that is, a problem that had a moderate or severe impact on their everyday life. Overall, 3.3 per cent of respondents reported a substantial personal injury problem of some type, translating to approximately 634,000 Australians aged 15 years or over experiencing such a problem each year. This estimate is closer but still somewhat higher than the estimated half million hospitalisations resulting from personal injury. However, note that the LAW Survey measurement of 'substantial' personal injury problems would not be expected to equate perfectly with injury problems serious enough to result in hospitalisation. As already noted, the survey included not only legal problems for the injured person but also the person at fault. In addition, the survey's definition of 'substantial' personal injury problems was based broadly on substantial impacts of any type on everyday life rather than more specifically on substantial health consequences. Further, as noted above, unlike the LAW Survey, hospitalisation data includes substantial injury problems that are unlikely to be justiciable.

According to the present analyses, substantial work-related injury problems were the most prevalent type of substantial personal injury problem. It was estimated that 1.8 per cent or approximately 340,000 Australians aged 15 years or over experience a substantial work-related injury problem each year. The corresponding estimates for the other types of personal injury problems were 0.7 per cent or approximately 126,000 for substantial motor vehicle injury problems, 0.3 per cent or approximately 57,000 for substantial product injury problems, and 0.8 per cent or approximately 148,000 for substantial injury problems due to other negligence.

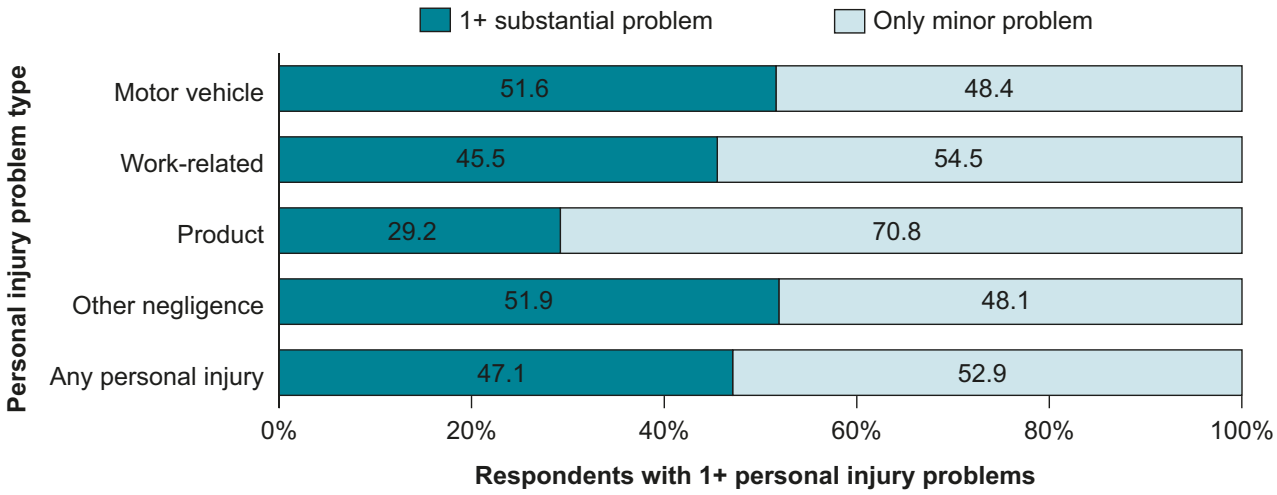
Unlike Table 2 which is based on all LAW Survey respondents, Figure 1 is based only on the 1,444 respondents who experienced personal injury problems. Overall, almost half (47.1%) of the respondents who experienced a personal injury problem reported that they experienced a substantial personal injury problem. Compared to other types of personal injury problems, product injury problems were, in raw terms, less often substantial problems. Less than one-third (29.2%) of respondents with a product injury problem reported having at least one substantial problem of this type compared to approximately half (45.5–51.9%) of the respondents with other types of personal injury problems.

Co-occurrence with other legal problems

Table 3 shows the co-occurrence of the four types of personal injury problems and shows that the overlap

19 The LAW Survey simply asked whether a work-related injury had been experienced by the respondent in the reference period, whereas the ABS survey asked whether an injury, illness or disease had arisen in the course of employment involving the person suffering either physically or mentally.

FIGURE 1: EACH TYPE OF PERSONAL INJURY PROBLEM BY SEVERITY OF PROBLEM, AUSTRALIA



Note: N=1,444 respondents with at least one personal injury problem, including 263 with a motor vehicle injury problem, 802 with a work-related injury problem, 209 with a product injury problem and 306 with another negligence injury problem.

was not large. For example, of the 263 respondents who experienced a motor vehicle injury problem in the 12 months prior to interview, only 9.4 per cent also experienced a work-related injury problem and only 5.2 per cent also experienced a product injury problem.

Although different types of personal injury problems do not commonly co-occur, personal injury problems often cluster with other types of legal problems (see Figures 2 to 4). Respondents with a personal injury problem in the 12 months prior to interview were significantly more likely to experience multiple legal problems in that period compared to respondents who experienced only other types of legal problems (see Figures 3 to 4). Only 22.7 per cent of respondents with a personal injury problem did not experience any additional legal problems, compared to 39.7 per cent of those with least one legal problem but no personal injury problem (see Figure 2). The median number of legal problems experienced was 4.0 for those with a personal injury problem compared to only 2.0 for those with only other types of legal problems (see Figure 3). Respondents with a substantial personal injury problem also experienced a higher median number of legal problems than those with only other types of substantial legal problems (5.0 versus 4.0, respectively; see Figure 4).[20]

Co-occurrence of legal problems can occur via a variety of mechanisms. One problem may directly cause or trigger another problem, the defining circumstances that give rise to these problems may overlap, people may have coinciding vulnerabilities to these problems, or the co-occurrence could be purely coincidental (Coumarelos et al. 2012; Pleasence 2006). Thus, the present findings showing overlap between personal injury and other legal problems do not conclusively demonstrate that personal injury problems tend to trigger further legal problems. Nonetheless, the results are consistent with findings from overseas legal needs surveys

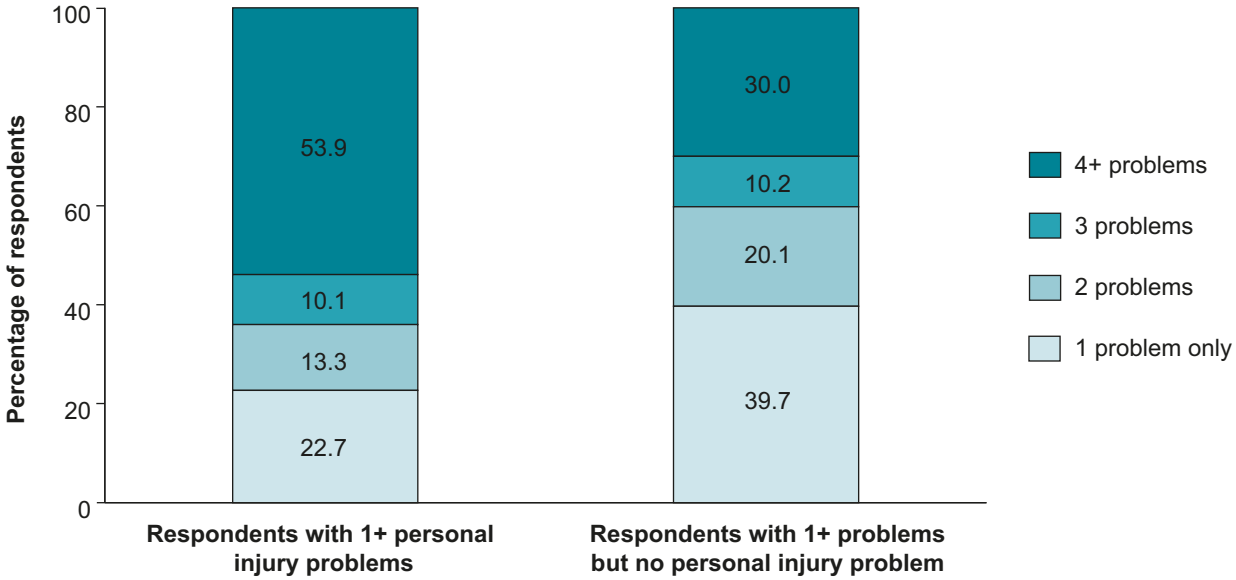
TABLE 3: CO-OCCURRENCE BETWEEN EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA

Personal injury problem type	*Motor vehicle*		*Work-related*		*Product*		*Other negligence*	
	N	%	N	%	N	%	N	%
Motor vehicle			25	3.1	14	6.5	17	5.7
Work-related	25	9.4			29	14.1	41	13.4
Product	14	5.2	29	3.7			24	7.8
Other negligence	17	6.6	41	5.1	24	11.4		
Total	**263**		**802**		**209**		**306**	

Note: N=1,444 respondents with a personal injury problem.

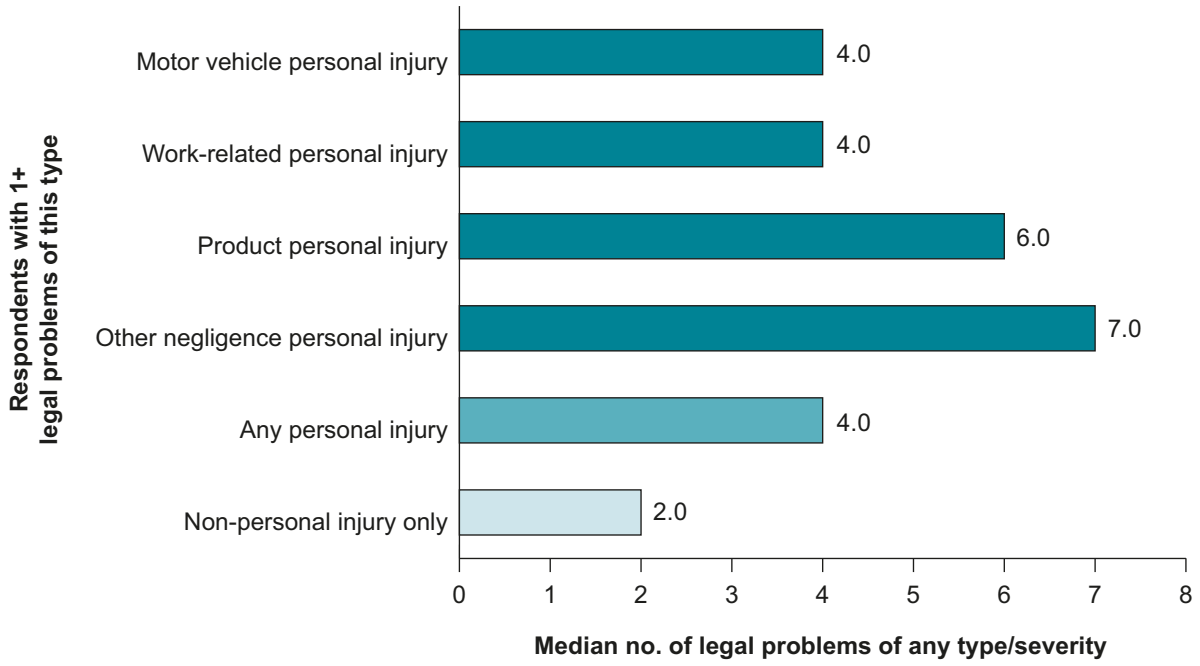
20 Given the skew in the number of legal problems experienced, the median is a more appropriate measure of central tendency than the mean.

FIGURE 2: PREVALENCE OF MULTIPLE LEGAL PROBLEMS BY EXPERIENCE OF PERSONAL INJURY PROBLEMS, AUSTRALIA



Note: N=1,444 respondents with a personal injury problem, and N=8,845 respondents with only other types of legal problems.

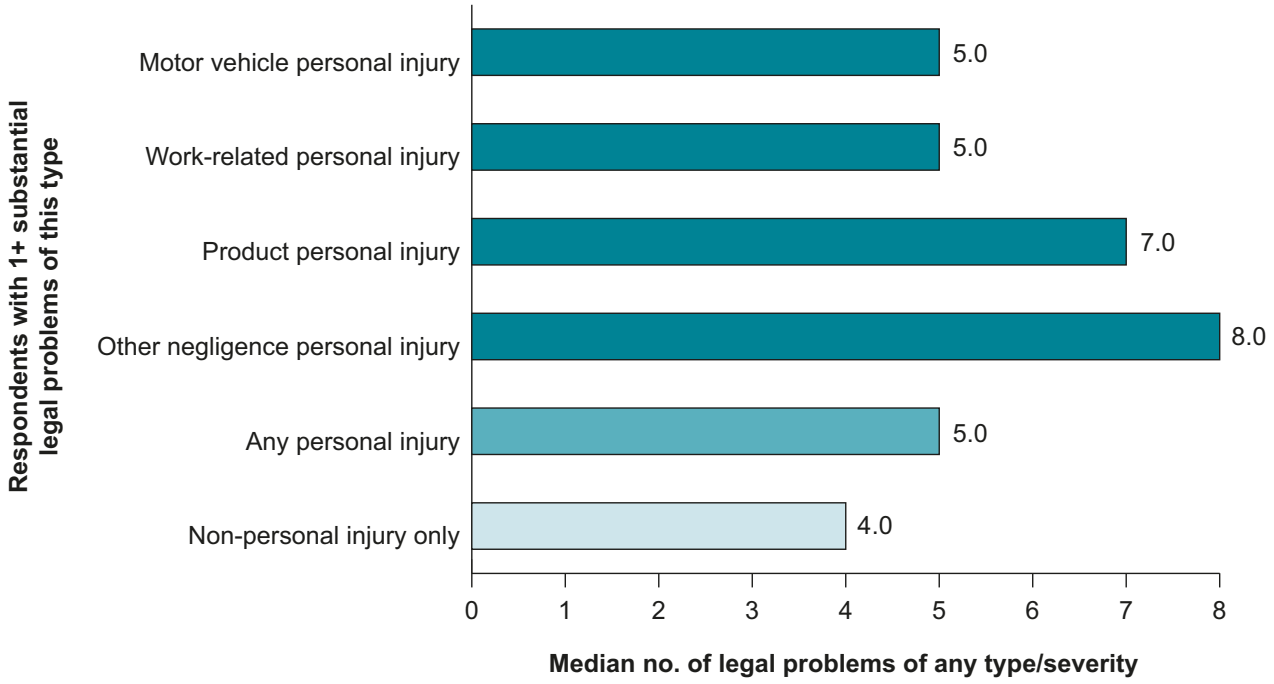
FIGURE 3: MEDIAN NUMBER OF LEGAL PROBLEMS BY EXPERIENCE OF EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA



Note: N=1,444 respondents with a personal injury problem (including 263 with a motor vehicle injury problem, 802 with a work-related injury problem, 209 with a product injury problem and 306 with another negligence injury problem), and N=8,845 respondents with only other types of legal problems. Significant difference between respondents with a personal injury problem and respondents with only other types of legal problems in the median number of legal problems they experienced in total (Mann-Whitney U=4,328,487.50, p=0.000). Significance tests were not conducted by type of personal injury problem.

suggesting that personal injury problems can trigger other types of legal problems, and that the trigger effect of personal injury problems may partly result from their impact on employment (Currie 2007; Genn 1999; Pleasence 2006). Genn (1999) documented how personal injury problems and work-related ill health can lead to employment problems, which in turn can lead to problems related to welfare benefits and debt. Currie (2007) reported that personal injury problems triggered debt and employment problems. Pleasence

FIGURE 4: MEDIAN NUMBER OF LEGAL PROBLEMS BY EXPERIENCE OF SUBSTANTIAL PERSONAL INJURY PROBLEMS OF EACH TYPE, AUSTRALIA



Note: N=680 respondents with a substantial personal injury problem (including 136 with a substantial motor vehicle injury problem, 365 with a substantial work-related injury problem, 61 with a substantial product injury problem and 159 with a substantial injury problem associated with other negligence), and N=4,957 respondents with only other types of substantial legal problems. Significant difference between respondents with a substantial personal injury problem and respondents with only other types of substantial legal problems in the median number of legal problems they experienced in total (Mann-Whitney U=1,892,915.00, p=0.000). Significance tests were not conducted by type of personal injury.

(2006) found that personal injury problems were significantly more likely to occur first rather than last in a sequence of legal problems.

Consistent with the overseas findings linking personal injury and employment problems, Coumarelos et al. (2012) showed, using LAW Survey data, that personal injury problems tended to cluster with legal problems related to employment, rights and health issues. Also using LAW Survey data, People (2014) examined which types of legal problems may potentially act as triggers for subsequent legal problems. Despite a trend in raw terms suggesting that personal injury problems more often occurred earlier rather than later in the sequence of legal problems experienced, this trend was not significant (People 2014).[21] It is possible that the relatively short reference period of 12 months used in the LAW Survey may have been insufficient for the impact of serious personal injury to become fully evident. In addition, People's analysis examined where personal injury problems occurred within the sequence of *all* legal problems experienced, but did not specifically examine whether personal injury problems tended to precede particular types of legal problems, such as those related to employment, rights, health care and health services.

Broader adverse impacts

In addition to examining the links between different types of legal problems, the LAW Survey also examined the effect of legal problems on other life areas more broadly. LAW Survey respondents were asked whether their legal problem caused adverse impacts on health, social and financial circumstances.[22] The broader impacts of personal injury problems are directly relevant to their legal implications, given that the aim of compensatory damages is that the person be returned as far as possible to their position prior to suffering the injury (Finkelstein & Hamer 2015).[23]

21 Using two-way paired samples t-tests, there was no significant difference between the mean number of problems that occurred before and after personal injury problems.

22 The LAW Survey followed up a selected pool of legal problems in depth, asking details about the experience, handling and outcome of these problems, including the impact of these problems on broader life circumstances. This follow-up pool included 1,139 of the 2,369 personal injury problems reported. See *Method* section for further details about the selection process.

23 See also, for example: <http://www.legalaid.wa.gov.au/InformationAboutTheLaw/BirthLifeandDeath/Personalinjury/Pages/PersonalInjuryGeneralInformation.aspx>.

TABLE 4: ADVERSE CONSEQUENCES OF EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA

Personal injury problem type	Adverse consequence					Total
	Stress-related illness	Physical ill health	Relationship breakdown	Moving home	Income loss or financial strain	
	%	%	%	%	%	N
Motor vehicle	30.2	54.3[a]	5.8	3.1	31.1	213
Work-related	22.3	99.7	7.8	4.3	30.9	616
Product	13.6	99.3	5.6	2.9	16.3	117
Other negligence	24.4	93.2	7.6	7.2	26.9	186
Any personal injury problem	**23.2**	**90.0**	**7.2**	**4.4**	**28.8**	**1,132**

a The LAW Survey measured both motor vehicle accidents that resulted in injury to the respondent and motor vehicle accidents that resulted in injury to someone else.

Note: N=1,132 personal injury problems. Data was missing for 5 motor vehicle injury problems and 2 other negligence injury problems. Information on adverse consequences was not collected for all personal injury problems experienced by respondents – it was only collected for the three most serious types of problems experienced by the respondent, which may or may not have included personal injury problems.

Coumarelos et al. (2012) demonstrated that personal injury problems can have considerable negative flow-on effects on other circumstances, such as income loss or financial strain (28.8%), stress-related illness (23.2%), relationship breakdown (7.2%) and having to move home (4.4%). Furthermore, relative to other categories of legal problems, Coumarelos et al. (2012) found that personal injury problems as a single group tended to have adverse impacts on a relatively high number of life circumstances, which in part is likely to reflect their regular impact on physical health.[24]

The present analyses examined the adverse impacts resulting from each type of personal injury problem,[25] and similarly show that all four of the personal injury problem types examined can have considerable negative impacts beyond the physical health consequences of the injury. Almost one-third (31.1%) of motor vehicle injury problems resulted in income loss or financial strain and 30.2 per cent resulted in stress-related illness (see Table 4). Similarly, considerable proportions of work-related injury problems resulted in income loss or financial strain (30.9%) and stress-related illness (22.3%), as did other negligence injury problems (26.9% and 24.4%, respectively). Consistent with their less severe nature (see Figure 1), a smaller percentage of product injury problems (in raw terms) resulted in these adverse consequences (16.3% and 13.6%, respectively).

Each type of personal injury problem also resulted in relationship breakdown (5.6–7.8%) and having to move home (2.9–7.2%) in a small proportion of cases.

Thus, the present findings suggest that personal injury problems are not only linked with the elevated experience of other types of legal problems but that each type of personal injury problem can have considerable negative impacts on broader life circumstances.

Demographic characteristics associated with each type of personal injury problem

Coumarelos et al. (2012) examined whether particular demographic characteristics were associated with the experience of one or more personal injury problems of any type. They found that age and disability status were the strongest independent predictors of the experience of personal injury problems, followed by main income and gender. More specifically, the odds of experiencing personal injury problems were significantly elevated for:

- people under the age of 65 years, particularly 15–24 year olds
- people with a 'long-term illness or disability' (henceforth 'disability')
- people whose main source of income was not government payments
- males.

Table 5 summarises the results of the new regression analyses examining the independent demographic predictors of the different types of personal injury problems. See Appendix Tables A1 to A6 for the full results of these regressions, including beta values and confidence intervals. Table 5 also summarises the results of the regression model conducted by Coumarelos et al. (2012) on personal injury problems of any type.[26]

24 The personal injury problem group (together with the health problem group) had the second highest number of mean adverse consequences based on the consequences of physical ill health, income loss or financial strain, stress-related illness, relationship breakdown and having to move home (see Coumarelos et al. 2012, pp. 85–87).

25 The selected pool of legal problems followed up in depth by the LAW Survey included 1,139 personal injury problems. These analyses are based on those personal injury problems.

26 It is worth noting that while regression analyses indicate whether relationships exist, they cannot explain these relationships.

TABLE 5: REGRESSION SUMMARIES — PREVALENCE OF EACH TYPE OF PERSONAL INJURY PROBLEM BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*Personal injury problem type*						
		Any [b]	*Motor vehicle*	*Work-related*	*Product*	*Other negligence*	*Substantial*	*Multiple* [c]
		Significant odds ratios in regression model [a]						
Gender	Female | male	0.7		0.6		0.6	0.8	
Age (in years)	15–17 | 65+	10.2	5.1	11.3	10.1	18.5	5.8	3.9
	18–24 | 65+	11.3	8.3	20.2	6.0	12.3	7.6	2.7
	25–34 | 65+	7.0	4.4	15.5	4.9	4.9	7.5	2.2
	35–44 | 65+	6.2	3.8	14.8	2.6	4.0	6.8	
	45–54 | 65+	5.7	3.3	14.9		2.2	5.9	
	55–64 | 65+	3.1		7.9			3.4	
Disability status	Disability | no disability	3.2	2.8	3.7	1.7	3.2	5.6	
Education	<Year 12 | post-school			1.3				
	Year 12 | post-school							
Employment status	Unemployed | other					1.5	1.3	
Family status	Single parent | other				1.8			1.6
Housing type	Disadvantaged | other							
Indigenous status	Indigenous | other					2.1		
Main income	Government payment | other	0.6		0.4			0.7	
Main language	Non-English | English		1.7	0.6		0.5		
Remoteness	Remote | major city							
	Regional | major city							

a A significant odds ratio (OR)>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A significant OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the signficant OR indicates the strength of the relationship. E.g. OR=2.0 means that the odds for the first category were twice those for the second category. OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category. Blank cells indicate that the OR was not significant. See Appendix Tables A1 to A6 for the full results, including beta values and confidence intervals.

b The results for the model on any personal injury problem are reproduced from Coumarelos et al. (2012).

c Due to small numbers in the model on multiple personal injury problems, the 55–64 and 65+ age categories were combined into a single 55+ age category. The 55+ age category was compared to each other age category.

Note: A separate regression model was conducted on each type of personal injury problem. For the model on multiple personal injury problems, N=1,437 respondents and data was missing for 7 respondents. For each other model, N=20,585 respondents and data was missing for 131 respondents.

With the exception of the model on multiple legal problems, all other models showed that disability status predicted personal injury problems independently of the other demographic characteristics examined. People with a disability had significantly higher odds of reporting personal injury problems. However, note that the LAW Survey did not capture the onset date of the disability – the survey measured disability status at the time of interview and covered legal problems in the 12 months prior to interview. As the temporal sequence is not clear, the number of cases where the disability *preceded* the personal injury problem cannot be determined. Thus, the relationships between disability and personal injury do not necessarily mean that that people who have a disability are more vulnerable to experiencing personal injury problems, but may in part simply reflect personal injury leading to disability.

Of the other demographic characteristics examined, age was the only one consistently related to the experience of all types of personal injury problems. Typically, the oldest group, aged 65 years or over, had lower odds of experiencing personal injury problems compared to some, and often most, of the other age groups.

Motor vehicle injury problems

In descending order of strength, age, disability status and main language were significant independent predictors of motor vehicle injury problems. Specifically, people younger than 55 years, people with a disability and people with a non-English main language had increased odds of experiencing such problems.

In terms of age, the odds of experiencing motor vehicle injury problems peaked at 18–24 years, with the second highest odds occurring at 15–17 years. These findings are consistent with hospital admissions data which shows that nearly half of the people seriously injured as a result of motor vehicle accidents are aged under 30 years (Henley & Harrison 2012). The present findings are also consistent with road crash statistics showing that young adults (typically within the 17–25 year age range) have the highest rate of road fatalities per population (Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2013; Organisation for Economic Co-operation and Development/ International Transport Forum (OECD/ITF) 2013, 2016).[27] These findings may in part reflect poorer driving skills among young adults, due to factors such as relative inexperience or greater risk-taking behaviour. Elevated risk-taking behaviour during adolescence and young adulthood is well established in the broader literature (cf. Steinberg 2008, 2010; Turner & McClure 2003).

It is notable that the present analyses did not suggest increased risk for males compared to females, despite hospital admission data suggesting that serious injury as a result of vehicle accidents is higher for males (Henley & Harrison 2012). The discrepancy may partly be due to the present analyses including all levels of injury rather than being restricted to serious injury.

The increased odds of motor vehicle injury problems for people with a non-English main language may possibly partly reflect less experience with the Australian road environment among migrants, as well as language barriers in relation to information on road safety and regulation (Haworth, Symmons & Kowaldo 2000; Knight, Harris, Alexander et al. 2011). However, ethnicity and migrant status are typically not systematically collected as part of official road crash statistics based on police reports in Australian jurisdictions (cf. Knight et al. 2011).[28] There is also little research investigating the rate of motor vehicle injury among migrants (Anikeeva, Bi, Hiller et al. 2015), but ethnicity sometimes features in hospital data and cohort studies of health outcomes in injury populations (e.g. Jagnoor, Blyth & Gabbe et al. 2014). Previous studies suggest that while drivers from a non-English speaking background may not have increased risk of motor vehicle injury, pedestrians from a non-English speaking background do have increased risk. Dobson, Smith, McFadden et al. (2004) concluded that there was no evidence that drivers born outside Australia had increased risk of involvement in crashes resulting in death or injury requiring hospitalisation, but there was clear evidence of higher risk for both male and female pedestrians born in a non-English speaking country or a country with the right-hand side driving convention. Similarly, Cassell, Clapperton, Alavi et al. (2010) reported that, in Victoria, male and female pedestrians born in non-English speaking countries had the highest hospital and emergency department presentation rates.

Work-related injury problems

Age was also the strongest significant independent predictor of work-related injury problems, followed by disability status, main income, gender, main language and education. Increased odds of work-related injury problems were found for people younger than 65 years (with peak rates for people aged 18–24 years), people with a disability, people whose main source of income was not government payments, males, people with English as their main language and people who had not completed Year 12 education.

As outlined further below, the regression results were largely consistent with official statistical records of labour force status, work-related injuries and workers' compensation claims. These statistics suggest that the opportunity for different demographic groups to experience work-related injury and illness reflects their rates of participation in the workforce and the number of hours they work, as well as the nature of their occupations (cf. ABS 2011; ABS 2013a, 2013b, 2013c, 2013d, 2013e, 2014a, 2014b; Safe Work Australia 2012a, 2012b). As already noted, these statistics show higher rates of work-related injury and illness and serious workers' compensation claims in blue collar occupations (e.g. labourers, machine operators and drivers, and technicians and trade workers) than in white collar occupations (e.g. professionals, clerical and administrative workers and sales workers; ABS 2011, 2014b; Safe Work Australia 2012a, 2012b).

Firstly, with regard to age, the elevated odds of work-related injury problems for all age groups compared to the oldest age group in the present regression model are in keeping with the high retirement rates for the oldest age group, and hence, their reduced opportunity to experience work-related problems. In addition, the present peak levels for the 18–24 year age group are consistent with younger workers having the highest frequency of work-related injuries per number of hours worked (Safe Work Australia 2012a).[29] The particularly elevated odds for the

27 In Australia over the last two decades, road fatality rates for all age groups have decreased. Nonetheless, in 2014, 18–20 year olds had nearly twice the fatality rate of the general population, followed by 21–24 year olds and people over 65 years (OECD/ ITF 2016).

28 See the Australian Road Deaths Database (www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx), for example.

29 As Safe Work Australia (2012a) notes, the frequency rate per number of hours worked rather than the incidence rate in the population is the appropriate measure when comparing work-related injuries by age, given that the youngest and oldest age groups have the lowest rates of participation in the labour force and work fewer hours on average than the other age groups (see also ABS 2013b). Without adjusting for number of hours worked, the incidence rate of work-related injuries per population in employment is highest for those aged 45–54 years and second highest for those aged 15–24 years.

18–24 year old groups are likely to partly reflect the earlier stage of their working lives, as mirrored in their higher participation in various blue collar occupations (e.g. technicians and trade workers and labourers) and their underrepresentation in more senior roles such as managerial and professional roles (ABS 2013c). The 15–17 year old group are also overrepresented in blue collar occupations and underrepresented in more senior roles (ABS 2013c). However, their relatively low participation in the workforce (ABS 2013a) is likely to have contributed to their odds of work-related injury problems not reaching the peak levels of the 18–24 year old group.

In terms of income, the lower odds of work-related injury problems for LAW Survey respondents whose main source of income was government payments are consistent with their lower rate of participation in the workforce.

The higher odds of work-related injury problems for males compared to females are consistent with official statistics showing males have a somewhat higher rate of work-related injury or illness and a higher rate of serious workers' compensation claims (ABS 2011, 2014b; Safe Work Australia 2012a, 2012b). These higher odds for males are likely to reflect, at least in part, their higher participation rate in the workforce and also their higher participation in blue collar occupations, which are associated with greater risk of physical injury, such as labourers, machinery operators and drivers, and technicians and trade workers (ABS 2013b, 2013e, 2014a).

The lower odds of work-related injury problems for people with a non-English main language are also consistent with official statistics, which show lower rates of work-related injury or illness for Australian residents born overseas than for those born in Australia (ABS 2011). These findings are likely to partly reflect differences in the occupations of migrants compared to the Australian working population. For example, migrants are overrepresented in professional occupations and underrepresented in some blue collar occupations, such as technical and trade workers and machinery operators and drivers (cf. ABS 2013d, 2014a; Department of Immigration and Citizenship 2014).

Finally, the elevated odds for the LAW Survey respondents with the lowest level of education are consistent with their higher rate of participation in blue collar occupations, such as labourers, machinery operators and drivers, and technicians and trade workers, which are associated with higher rates of work-related injuries and serious claims (cf. Safe Work Australia 2012a, 2012b).

Product injury problems

In descending order of strength, age, family status and disability status were significant independent predictors in the model on product injury problems, with increased odds for people younger than 45 years, single parents and people with a disability.

As noted earlier, data limitations make it a difficult task to identify the incidence of product injury problems in Australia from traditional data sources (Productivity Commission 2006). In terms of age, the present findings show that product injury problems peaked in the youngest age group (15–17 years), were next highest in the 18–24 year age group, and then continued to decline with age. This finding is consistent with international evidence which suggests that 'behavioural factors' (including leaving unsuitable products within reach of children) make a significant contribution to the occurrence of injury problems among younger age groups relative to others, and that the contribution of such behavioural factors declines with increasing age (Department of Trade and Industry Consumer and Competition Policy Directorate 2002). Again, a greater tendency towards risk-taking in the younger age groups may possibly contribute to their elevated prevalence of product injury problems (cf. Steinberg 2008, 2010).

It is notable that single parenthood was the only demographic factor other than age and disability status that was related to elevated levels of product injury problems. However, given the paucity of information on product injury, the reasons for this finding are unclear.

Other negligence injury problems

In descending order of strength, age, disability status, Indigenous status, main language, gender and employment status were significant independent predictors of the likelihood of experiencing other negligence injury problems. The regression model demonstrated increased odds for people younger than 55 years, particularly people under 25 years, people with a disability, Indigenous people, people with English as their main language, males and people who had been unemployed at some point in the previous 12 months. Again, the effect for disability may in part reflect the injury leading to disability rather than increased vulnerability to injury for people with a disability. Similarly, in some cases, 'other negligence' injury may have led to unemployment, although it is also possible that unemployed people have greater opportunity to experience such injury, given that, by definition, this type of injury occurs outside the workplace.

The high levels of personal injury problems in the other negligence category for young people under 25 years and males may in part reflect their higher rates of sporting injuries. People aged under 35 years represent 65 per cent of hospitalisations following sports injuries and males account for more than 75 per cent of such hospitalisations (Kreisfeld et al. 2014). These findings are also consistent with greater risk-taking behaviour for the younger age groups,

particularly for young males (cf. Steinberg 2008; 2010).

The elevated levels of personal injury problems in the other negligence category for Indigenous Australians are in keeping with their higher rate of injury-related hospitalisations (AIHW 2016).

Substantial personal injury problems

As noted earlier, Coumarelos et al. (2012) reported that 3.3 per cent of LAW Survey respondents experienced a substantial personal injury problem that had a moderate or severe impact on their everyday life. They found that, compared to other categories of legal problems, personal injury problems as a group were not especially likely to comprise substantial problems.[30] Nonetheless, 47 per cent of respondents who experienced a personal injury problem reported experiencing a substantial personal injury problem (Coumarelos et al. 2012).

The present regression model, which examined the demographic groups with increased likelihood of experiencing a substantial personal injury problem, found that age was the strongest significant independent predictor and was followed by disability status, main income, gender and employment. More specifically, increased odds of substantial personal injury problems were observed for people younger than 65 years, people with a disability, people whose main source of income was not government payments, males and people who had been unemployed in the previous 12 months.

The lower likelihood of substantial personal injury problems for the oldest age group may in part reflect less opportunity to experience these types of problems due, for example, to lower rates of driving and high retirement rates. Similarly, the lower likelihood of substantial personal injury problems for people on government payments is likely to reflect in part their lower rates of participation in the workforce. The relationships of disability and unemployment with substantial personal injury problems may to some extent simply indicate personal injury leading to disability and unemployment.[31]

Multiple personal injury problems

Among respondents who had experienced a personal injury problem, age and family status were the only significant independent predictors of the likelihood of experiencing multiple (i.e. at least two) personal injury problems. People aged 15–34 years and single parents who had experienced a personal injury problem had higher odds of experiencing multiple personal injury problems.

The increased odds of multiple personal injury problems for the younger age groups are consistent with their life circumstances and behaviours. First, these increased odds are consistent with less life experience (e.g. less driving experience increasing the opportunity for motor vehicle injury problems, and lower rates of senior/professional jobs increasing the opportunity for work-related injury problems in more blue collar jobs). Second, these higher odds of multiple personal injury problems for young people are also consistent with their greater risk-taking behaviour (cf. ABS 2013c, BITRE 2013; OECD/ITF 2013; Safe Work Australia 2012a).[32]

Responses to each type of personal injury problem

Coumarelos et al. (2012) examined the strategy people used in response to legal problems in three categories: 'sought advice' from a legal or non-legal professional, 'handled without advice' from legal and non-legal professionals and 'took no action'.[33] Using regression analyses, they found that, compared to other types of legal problems, personal injury problems were no more likely to result in respondents taking some sort of action to resolve the problem. However, when action was taken for personal injury problems, it more often included seeking advice from a professional. Advice was sought for 808 (72.2%) of the 1,119 personal injury problems examined. As might be expected, in the cases where advice was sought, doctors were the professionals most often consulted (68.7%), although a lawyer or other legal professional was consulted in a notable proportion of these cases (22.3%).[34] In keeping with this finding, medical advice or assistance was more likely to be received for personal injury problems than other legal problems, and legal help was less likely to be received for personal injury problems. Nonetheless, legal

30 Of the 12 problem groups, the personal injury problem group was eighth highest in terms of the proportion of respondents who experienced a substantial rather than only a minor problem of that type (see Coumarelos et al. 2012, pp. 61–63).

31 As already noted, there were insufficient numbers to conduct a separate regression analysis on substantial personal injury problems of each type.

32 As already noted, there were insufficient numbers to conduct a separate regression analysis on multiple personal injury problems of each type. In addition, the data did not meet the assumptions for modelling the *number* of personal injury problems experienced rather than modelling the experience of *at least two* personal injury problems.

33 These three categories were hierarchical, recording the most formal response used. 'Sought advice' was the highest-level response and was defined as consulting one or more legal or non-legal professionals in a formal capacity, regardless of whether any additional type of action was taken. 'Handled without advice' meant that a professional was not consulted, but one or more other actions were used (i.e. used website or self-help guide, consulted relatives or friends informally, communicated with the other side, court or tribunal proceedings had occurred or were likely to occur, formal dispute resolution had occurred or was likely to occur). 'Took no action' meant that a professional was not consulted and none of the other actions were used.

34 Note that multiple advisers (and sometimes both legal and non-legal advisers) were used for some problems.

TABLE 6: STRATEGY USED IN RESPONSE TO EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA

Personal injury problem type	*Strategy*				*Total*
	Legal adviser	*Non-legal adviser*	*Handled without advice*	*Took no action*	
	%	*%*	*%*	*%*	*N*
Motor vehicle	27.4	50.8	9.5	12.2	**213**
Work-related	14.6	60.2	6.1	19.1	**606**
Product	4.2	36.6	23.2	35.9	**116**
Other negligence	15.4	60.8	7.9	16.0	**184**
Any personal injury problem	**16.1**	**56.1**	**8.8**	**19.0**	**1,119**
Any type of problem	**15.5**	**35.6**	**30.6**	**18.3**	**19,142**

Note: N=19,142 problems, including 1,119 personal injury problems. Data was missing for 246 problems, including 5 motor vehicle injury problems, 10 work-related injury problems, 1 product injury problem and 4 other negligence injury problems. Information on strategy was not collected for all personal injury problems experienced by respondents – it was only collected for the three most serious types of problems experienced by the respondent, which may or may not have included personal injury problems. χ^2=95.12, $F_{9,92633}$=6.84, p=0.000.

help of some sort[35] was received for 52.4 per cent of personal injury problems, though not necessarily from a lawyer.

The present analyses examined responses to personal injury problems using more detailed categorisations of both strategy and personal injury problems (see Table 6). Strategies were examined separately for each type of personal injury problem. In addition, four rather than three categories of strategy were used, with the 'sought advice' category being broken down according to whether or not a legal professional was used.[36] A legal adviser was consulted in response to 16.1 per cent of the 1,119 personal injury problems examined, with 56.1 per cent of cases resulting in consultation with a non-legal professional but not with a legal professional, 8.8 per cent being handled without advice from any type of professional and the remaining 19.0 per cent resulting in no action (see Table 6).

As shown in Table 6, the type of personal injury problem was significantly related to the type of strategy used. Motor vehicle injury problems were significantly less likely than other personal injury problems to result in no action (12.2% versus 19.0%, on average). This finding may in part reflect the high rate of insurance claims for motor vehicle damage, rather than claims or legal advice related to sustaining or causing a personal injury in a motor vehicle accident. Motor vehicle injury problems were also significantly more likely than other types of personal injury problems to result in the use of a legal adviser (27.4% versus 16.1%, on average). Previous research has identified the complexity of transport accident injury claims processes and the challenges of navigating the requirements as hallmarks of the claiming experience (Grant, O'Donnell, Spittal et al. 2014; Murgatroyd et al. 2011). These characteristics of motor vehicle injury problems may partly explain the increased likelihood of recourse to legal advisers. Advertising relevant legal services for transport-related injury (Productivity Commission 2014) may also play a role in increased use of legal advisers for these problems.

Compared to other personal injury problems, work-related personal injury problems resulted in similar levels of using a legal adviser, but significantly higher levels of using a non-legal professional. A range of non-legal professionals are likely to play a prominent part in helping an injured worker deal with their injury problem. Trade unions and professional associations are a common avenue for advice in work injury cases, and were consulted in almost one-fifth of work injury problems in the present study. In addition, medical professionals play a gatekeeper role in workers' compensation systems, in that they provide the medical certificates that are required to begin or maintain a claim (Collie et al. 2013). Other non-legal professionals likely to advise people with work-related injury problems include insurance claims managers and employers, each of whom play an important part in facilitating the claims process (Kilgour, Kosny, McKenzie et al. 2015; Roberts-Yates 2003).

Product injury problems were significantly more likely than other personal injury problems to result in handling the matter without advice and in taking no action, and were significantly less likely to result in the use of legal advisers and in the use of non-legal advisers. These results are in keeping with the less severe nature of product injury problems

35 Legal help could include pre-packaged legal information, advice on legal rights or procedures, help with legal documents, help with court or tribunal proceedings or preparation, help with formal dispute resolution sessions (e.g. mediation or conciliation), negotiation with the other side and referral to a lawyer or legal service.

36 The 'legal adviser' category denotes that the professional(s) consulted included a lawyer or legal service, although one or more non-legal professionals may also have been consulted. The 'non-legal adviser' category denotes that the professional(s) consulted were only non-legal professionals. There was no change to the 'handled without advice' and 'took no action' categories.

TABLE 7: TYPES OF ADVISERS USED FOR EACH TYPE OF PERSONAL INJURY PROBLEM, AUSTRALIA

Adviser type	Personal injury problem type			
	Motor vehicle	Work-related	Product	Other negligence
	%	%	%	%
LEGAL ADVISER				
Legal	35.1	19.6	10.4	20.2
NON-LEGAL ADVISER				
Dispute/complaint-handling	8.6	2.0	4.3	4.1
Government	30.6	11.9	13.0	18.2
Trade or professional association	4.2	18.8	3.1	3.1
Health or welfare	61.8	85.7	77.3	79.3
Financial	31.5	7.1	0.0	12.8
Other	13.0	25.4	16.4	16.3

Note: N=808 personal injury problems where respondents sought advice, including 167 motor vehicle injury problems, 453 work-related injury problems, 47 product injury problems and 141 problems related to other negligence injury. Percentages do not sum to 100, because multiple advisers were reported for some problems. Note that the results for product injury problems are based on relatively small numbers. Significance testing was not conducted.

overall (see Figure 1). Nonetheless, it is also possible that these results in part signify some ignorance of the available avenues for compensation and redress in the case of product injury problems.

Table 7 is based only on the 808 personal injury problems for which respondents sought advice from one or more professionals, and shows a breakdown of the types of non-legal professionals used. As might be expected, a health or welfare adviser, often a doctor, was the most common type of non-legal adviser consulted for personal injury problems of all types. In raw terms, there were some apparent differences in the other types of non-legal advisers used according to the type of personal injury problem.[37] Notably, government advisers, which included the police, and also financial advisers, such as insurance companies, were most commonly used in response to motor vehicle injury problems. These results are in keeping with motor vehicle compensation processes. In addition, as might be expected, trade or professional associations were most often used as advisers in relation to work-related injury problems.

Reasons for no action

Past research indicates that although taking no action is common, it does not always result in unmet legal need. Taking no action can sometimes be appropriate or 'informed', while, in other cases, people want to resolve their problem but are 'constrained' from doing so by particular barriers (Balmer et al. 2010; McDonald, Forell & People 2014).

TABLE 8: REASONS FOR TAKING NO ACTION IN RESPONSE TO PERSONAL INJURY PROBLEMS, AUSTRALIA

Reason	N	%
CONSTRAINED ACTION		
Had bigger problems	54	26.9
Would take too long	54	26.7
Didn't know what to do	38	18.8
Would be too stressful	35	17.4
Would cost too much	31	15.3
Would damage relationship with other side	8	4.0
'INFORMED' ACTION AT FACE VALUE		
Problem resolved quickly	158	78.02
Problem not very important	125	61.7
Would make no difference	112	55.6
Was at fault/there was no dispute	98	48.3
Didn't need information/advice	90	44.4
Other reason[a]	9	4.6

a Comprises answers to an open-ended question (A32.12), whereas the remaining reasons are based on closed-ended questions (A32.1–A32.11; see Coumarelos et al. 2012, Appendix A1, p. 289).

Note: N=202 personal injury problems where respondents took no action. Data was missing for 11 problems. Percentages do not sum to 100, because multiple reasons were reported for some problems.

37 A statistical test of significance was not conducted, because multiple advisers could be used for the same problem.

The present results show that LAW Survey respondents who took no action in response to their personal injury problem often gave multiple reasons for doing nothing. In many cases, these reasons suggested (at face value) that doing nothing may have been appropriate or 'informed', because, for example, the problem was resolved quickly (78.2%), the problem was not very important (61.7%) or the respondent was at fault (48.3%; see Table 8). However, in a sizeable proportion of cases, respondents appeared to have unmet legal need because they were 'constrained' from taking action, for reasons such as having more pressing problems to address (26.9%); the time (26.7%), stress (17.4%) or cost involved (15.3%) to resolve the problem; not knowing the avenues for resolution (18.8%); or being worried about damaging relationships (4.0%; see Table 8).

General discussion

Injury surveillance and claims data provide only partial understanding of the experience and handling of personal injury problems – that is, problems related to injury that have legal or justiciable implications or remedies. Notably, these data sources leave gaps in knowledge about the prevalence of certain kinds of personal injury problems, the negative knock-on effects of personal injury problems and the broader responses to these problems outside formal claims and compensation systems. Using data from the LAW Survey – a representative population survey of legal need – the present study provides new insights into the nature of legal problems associated with injury.

The study indicated that personal injury problems are relatively common occurrences. Within a 12-month period, approximately 1.3 million (7.0%) Australians aged 15 years or over were estimated to experience some type of problem related to injury that has legal implications, with work-related injury problems being the most prevalent type of personal injury problem (3.9% or approximately 748,000). The other types of personal injury problems examined were also experienced by appreciable numbers of Australians aged 15 or over, with an estimated 1.3 per cent or 245,000 experiencing motor vehicle injury problems, 1.0 per cent or 195,000 experiencing product-related injury problems and 1.5 per cent or 285,000 experiencing a problem related to an injury due to other negligence such as injury resulting from sport and slips, trips and falls.

The study also demonstrated the distinctive nature of each type of personal injury problem. These different types of personal injury problems were associated with different demographic profiles, with younger age being the only demographic characteristic that appeared to increase the risk of all types of personal injury problems.[38] The different types of personal injury problems were also distinct in that respondents' actions varied according to the type of personal injury problem they experienced.

In terms of the demography of different types of personal injury problems, the present findings for gender and age are largely in keeping with the information provided by more traditional data sources. The present peak levels of all types of personal injury problems in the younger age groups are consistent with hospitalisation data on transport accidents, work-related injury rates from population-level surveys (based on the number of hours worked) and hospitalisation data on sporting injuries (Henley & Harrison 2012; Kreisfeld et al. 2014; Safe Work Australia 2012a). The present elevated levels for males of work-related injury problems, other negligence injury problems and personal injury problems of any type (overall) are also consistent with injury and health surveillance data (ABS 2014b; AIHW 2016; Henley & Harrison 2012; Kreisfeld et al. 2014).

The present study also expands knowledge of the demography of personal injury problems by examining the association of the four types of personal injury problems to a number of demographic characteristics in addition to age and gender at the population level. Notably, although Indigenous Australians experience elevated rates of injury-related hospitalisations (AIHW 2016), the present analyses suggested that, independently of other demographic characteristics, Indigenous status may be particularly related to elevated levels of personal injury problems falling into the present category of 'other negligence' – for example, those related to sport and slips, trips and falls. It is well established that, compared to other Australians, Indigenous Australians have a younger, more disadvantaged demographic profile, including higher rates of disability, poor education and unemployment (ABS 2016c; ABS & AIHW 2012; Steering Committee for the Review of Government Service Provision 2014). These demographic factors were related to increased likelihood of various types of personal injury problems in the present study, regardless of Indigenous status. However, Indigenous status increased the likelihood of 'other negligence' personal injury problems even when the younger and more disadvantaged demographic profile of Indigenous people was taken into account, suggesting that this type of personal injury problem may be an important contributor to the high hospital admission rate for Indigenous people.

38 Although disability was also linked to elevated levels of all of the personal injury problem types examined, it cannot be concluded that people with a disability have increased risk of personal injury problems as the finding is likely to in part reflect disability resulting from personal injury.

The present analyses also indicated that ethnicity as measured by main language is relevant to the experience of personal injury problems in Australia. Respondents whose main language is English had elevated levels of work-related injury problems and other negligence injury problems, while those with another main language had elevated levels of motor vehicle injury problems.

New evidence was also provided on the demography of product injury problems, indicating that this type of injury problem is elevated for young people and single parents.

The different demographic profiles associated with the four types of personal injury problems examined are likely, at least in part, to be due to the different kinds of life circumstances that provide opportunities for these types of personal injury to occur. Notably, the peak levels of all four types of personal injury problems in the younger age groups are consistent with their lesser life experience and greater engagement in jobs, activities and behaviours that increase risk of accidents. For example, the elevated experience of motor vehicle injury problems for young people, particularly young males, is consistent with their lesser driving experience and greater risk-taking behaviours (cf. Steinberg 2008, 2010; Turner & McClure 2003). The elevated levels of other negligence injury problems for young people, especially young males, are also consistent with their greater involvement in sport and greater risk-taking behaviour (cf. Kreisfeld et al. 2014; Steinberg 2008, 2010). Further, young people's elevated experience of work-related injury problems is consistent with their greater participation in blue collar occupations (Safe Work Australia 2012a).

Beyond age and gender, there was also support for the notion that life circumstances and opportunities affect the likelihood of experiencing personal injury problems. A case in point is work-related injury problems, which were elevated for demographic groups who have high rates of participation in the workforce or high participation in blue collar occupations – namely, people with low education levels and people with English as their main language, as well as young people and males (cf. ABS 2011, 2014b; Safe Work Australia 2012a, 2012b).

In addition, the present study provided new information on the range of responses to personal injury problems, including responses to personal injury problems that do not result in hospitalisation or in claims or compensation processes. The findings demonstrate significant variation in people's responses according to the type of personal injury problem they experienced. People's responses appear to reflect the level of seriousness of different types of personal injury problems and the specific pathways available for the resolution of these types of personal injury problems (e.g. different types of claims processes, civil action, etc.).

Notably, motor vehicle injury problems were the least likely to result in no action and the most likely to result in consultation with a lawyer. The finding that motor vehicle injury problems were the most likely to lead to some type of action may not only mirror the relative seriousness of many motor vehicle injury problems, but also the well-known pathways for insurance claims for motor vehicle damage (rather than claims or legal advice for personal injury) following transport accidents. The increased likelihood of consulting a lawyer for motor vehicle injury problems is also consistent with the complexity of claims processes for injury resulting from transport accidents and the challenges of navigating the requirements of such claims for injury (Grant et al. 2014; Murgatroyd et al. 2011).

In contrast, product injury problems were the most likely to result in no action and the least likely to result in advice from a lawyer. Product injury problems were also more likely than other personal injury problems to be handled without consulting a professional. These results are in keeping with the less severe nature of a greater proportion of product injury problems. However, it is possible that these results also signify relatively poor knowledge of the available avenues for compensation and redress in some cases of product injury. Thus, information and education initiatives may be useful in signposting people to appropriate forms of advice for product injury problems and to appropriate avenues for redress, such as complaint-handling bodies for consumer product issues.

Work-related injury problems were the most likely of the personal injury problem types examined to result in the use of non-legal professionals. This finding is partially due to the advice provided by trade unions and professional associations for such personal injury problems, and is consistent with the gatekeeper role of medical professionals in workers' compensation systems and the roles played by insurance claims managers and employers in facilitating the claims process (Collie et al. 2013; Kilgour et al. 2015; Roberts-Yates 2003).

The present study showed that doing nothing in response to personal injury problems was not uncommon. However, in many of these cases, the reasons respondents gave for taking no action suggested a well-informed decision based on the relatively minor nature of the problem or the respondent being at fault. Nonetheless, respondents were sometimes constrained from taking appropriate action because of the perceived cost, stress or time involved or because they had other bigger problems. Again, these cases suggest the potential benefit of appropriately signposting people to relevant avenues for information and advice about the legal resolution of different types of personal injury problems.

Importantly, the present results reveal that many personal injury problems can be substantial. It

was estimated that, within a 12-month period, approximately 634,000 or 3.3 per cent of Australians aged 15 years or over experience a substantial personal injury problem – that is, a problem related to injury that has legal implications and has a moderate or severe impact on their everyday lives. Substantial work-related injury problems were the most prevalent type of substantial personal injury problem, with an estimated 1.8 per cent or approximately 340,000 Australians aged 15 years or over experiencing such a problem each year. A qualitative research study on workers' compensation claims in Australia demonstrated that the delay in returning to work can be considerable, due to many, complex factors, such as conflict between the goals of the injured worker and the employer, poor administrative and communication processes, and emotional factors (Hodges, Kirkhope, Naphtali et al. 2013).

The substantial nature of many legal problems related to personal injury highlights the importance of facilitating the effective legal resolution of such problems, and, in the case of the injured person, the valuable role that adequate compensation may play in reclaiming their life. It is well established that target clients do not always make their way to lawyers' offices. People's personal circumstances and legal capability, as well as environmental, systemic and cultural factors, can constrain people from resolving their legal problems (cf. Pleasence, Coumarelos, Forell et al. 2014). A key step in facilitating the resolution of legal problems in general is to facilitate access to justice through well-recognised and simple entry points, avoiding referral fatigue and maximising outcomes (cf. Buckley 2010; Coumarelos et al. 2012; Pleasence 2006; Pleasence et al. 2014). Thus, effective signposting and appropriate referral to relevant advisers for different types of personal injury problems may be beneficial, particularly relevant first ports of call for legal advice and professionals providing free or low-cost legal advice. These include the ombudsmen and regulatory bodies for different types of personal injury problems, such as for work-related injury problems and injury problems resulting from faulty consumer products, and the no-win no-fee arrangements often used by private lawyers for personal injury civil court cases.

Another important conclusion from the present study is that personal injury problems are often not solitary, stand-alone problems. They often cluster with other types of legal problems, and can also have considerable adverse knock-on effects on broader health, social and economic circumstances. Thus, personal injury problems are linked to increased risk of multiple legal and non-legal problems.

Prior research has similarly indicated that personal injury problems can be linked to legal issues regarding employment, health and debt (Coumarelos et al. 2012; Currie 2007; Genn 1999; Pleasence 2006). These present and past findings indicate the potential benefit of broad 'legal diagnosis' and coordination between legal advisers to manage the interconnection between personal injury problems and other legal problems. A more coordinated, client-focused or joined-up approach to legal services has the potential not only to provide more holistic outcomes for clients, but also time- and cost-efficiencies in assisting with linked problems, through swifter and more effective problem noticing and referral, as well as through economies of scale (Coumarelos et al. 2012; Pleasence et al. 2014). Joining up can take many forms and can vary considerably in degree from near complete separateness to full integration (Pleasence et al. 2014). Although there can be many challenges to joining up, even less intensive forms of joining up, such as information exchange and referral between advisers, can potentially produce benefits for both clients and advisers (Pleasence et al. 2014). Various tools are available to facilitate a more comprehensive 'diagnosis' of a client's full range of legal needs, including 'legal health checks' and the i–HELP screening tool (Coumarelos, Pleasence & Wei 2013; Pleasence et al. 2014).

In addition, the physical health aspects of many personal injury problems, together with their adverse impacts on broader life circumstances – such as stress-related illness, and social and economic circumstances – also point to the potential benefit of coordination or joining up between legal and non-legal professionals to manage both the legal and non-legal aspects of personal injury problems. Again, less intensive forms of coordination, such as referral between legal and non-legal professionals, can potentially produce more holistic resolution for clients as well as benefits for service providers.

It is important to emphasize that in cases of personal injury there is considerable potential for referrals to occur between legal and non-legal professionals in both directions. First, the health-related nature of injury problems means that doctors and other health professionals tend to be the first, and often the only, point of contact with a professional for people sustaining a personal injury (see also Coumarelos et al. 2012). Consequently, such non-legal professionals are ideally placed to notice legal problems associated with injury and to act as significant gateways to expert legal advice for people sustaining a personal injury who may otherwise fail to access justice. However, medical and health professionals may require training and support to fulfil this role effectively (Clarke & Forell 2007; Coumarelos et al. 2012; Pleasence 2006; Pleasence et al. 2014). Furthermore, methods of harnessing the use of non-legal professionals as gateways to legal help are likely to be more feasible if they are simple and not 'overly onerous on non-legal workers, who have their own professional priorities' (Coumarelos et al. 2012, p. 245). For example, referrals from health professionals that do not

require extensive legal knowledge, such as referrals to a suitable point of legal diagnosis and triage, rather than direct referrals to the most relevant specialist legal professional, would not require extensive legal knowledge (Coumarelos et al. 2012; Pleasence et al. 2014).

Second, the adverse knock-on effects of personal injury problems on broader life circumstances – such as negative impacts on health, social and financial circumstances – suggest that referrals from lawyers to human services may sometimes be beneficial for clients receiving legal advice or assistance in relation to personal injury matters. People experiencing personal injury problems may require broader human support services in addition to legal resolution.

In summary, the present study presents new data showing that personal injury problems are relatively common and can be severe. The likelihood of experiencing particular types of personal injury problems vary according to personal characteristics and life circumstances. People's responses to personal injury problems also vary according to the type of personal injury problem experienced and the available pathways for resolution. Importantly, personal injury problems are rarely stand-alone problems. They often overlap with other legal problems and can have considerable knock-on effects on broader life circumstances beyond the original injury. Thus, the results point to the potential benefit of coordination among legal professionals, and also between legal professionals and non-legal professionals, to address the legal and non-legal aspects of personal injury problems.

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Appendix

TABLE A1: REGRESSION RESULTS – PREVALENCE OF MOTOR VEHICLE INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	0.094	0.127	1.1	(0.9–1.4)
Age (in years)	15–17 | 65+	**1.628**	**0.408**	**5.1**	**(2.3–11.3)**
	18–24 | 65+	**2.112**	**0.327**	**8.3**	**(4.4–15.7)**
	25–34 | 65+	**1.486**	**0.331**	**4.4**	**(2.3–8.5)**
	35–44 | 65+	**1.333**	**0.333**	**3.8**	**(2.0–7.3)**
	45–54 | 65+	**1.189**	**0.329**	**3.3**	**(1.7–6.3)**
	55–64 | 65+	0.307	0.381	1.4	(0.6–2.9)
Disability status	Disability | no disability	**1.012**	**0.144**	**2.8**	**(2.1–3.6)**
Education	<Year 12 | post-school	-1.170	0.170	0.8	(0.6–1.2)
	Year 12 | post-school	-1.179	0.170	0.8	(0.6–1.2)
Employment status	Unemployed | other	0.009	0.188	1.0	(0.7–1.5)
Family status	Single parent | other	0.247	0.212	1.3	(0.8–1.9)
Housing type	Disadvantaged | other	0.023	0.235	1.0	(0.6–1.6)
Indigenous status	Indigenous | other	0.033	0.351	1.0	(0.5–2.1)
Main income	Government payment | other	0.109	0.167	1.1	(0.8–1.5)
Main language	Non-English | English	**0.538**	**0.215**	**1.7**	**(1.1–2.6)**
Remoteness	Remote | major city	-0.421	0.329	0.7	(0.3–1.3)
	Regional | major city	-0.160	0.148	0.9	(0.6–1.1)
Constant		**-5.903**	**0.328**		
RANDOM EFFECTS					
State		0.063	0.071		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=20,585 respondents. Data was missing for 131 respondents

TABLE A2: REGRESSION RESULTS – PREVALENCE OF WORK-RELATED INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	**-0.530**	**0.076**	**0.6**	**(0.5–0.7)**
Age (in years)	15–17 | 65+	**2.424**	**0.379**	**11.3**	**(5.4–23.7)**
	18–24 | 65+	**3.004**	**0.352**	**20.2**	**(10.1–40.2)**
	25–34 | 65+	**2.741**	**0.349**	**15.5**	**(7.8–30.7)**
	35–44 | 65+	**2.692**	**0.347**	**14.8**	**(7.5–29.1)**
	45–54 | 65+	**2.703**	**0.347**	**14.9**	**(7.6–29.5)**
	55–64 | 65+	**2.067**	**0.351**	**7.9**	**(4.0–15.7)**
Disability status	Disability | no disability	**1.314**	**0.084**	**3.7**	**(3.2–4.4)**
Education	<Year 12 | post-school	**0.292**	**0.092**	**1.3**	**(1.1–1.6)**
	Year 12 | post-school	0.012	0.104	1.0	(0.8–1.2)
Employment status	Unemployed | other	0.019	0.121	1.0	(0.8–1.3)
Family status	Single parent | other	0.045	0.137	1.0	(0.8–1.4)
Housing type	Disadvantaged | other	0.110	0.143	1.1	(0.8–1.5)
Indigenous status	Indigenous | other	-0.169	0.214	0.8	(0.6–1.3)
Main income	Government payment | other	**-0.894**	**0.123**	**0.4**	**(0.3–0.5)**
Main language	Non-English | English	**-0.486**	**0.196**	**0.6**	**(0.4–0.9)**
Remoteness	Remote | major city	0.132	0.151	1.1	(0.8–1.5)
	Regional | major city	0.111	0.083	1.1	(0.9–1.3)
Constant		**-5.826**	**0.347**		
RANDOM EFFECTS					
State		0.007	0.008		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=20,585 respondents. Data was missing for 131 respondents.

TABLE A3: REGRESSION RESULTS – PREVALENCE OF PRODUCT INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	-0.010	0.147	1.0	(0.7–1.3)
Age (in years)	15–17 | 65+	**2.309**	**0.451**	**10.1**	**(4.2–24.4)**
	18–24 | 65+	**1.798**	**0.420**	**6.0**	**(2.7–13.8)**
	25–34 | 65+	**1.588**	**0.415**	**4.9**	**(2.2–11.0)**
	35–44 | 65+	**0.940**	**0.432**	**2.6**	**(1.1–6.0)**
	45–54 | 65+	0.689	0.442	2.0	(0.8–4.7)
	55–64 | 65+	0.331	0.482	1.4	(0.5–3.6)
Disability status	Disability | no disability	**0.533**	**0.183**	**1.7**	**(1.2–2.4)**
Education	<Year 12 | post-school	0.017	0.203	1.0	(0.7–1.5)
	Year 12 | post-school	0.164	0.192	1.2	(0.8–1.7)
Employment status	Unemployed | other	0.310	0.193	1.4	(0.9–2.0)
Family status	Single parent | other	**0.583**	**0.236**	**1.8**	**(1.1–2.8)**
Housing type	Disadvantaged | other	-0.027	0.295	1.0	(0.5–1.7)
Indigenous status	Indigenous | other	-1.136	0.641	0.3	(0.1–1.1)
Main income	Government payment | other	-0.213	0.206	0.8	(0.5–1.2)
Main language	Non-English | English	0.341	0.249	1.4	(0.9–2.3)
Remoteness	Remote | major city	-0.450	0.364	0.6	(0.3–1.3)
	Regional | major city	-0.304	0.168	0.7	(0.5–1.0)
Constant		**-5.945**	**0.418**		
RANDOM EFFECTS					
State		0.018	0.027		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=20,585 respondents. Data was missing for 131 respondents.

TABLE A4: REGRESSION RESULTS – PREVALENCE OF OTHER NEGLIGENCE INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	**-0.468**	**0.123**	**0.6**	**(0.5–0.8)**
Age (in years)	15–17 | 65+	**2.918**	**0.357**	**18.5**	**(9.2–37.3)**
	18–24 | 65+	**2.513**	**0.326**	**12.3**	**(6.5–23.4)**
	25–34 | 65+	**1.598**	**0.338**	**4.9**	**(2.5–9.6)**
	35–44 | 65+	**1.378**	**0.340**	**4.0**	**(2.0–7.7)**
	45–54 | 65+	**0.785**	**0.363**	**2.2**	**(1.1–4.5)**
	55–64 | 65+	0.663	0.378	1.9	(0.9–4.1)
Disability status	Disability | no disability	**1.169**	**0.134**	**3.2**	**(2.5–4.2)**
Education	<Year 12 | post-school	-0.116	0.166	0.9	(0.6–1.2)
	Year 12 | post-school	-0.008	0.164	1.0	(0.7–1.4)
Employment status	Unemployed | other	**0.401**	**0.149**	**1.5**	**(1.1–2.0)**
Family status	Single parent | other	0.083	0.219	1.1	(0.7–1.7)
Housing type	Disadvantaged | other	0.358	0.198	1.4	(1.0–2.1)
Indigenous status	Indigenous | other	**0.738**	**0.228**	**2.1**	**(1.3–3.3)**
Main income	Government payment | other	0.006	0.156	1.0	(0.7–1.4)
Main language	Non-English | English	**-0.629**	**0.312**	**0.5**	**(0.3–1.0)**
Remoteness	Remote | major city	-0.242	0.268	0.8	(0.5–1.3)
	Regional | major city	-0.173	0.137	0.8	(0.6–1.1)
Constant		**-5.896**	**0.330**		
RANDOM EFFECTS					
State		0.028	0.040		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=20,585 respondents. Data was missing for 131 respondents.

TABLE A5: REGRESSION RESULTS – PREVALENCE OF SUBSTANTIAL PERSONAL INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	**-0.251**	**0.082**	**0.8**	**(0.7–0.9)**
Age (in years)	15–17 | 65+	**1.761**	**0.291**	**5.8**	**(3.3–10.3)**
	18–24 | 65+	**2.024**	**0.245**	**7.6**	**(4.7–12.2)**
	25–34 | 65+	**2.021**	**0.234**	**7.5**	**(4.8–11.9)**
	35–44 | 65+	**1.912**	**0.234**	**6.8**	**(4.3–10.7)**
	45–54 | 65+	**1.774**	**0.231**	**5.9**	**(3.7–9.3)**
	55–64 | 65+	**1.213**	**0.244**	**3.4**	**(2.1–5.4)**
Disability status	Disability | no disability	**1.726**	**0.090**	**5.6**	**(4.7–6.7)**
Education	<Year 12 | post-school	0.024	0.102	1.0	(0.8–1.3)
	Year 12 | post-school	-0.161	0.116	0.9	(0.7–1.1)
Employment status	Unemployed | other	**0.242**	**0.122**	**1.3**	**(1.0–1.6)**
Family status	Single parent | other	0.189	0.138	1.2	(0.9–1.6)
Housing type	Disadvantaged | other	0.040	0.148	1.0	(0.8–1.4)
Indigenous status	Indigenous | other	0.184	0.211	1.2	(0.8–1.8)
Main income	Government payment | other	**-0.319**	**0.113**	**0.7**	**(0.6–0.9)**
Main language	Non-English | English	-0.140	0.187	0.9	(0.6–1.3)
Remoteness	Remote | major city	-0.356	0.199	0.7	(0.5–1.0)
	Regional | major city	-0.150	0.094	0.9	(0.7–1.0)
Constant		**-5.439**	**0.231**		
RANDOM EFFECTS					
State		0.018	0.020		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=20,585 respondents. Data was missing for 131 respondents.

TABLE A6: REGRESSION RESULTS – PREVALENCE OF MULTIPLE PERSONAL INJURY PROBLEMS BY DEMOGRAPHIC CHARACTERISTICS, AUSTRALIA

Demographic variable	*Categories compared*	*β*	*SE*	*Odds ratio*	*(95% CI)[a]*
FIXED EFFECTS					
Gender	Female | male	-0.221	0.135	0.8	(0.6–1.0)
Age (in years)	15–17 | 55+	**1.370**	**0.324**	**3.9**	**(2.1–7.4)**
	18–24 | 55+	**0.976**	**0.286**	**2.7**	**(1.5–4.6)**
	25–34 | 55+	**0.787**	**0.282**	**2.2**	**(1.3–3.8)**
	35–44 | 55+	0.418	0.285	1.5	(0.9–2.7)
	45–54 | 55+	0.337	0.288	1.4	(0.8–2.5)
Disability status	Disability | no disability	0.270	0.145	1.3	(1.0–1.7)
Education	<Year 12 | post-school	0.077	0.169	1.1	(0.8–1.5)
	Year 12 | post-school	0.002	0.182	1.0	(0.7–1.4)
Employment status	Unemployed | other	0.137	0.185	1.2	(0.8–1.6)
Family status	Single parent | other	**0.459**	**0.219**	**1.6**	**(1.0–2.4)**
Housing type	Disadvantaged | other	0.072	0.233	1.1	(0.7–1.7)
Indigenous status	Indigenous | other	-0.148	0.337	0.9	(0.4–1.7)
Main income	Government payment | other	-0.094	0.191	0.9	(0.6–1.3)
Main language	Non-English | English	-0.078	0.287	0.9	(0.5–1.6)
Remoteness	Remote | major city	-0.028	0.298	1.0	(0.5–1.7)
	Regional | major city	-0.154	0.153	0.9	(0.6–1.2)
Constant		**-1.953**	**0.280**		
RANDOM EFFECTS					
State		0.029	0.044		

a Significant odds ratios (ORs) are presented in bold. A bolded OR>1.0 indicates that the first category in the comparison had significantly higher odds of experiencing legal problems of the type in question than the second category (at the 95% confidence level). A bolded OR<1.0 indicates that the first category in the comparison had significantly lower odds (at the 95% confidence level). The size of the bolded OR indicates the strength of the relationship. E.g. Bolded OR=2.0 means that the odds for the first category were twice those for the second category. Bolded OR=0.5 means that the odds for the first category were half those for the second category, or, in other words, that the odds for the second category were twice those (i.e. 1/0.5=2.0) for the first category.

Note: N=1,437 respondents. Data was missing for 7 respondents. Due to small numbers, the 55–64 and 65+ age categories were combined into a single 55+ age category. The 55+ age category was compared to each other age category.

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