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INPLASY

Association of risky behaviours with subsequent traumatic brain injury (TBI) in emerging adults: a systematic review protocol

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ADMINISTRATIVE INFORMATION

Support - The University of Western Australia.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 July 2025 and was last updated on 15 July 2025.

INTRODUCTION

Review question / Objective The aim of this systematic review is to understand and compare the relationship between various risky behaviours (e.g., substance use or dangerous driving) preceding the subsequent risk of sustaining a traumatic brain injury (TBI) in emerging adults (16-29 years old).

This systematic review aims to examine the association between engagement in risky behaviours, as defined by the DOSPERT framework, and the subsequent occurrence of TBI in emerging adults aged 16–29 years. The review will synthesise evidence on whether engagement in these risky behaviours is associated with increased risk of sustaining a TBI, and where data allows, identify which domains may be more strongly predictive of TBI.

Rationale TBI, defined as a disruption in brain functioning or pathology resulting from an external force (Menon et al., 2010), is a major public health concern with significant impacts including loss of productivity, long-term disability and reduced quality of life (Andelic et al., 2018). Higher TBI severity is associated with greater declines in daily functioning, higher mortality rates, lower odds of functional independence and increased mortality (Maas et al., 2022; Nelson et al., 2023).

Emerging adulthood (ages 16-29; Wood et al., 2018), marked by rapid neurological and developmental changes, can be disproportionately affected by TBI largely due to an increased prevalence of risky behaviours including substance use (Brodbeck et al., 2013; Di Gessa et al., 2022). Young males in particular face more than twice the risk of sustaining a TBI, largely due to greater engagement in risk-prone behaviours and exposure to injury-prone activities (Frost et al., 2012). Furthermore, following TBI, emerging adults may experience lasting outcomes such as poorer educational outcomes and social relationships (Pei & O'Brien, 2021; Waltzman et al., 2021). For society at large, TBI can also carry a detrimental economic burden including healthcare costs,

unemployment and productivity loss (Collie et al., 2010; Crozes et al., 2024; Scholten et al., 2014). Despite extensive research on TBI outcomes, there remains a notable gap in understanding the risk factors for sustaining a TBI. The identification of these factors in emerging adults is crucial for developing effective prevention strategies and reducing negative consequences.

Prior research has identified a range of risky behaviours that increase the likelihood of sustaining a TBI, particularly among young adults. Substance misuse, including alcohol and drug use, has been strongly linked to higher TBI risk, with intoxication significantly raising the odds of injury through mechanisms such as impaired driving, falls and violence (Matei et al., 2022; Nordström et al., 2013). Aggressive, antisocial behaviour and externalising problems are also associated with increased TBI incidence, particularly as individuals enter young adulthood and engage in more hazardous activities such as reckless driving and physical altercations (Guberman et al., 2020). Participation in contact sports, especially without proper safety measures, further elevates risk, as does involvement in violent situations (Ilie et al., 2014; Waltzman et al., 2022). However, these observed behaviours do not occur in isolation; rather, they are shaped by underlying individual differences in risk-attitudes – defined as an individuals' underlying risk aversion or tolerance – which, in turn, determines a persons' propensity to engage in such activities, especially during emerging adulthood (Cobb-Clark et al., 2022; Willoughby et al., 2021).

However, consensus on the nature of risk attitudes in the literature remains mixed. Some studies argue that risk attitudes are domain-specific, with individuals more likely to engage in risky behaviour when risk attitude and domain aligns (Blais & Weber, 2006). This may be particularly relevant for predicting TBI risk; for instance, a higher risk tolerance in the health domain may increase behaviours like not wearing helmets or driving under the influence, both established contributors to TBI (Lee et al., 2022; Weil et al., 2018). In contrast, research has also identified a general risk attitude that influences behaviour across all domains (Highhouse et al., 2017). Furthermore, risk attitudes tend to remain relatively stable over the life course, although temporary fluctuations can occur due to significant life events, such as adverse childhood events, before returning to baseline (Guinn et al., 2019; Kettlewell, 2019). This stability aligns with the concept of rank-order stability in risk attitude, which posits trait-like consistency with occasional context-driven variability (Schildberg-Hörisch, 2018) and Prospect Theory, which suggests that individuals evaluate risky behaviours based on contextual framing or emotional influences (Kahneman & Tversky, 1979).

Condition being studied

Despite the theoretical conceptualisation of general stability in risk-taking tendencies, there remains a notable gap in the literature concerning risk attitudes and behaviours specifically associated with sustaining a TBI. Furthermore, while extensive research has examined how TBI can induce significant behavioural changes, less is known about how various risky behaviours may contribute to the risk of sustaining a TBI in the first place. This highlights the need to systematically summarise and compare different risky behaviours that contribute to TBI. This gap is particularly striking given that common mechanisms of injury in TBI, such as road traffic accidents and substance use (Maas et al., 2022), are closely tied to risky behaviours. Consequently, the aim of this systematic review is to consolidate evidence on risky behaviours leading to a TBI occurrence, compare these risky behaviours and identify potential trends.

This review aims to provide a comprehensive overview of the risky behaviours associated with increased risk of sustaining a TBI in emerging adults, using the five domains of the Domain-Specific Risk-Taking (DOSPERT) scale as a guiding framework (Blais & Weber, 2006). Specifically, the domains are ethical, financial, health/safety, recreational and social. For a full list of items on the DOSPERT scale, refer to Blais and Weber (2006).

Recent literature, in line with the DOSPERT framework, identifies the Health/Safety domain as central to TBI risk among emerging adults. Indeed, substance use, especially alcohol and illicit drugs, is a major contributor, with up to half of adult TBI cases involving alcohol intoxication at the time of injury (Maas et al., 2017; Olsen & Corrigan, 2022). Reckless driving, speeding, and lack of protective equipment – such as seatbelt and helmets – have also been strongly linked to TBI in young adults (Baker et al., 2022; Kim et al., 2021). Interestingly, many individuals appear to continue these risky driving behaviours even after experiencing a TBI (Patrick et al., 2024). Risky recreational behaviours, specifically voluntary participation in high-risk leisure activities, have been found to be highly correlated with TBI occurrence. Research has shown that 20% of all head injuries were related to sports, with the true incidence likely to be higher due to underreporting (AIHW, 2024). Activities such as off-road vehicular sport, equestrian, football and

falls during sport significantly increase the odds of sustaining a severe TBI (Selassie et al., 2013). Additionally, younger individuals and individuals with tertiary education are more likely to experience a sports-related TBI compared to any other TBI (Ntikas et al., 2024).

Finally, while risky behaviours within the ethical, social and financial domain may not directly cause TBI, they may create a TBI-conducive environment that may increase the risk of injury. For instance, risky ethical behaviours that violate societal norms or laws, such as intimate partner violence and criminal activities, may increase exposure to TBI-inducing risky situations such as through fighting or assault (Chan et al., 2024; Costello & Greenwald, 2022; Ladner et al., 2024; Waltzman et al., 2022). Similarly, risky social behaviours, such as moving away from family or challenging authority, can lead to social isolation, reduced resources and greater exposure to violence (Johnson & Diaz, 2023; Taylor et al., 2024). Finally, risky financial behaviours, such as gambling or risky investment, may increase stress and limit access to protective resources – which, in turn, could lead to increased risk-taking behaviours (Ceccato et al., 2016).

METHODS

Search strategy

The review will be guided by the Preferred Reporting Items for Systematic review and Meta-Analysis (PRISMA) Statement (Page et al., 2021) to ensure transparent and complete reporting of the review process. The electronic databases MEDLINE, PsycINFO, Embase and Scopus will be searched systematically to identify relevant articles. These databases have been selected to provide comprehensive coverage of the literature (including biomedical, epidemiological, behavioural science and mental health), while also minimising the risk of publication bias (Goossen et al., 2020).

Additional records will be identified through Google Scholar and hand-searching the reference list of included articles. Studies that include TBI reported as being caused by risky behaviours will be included. To ensure the development of high-quality search terms for this systematic review, a comprehensive set of keywords, synonyms and relevant subject headings (such as MeSH terms) will be compiled for each of the key concepts. The search strategy will be piloted and iteratively refined based on preliminary results, with necessary adaptions made for each database. All search terms, strategies and modification will be thoroughly documented to ensure transparency and reproducibility in accordance with best practices for systematic review. A search feed will be set up to monitor and update with new articles prior to the final analysis, ensuring inclusion of the most recent studies. The search term in its entirety will include both *risk of experiencing TBI* (Concept 1) AND *behaviours by risk-taking domains* (Concept 2).

Concept 1: risk OR threat OR exposure OR vulnerabl* OR likelihood OR occur* OR suscepti* OR consequence OR factor* OR propensity) AND (“Traumatic Brain Injury” OR tbi OR (("head" OR "brain") ADJ ("injur*" OR "trauma"))

Concept 2: ("risk” OR “dangerous” OR “unsafe”) ADJ (behavio?r OR "practice" OR “activit*”)
OR Infidelity OR "affair” OR “cheat*” OR Plagiarism OR ("risk*” AND “invest*”) OR (gambl*)
OR ((alcohol OR drink* OR substance OR drug) ADJ (intoxication OR “use” OR abuse OR addiction))
OR (road OR car OR motor OR vehicle OR automobile OR motorcycle OR motorbike OR transport) AND ((collision OR impact OR crash OR accident OR incident OR injur*) OR (“seatbelt” OR speed* OR "under influence" OR ((danger* OR drink) AND driving) OR "helmet" OR “reckless” OR “violation”))
OR (“recreation” OR sport* OR (contact ADJ sport*) OR pilot* OR plane OR bungee OR skydiving OR whitewater OR raft* OR ATV OR "all-terrain vehicle" OR ski OR AFL OR footy OR rugby OR ARL OR camp* OR cheerlead* OR MMA OR “martial arts” OR boxing OR soccer OR football OR basketball OR hockey OR judo OR taekwondo OR bjj OR jujitsu
OR ((career or occupational) ADJ (change OR choice)) OR (conflict AND (authority OR family OR Political Attitudes))

Participant or population

This review will only include studies including an emerging adult sample (16 – 29 years old) with TBI, irrespective of their sex or race. Where a study has included participants outside the age range, the study may be included if information about the population of interest can be extrapolated from the rest of the population. Full inclusion and exclusion criteria are listed below.

Intervention

Not Applicable.

Comparator

Depending on the study, comparators could be individuals with no history of TBI, defined as the absence of any documented incident resulting in

the loss of consciousness, post-traumatic amnesia or neurological deficits consistent with TBI.

Study designs to be included

This systematic review will include studies that investigate risky behaviours prior to experiencing a TBI. Therefore, the review will include cross-sectional, longitudinal, retrospective and prospective studies. Animal studies will be excluded from this review.

Eligibility criteria

The inclusion criteria for this review include studies (a) published in English; (b) full-text available; (c) included an emerging adult (16 – 29 years old) population specifically, or if information related to target population can be extracted from a larger population; (d) directly addresses TBI; (e) identified risky behaviours that may be causal of TBI; (f) may include individuals with co-existing health issues such as ADHD; (g) published in a peer-review journal and (h) current studies published in the last ten years (between 2015-2025) – although this time frame may be adjusted depending on the number of studies identified. Studies will be excluded if (a) it focuses only on either repeated TBI, chronic traumatic encephalopathy (CTE), concussion or acquired brain injury (ABI); (b) mixed samples where TBI cannot be isolated from other forms of head injuries; (c) does not include or cannot differentiate the population of interest (i.e., emerging adults); (d) focuses solely on treatment or intervention and (e) only report risky behaviours following a TBI.

Information sources

The electronic databases PsychINFO, PubMed, MEDLINE , Embase and Scopus will be used to identify relevant articles (including hand-searching references). Studies that include TBI caused by risky behaviours will be included. A search feed will monitor and update any new articles prior to the final analysis, ensuring inclusion of the most recent studies. Any additional studies may also be added to the review.

Main outcome(s)

Association of subsequent occurrence of TBI as predicted from risky behaviours, for example contact sport, substance abuse and risky driving behaviours

Additional outcome(s)

If the scope of this review allows, descriptive statistics (such as *n* count, odds ratio) of these additional outcome variables may be included for: (a) prediction of TBI severity based on subtypes of risky behaviour; (b) co-existing health and mental health issues associated with the TBI-inducing risky behaviours; (c) perpetuation of the identified risky behaviours following TBI; d) economic productivity outcomes such as employment, income change, cost associated with healthcare and rehabilitation

Data management

Following Siddaway et al.,'s (2019) framework for screening and assessing quality of studies, a preliminary search will be conducted on PsycINFO to identify and appraise relevant terms appearing in the title, abstract and index term of these retrieved articles. The key concepts of interest include TBI, risk, emerging adults and risky behaviour – guided by the DOSPERT scale framework (Blais & Weber, 2006) to comprehensively capture risky behaviours. Finally, to identify relevant studies for the review, the concepts will be adjusted to accommodate for terms used across different databases.

Data screening and extraction will be managed on Covidence (*Covidence Systematic Review Software*, 2025). Title, authors, year of publication and abstracts will be extracted from all databases. Duplicated sources will be removed before the title and abstract screening for inclusion and exclusion criteria. Articles will be sorted into three categories: *No*, *Maybe* and *Yes*. Full-text screening will occur for articles sorted into the latter two categories. All data will first be obtained by the lead author. The lead author will then screen the title and abstracts retrieved against the inclusion criteria. Two review authors will then screen the articles for the full text reviews. Inclusion and exclusion agreements will be documented to facilitate discussion and reach a consensus. In the event of disagreement, a third reviewer will resolve the conflict. Inter-rater reliability for screening will be assessed using Cohen's kappa.

Extracted data will be stored and managed electronically using Covidence and Microsoft Excel. This approach facilitates the organisation of retrieved data and collaboration among reviewers. Data quality of the final sample will be analysed according to the JBI Critical Appraisal Checklist (Aromataris et al., 2024). Data extracted from identified studies will include:

- Study title, author, journal, location and year of publication
- Aim(s) of study
- Study methods, including design and country
- Participant demographics, including number of participants, age and sex

distribution, socioeconomic status, educational level, life experiences and premorbid conditions

- TBI
    - Time between risky behaviour and experiencing a TBI
    - Co-existing conditions prior to injury
    - Measure of TBI severity – mild, moderate or severe based on medical diagnosis, Glasgow Coma Scale, Post-traumatic Amnesia, or self-report
    - Risky behaviours pertaining to the TBI
    - Economic productivity outcomes such as employment, income change, cost associated with healthcare and rehabilitation
- Data Analysis
    - Statistical analysis used in the studies
    - Outcome associated with the risky behaviours (i.e., TBI severity)

Quality assessment / Risk of bias analysis

The quality of final studies will be analysed in line with the JBI Critical Appraisal Checklist (Aromataris et al., 2024). The GRADE approach will be used to systematically assess the certainty of evidence across different studies by considering various domains, such as the risk of bias, inconsistency, indirectness, imprecision, and publication bias (Schünemann, 2022). However, if evidence is heterogeneous across studies, a GRADE-CERQual approach will be utilised in place of the above (Lewin et al., 2018).

Strategy of data synthesis

This review will provide a comprehensive synthesis and overview of a wide range of risky behaviours that have been previously identified to have a causal relationship with TBI. First, a descriptive summary of the study findings will be provided, including details on study design, sample characteristics, and risk behaviours across each DOSPERT domains. Furthermore, the review will examine the possibility of a general risk factor that may be associated with the increased probability of experiencing a TBI, using a composite risk index by combining multiple risk factors identified. If sufficient homogeneous data are available, odds ratio analyses will be used to quantify the association between specific risky behaviour and TBI. Otherwise, a thematic approach will be used to identify and describe patterns, relationships and consistencies across studies. The GRADE approach will be used to assess the certainty of the evidence if appropriate (Schünemann, 2022).

Subgroup analysis

Subgroup analyses will be conducted if sufficient studies report outcome by sex, age or TBI severity, in order to explore potential differences.

Sensitivity analysis

Sensitivity analyses will be conducted by excluding studies at high risk of bias (such as unclear inclusion criteria, poorly described sampling methods, unreliable measurement of TBI outcome, lack of identification or acknowledgment of confounding factors or inappropriate statistical analysis), based on the JBI Critical Appraisal Checklist to assess the robustness of the findings.

Language restriction English only

Country(ies) involved Australia - The University of Western Australia.

Keywords

Traumatic brain injury, TBI; risk factor; risky behaviour, alcohol, sports, drugs, gambling, accidents, abuse, violence; systematic review

Dissemination plans

The goal of this systematic review is to present the information at relevant conferences and publish the findings in a peer-reviewed journal to contribute to the existing literature and inform evidence-based practices.

Contributions of each author

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Appendix
Appendix A
DOSPERT Domains

Ethical	Financial (Investment/ Gambling)	Health/Safety	Recreational	Social
- Not returning a wallet you found containing $200 - Leaving your young children at home while running an errand - Revealing a friend's secret to someone else - Passing off somebody else's work as your own - Having an affair with a married man/ women - Taking some questionable deductions on your income tax return	- Investing 10% of your annual income in a new business venture - Investing 5% of your annual income in a very speculative stock - Investing 10% of your annual income in a moderate growth mutual fund - Betting a day's income at a high-stake poker game - Betting a day's income on the outcome of a sporting event - Betting a day's income at the horse races	- Walking home alone at night in an unsafe area of town - Sunbathing without sunscreen - Riding a motorcycle without a helmet - Driving a car without a seatbelt - Engaging in unprotected sex - Drinking heavily at a social function	- Piloting a small plane - Bungee jumping off a tall bridge - Taking a skydiving class - Going whitewater rafting at high water in the spring - Going down a ski run that is beyond your ability - Going camping in the wilderness	- Starting a new career in your mid-thirties - Moving to a city far away from your extended family - Speaking your mind about an unpopular issue in a meeting at work - Choosing a career that you truly enjoy over a more secure one - Disagreeing with an authority figure on a major issue - Admitting that your tastes are different from those of a friend

Appendix B

Search string adjusted across different electronic database

Domain	Psycinfo (APA Tree)	Embase (Emtree)	Medline (MeSH)
Risk of experiencing TBI	risk* OR threat OR exposure OR vulnerabl* OR likelihood OR occur* OR suscepti* OR consequence OR factor* OR propensity AND "Traumatic Brain Injury" OR tbi OR (("head" OR "brain") ADJ ("injur*" OR "trauma"))	risk OR hazard OR threat OR exposure OR vulnerabl* OR likelihood OR occur* OR suscepti* OR consequence OR factor* OR propensity AND traumatic brain injury/ OR tbi OR (("head" OR "brain") ADJ ("injur*" OR "trauma"))	Risk Factor/ OR risk OR threat OR exposure OR vulnerabl* OR likelihood OR occur* OR suscepti* OR consequence OR factor* OR propensity AND Brain Injuries, Traumatic/ OR traumatic brain injury/ OR tbi
Risky behaviours	("risk*" OR "dangerous" OR "maladaptive" OR "unsafe") ADJ (behavio?r OR "practice" OR "activit*")	high risk behavior/ OR ("risk" OR "dangerous" OR "maladaptive" OR "unsafe") ADJ (behavio?r OR "practice" OR "activit*")	Risk-Taking/ OR ("risk*" OR "dangerous" OR "maladaptive" OR "unsafe") ADJ (behavio?r OR "practice" OR "activit*")
- Ethical Risk	(Infidelity/ OR "affair*" OR "cheat") OR (Dishonesty/ AND (Ethical Decision Making/ OR Finance/ OR Taxation/)) OR Plagiarism/ or cheat	("Infidel*" or "affair*") OR ((deception/ OR "Dishonest*") AND (ethical decision making/ OR finance/ OR tax/)) OR Plagiarism/ or cheat	Plagiarism/ OR ((Ethics/ OR Morals/) AND Decision Making/) OR ("Infidel*" or "affair*") OR ((deception/ OR "Dishonest*") AND (ethical decision making/ OR finance/ OR tax/)) or cheat
- Financial Risks	((Finance/ OR Business Investments/) AND (Risk Perception/ OR Risk Factors/ OR Risk Taking/ OR ("risk*" and "invest*")) OR (Gambling/ OR gambl*)	((personal finance/ OR investment/) AND (risk perception/ OR risk assessment/ OR "risk-taking")) OR (gambling/ or gambl*)	((Financing, Personal/ OR Investments/) AND (Risk Assessment OR "risk-taking" OR "risk perception")) OR (Gambling/ or gambl*)

- Health/ Safety Risk	((alcohol OR drink* OR substance OR drug OR tobacco OR cigarette OR nicotine OR marijuana OR THC OR cannabis OR cocaine OR stimulant OR ecstasy OR MDMA OR heroin OR LSD OR amphetamine OR opiate OR meth*) ADJ (intoxication OR “use” OR abuse OR addiction)) OR ((Motor Traffic Accident/ OR ((road OR car OR motor OR vehicle OR automobile OR motorcycle OR motorbike OR transport) AND (collision OR impact OR crash OR accident OR incident OR injur*))) OR (Safety Belts/ OR Transportation Safety/ OR speeding OR "driving under influence" OR "danger* driving" OR "drink driving" OR "helmet" OR "seatbelt" OR “Reckless driving” OR “driving violation”))	(alcohol abuse/ OR alcohol consumption/ OR drug misuse/ OR "drug use"/ OR ((alcohol OR drink* OR substance OR drug OR tobacco OR cigarette OR nicotine OR marijuana OR THC OR cannabis OR cocaine OR stimulant OR ecstasy OR MDMA OR heroin OR LSD OR amphetamine OR opiate OR meth*) ADJ (intoxication OR “use” OR abuse OR addiction))) OR ((transport accident/ OR traffic accident/ OR ((road OR car OR motor OR vehicle OR automobile OR motorcycle OR motorbike OR transport) AND (collision OR impact OR crash OR accident OR incident OR injur*))) AND (seatbelt/ OR helmet/ or "speeding (driving)"/ OR "drunk* driving" OR "Transportation Safety" OR speeding OR "driving under influence" OR "danger* driving" OR "drink driving" OR "helmet" OR "seatbelt" OR “Reckless driving” OR “driving violation”))	(Alcohols/ OR Alcohol Drinking/ OR Drug Misuse/ OR Alcoholic Intoxication/ OR Substance-Related Disorders/ OR "Alcohol consumption" OR "alcohol harmful use" OR "Alcohol use unspecified" OR "Alcohol abuse" OR ((alcohol OR drink* OR substance OR drug OR tobacco OR cigarette OR nicotine OR marijuana OR THC OR cannabis OR cocaine OR stimulant OR ecstasy OR MDMA OR heroin OR LSD OR amphetamine OR opiate OR meth*) ADJ (intoxication OR “use” OR abuse OR addiction))) OR ((Automobile Driving/ OR Accidents, Traffic/ OR Motor Traffic Accident/ OR ((road OR car OR motor OR vehicle OR automobile OR motorcycle OR motorbike OR transport) AND (collision OR impact OR crash OR accident OR incident OR injur*))) AND (Safety Belts/ OR Transportation Safety/ OR speeding OR "driving under influence" OR "danger* driving" OR "drink driving" OR "helmet" OR “Reckless driving” OR “driving violation” OR Seat Belts/ OR Head Protective Devices/ OR "Driving Under the Influence"/ OR Alcohol Drinking/))

- Recreational Risk	(Recreation/ OR Sports/) OR sport* OR (contact ADJ sport*) OR piloting OR plane OR bungee OR skydiving OR whitewater OR raft* OR ATV OR "all-terrain vehicle" OR ski OR AFL OR footy OR rugby OR ARL OR (camping ADJ2 wilderness) OR “recreation ADJ activit*” OR cheerleading OR MMA OR “martial arts” OR boxing OR soccer OR football OR basketball OR hockey OR judo OR taekwondo OR bjj OR jujitsu	(recreation/ OR sport/) OR sport* OR (contact ADJ sport*) OR piloting OR plane OR bungee OR skydiving OR whitewater OR raft* OR ATV OR "all-terrain vehicle" OR ski OR AFL OR footy OR rugby OR ARL OR (camping ADJ2 wilderness) OR “recreation ADJ activit*” OR cheerleading OR MMA OR “martial arts” OR boxing OR soccer OR football OR basketball OR hockey OR judo OR taekwondo OR bjj OR jujitsu	Sports/ OR Baseball/ OR Basketball/ OR Boxing/ OR Cricket Sport/ OR Football/ OR Gymnastics/ OR Hockey/ OR Martial Arts/ OR Rugby/ OR Skating/ OR Skiing/ OR Team Sports/ OR Wrestling/ OR sport* OR (contact ADJ sport*) OR piloting OR plane OR bungee OR skydiving OR whitewater OR raft* OR ATV OR "all-terrain vehicle" OR ski OR AFL OR footy OR rugby OR ARL OR (camping ADJ2 wilderness) OR “recreation ADJ activit*” OR cheerleading OR MMA OR soccer OR judo OR taekwondo OR bjj OR jujitsu
- Social Risk	Career Change/ or Occupational Choice/ or (Conflict/ and Authority/) or (Housing/ and Extended Family/) or (Conflict/ and (Family/ or Political Attitudes/))	(career mobility/ OR (conflict/ AND authority/) OR (housing/ AND family/)) OR (politics/ AND family/)	(Politics/ AND Family Conflict/) OR (Housing/ AND Extended Family/) OR Career Choice/ OR ("disagree" AND ("authority" OR "friend"))