ANALYZING THE USE OF SHARED RISK AND PROTECTIVE FACTOR LANGUAGE IN MICHIGAN'S INJURY PREVENTION LEGISLATION

A TECHNICAL PACKAGE

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LIST OF ABBREVIATIONS

ACES - Adverse Childhood Experiences
CDC - Centers for Disease Control and Prevention
Core SVIPP - Core State Injury and Violence Prevention Programs
MDHHS - Michigan Department of Health and Human Services
SRPF - Shared Risk and Protective Factors
U-M IPC - University of Michigan Injury Prevention Center
EXECUTIVE SUMMARY

In the first four decades of life, injuries (e.g., motor vehicle crashes, suicide, drug overdoses, traumatic brain injuries, child maltreatment, firearm violence) are the leading cause of death among Americans, ranking higher than other causes like cancer, HIV, or the flu (CDC, 2021a).

From 2016-2021, the CDC Injury Center provided technical assistance and funding to 23 states engaged in injury and violence prevention initiatives through its Core State Violence and Injury Prevention Program (Core SVIPP; Core SVIPP-CE16-1602). The goal of the program was to help states implement, evaluate, and disseminate evidence-based strategies that address the most pressing injury and violence issues of the state including:

- Child abuse and neglect
- Traumatic brain injury
- Motor vehicle crash injury and death
- Intimate partner/sexual violence

The University of Michigan Injury Prevention Center (a CDC-funded Injury Control Research Center) partnered with the Michigan Department of Health and Human Services to evaluate the Michigan Core SVIPP programming. The University of Michigan Injury Prevention Center was tasked with tracking legislation relating to the Michigan Core SVIPP programming, so that stakeholders could have access to a tracking tool and be aware of Michigan state legislation that targeted the Core SVIPP focus areas, with the ultimate goal of enabling stakeholders to meet with policymakers and educate them on the evidence-base of injury prevention work. Additionally, the team evaluated how shared risk and protective factor (SRPF) language was operationalized in the bills and amendments that were tracked for the Core SVIPP legislative analysis.

A shared risk and protective factor (SRPF) approach as described by Safe States acknowledges that risk and protective factors are “interconnected, occur at a range of levels from individual to societal, and influence many health and quality-of-life outcomes” (Safe States, 2021). A SRPF approach is, therefore, invaluable for informing evidence-based strategies that address multiple forms of traditionally siloed injury and violence topic areas. Using this approach to prevent multiple forms of violence and injury simultaneously enables implementation teams to leverage resources and make efficient use of injury and violence funding streams. Additionally, SRPF approaches enable the development of new partnerships, which can support the identification of collaborative opportunities and duplication of efforts, and may allow teams to consider a larger pool of injury and violence prevention strategies.

The Michigan Core SVIPP team and the University of Michigan Injury Prevention Center partnered to develop a technical package that stakeholders could use to analyze the use of SRPF language in legislation introduced in their state. SRPF language is a proxy used to describe whether selected search terms related to shared risk and protective factors that are prioritized by the CDC were present in legislation. This analysis of SRPF language serves as a first step to future analyses to uncover the complex, nuanced role SRPF approaches play in injury and violence prevention legislation.
This legislative analysis is specifically focused on the inextricable interconnections of injury and violence topic areas via shared risk and protective factors (SRPFs). It is grounded in an understanding of resiliency and the buffering effects protective factors have on heightened risk for negative health outcomes, specifically those identified as priority areas by the CDC-sponsored Michigan Core State Violence and Injury Prevention Program (Core SVIPP): 1) child car seats/restraints, 2) abusive child head trauma, and 3) teen dating violence.

The team put forth an examination of the frequency and appropriate use of SRPF language in injury and violence legislation in an effort to advance innovative, evidence-based, and impactful policies.

Results from the Analysis

During the 2017-2018 and 2019-2020 legislative sessions, 9,160 bills/amendments were introduced in the Michigan legislature. Of those, 168 contained at least one of the search terms developed by the team to indicate whether the bill/amendment concerned one of the injury topic areas of the Core SVIPP programming (i.e., child car seat restraints, teen dating violence, or abusive child head trauma). Seventy-two bills/amendments were removed from the sample since they didn’t meet inclusion criteria, leaving 96 bills/amendments in the tracking tool for analysis. Of those 96 bills/amendments in the tracking tool, 8 were removed by the team as the original search term for the injury topic was the same as the search term for the SRPF, and 7 bills/amendments were removed because they flagged for the risk factor “History of Violent Victimization and ACEs”, which the team removed from consideration for analyses. Thus 81 bills/amendments were analyzed to see if they contain SRPF language.

Most bills/amendments (92%) included in the Michigan legislative tracking tool address some form of violence prevention, with the majority of bills/amendments (53%) addressing teen dating violence, followed by abusive child head trauma bills (39%). Bills addressing child passenger restraints accounted for just 8% of all bills/amendments in the Michigan legislative tracking tool.

All bills/amendments were also classified by level of bill/amendment impact. Prevention was the most common level of bill/amendment impact area in the Michigan legislative tracking tool (n=69), followed by social impact (n=42). Post-care (n=12) and treatment (n=3) were less common levels of bill/amendment impact areas. Bills/amendments relating to teen dating violence were less likely than those on abusive child head trauma (p < 0.001) and child car seat restraints (p = 0.027) to focus on prevention.

Of all 96 bills/amendments in the legislative tracking tool, 18% (n=17) were passed and 82% (n=79) were not passed. There were statistically significant differences across the three injury categories in the likelihood of being passed by the Michigan legislature (p = 0.025). Those addressing teen dating violence were more likely to be passed than both those addressing abusive child head trauma (p = 0.046) and car seat restraints. Additionally, treatment-focused bills/amendments were more likely to be passed than post-care (p=0.028).

The Michigan legislative analysis team coded all bills and amendments in the tracking tool for mandates and penalties. The majority of bills/amendments (78%) in the legislative tracking tool contain mandates, but only 37% of all bills/amendments contain penalties. Abusive child head trauma bills/amendments were more likely than teen dating violence (p=0.028) to contain mandates, and treatment focused bills/amendments were less likely to contain mandates than all other levels of impact (p = .0076, .02198, .03946 for prevention, post-care, and social impact, respectively). Bills addressing both abusive child head trauma and child car seat restraint bills/amendments were more likely to contain penalties than bills addressing teen dating violence (both at p<0.001).
The majority (62%, n= 50) of bills/amendments included in the legislative analysis contain SRPF language. The majority of bills/amendments that passed (75%) and bills/amendments that did not pass (58%) also contained SRPF language. Although a larger proportion of bills containing SRPF approaches were passed compared to those without SRPF approaches, this difference was not statistically significant. However, a significantly larger proportion of non-SRPF bills/amendments (55%, n=17) contained penalties than SRPF bills/amendments (24%, n=12; p-value: 0.008).

Teen dating violence bills/amendments were significantly more likely to include SRPF language than abusive child head trauma bills (p-value: 0.015). Although a greater proportion of child car seat restraint bills included SRPF language than bills about abusive child head trauma, this difference was not significant. Additionally, no statistical difference was seen across the proportion of teen dating violence and child restraint bills that contain SRPF language. All of the bills/amendments addressing the treatment level contained SRPF language, while SRPF language was observed in 60%, 59% and 57% of the bills/amendments for post-care, prevention, and social impact, respectively.

Finally, bills and amendments that use SRPF language (n=50) were evaluated using the CDC four-level socio-ecological model. These classifications were not mutually exclusive, and many bills operated at multiple socio-ecological levels. Most bills/amendments operate at the individual level (n=62) followed by relationship (n=54) and community (n=54). Bills/amendments operating at the societal level (n=14) were less common.

Conclusion

The goal of this technical package is to provide an overview of the protocols and results from the Michigan Core SVIPP work, so that it can be replicated by states and other injury prevention providers. This package contains everything an organization would need to replicate this work including a list of search terms, tracking tool templates, and instructions on how to run code to identify bills/amendments of interest, and complete a legislative analysis of SRPF language used in legislation.

This project is believed to be the first of its kind, with the aim that it can be used to create more impactful injury prevention legislation in the future. Future iterations of this project should consider including the following recommendations, to gain further insight into how SRPF language and approaches can impact legislation:

- Expanding the number of injury topics, to further analyze the use of SRPF language in injury prevention legislation.
- Analyzing SRPF approaches in legislation, in addition to SRPF language.
- Reviewing and expanding search terms.
- Analyzing bills/amendments at the three levels of prevention, to provide a better picture of the type of injury prevention programs that are of legislative priority.
- Analyzing shared risk and protective factors based on whether they were risk or protective factors.
- Analyzing not just if a SRPF term is present in legislation, but how often the language is used, and if this affects the outcome of the legislative process.
- Using natural language processing with python codes to ease analysis.
- Analyzing the impact that SRPF legislation has on decreasing injury mortality and morbidity.
- This technical package is an effort to advance innovative, evidence-based, and impactful policies in injury prevention.
BACKGROUND AND PURPOSE OF THE TECHNICAL PACKAGE

Details of Core SVIPP

Injuries—A Significant Public Health Problem
In the first four decades of life, injuries (e.g., motor vehicle crashes, suicide, drug overdoses, traumatic brain injuries, child maltreatment, firearm violence) are the leading cause of death among Americans, ranking higher than other causes like cancer, HIV, or the flu (CDC, 2021a). Deaths from injuries are a component of a larger problem. Each year, millions of people incur debilitating injuries resulting in a sequelae of life-long mental, physical, and financial problems (CDC, 2020). Injuries remain a significant public health concern and are preventable through the implementation of evidence-based interventions and prevention strategies.

Core SVIPP – Empowering States to Save Lives
From 2016-2021, the CDC Injury Center provided technical assistance and funding to 23 states engaged in injury and violence prevention initiatives through its Core State Violence and Injury Prevention Program (Core SVIPP; Core SVIPP- CE16-1602). The goal of the program was to help states implement, evaluate, and disseminate evidence-based strategies that address the most pressing injury and violence issues of the state including:

- Child abuse and neglect
- Traumatic brain injury
- Motor vehicle crash injury and death, and
- Intimate partner/sexual violence

The overall purpose of the Core SVIPP was to decrease injury- and violence-related morbidity and mortality, and increase the sustainability of injury prevention programs and practices.

Funded states included Arizona, Colorado, Georgia, Hawaii, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New York, North Carolina, Oklahoma, Ohio, Oregon, Rhode Island, Tennessee, Utah, Virginia, Washington, and Wisconsin (see Figure 1).
Michigan's Core SVIPP Program

Injuries are the leading cause of death for persons ages 1–49 in Michigan. Michigan received Core SVIPP funding to implement strategies to decrease injuries and violence by implementing evidence-based programs and strategies. Michigan addressed all four Core SVIPP required focus areas using injury prevention strategies, including:

Preventing child abuse and neglect and traumatic brain injury: The Michigan Core SVIPP team partnered with the Children's Trust Fund to implement the Period of Purple Crying, an evidence-based shaken baby syndrome/abusive child head trauma prevention program. The program aims to educate parents about infant crying and promotes healthy parenting coping skills to reduce infant head trauma. The Children's Trust Fund of Michigan has 73 local councils, 34 of which implemented this intervention.

Preventing intimate partner violence/sexual violence: The Michigan Core SVIPP team worked with school-based health centers to implement the evidence-based Safe Dates Program in 12 schools. Safe Dates is designed to prevent emotional, physical, and sexual abuse in adolescent dating relationships.

Preventing motor vehicle crash injury and death: The Michigan Core SVIPP team worked to improve child car seat restraint use for children in Spanish- and Arabic-speaking families. The team trained 16 Spanish- and Arabic-speaking community members as child passenger safety technicians. The child passenger safety technicians provide education on the proper use of child car seat restraint systems and seat belts, and provide hands-on assistance to parents and caregivers identified as being at-risk due to language barriers.

Figure 1: States Receiving Funding through the 2016-2021 Core SVIPP.
Source: https://www.cdc.gov/injury/stateprograms/about.html
Initial Goal of Legislative Tracking

The University of Michigan Injury Prevention Center (a CDC-funded Injury Control Research Center) partnered with the Michigan Department of Health and Human Services to evaluate the Michigan Core SVIPP programming.

As part of the Michigan Core SVIPP programming, MDHHS held quarterly Injury Community Implementation Group (ICIG) meetings that convened stakeholders working on injury prevention in the State of Michigan. The goal of these meetings was to break down silos and create a space for collaboration in injury prevention. Additionally, these meetings were a place to receive feedback on the progress of the Core SVIPP programming. To this end, it became apparent that there was an unmet need in the injury prevention community of tracking injury prevention legislation in Michigan. The University of Michigan Injury Prevention Center was tasked with tracking this legislation, so that stakeholders could have access to a tracking tool and be aware of legislation in Michigan that targeted the Core SVIPP focus areas.

The ultimate goal of tracking injury- and violence-related legislation was to enable stakeholders to meet with policymakers and educate them on the evidence-base of injury prevention work.

Background of SRPF Legislative Analysis

The CDC was additionally interested in the influence that their shared risk and protective factor (SRPF) work was having on state legislation. To evaluate the impact of CDC-funded shared risk and protective factor work, the CDC-funded Michigan Core SVIPP team (housed in the Injury and Violence Prevention Section at the Michigan Department of Health and Human Services) in collaboration with the CDC-funded University of Michigan Injury Prevention Center, met with stakeholders from the CDC Injury Center and policy analysis experts to develop a protocol to evaluate the use of shared risk and protective factor language in the State of Michigan's legislative bills/amendments during the 2017-2018 and 2019-2020 sessions. The University of Michigan Injury Prevention Center was tasked with completing the evaluation on how SRPF language was operationalized in the bills/amendments that were tracked for Core SVIPP.

What are Shared Risk and Protective Factors?

Many injuries share a set of risk and protective factors. Risk factors are things that increase the probability of experiencing injury amongst populations. Some examples of risk factors for violent injury include family conflict, neighborhood poverty, and community violence. Protective factors, on the other hand, are things that decrease the probability of experiencing injury amongst populations. Some examples of protective factors for violent injury include family support/connectedness and access to mental health and substance use disorder services. Shared risk and protective factors can impact the likelihood of injury and violence among populations at different socio-ecological levels: individual, relationship, community, and society. For example, at the individual level, people's experiences and traits such as witnessing violence and having the skills to solve problems non-violently can influence the likelihood of becoming violently injured. At the community level, factors like built environment and accessibility to resources like mental health/health care services can also impact the likelihood of experiencing injury and violence (Wilkins et al., 2014).
Applying a shared risk and protective factor (SRPF) approach to injury prevention strategies and interventions helps promote efficiency and expand the widespread public health impact. In particular, taking a shared risk and protective factor approach allows public health practitioners to expand violence prevention interventions that focus on addressing one form of violence to address multiple kinds by redirecting the focus to preventing and promoting risk and protective factors that are shared across different forms of violence. For example, if community connectedness is a shared protective factor among issues like child maltreatment, youth violence, and suicide prevention, organizations working on addressing these issues can pool their resources to focus on the promotion of community connectedness for a broad impact on violence prevention across populations and communities. This is especially beneficial in helping underfunded programs with limited resources maximize the potential public health impact of their interventions and strategies.

While it is critical for public health practitioners to develop unique interventions that specifically address distinct characteristics of a form of injury, understanding the connections between different forms of injury helps provide the foundation for practitioners to engage in collaborative strategic work within the realm of injury or violence prevention and health promotion. More specifically, taking a shared risk and protective factor approach to injury or violence prevention helps to create the necessary infrastructure for collaboration across multiple sectors and stakeholders, thus potentially expanding the effectiveness of injury and violence prevention interventions.

More information on share risk and protective factors can be found at: https://www.cdc.gov/violenceprevention/pdf/connecting_the_dots-a.pdf

**Goal of the Technical Package**

The goal of this technical package is to provide an overview of the protocols and results from the Michigan Core SVIPP work, so that it can be replicated by states and other injury prevention providers. This package contains everything an organization would need to replicate this work including a list of search terms, tracking tool templates, and instructions on how to run code to identify bills/amendments of interest, and complete a legislative analysis of SRPF language used in legislation.

This project is believed to be the first of its kind, with the aim that it can be used to create more impactful injury prevention legislation in the future.
**Creation of Search Terms**

Since the Michigan Core SVIPP grant focused on the implementation and evaluation of specific injury prevention topic areas (see Michigan’s Core SVIPP Program Section above), the team chose to focus their tracking on bills and amendments that embody three injury prevention topic areas: 1) child car seats/restraints, 2) abusive child head trauma, and 3) teen dating violence (including intimate partner violence and sexual assault).

In order to identify legislation on the three focus areas, the team developed a list of search terms that could be used to flag potential legislation of interest. The key search terms for this project were developed using five methods:

1) The team created a list of terms that related to the three topic areas from their knowledge of the subject matter.

2) A search of the three specified injury and violence topic areas was conducted using the Medical Subject Headings (MeSH) database, which is the National Library of Medicine's controlled vocabulary thesaurus used for indexing articles for PubMed. Once the key MeSH terms were identified, the team decided which of the entry and descendent terms to use in the comprehensive list of keywords.

3) The top 20 (i.e., most cited) peer-reviewed articles on the three topic areas were reviewed in PubMed to identify additional key search terms associated with the three injury and violence prevention topic areas specified.

4) A search was conducted of the Michigan legislature's database of bills and amendments to cross check the list of terms developed from the activities above, and to identify and additional keywords that may appear in the subject of the bills and amendments of interest.

5) An expert review of the final set of key search terms was conducted. Experts from the U-M IPC and MDHHS teams reviewed the list, provided feedback, and a final set of terms was created.

The final list of search terms is written below:
### Table 1. Final List of Search Terms for Core SVIPP Injury Topic Areas

<table>
<thead>
<tr>
<th>Child Car Seats/Restraints</th>
<th>Abusive Child Head Trauma</th>
<th>Teen Dating Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-appropriate restraint</td>
<td>Abuse child</td>
<td>Abuse intimate partner</td>
</tr>
<tr>
<td>Belt seat</td>
<td>Abusive child head trauma</td>
<td>Abuse physical</td>
</tr>
<tr>
<td>Belts seat</td>
<td>Abusive head trauma</td>
<td>Abuse sexual</td>
</tr>
<tr>
<td>Booster seat</td>
<td>Blunt head injuries</td>
<td>Abuses sexual</td>
</tr>
<tr>
<td>Car safety seat</td>
<td>Brain concussion</td>
<td>Adolescent dating abuse</td>
</tr>
<tr>
<td>Car seat</td>
<td>Brain injuries penetrating</td>
<td>Child abuse</td>
</tr>
<tr>
<td>Child car restraint</td>
<td>Brain injury</td>
<td>Child maltreatment</td>
</tr>
<tr>
<td>Child car seat</td>
<td>Child neglect</td>
<td>Child mistreatment</td>
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<td></td>
<td>Closed head injuries</td>
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<td>Cranial trauma penetrating</td>
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<td>penetratig</td>
<td>Penetrating head traumas</td>
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<td>Post-concussion syndrome</td>
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<td>Traumatic brain injury</td>
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<td>Teen dating violence</td>
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<td>Violences sexual</td>
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Software and Programming Used to Identify Bills and Amendments

Using a script written with the data analysis software R, the team used the key search terms to identify the bills and amendments during the 2017-2018 and 2019-2020 session that included language in the three injury and violence prevention injury topic areas. The script includes the capacity to perform a search of the bill/amendment descriptions for the key search terms and outputs a csv file. This file identifies any matches with a green colored cell labeled, TRUE. The script also includes searches for updates comparing the team’s current tracking sheet and the state legislative status sheet to identify changes in the current status of any bills or amendments.

See Appendix A--Core SVIPP Bill/Amendment Search Code Overview, for more detailed information on the code that was developed and executed.

Review of Identified Bills and Amendments

The Michigan Legislature website was a valuable tool for reviewing the bills/amendments. The full text of the bill/amendment, including different versions of the bill/amendment as it progresses through the legislature, were accessed through the Michigan Legislature website (https://www.legislature.mi.gov/). When reviewing bills/amendments, the team focused on the latest version of the bill/amendment, and when reviewing an amendment, reviewed the bolded text (as that was used to indicate what was amended). Any text that was being removed from the bill/amendments was crossed out and was disregarded from the review.

The protocols for reviewing identified bills and amendments were as follows:

1. Once bills and amendments containing the search terms listed above were identified, they were transferred to a spreadsheet where two coders analyzed the bills/amendments to determine whether they were within the scope of this review. This meant reading through the language of the bill/amendment to determine whether it fell under the topic areas of 1) child car seats/restraints, 2) abusive child head trauma, or 3) teen dating violence.

2. Next, the team confirmed that the bill/amendment met inclusion criteria. To set these criteria, the U-M IPC team, in collaboration with MDHHS, met with policy experts and reviewed policy evaluation guidelines to set specific inclusion and exclusion criteria for this analysis. The following protocol was set in place:

- Child Car Seats/Restraints:
  - Inclusion criteria: 1) search terms match, 2) bill/amendment falls within date of analysis, and 3) applies to children that are 8 years old and under.
  - Exclusion criteria: 1) does not apply to children within the appropriate age range of 8 years old and under.

- Abusive child head trauma:
  - Inclusion criteria: 1) search terms match, 2) bill/amendment falls within date of analysis, and 3) applies to children that are 1-year-old and under.
  - Exclusion criteria: 1) does not apply to children within the appropriate age range of under 1-year-old.
  - Example: If the bill/amendment flagged for the term “child abuse,” the team included it under the “child abusive head trauma” topic, unless the age range of 0-1 years was excluded in the bill/amendment.
Teen Dating Violence:
- Inclusion criteria: 1) search terms match, 2) bill/amendment falls within date of analysis, and 3) applies to children/youth that are in the range of 11-18 years (middle and high school children) as both the perpetrator and victim.
- Exclusion criteria: 1) does not apply to children/youth within the appropriate age range of 11-18 years of age.
  - Example: The team did not include child abuse bills/amendments in this category, since these bills/amendments implied that an adult was the perpetrator. The team included sexual assault/violence bills/amendments under the teen dating violence category, unless it is clear that the bill/amendment related to adult perpetrators, or if the bill/amendment excluded teens.
- Of note, if the inclusion age range could be affected by the bill/amendment, but the bill/amendment didn’t specify our age range, the team still included this bill/amendment in our tracking.

3. The team included bills/amendments that focused on all levels of bill/amendment impact including prevention, treatment, post care, and social impacts.

4. In the tracking spreadsheet that was developed, a “notes” column was added to track reasons for exclusion or inclusion, to aid in the process of resolving disputes between the two first coders.

5. If there were any conflicting results among the first two coders, a third coder would review the bills/amendments and resolve any disputes.

6. Bills/amendments to include were highlighted in green, bills/amendments to exclude in red, and any uncertain bills/amendments in yellow. This method of color coding was helpful in organizing decisions and made it easier to identify which items needed further review. See an example of this coding below (Figure 2).

Figure 2. Example of Spreadsheet Used to Review Bills/Amendments

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type</td>
<td>Bill #</td>
<td>Child Restraint</td>
<td>Child Abusive Head Trauma</td>
<td>Teen Dating Violence</td>
<td>Prevention</td>
<td>Treatment</td>
<td>Social Impact General Pop</td>
<td>Children</td>
<td>Comments</td>
</tr>
<tr>
<td>2</td>
<td>House Bill</td>
<td>6036</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>House Bill</td>
<td>6134</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>House Bill</td>
<td>6273</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>House Bill</td>
<td>6274</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>House Bill</td>
<td>6324</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>House Bill</td>
<td>6586</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Senate Bill</td>
<td>764</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Senate Bill</td>
<td>874</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Senate Bill</td>
<td>874</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Senate Bill</td>
<td>880</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Senate Bill</td>
<td>890</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Senate Bill</td>
<td>904</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Senate Bill</td>
<td>904</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Legislative Tracking Tool

Overview

An online legislative tracking tool was created to allow stakeholders to view new bills and amendments as they were introduced to the Michigan legislature and tracked by the legislative analysis team. The tool was set up so that information could be sorted and filtered, allowing users to focus on the legislation that was pertinent to their work.

Using the search terms created for identifying legislation for the three injury area topics under investigation (child car seat restraints, abusive child head trauma, and teen dating violence), the team identified all relevant bills and amendments using the code previously outlined. If a bill/amendment met the inclusion criteria, it was coded and added to the tracking tool. This process was repeated each week to identify any new legislation as it is introduced and to update any movement on bills/amendments that were already in the tracking tool.

The tracking tool contained the following information about each bill/amendment, all of which were found on the Michigan legislature website (https://www.legislature.mi.gov):

- Bill/amendment number and year, including a direct link to the bill/amendment
- Sponsor
- Description/keywords used to identify bill/amendment
- The progression of a bill/amendment through the legislature, including current status
- Injury topic area
- Level of bill/amendment impact (prevention, treatment, post care, social impact)
- Population affected by bill/amendment (general population vs. children only)

Tracking Tool Platform

The tracking tool was housed on Google Sheets, as this platform is broadly accessible, does not require individual logins, and documents when the page was last updated. A copy of the Tracking Tool for this project can be found here: https://bit.ly/36uMGfN and a screenshot is shown below (Figure 3).

Figure 3. Screenshot of the Legislative Tracking Tool
When creating a tool like this, it is important for the creator to adjust the sharing settings so that the tracking tool can be viewable by stakeholders/the public but cannot be edited. This means that those who visit the page should have “view only” permissions, which will prevent any accidental or unauthorized changes to the tracking tool.

A template of the tracking tool, that can be adapted by other states and stakeholders can be found at https://bit.ly/3yQ8WwU

**Updating the Legislative Tracking Tool**

To ensure the most up-to-date information was presented in the tool, it was updated on a weekly basis. Those responsible for editing the page are given individual editing rights on Google Sheets, allowing them to add new bills/amendments and make changes as needed. To further organize the bills/amendment, separate sections were made for House Bills/amendments and Senate Bills/amendments.

Guidelines on how to fill out each column of the tracking tool are listed below:

**Document:** Add the bill/amendment name and year to the tracking tool and include a link to the bill/amendment.

**Sponsor:** List the sponsor of a bill/amendment. For bills/amendments with multiple sponsors, the primary sponsor can be listed followed by “et al.” to be concise. The primary sponsor is typically the first sponsor listed on the bill/amendment. This information is documented at the beginning of the bill/amendment and can also be found on the legislature website.

**Description:** A summary of the bill/amendment, including relevant keywords, can also be found on this website under the “categories” section (see Figure 4). This can be added to the description column and gives users a quick snapshot of the bill/amendment without having to read through the entire text.

**Figure 4. Screenshot of information for a Bill/Amendment from the Michigan Legislature’s website, including the sponsors and description.**

- **House Bill 4108 (2019)**
  - Friendly link

**Sponsors**
- Roger Hauck (district 99)
- Beth Griffin, Jim Ellison, Jeff Yaroch, John Chirkun, Larry Inman, Sheryl Kennedy

**Categories**
- Children: protection; Children: child abuse or child neglect; Health occupations: physical therapists; Health occupations: physical therapist assistants;
- Children: protection; mandatory reporting requirements for child abuse or child neglect; expand to include physical therapist and physical therapist assistant. Amends sec. 3 of 1975 PA 238 (MCL 722.623).
Progression Through the Legislature (committee approval, initial passage, final passage, & current status): To fill out the columns related to bill/amendment progression and status, there is a section entitled “history” on the legislature website that includes dates and corresponding actions that take place during the life of the bill/amendment (See Figure 5). Checking the history section will let you know which actions have taken place (committee approval, initial passage, final passage) and whether it was a Senate action or a House action. Looking at the most recent date listed will provide the status of the bill/amendment.

**Figure 5.** Screenshot of the History of a bill/amendment that can be used to determine the actions that take place during the life of a bill.

<table>
<thead>
<tr>
<th>Date</th>
<th>Journal</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/26/2019</td>
<td>HJ 65 P.</td>
<td>introduced by Representative Bronna Kahle</td>
</tr>
<tr>
<td>6/26/2019</td>
<td>HJ 65 P.</td>
<td>read a first time</td>
</tr>
<tr>
<td>6/26/2019</td>
<td>HJ 65 P.</td>
<td>referred to Committee on Families, Children, and Seniors</td>
</tr>
<tr>
<td>7/2/2019</td>
<td>HJ 66 P.</td>
<td>bill electronically reproduced 06/26/2019</td>
</tr>
<tr>
<td>6/17/2020</td>
<td>HJ 55 P.</td>
<td>referred to Committee on Judiciary, with substitute (H-1)</td>
</tr>
</tbody>
</table>

Public Law: If the status of the bill/amendment shows that it has become public law, the name of the law can be added with a link to the finalized text. Otherwise, this section can be left blank (see Figure 6).

**Figure 6.** Determining whether the bill/amendment has become public law.

Injury Topic Area: Injury topic area can be selected based on initial analysis and categorization of the bill/amendment (i.e., Abusive Child Head Trauma, Teen Dating Violence, Child Car Seat Restraints).

Level of Bill/Amendment Impact: Bills/amendments can be further categorized by the level of bill/amendment impact: prevention, treatment, post-care, and social impact. Two coders may also be needed here to compare results and a third coder may be needed to resolve any disputes. The team defined the categories as follows:

Prevention – bills/amendments that take action to prevent injury (can be primary, secondary or tertiary prevention)
• Primary prevention—those preventive measures that prevent the onset of injury

• Secondary prevention—those preventive measures that minimize the severity of the injuries that occur, or work to avoid them happening again

• Tertiary prevention—those preventive measures aimed at reducing or eliminating long-term impairment and disabilities from injury and minimize suffering

E.g., A bill/amendment that requires seat belts on new school buses is an example of a preventative measure taken to prevent or reduce injury in the event of an accident.

**Treatment** – bills/amendments that support the treatment of a specific injury

E.g., A bill/amendment outlining the use of expenditures for a sexual assault treatment fund would fall under the treatment category.

**Post-Care** – bills/amendments that address the needs and care of people after they have experienced injury or violence

E.g., A bill/amendment that encourages Congress to address the unique needs of domestic violence survivors in the next phase of stimulus funding would be an example of post-care.

**Social Impact** – bills/amendments that affect the social climate/environment of either an individual or the community at large

E.g., A bill/amendment that declares Sexual Assault Awareness Month changes the social climate of the community at large by increasing awareness of sexual assault. A bill/amendment that changes the social environment of an individual could be a bill/amendment that creates a child abuse offender registry, because it would affect where people on the registry can live, work, etc.

Some bills/amendments may fall under more than one of these categories.

**Population Affected by Bill/Amendment:** This section notes whether the bill/amendment impacts children only, or the general population. Reading through the bill/amendment will allow the analyst to determine who is affected by the bill/amendment.

For example, a bill/amendment that changes school curriculum to include education on sexual violence and dating violence would impact children since they are the ones receiving the education, while a bill/amendment outlining sick leave for stalking victims impacts the population as a whole.

**Using the Tracking Tool**

Those who use the tool are able to filter through the different categories and descriptors to view the legislation that is most relevant to them.

To filter:

1. Highlight the row with the column headings by clicking on the number 4
2. Select: Data > Filter views > Create new temporary filter view

3. Select the arrow next to the column label that you wish to focus on. Check or uncheck the descriptors you are interested in and click OK. The spreadsheet will now only show what you have selected.
<table>
<thead>
<tr>
<th>Document</th>
<th>Sponsor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB 4071 of 2017</td>
<td>Klint Keesto</td>
<td>Criminal procedure; bail, detention and denial of bail after certain convictions but before sentencing; expand to include child abuse. Amends sec. 9a, ch. X of 1927 PA 179 (MCL 770.9a).</td>
</tr>
<tr>
<td>HB 4108 of 2017</td>
<td>Roger Hauck (primary), et al.</td>
<td>Children; protection; mandatory reporting requirements for child abuse or child neglect; expand to include physical therapist and physical therapist assistant. Amends sec. 3 of 1975 PA 230 (MCL 722.623).</td>
</tr>
<tr>
<td>HB 4180 of 2017</td>
<td>Sheldon Reekly</td>
<td>Family law; domestic violence; reference to family independence agency in a certain act; revise to department of health and human services. Amends title 5, sec. 1 of 1978 PA 389 (MCL 400.1501).</td>
</tr>
</tbody>
</table>
SHARED RISK & PROTECTIVE FACTOR (SRPF) WORK

Shared risk and protective factor (SRPF) approaches inform evidence-based strategies to address multiple forms of traditionally siloed injury and violence topic areas. A SRPF approach to injury and violence prevention has the benefit of preventing multiple forms of violence and injury simultaneously, enabling implementation teams to leverage resources and make efficient use of injury and violence funding streams. Additionally, SRPF approaches enable the development of new partnerships, which can enable the identification of collaborative opportunities and duplication of efforts. SRPF approaches can enable teams to consider a larger pool of injury and violence prevention strategies. For these reasons, the Michigan Core SVIPP team and the University of Michigan Injury Prevention Center partnered to analyze the use of SRPF language in legislation introduced in their state. This legislative analysis is specifically focused on the inextricable interconnections of traditionally siloed injury and violence topic areas via shared risk and protective factors (SRPFs). It is grounded in an understanding of resiliency and the buffering effects protective factors have on heightened risk for negative health outcomes, specifically those identified as priority areas by the CDC-sponsored Michigan Core State Violence and Injury Prevention Program (Core SVIPP): 1) child car seats/restraints, 2) abusive child head trauma, and 3) teen dating violence. The team put forth an examination of the frequency and appropriate use of SRPF language in injury and violence legislation in an effort to advance innovative, evidence-based, and impactful policies. This section of the technical package gives an overview of the protocols the team used to analyze share risk and protective factor language used in Michigan legislation.

Keyword Development

In order to identify SRPF language in the identified bills/amendments in the tracking tool, the team developed a list of search terms that could be used to flag potential legislation of interest. To do this, shared risk and protective factors (SRPFs) were defined for the three injury area topics under investigation. SRPFs were identified using information from the CDC (e.g., Connecting the Dots) and in published literature. See Table 2.

Table 2: List of Shared Risk and Protective Factors by Injury Topic

<table>
<thead>
<tr>
<th>Societal</th>
<th>Child Car Seats/Restraints</th>
<th>Abusive Child Head Trauma</th>
<th>Teen Dating Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural norms that support aggression toward others</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Media violence</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Societal income inequality</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Weak health, educational, economic, and social policies/laws</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Harmful norms around masculinity and femininity</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Community</td>
<td>Child Car Seats/Restraints</td>
<td>Abusive Child Head Trauma</td>
<td>Teen Dating Violence</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Neighborhood poverty</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>High alcohol outlet density</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Community violence</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Diminished economic opportunities/high unemployment rates</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poor neighborhood support and cohesion</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Built environment</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Child Car Seats/Restraints</th>
<th>Abusive Child Head Trauma</th>
<th>Teen Dating Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social isolation/Lack of support</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poor parent-child relationships</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Family conflict</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Economic Stress</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Association with delinquent peers</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Gang involvement</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Individual</th>
<th>Child Car Seats/Restraints</th>
<th>Abusive Child Head Trauma</th>
<th>Teen Dating Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low educational achievement</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of non-violent problem-solving skills</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poor behavioral control/Impulsiveness</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>History of violent victimization and ACEs</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Witnessing violence</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Psychological/mental health problems</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Substance use</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Impaired driving</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Distracted driving</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Language barriers</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Medication adverse effects and misuse</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Motor vehicle crash</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Large number of dependent children</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Child has special needs that may increase caregiver burden (e.g., disabilities, mental health issues, chronic physical illness)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Nonbiological, transient caregivers in the home (e.g., mother’s male partner) &times;

Parents’ lack of understanding of children’s needs, child development and parenting skills &times; &times;

Parental stress &times;

Parental thoughts and emotions that tend to support or justify maltreatment behaviors &times;

Single parenthood &times;

Young parental age &times;

<table>
<thead>
<tr>
<th>Protective Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community</strong></td>
</tr>
<tr>
<td>Coordination of resources and services among community agencies</td>
</tr>
<tr>
<td>Access to mental health and substance use disorder services</td>
</tr>
<tr>
<td>Community support and connectedness</td>
</tr>
<tr>
<td>Access to health care and social services</td>
</tr>
<tr>
<td>Adequate housing</td>
</tr>
<tr>
<td>Communities that support parents and take responsibility for preventing abuse</td>
</tr>
<tr>
<td>Concrete support for basic needs</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
</tr>
<tr>
<td>Family support and connectedness</td>
</tr>
<tr>
<td>Connection to a caring adult</td>
</tr>
<tr>
<td>Association with prosocial peers</td>
</tr>
<tr>
<td>Connection/commitment to school</td>
</tr>
<tr>
<td>Bystander intervention skills</td>
</tr>
<tr>
<td>Caring adults outside the family who can serve as role models or mentors</td>
</tr>
<tr>
<td>Household rules and child monitoring</td>
</tr>
<tr>
<td><strong>Individual</strong></td>
</tr>
<tr>
<td>Skills in solving problems non-violently</td>
</tr>
<tr>
<td>Proper child safety seat use</td>
</tr>
<tr>
<td>Seat belt use</td>
</tr>
<tr>
<td>Parental employment</td>
</tr>
</tbody>
</table>
Search terms for the SRPFs were then developed using previously defined search terms for SRPFs provided by the CDC, and all additional search terms were developed by a team of experts from the U-M IPC and MDHHS using the protocol developed for identifying search terms for the tracking tool (see Creation of Search Terms above).

A copy of the final list of search terms for SRPFs is included in Appendix B.

**Software and Programming Used to Identify Bills and Amendments with SRPF Language**

Using a script written with the data analysis software R, the team used the key search terms to identify the bills and amendments during the 2017-2018 and 2019-2020 session that included SRPF keywords. Unlike the search done to identify bills/amendments for the tracking tool, the search for SRPF keywords was done in the full text of the bill/amendment rather than in the description. See Appendix C--Core SVIPP Bill/Amendment Content Search for SRPF Overview, for more detailed information on the code that was developed and executed.

**Review of Identified Bills and Amendments**

Two coders reviewed the results according to the inclusion and exclusion criteria, with a third coder to resolve disputes (see Figure 7). The team completed multiple iterations of this process to review, discuss, and determine the inclusion/exclusion of each instance in which a SRPF keyword was flagged in a bill/amendment. The analysis team determined whether a SRPF term was “correctly used,” meaning the flagged term was accurately representing the associated risk factor or protective factor (e.g., if the term “therapist” was flagged for the protective factor “access to mental health care” in a bill/amendment and the language indicated provisioning resources to dating violence victims seeking mental health care, the determination would be “include”). This process informed the formalization of inclusion and exclusion criteria for bills/amendments containing SRPF keywords. The following criteria were used to determine whether a bill/amendment should be considered for SRPF analysis:

- Must be acting at the correct socio-ecological level as indicated in Table 2
- Exclude any instances where the search term has been stricken or removed from the bill/amendment

*Figure 7. Screenshot of Reviewing Bills/Amendments for SRPF language*
During the iterative SRPF inclusion/exclusion criteria development, the team encountered several instances of falsely flagged keyword terms, which informed keyword refinement. For example:

- “anger” was removed as a search term for Psychological/Mental Health Problems because it only ever flagged in “danger”
- The team changed “counselor” to “counsel” to capture counsel counseling, and counselor
- For economic stress, the team added “employ” and “job”

A detailed table of inclusion/exclusion examples is provided in **APPENDIX D**.
ANALYSIS

The following section outlines the analysis that was conducted on this project, including evaluation questions, definitions of terms, and details on the data analysis that was conducted. The evaluation of this project was conducted in two stages: the evaluation of bills/amendments in the tracking tool, and the evaluation of SRPF use in those bills/amendments.

Evaluation of Bills/Amendments in the Tracking Tool

The team selected the following evaluation questions for the bills/amendments that were included in this analysis:

- How many of the bills/amendments were passed, and what injury topics were most likely to be passed?
- How many of the bills/amendments contain mandates, and what injury topics were most likely to contain mandates?
- How many of the bills/amendments contain penalties, and what injury topics were most likely to contain penalties?

The analysis of whether a bill/amendment passed was conducted using information on the bill/amendment’s progression through the legislature. Bills/amendments that passed included bills/amendments that became public law or where a resolution was adopted. Bills/amendments that were referred to committees, recommended in the Senate or House, and electronically reproduced were considered not passed.

Mandates were defined as language that legally requires action from one party. For instance, a bill/amendment that legally requires teachers to report child abuse or requires car seat technicians to take a training course is an example of a mandate related to injury prevention. Penalties were defined as any penalty enforced for not following a mandate or new legislation that could result in a loss of licensure, imprisonment, fines, increased liability risk, etc.

Coding of mandates and penalties were conducted using a similar protocol previously described. Once inclusion and exclusion criteria were drafted, all bills/amendments in the legislative tracking tool were transferred to a spreadsheet where two coders analyzed the bills/amendments to determine whether they contained mandates or penalties. If there were any conflicting results, a third coder would step in to review the bill/amendments and resolve the dispute. Coding for mandates and penalties was an iterative process due to the complex language in the bills/amendments. Specific examples of included bills/amendments by mandates and penalties are listed in Table 3. Bills/amendments that contained a mandate or penalty were highlighted in green, bills/amendments to exclude in red and any uncertain bills/amendments in yellow in their respective column (see Figure 8).
### Table 3. Specific Examples of Included Bills/Amendments by Mandates and Penalties

<table>
<thead>
<tr>
<th>Mandates</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mandate is defined as any legislation that legally requires action from one party</td>
<td>A penalty is defined as any bill/amendments that includes a penalty for not following a mandate or new legislation (e.g., monetary fines, incarceration or imprisonment)</td>
</tr>
<tr>
<td>Include bills/amendments that use the words “shall” “must” “require” “will” or any other compulsory language</td>
<td>Include bills/amendments with a penalty resulting in loss of licensure or inability to gain a certificate</td>
</tr>
<tr>
<td>○ E.g., HB 6283 of 2020 is an amendment to the child protection law that changes all “shall” language to “must” in regards to mandatory reporting</td>
<td>Include bills/amendments with any penalty involving</td>
</tr>
<tr>
<td></td>
<td>Include bills/amendments that are enforceable through a penalty</td>
</tr>
<tr>
<td>○ E.g. SB 0029 of 2019 is an amendment to the penal code</td>
<td>Include bills/amendments where violation is regarded as a civil infraction</td>
</tr>
<tr>
<td>Include bills/amendments surrounding programs that are contingent on funding</td>
<td>Include bills/amendments for code of criminal procedure including those that contain sentencing guidelines such as statutory maximums, or failure to register as a child abuse offender</td>
</tr>
<tr>
<td>Include bills/amendments regarding unemployment compensation or paid leave</td>
<td></td>
</tr>
</tbody>
</table>
Evaluation of SRPF Use in Bills/Amendments Identified in the Tracking Tool

After the evaluation of bills/amendments included in the tracking tool, the team evaluated the use of shared risk and protective factor language used in these bills/amendments. The team developed the following evaluation questions to aid in the organization of the analysis:

- **How many of the bills/amendments used shared risk and protective factor language?**
- **What injury topics were most likely to contain SRPFs?**
- **Did the inclusion of SRPFs correlate to differences in passage, mandates, or penalties?**
- **At what socio-ecological level did the SRPF intervene?**

The analysis team evaluated bills/amendments for appropriate use of shared risk and protective factors. Appropriate use means that within the context of the bill/amendment, the flagged search term is used in a way that is intended to result in an expected increased or decreased risk for violence or injury. For the purposes of this analysis, the team reviewed each appearance of a search term in a bill/amendment, and if at least one of those times was used in the correct way, then that search term was coded as positive for SRPF language (see Shared Risk and Protective Factor, Inclusion & Exclusion section). When conducting the analysis, the team made an executive decision to exclude all SRPF search terms that were a duplicate with the search term used to flag the identified bill/amendment. For example, if a bill/amendment was flagged to be included in the tracking tool because it contained the term “child abuse”, the term “child abuse” could not be used as a SRPF term in that bill/amendment. That is to say, the team removed all incidences where the injury outcome term (e.g., “child abuse”) that flagged the bill/amendment for inclusion in the tracking tool, was also a flagged term for SRPF in the same bill/amendment. Additionally, the team removed all SRPF terms relating to “History of violent victimization and ACEs” as these search terms were not operationalizable in legislation that was referencing current status and experiences.

SRPFs were categorized using CDC four-level socio-ecological model (see Figure 9). The model considers the complex and nuanced role that individual, relationship, community, and societal factors play in increasing risk for violence and injury, or protecting people from experiencing injury or perpetrating violence (CDC, 2021b).
**Individual** – defined as biological and personal factors (e.g., non-violent conflict resolution, safe dating and healthy relationship skills). Some of these individual risk and protective factors from our analysis are parental employment, seat belt use, poor behavior control/impulsiveness, low educational achievement, and mental health problems.

**Relationship** – defined as close relationships with partners, family members, close social circle peers that may increase or decrease the likelihood of experiencing violence. Some factors that this level encompasses are association with prosocial peers, bystander intervention skills, family conflict and social isolation.

**Community** – defined as organizations and systems, such as schools, workplaces, and faith institutions, that shape a population's risk for experiencing violence. Some of these factors include access to health care and social services, community support and connectedness, coordination of resources and services, poor neighborhood support and cohesion, and high unemployment rates.

**Societal** – defined as broad societal factors that shape the climate in which violence is prevented or encouraged, which include social and cultural norms and health, economic, educational, and social policies that support violence. Some factors from our analysis are cultural norms that support aggression and harmful norms around masculinity and femininity.

*Figure 9. SRPFs included in analysis mapped to the socio-ecological model*
Shared risk and protective factors can affect entire communities; they occur in interactions with peers and partners, within organizations like schools and workplaces, or in the broader context of society. The socio-ecological model provides clarity on how these factors act across multiple levels to influence violence. The interplay of factors is evident in our analysis as a single bill/amendment could be categorized as addressing multiple levels. Applying the socio-ecological model to injury prevention legislation is sustainable and has the potential to achieve population-level impact (CDC, 2021b).

Data Analysis Using Excel, Matrices, Pivot Tables

Descriptive statistics and exploratory analysis were conducted in Microsoft Excel. The team established a matrix of counts of bills and amendments by classifications including socio-ecological model level, bill/amendment status (passed/not passed), level of bill/amendment impact (see Figure 10), and population, all stratified by risk topic. Counts of bills/amendments by these classifications were generated using pivot tables. Most descriptive data analysis (e.g., tables and matrix with counts of bills/amendments, see Figure 11) and all data visualizations were conducted in Excel. For instance, the team filtered all bills/amendments (n=81) by inclusion for SRPF analysis before further filtering bills/amendments into the level of bill/amendment impact classifications (see Figure 12 below). This way, the team was able to generate counts specific to various cross-sections of the legislative data. Pairwise tests were used to evaluate differences between groups.

**Figure 10. Level of Bill/Amendment Impact Matrix (n=96) using counts of bills/amendments**

<table>
<thead>
<tr>
<th>Total N Bills</th>
<th>Passed</th>
<th>Mandates</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>69</td>
<td>13</td>
<td>57</td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Post-Care</td>
<td>12</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Social Impact</td>
<td>42</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>17</td>
<td>75</td>
</tr>
</tbody>
</table>

Note. Categories are not mutually exclusive. Some bills/amendments address multiple levels of impact.

**Figure 11. Injury Topic Matrix (n=81) for shared risk and protective factor analysis using counts of bills/amendments**

<table>
<thead>
<tr>
<th>Abusive child head</th>
<th>Total N Bills</th>
<th>Individual</th>
<th>Relationship</th>
<th>Community</th>
<th>Societal</th>
<th>Risk</th>
<th>Protective</th>
<th>Passed</th>
<th>Prevention</th>
<th>Treatment</th>
<th>Post-care</th>
<th>Social impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td></td>
<td>29</td>
<td>25</td>
<td>25</td>
<td>20</td>
<td>2</td>
<td>28</td>
<td>20</td>
<td>27</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>SRPF Used</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No SRPFs used</td>
<td>17</td>
<td>22</td>
<td>24</td>
<td>10</td>
<td>2</td>
<td>25</td>
<td>10</td>
<td>1</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Child restraints</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SRPF Used</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No SRPFs used</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teen dating violence</td>
<td>45</td>
<td>30</td>
<td>29</td>
<td>29</td>
<td>12</td>
<td>12</td>
<td>39</td>
<td>32</td>
<td>13</td>
<td>23</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>SRPF Used</td>
<td>32</td>
<td>24</td>
<td>19</td>
<td>22</td>
<td>2</td>
<td>28</td>
<td>26</td>
<td>11</td>
<td>17</td>
<td>2</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>No SRPFs used</td>
<td>13</td>
<td>6</td>
<td>10</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>62</td>
<td>55</td>
<td>54</td>
<td>14</td>
<td>14</td>
<td>73</td>
<td>59</td>
<td>15</td>
<td>58</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>SRPF Used</td>
<td>50</td>
<td>33</td>
<td>20</td>
<td>32</td>
<td>8</td>
<td>8</td>
<td>35</td>
<td>42</td>
<td>12</td>
<td>34</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>No SRPFs used</td>
<td>31</td>
<td>29</td>
<td>34</td>
<td>22</td>
<td>6</td>
<td>6</td>
<td>38</td>
<td>17</td>
<td>3</td>
<td>24</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Key:
- Out of ALL bills
- Bills that contain SRPF
- Bills that DO NOT contain SRPF

Note. Counts of mandates and penalties are not pictured.
**Figure 12.** Pivot table of bills/amendments filtered by inclusion in SRPF analysis, sorted by injury type

<table>
<thead>
<tr>
<th>SRPF (Y/N)</th>
<th>Y</th>
<th></th>
</tr>
</thead>
</table>

**Row Labels**

- **Abusive child head trauma**
  - HB 4108 of 2019
  - HB 4376 of 2019
  - HB 4441 of 2017
  - HB 4705 of 2019
  - HB 4707 of 2019
  - HB 4783 of 2019
  - HB 4877 of 2017
  - HB 5444 of 2018
  - HB 5541 of 2018
  - HB 6283 of 2020
  - HR 0058 of 2019
  - SB 0780 of 2020

- **Child restraints**
  - HB 4600 of 2019
  - HB 4617 of 2019
  - HB 4618 of 2019
  - HB 4951 of 2017
  - SB 0089 of 2019
  - SB 0318 of 2019

- **Teen dating violence**
  - HB 4026 of 2017
  - HB 4195 of 2019
  - HB 4505 of 2017
  - HB 4506 of 2017
  - HB 4975 of 2017
  - HB 5055 of 2019
  - HB 5106 of 2019
  - HB 5155 of 2019
  - HB 5156 of 2019
  - HB 5248 of 2017
RESULTS

Summary of Findings

The Michigan legislative tracking tool contains information about all legislation from the 2017 – 2018 and 2019 – 2020 legislative sessions addressing the Michigan Core Injury & Violence Prevention Program injury topic areas: 1) Teen dating violence, including intimate partner violence and sexual assault, 2) Abusive child head trauma, and 3) Child passenger safety restraints. The legislative analysis team conducted analyses of bills/amendments in two distinct phases, the first to establish the legislative tracking tool, and the second to identify the use of shared risk and protective factors (SRPF) language in the legislation tracked. Results are presented by phase.

Phase 1 - Legislative Tracking Tool
During the 2017-2018 legislative sessions, 9,160 bills/amendments were introduced in the Michigan legislature. Of those, 168 contained at least one of the search terms developed by the team to indicate whether the bill/amendment concerned one of the injury topic areas of the Core SVIPP programming (i.e., child car seat restraints, teen dating violence, or abusive child head trauma). Seventy-two bills/amendments were removed from the sample since they didn't meet inclusion criteria (see Review of Identified Bills and Amendments), leaving 96 bills/amendments in the tracking tool for analysis.

Phase 2 - Analysis of Shared Risk and Protective Factors Language in Legislation
Of those 96 bills/amendments in the tracking tool, 8 were removed by the team as the original search term for the injury topic was the same as the search term for the SRPF, and 7 bills/amendments were removed because they flagged for the SRPF “History of Violent Victimization and ACEs.” Thus 81 bills/amendments were analyzed to see if they contain SRPF language. A flowchart of the project is outlined in Figure 13.
Figure 13. Flowchart of bills/amendments included in analyses
Results from the Evaluation of Bills/Amendments in the Tracking Tool

Overview. The Michigan legislative tracking tool contains information on a total of 96 legislative bills/amendments from the 2017-2018 and 2019-2020 legislative sessions that address the Michigan Core Injury & Violence Prevention Program injury topic areas. Most bills/amendments (92%) included in the Michigan legislative tracking tool address some form of violence prevention, with the majority of bills/amendments (53%) addressing teen dating violence, followed by abusive child head trauma bills (39%). Bills addressing child passenger restraints only accounted for 8% of all bills/amendments in the Michigan legislative tracking tool (Figure 14). There were no bills/amendments categorized as addressing multiple injury topics.

Figure 14. Bills/amendments included in legislative tracking tool by injury topic (n=96)

All bills/amendments were also classified by the level of bill/amendment impact, including treatment, post-care, social impact, and prevention. Some bills/amendments fell under more than one of these categories (e.g., HB 4385 of 2017 is classified as prevention and social impact because it aims to change the social environment by requiring individuals to register under a child abuse offender registry and addresses the injury before it occurs). Analyzing the level of impact in Michigan legislation may provide insight into the injury-prevention program strategies and priorities in the legislature. Prevention was the most common level of bill/amendment impact area in the Michigan legislative tracking tool (n=69), followed by social impact (n=42). Post-care (n=12) and treatment (n=3) were less common levels of bill/amendment impact areas (Figure 15).
The Michigan legislative analysis team also found it valuable to quantify bills/amendments by level of bill/amendment impact across the three Core SVIPP injury topics (Figure 16). Of the 51 bills/amendments in the legislative tracking tool on teen dating violence, 26 were focused on prevention, 29 were focused on social impact, 11 were focused on post care and only 3 focused on treatment (which accounts for all bills/amendments in the tracking tool categorized as treatment). Of the 37 bills/amendments in the legislative tracking tool on abusive child head trauma, 35 were focused on prevention, 13 were focused on social impact issues and 1 was focused on post care. Of the 8 bills/amendments in the legislative tracking tool on child car seat restraint, all 8 were focused on prevention. There were statistically significant differences across the three injury areas in the likelihood of being focused on prevention (p < 0.001). Specifically, bills/amendments relating to teen dating violence were less likely than those on abusive child head trauma (p < 0.001 ) and child car seats restraints (p = 0.027) to focus on prevention.
**Figure 16.** Bills/amendments included in legislative tracking tool by level of bill/amendment impact, across injury topics (n=96)

![Bar chart showing the distribution of bills/amendments by impact level for Teen Dating Violence, Abusive Child Head Trauma, and Child Car Sear Restraints.]

Note. Categories are not mutually exclusive. Some bills address multiple levels of impact.

**Passage.** The Michigan Core SVIPP legislative tracking tool contains information about the progression of bills and amendments through the legislature. Bills/amendments that passed include those that became public law or with adopted resolutions. Bills/amendments that did not pass include bills that were electronically reproduced or referred to House and Senate committees. Of all 96 bills/amendments in the legislative tracking tool, 18% (n=17) passed and 82% (n=79) did not pass (Figure 17).

**Figure 17.** Bills/amendments included in the legislative tracking tool by passage (n=96)

![Pie chart showing the distribution of passed and not passed bills/amendments.]

- Passed: 18% (n=17)
- Not Passed: 82% (n=79)
Of the 51 bills/amendments categorized as teen dating violence, 27% (n=14) passed, while only 8% (n=3) of bills/amendments categorized as abusive child head trauma passed. None of the 8 bills/amendments categorized as child car seat restraints passed (Figure 18). There were statistically significant differences across the three injury categories in the likelihood of being passed (p = 0.025). Those on teen dating violence were more likely than both those on abusive child head trauma (p = 0.046) and car seat restraints to pass.

Figure 18. Bills/amendments included in the legislative tracking tool by passage, across injury topics (n=96)

![Figure 18](image)

The level of bill/amendment impact with the highest proportion of bills/amendments that passed were treatment (67%, n=2), followed by social impact (26%, n=11), and prevention (19%, n=13). None of the 12 bills/amendments that were focused on post-care passed (Figure 19). There were statistically significant differences across the four levels of impact in the likelihood of being passed (p = 0.048). Treatment focused bills/amendments were more likely than post-care to be passed (p=0.028).

Figure 19. Bills/amendments in the legislative tracking tool by passage, across level of bill/amendment impact areas (n=96)

![Figure 19](image)
Mandates and Penalties. The Michigan legislative analysis team coded all bills and amendments in the tracking tool for mandates and penalties. A bill/amendment was coded as containing a mandate if the legislation legally required action from one party. The majority of bills/amendments (78%) in the legislative tracking tool contain mandates, but only 37% of all bills/amendments contain penalties (Figure 20). The team found that all bills/amendments that contain penalties also contain mandates. Of the bills/amendments that contain mandates, nearly half (n=36) of those bills also contain penalties. This indicates that compulsory language (e.g., shall, must, require) rather than punitive language may be more common in legislature.

Figure 20. Bills/amendments in legislative tracking tool by mandates (left) and penalties (right) (n=96).

The majority of teen dating violence (67%, n=34) and abusive child head trauma (89%, n=33) bills/amendments contain mandates, while all of the 8 bills/amendments addressing child car seat restraints contain mandates (Figure 21). There were statistically significant differences across the three injury topic areas in regards to the likelihood of bills/amendments on this topic containing a mandate (p = 0.012), and abusive child head trauma bills/amendments were more likely than teen dating violence (p=0.028) to contain mandates.

Figure 21. Bills/amendments in legislative tracking tool by mandates, across injury topics (n=96).
The level of bill/amendment impact with the highest proportion mandates were prevention (83%, n=57) and post-care (83%, n=10) bills and amendments, followed by social impact (69%, n=29). None of the 3 bills/amendments that were focused on treatment contained mandates (Figure 22). There were statistically significant differences across the four levels in terms of the likelihood of containing mandates (p=0.005). Treatment focused bills/amendments was less likely than all the others (p=.0076, .02198, .03946 for prevention, post-care, and social impact respectively) to have a mandate.

**Figure 22. Bills/amendments in legislative tracking tool by mandates, across level of bill/amendment impact areas (n=96)**

<table>
<thead>
<tr>
<th>Area</th>
<th>No Mandates</th>
<th>Contain Mandates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>57</td>
<td>12</td>
</tr>
<tr>
<td>Social Impact</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>Post-care</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Treatment</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

The majority of child car seat restraint (88%, n=7) and abusive child head trauma (54%, n=20) bills/amendments contain penalties, while only 18% (n=9) of bills/amendments addressing teen dating violence contain penalties (Figure 23). There were statistically significant differences across the three injury topics in terms of the likelihood of bills/amendments containing penalties (p < 0.001). Abusive child head trauma bills/amendments were more likely than teen dating violence (p<0.001) to contain penalties, and child car seat restraint bills/amendments were more likely than teen dating violence (p<0.001) bills/amendments to contain penalties.

**Figure 23. Bills/amendments in legislative tracking tool by penalties, across injury topics (n=96)**

<table>
<thead>
<tr>
<th>Injury Topic</th>
<th>Contain Penalties</th>
<th>No Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teen Dating Violence</td>
<td>9</td>
<td>42</td>
</tr>
<tr>
<td>Abusive Child Head Trauma</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Child Car Seat Restraints</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>
The level of bill/amendment impact with the highest proportion of penalties were prevention bills/amendments (51%, n=35) followed by social impact (31%, n=13). None of the bills/amendments that were focused on treatment or post-care contained penalties (Figure 24). There were statistically significant differences across the four levels in terms of the likelihood of containing penalties (p = 0.002). Post-care focused bills/amendments were less likely than prevention focused (p < 0.001) and social impact focused (p = 0.049) bills/amendments to have penalties.

**Figure 24.** Bills/amendments in legislative tracking tool by penalties, across level of bill/amendment impact areas (n=96)

![Chart showing penalties by level of impact](chart.png)

Shared Risk and Protective Factor Findings

**Overview.** The Michigan Core SVIPP legislative tracking team applied a shared risk and protective factor analysis informed by the CDC Connecting the Dots framework. A total of 81 bills/amendments were analyzed in this phase of the project (see Figure 13 for detailed information).

The majority (62%, n=50) of bills/amendments included in the legislative analysis contain SRPF language (Figure 25). In our analysis of shared risk and protective factor language, the team analyzed bills/amendments that contain SRPF language (n=50) and bills/amendments that contain no SRPF language (n=31) separately. This allowed the team to identify relationships between the use of shared risk and protective factor language and other characteristics or outcomes of injury and violence legislation.
**Passage.** A total of 81 bills/amendments in the legislative analysis were evaluated for passage by shared risk and protective factor language. The majority of bills/amendments that passed (75%) and bills/amendments that did not pass (58%) contained SRPF language. Although a larger proportion of bills containing SRPF approaches were passed as compared to those without SRPF approaches, this difference was not found significant. However, most bills/amendments contained SRPF language regardless of passage.

**Figure 26.** Bills/amendments in the legislative tracking tool by passage and Shared Risk and Protective Factor language (n=81). Of the 81 bills analyzed for SRPF language, 16 bills were passed (left) and 65 bills did not pass (right)
Mandates and Penalties. The shared risk and protective factor language analysis was conducted in two separate buckets: bills/amendments that use SRPF language and bills/amendments that use no SRPF language. A larger proportion of non-SRPF bills contained mandates (87%, n=27) than SRPF bills (72%, n=36). This difference was not significant. Of the 50 bills and amendments that use SRPF language, the majority (72%) contain mandates (Figure 27). Of these bills/amendments that contain mandates, a third (n=12) also contain penalties. Bills/amendments that use no SRPF language, however, demonstrate a different pattern (Figure 28). A significantly larger proportion of non-SRPF bills/amendments (55%, n=17) contained penalties than SRPF bills/amendments (24%, n=12; p-value: 0.008). Almost all (87%) of the 31 bills/amendments that use no SRPF language contain mandates. Of these bills/amendments that contain mandates, the majority (n=17) also contain penalties suggesting trends around punitive language in bills/amendments that use no SRPF language.

Figure 27. Bills/amendments that use SRPF language by mandates (left) and penalties (right) (n=50)

Figure 28. Bills/amendments that use no SRPF language by mandates (left) and penalties (right) (n=31)
SRPF Language. The Michigan Core SVIPP legislative analysis team initially analyzed shared risk and protective factor language in legislation across three injury topics. The majority of teen dating violence (71%, \(n=32\)) and child car seat restraint bills/amendments (86%, \(n=6\)) contain SRPF language. Abusive child head trauma bills/amendments were the second most common topic in the legislative tracking tool, but most of these bills/amendments (59%, \(n=17\)) did not contain SRPF language indicating an opportunity for SRPF language to be explored in this legislation (Figure 29). When comparing among the three focus areas, teen dating violence bills/amendments were significantly more likely to include SRPF language than abusive child head trauma bills (p-value: 0.015). Although a greater proportion of child car seat restraint bills included SRPF language than bills about abusive child head trauma, this difference was not significant. Additionally, no statistical difference was seen across the proportion of teen dating violence and child restraint bills that contain SRPF.

**Figure 29. Injury Topics by whether they contain SRPF language or not \((n=81)\)**

Bills and amendments were also analyzed for shared risk and protective factor language across level of bill/amendment impact. Our analysis shows that most bills/amendments utilize SRPF language across all levels of bill/amendment impact areas (Figure 30). All of the bills/amendments for treatment contained SRPF language, while 60%, 59% and 57% of the bills/amendments for post-care, prevention, and social impact respectively contained SRPF language.

**Figure 30. Bills/Amendments that contain SRPF language by level of impact \((n=81)\)**
Socio-Ecological Model. Finally, bills and amendments that use SRPF language (n=50) were evaluated using the CDC four-level socio-ecological model. Most of these bills/amendments operate at the individual level (n=62) followed by relationship (n=54) and community (n=54). Bills/amendments operating at the societal level (n=14) were less common (See Figure 31).

Figure 31. Bills/Amendments Containing SRPF Language by Socio-Ecological Model Level (n=50)
LIMITATIONS

There are several limitations of the protocols and findings outlined in this package.

First, the analysis did not encompass the impact of legislation that contains SRPF language on injury prevention programs. While this analysis focuses on the presence of this language in legislation, additional research and analyses are necessary to determine whether the presence of this language was able to significantly reduce injury morbidity and mortality in various populations.

Second, the shared risk and protective factor analysis (Phase 2 of the analysis) focused on the presence of SRPF language rather than the SRPF approaches in legislation. While an examination of SRPF approaches would be a valuable contribution to the field of injury and violence prevention, it was out of the scope and timeline of the Core SVIPP legislative analysis project. Further studies and analyses are needed in this area.

SRPF language is used to describe whether selected search terms related to shared risk and protective factors (identified by the CDC) were present in legislation. For example, if a bill/amendment contained the search term "mental health program" in an appropriate context it was indicative of the protective factor for “access to mental health and substance use disorder services.”

SRPF approach indicates the application of injury prevention frameworks like the Connecting the Dots framework developed by the CDC. As described by Safe States, SRPF approaches acknowledge that risk and protective factors are “interconnected, occur at a range of levels from individual to societal, and influence many health and quality-of-life outcomes” (Safe States, 2021).

Third, this analysis focused on three select injury topic areas. Future analyses could expand this work to additional injury topic areas to describe the use of SRPF language in legislation across the field of injury prevention.

Fourth, during the analysis phase, the team made the decision to exclude search terms related to “History of Violent Victimization/Adverse Childhood Experiences (ACES)” because the keywords for this risk factor were often unclear in bills/amendments. This was due to the inclusion criterion that language in the bill/amendment must not refer to current victimization. Specifically, the team found it difficult to differentiate current and past victimization in the text of the bill/amendment. Other factors captured many of the same search terms, but it is possible that some instances of SRPF language were not identified as a result of this exclusion. The same is true for the removal of instances where the term pulling the bill into the tracking tool was the same as the term flagged for SRPF analysis.

Fifth, during the analysis stage, the team also discovered that the list of SRPF keywords were not exhaustive. For example, the list of keywords for “diminished economic opportunity” did not include any terms relevant to poverty at the neighborhood or community level (e.g. public housing). Including these terms in the list of keywords may have flagged additional instances of SRPF language. Future analyses should consider expanding these terms.

Lastly, this analysis did not look at the number of times SRPF language occurred in a bill/amendment that was flagged. Future analyzes could include this metric to explore potential relationships between the count of SRPFs used in a bill/amendment and its impact/outcomes.
CONCLUSIONS & RECOMMENDATIONS

The goal of this technical package is to provide an overview of the protocols and results from the Michigan Core SVIPP work, so that it can be replicated by states and other injury prevention providers. This package contains everything an organization would need to replicate this work including a list of search terms, tracking tool templates, and instructions on how to run code to identify bills/amendments of interest, and complete a legislative analysis of SRPF language used in legislation.

This project is believed to be the first of its kind, with the aim that it can be used to create more impactful injury prevention legislation in the future. Future iterations of this project should consider including the following recommendations, to gain further insight into how SRPF language and approaches can impact legislation:

- Expanding the number of injury topics, to further analyze the use of SRPF language in injury prevention legislation.
- Analyzing SRPF approaches mentioned, in addition to SRPF language.
- Reviewing and expanding search terms.
- Analyzing bills/amendments at the three levels of prevention, to provide a better picture of the type of injury prevention programs that are of legislative priority.
- Analyzing shared risk and protective factors based on whether they were risk or protective factors.
- Analyzing not just if a SRPF term is present in legislation, but how often the language is used, and if this affects the outcome of the legislative process.
- Using natural language processing with python codes to ease analysis.
- Analyzing the impact that SRPF legislation has on decreasing injury mortality and morbidity.

A SRPF approach to injury and violence prevention has the benefit of preventing multiple forms of violence and injury simultaneously, enabling implementation teams to leverage resources and make efficient use of injury and violence funding streams. Additionally, SRPF approaches enable the development of new partnerships, which can enable the identification of collaborative opportunities and duplication of efforts, and SRPF approaches can enable teams to consider a larger pool of injury and violence prevention strategies.

This technical package is an effort to advance innovative, evidence-based, and impactful policies in injury prevention.


**Level of Bill/Amendment Impact**—This refers to the level of impact a bill/amendment aims to intervene on. There were 4 levels of impact:

- **Prevention** – bills/amendments that take action to prevent injury (can be primary, secondary, or tertiary prevention).

- **Treatment** – bills/amendments that support treatment of a specific injury.

- **Post-care** – bills/amendments that address the needs and care of people after they have experienced injury or violence.

- **Social Impact** – bills/amendments that affect the social climate/environment of either an individual or the community at large.

Some bills/amendments fell under more than one of these categories (e.g., HB 4385 of 2017 is classified as prevention and social impact because it aims to change the social environment by requiring individuals to register under a child abuse offender registry and addresses the injury before it occurs). Analyzing the level of impact in Michigan legislation may provide insight into the injury-prevention program strategies and priorities in the legislature.

**Mandates**—Mandates were defined as language that legally requires action from one party. For instance, a bill/amendment that legally requires teachers to report child abuse or requires car seat technicians to take a training course is an example of a mandate related to injury prevention.

**Penalties**—Penalties were defined as any penalty enforced for not following a mandate or new legislation that could result in a loss of licensure, imprisonment, fines, increased liability risk, etc.

**Socio-Ecological Model**—SRPFs were categorized using CDC four-level socio-ecological model (see Figure 9). The model considers the complex and nuanced role that individual, relationship, community, and societal factors play in increasing risk for violence and injury, or protecting people from experiencing injury or perpetrating violence (CDC, 2021b).

- **Individual** – biological and personal factors (e.g., non-violent conflict resolution, safe dating, and healthy relationship skills). Some of these individual risk and protective factors from our analysis are parental employment, seat belt use, poor behavior control/impulsiveness, low educational achievement, and mental health problems.

- **Relationship** – close relationships with partners, family members, close social circle peers that may increase or decrease the likelihood of experiencing violence. Some factors that this level encompasses are association with prosocial peers, bystander intervention skills, family conflict, and social isolation.
Community--organizations and systems, such as schools, workplaces, and faith institutions, that shape a population's risk for experiencing violence. Some of these factors are access to health care and social services, community support and connectedness, coordination of resources and services, poor neighborhood support and cohesion, and high unemployment rates.

Societal--broad societal factors that shape the climate in which violence is prevented or encouraged. This includes social and cultural norms and health, economic, educational, and social policies that support violence. Some factors from our analysis are cultural norms that support aggression and harmful norms around masculinity and femininity.

SRPF language--SRPF language is used to describe whether selected search terms related to shared risk and protective factors (identified by the CDC) were present in legislation. For example, if a bill/amendment contained the search term "mental health program" in an appropriate context it was indicative of the protective factor for “access to mental health and substance use disorder services."

SRPF approach--SRPF approach indicates the application of injury prevention frameworks like the Connecting the Dots framework developed by the CDC. As described by Safe States, SRPF approaches acknowledge that risk and protective factors are "interconnected, occur at a range of levels from individual to societal, and influence many health and quality-of-life outcomes" (Safe States, 2021).
APPENDICES

APPENDIX A--Core SVIPP Bill Search Code Overview

APPENDIX B--Final List of Search Terms for SRPFs

APPENDIX C--Core SVIPP Bill Content Search for SRPFs Code Overview

APPENDIX D--Specific Examples of Included and Excluded Bills by Shared Risk & Protective Factor
For the code titled 1_bill_subject_search.R (see below)

The purpose of this R code is to scan the bills/amendments in the Michigan Legislature and to identify which bills/amendments contain specific keywords in their summaries. Search terms, bills/amendments in the Michigan Legislature, and previous search outputs are imported and we export an excel file that contains all newly written bills/amendments with a binary indicator distinguishing which search terms are in each bill/amendments. This code is typically manually run every Friday using R 4.0.2.

The code is split into four primary sections:

**Initialize**
- This portion sets the computer working directory and loads the libraries necessary to run the rest of the code.
- It is important that the working directory is specified to your machine and folder location. For best results, the “coresvipp-legislative-analysis“ folder should contain the same sub-folders as this original folder. If this is not the case, then all file paths will have to be specified for your computer. All search terms files should additionally be identically formatted to the original files as well.

**Import Data**
- This portion reads in the data necessary to run the rest of the code
- Files loaded into R
  - “Updated risk-protective-factor-keywords_01_04_2020.xlsx”
    - We read in only the “full_dictionary” sheet into R.
  - Read in the Michigan legislature bill report summary.
    - This URL will need to be adjusted based on the data you want to download.
  - Old search results
    - All previous outputs will be scanned and read into R. We will compare these to the most recently downloaded set of bills/amendments and will only keep new bills/amendments.

**Read and Search**
- In this section we include only newly presented bills/amendments, read the data, search for our keywords, and then create an indicator determining if each indicator is present in each bill/amendment.

**Write and Export**
- Here we designate our output file path and save our data as an excel file.
- Output file path may need to be updated & we include the date in the name of the output file.
#1 bill subject search

# Code overview:

# Initialize: Set working directory & libraries.

# Import Data: Read in Search Terms and bills from Michigan Legislature

# Read and Search: Compare to bills old outputs and keep only the new bills. Read and search bills for subject keywords, create a (1/0) indicator if that bill contains the subject keywords

# Write and Export: write bill and save as an excel file

# Import Data

setwd("H:/Legislative_Code/coresvipp-legislative-analysis")

library(tidyverse)
library(readxl)
library(writexl)
library(httr)

# Import Data

# Read in search terms

search_terms <- read_excel("search-terms/bill-subject-keywords.xlsx", sheet = "full_dictionary") %>%
  select(dictionary, terms) %>%
  distinct()

# Load most recent version of the Michigan legislature bill summaries

bills2122 <- read_excel(tf, skip = 1) %>%
  mutate(
    bill_name = str_c(Type, `Bill #`),
    last_modified = `Date of Last History Action`)

# Paths for previous search results and read them into R

old_files <- dir("H:/Legislative_Code/coresvipp-legislative-analysis/output/bill-subject-keywords", full.names = TRUE)
old_search_results <- map_df(old_files, read_excel)

# Read and Search ---------------------------------------------------------------------------------------------------

# Keep only the new or updated bills
bills2122 <- anti_join(bills2122, old_search_results, by = c("bill_name", "last_modified"))

# Search for mesh terms in bill summaries ---------------------------------

# Merge on the dictionary from which each term originated

term_search_output <- map_df(
  search_terms$terms,
  ~tibble(
    bill_name = bills2122$bill_name,
    last_modified = bills2122$last_modified,
    search_term = .,
    match_count = str_count(bills2122$Subject, regex(.), ignore_case = T)
  )
) %>%
  select(bill_name, last_modified, search_term, match_count) %>%
  distinct() %>%
  spread(search_term, match_count)

# Create indicator for whether there were any term matches

term_search_output$any_term_matches <- rowSums(term_search_output[,3:ncol(term_search_output)], na.rm = TRUE)
term_search_output$any_term_matches <- ifelse(term_search_output$any_term_matches > 0, TRUE, FALSE)
# Write and Export

```r
# Replace file path with where you want to your file to be saved

output_file_path <- str_c("output/bill-subject-keywords/", str_remove_all(Sys.Date(), ","), ","bill-subj-search-results.xlsx")

# Write out results to file path

write_xlsx(term_search_output, output_file_path, format_headers = TRUE)

# Unlink temporary file

unlink(tf)

output_file_path <- str_c("output/bill-subject-keywords/", str_remove_all(Sys.Date(), ","), ","bill-subj-search-results.xlsx")

# write out results to file path

write_xlsx(term_search_output, output_file_path, format_headers = TRUE)

# unlink temporary file

unlink(tf)
```
APPENDIX B--Final List of Search Terms for SRPFs

Search Terms

Access to Health Care and Social Services

Access to Mental Health and Substance Use Disorder Services
“access to social service” “access to service” “access to substance abuse” “access to drug” “access to addiction” “access to alcohol treatment” “access to behavior” “access to behaviour” “access to mental health” “access to psych” “access to rehab” “access to treatment” “access to clinic” “rehabilitation program” “rehabilitation service” “rehabilitation clinic” “rehabilitation center” “rehabilitation centre” “rehabilitation facilit” “service utilization” “mental healthcare” “mental health care” “mental health outreach” “mental health program” “mental health treatment” “mental health intervention” “mental health service” “health provider” “mental health clinic” “addiction care” “addiction outreach” “addiction program” “addiction treatment” “addiction intervention” “addiction service” “addiction clinic” “addiction center” “addiction centre” “addiction facilit” “substance abuse care” “substance abuse program” “substance abuse treatment” “substance abuse intervention” “substance abuse service” “substance abuse provider” “substance abuse clinic” “substance abuse center”
Access to Mental Health and Substance Use Disorder Services (continued)
“substance abuse centre” “substance abuse facilit” “psychological care” “psychological outreach”
“psychological program” “psychological treatment” “psychological intervention” “psychological service”
“behavioral care” “behavioral program” “behavioral treatment” “behavioral intervention” “behavioral
service” “behavioural care” “behavioural program” “behavioural treatment” “behavioural intervention”
“behavioural service” “behavioral health care” “behavioral healthcare” “behavioral health program”
“behavioral health treatment” “behavioral health intervention” “behavioral health service” “behavioral
health clinic” “behavioural health care” “behavioural healthcare” “behavioural health program”
“behavioural health treatment” “behavioural health intervention” “behavioural health service” “behavioural
health clinic” “social service” “health insurance” “medical insurance” “counsel” “therapist”
“school psychologist” “psych” “social worker” “continuity of care” “child health care” “child healthcare”
“school clinic” “community clinic” “health clinic” “treatment program” “treatment program” “treatment
service” “treatment center” “treatment centre” “treatment facilit” “health center” “health centre”
“health facilit” “healthcare clinic” “healthcare center” “healthcare facilit” “health care clinic” “health
care center” “health care facilit” “health resource” “pre-natal care” “pre-natal screening” “pre-natal care”
“health screen” “substance abuse screen” “psychological screen” “health assessment” “substance abuse assessment” “psychological
assessment” “respite care” “health professional shortage”

Adequate Housing
“adequate housing” “adequate home” “adequate house” “stable housing” “stable home” “stable house”
“proper housing” “proper home” “proper house” “permanent housing” “permanent home” “permanent
house” “safe housing” “safe home” “safe house” “suitable housing” “suitable home” “suitable house”
“living conditions” “housing security” “housing assistance”

Association with Delinquent Peers
“delinquent peer” “antisocial peer” “anti-social peer” “criminal peer” “aggressive peer” “violent peer”
“delinquent friend” “antisocial friend” “anti-social friend” “criminal friend” “aggressive friend” “violent
friend” “peer group” “peer pressure” “bully” “bullies”

Association with Prosocial Peers
“prosocial peer” “pro-social peer” “pro-social friend” “positive peer” “positive friend”
“responsible peer” “responsible friend” “non-deviant peer” “non-deviant friend” “nonviolent friend”
“non-violent peer” “non-violent peer” “good friend” “bystander” “by-stander”
“friendship quality”

Built Environment
“crosswalk” “traffic volume” “access to recreation” “recreation access” “access to play” “stop sign”
“traffic signal” “urban” “urbanicity” “rural” “rurality” “population density” “built environment” “Complete
streets” “road construction” “traffic congestion” “visibility” “lighting” “public art” “green space”
“greening”

Bystander Intervention Skills
“bystander” “bystander interven” “bystander intervention skills” “interven” “intervention skills”
“bystander involv” “willingness to intervene”
Caring Adults Outside The Family Who Can Serve as Role Models or Mentors
“community connect” “community support” “supportive community” “sense of community” “neighbor connect” “neighborhood connect” “neighbourhood connect” “neighbor support” “neighborhood support” “supportive community” “supportive neighbor” “supportive neighborhood” “social support” “socially support” “social cohes” “social action” “social involv” “social service” “sense of belong” “sense of support” “friendship ties” “willingness to intervene” “sociability” “volunteerism” “intergenerational connect” “inter-generational connect” “mutual trust” “mentor” “role-model” “role model” “caring adult” “caring guardian” “caring teacher” “caring coach” “supportive adult” “supportive guardian” “supportive teacher” “supportive coach” “loving adult” “loving guardian” “loving teacher” “loving coach” “positive adult” “positive guardian” “positive teacher” “positive coach” “adult support” “guardian support” “teacher support” “coach support” “adult’s support” “guardian’s support” “teacher’s support” “coach’s support” “adult connect” “guardian connect” “teacher connect” “coach connect” “adult involve” “guardian involve” “teacher involve” “coach involve” “connectedness to adult” “prosocial adult” “pro-social adult” “prosocial guardian” “pro-social guardian” “prosocial teacher” “pro-social teacher” “prosocial coach” “pro-social coach” “attachment to adult” “attachment to guardian” “attachment to teacher” “attachment to coach”

Child Has Special Needs That May Increase Caregiver Burden (e.g., disabilities, mental health issues, and chronic physical illness)
“child disab” “childhood disab” “special need” “special needs child” “disabled child” “chronic illness” “chronic physical illness” “mental health” “disabilities” “disable” “disability” “mental illness”

Communities That Support Parents and Take Responsibility for Preventing Abuse
“community connect” “community support” “community cohes” “community action” “community involv” “community service” “community participation” “community ties” “community network” “community engag” “community interaction” “community identity” “community function” “community trust” “community stability” “community action” “community partner” “community monitoring” “community integration” “community watch” “supportive community” “sense of community” “neighbor connect” “neighborhood connect” “neighborhood support” “neighborhood involv” “neighbourhood connect” “neighbourhood support” “neighbourhood cohes” “neighbourhood action” “neighbourhood particip” “neighbourhood participation” “neighbourhood service” “neighbourhood network” “neighbourhood monitor” “neighbourhood inter” “neighbourhood interaction” “neighbourhood identity” “neighbourhood function” “neighbourhood trust” “neighborhood stability” “neighborhood partner” “neighborhood watch” “neighborhood monitoring” “neighborhood monitoring” “neighborhood integration” “neighborhood integration” “neighborhood watch” “resident connect” “resident support” “resident cohes” “resident action” “resident involv” “resident service” “resident particip” “resident ties” “resident network” “resident engag” “resident interaction” “resident trust” “resident stability” “resident action” “supportive community” “supportive neighbor” “supportive neighborhood” “supportive neighbourhood” “group connect” “group support” “group cohes” “group support” “group involv” “social connect” “social support” “socially support” “social cohes”
Communities That Support Parents and Take Responsibility for Preventing Abuse (continued)

“social action” “social involv” “social service” “social participation” “social ties” “social engag” “social interaction” “social trust” “social functionality” “social action” “social partnership” “social monitoring” “social control” “social capital” “social network” “social integration” “social organization” “sense of belong” “sense of support” “residential stability” “residential cohes” “residential action” “residential integration” “collective efficacy” “civic engage” “civic duty” “civic involve” “civic organiz” “civic group” “civic participation” “reciprocated exchange” “religiosity” “friendship ties” “willingness to intervene” “sociability” “volunteerism” “intergenerational connect” “mutual trust” “bystander” “bystander interven” “bystander intervention skills” “interven” “intervention skills” “bystander involv” “mentor” “role-model” “role model” “caring adult” “caring grandparent” “caring guardian” “caring teacher” “caring coach” “supportive adult” “supportive grandparent” “supportive guardian” “supportive teacher” “supportive coach” “loving adult” “loving grandparent” “loving guardian” “loving teacher” “loving coach” “positive adult” “positive grandparent” “positive guardian” “positive teacher” “positive coach” “adult support” “grandparent support” “guardian support” “teacher support” “coach support” “adult’s support” “grandparent’s support” “guardian’s support” “teacher’s support” “coach’s support” “adult connect” “grandparent connect” “guardian connect” “teacher connect” “coach connect” “adult involve” “grandparent involve” “guardian involve” “teacher involve” “coach involve” “teacher-pupil relation” “teacher-student relation” “teacher-pupil connect” “teacher-student connect” “connectedness to adult” “prosocial adult” “pro-social adult” “prosocial parent” “pro-social parent” “prosocial grandparent” “pro-social grandparent” “pro-social guardian” “pro-social guardian” “prosocial teacher” “pro-social teacher” “pro-social coach” “pro-social coach” “attachment to adult” “attachment to grandparent” “attachment to guardian” “attachment to teacher” “attachment to coach”

Community Support and Connectedness

Community Support and Connectedness (continued)

“sense of belong” “sense of support” “residential stability” “residential cohes” “residential action” “residential integration” “collective efficacy” “civic engage” “civic duty” “civic involve” “civic organiz” “civic group” “civic participation” “reciprocated exchange” “religiosity” “friendship ties” “willingness to intervene” “sociability” “volunteerism” “intergenerational connect” “inter-generational connect” “mutual trust”

Community Violence
“community violence” “violence in the community”

Concrete Support for Basic Needs

Connection to a Caring Adult
“mentor” “role-model” “role model” “caring adult” “caring grandparent” “caring guardian” “caring teacher” “caring coach” “supportive adult” “supportive grandparent” “supportive guardian” “supportive teacher” “supportive coach” “loving adult” “loving grandparent” “loving guardian” “loving teacher” “loving coach” “positive adult” “positive grandparent” “positive guardian” “positive teacher” “positive coach” “adult support” “grandparent support” “guardian support” “teacher support” “coach support” “adult’s support” “grandparent’s support” “guardian’s support” “teacher’s support” “coach’s support” “adult connect” “grandparent connect” “guardian connect” “teacher connect” “coach connect” “adult involve” “grandparent involve” “guardian involve” “teacher involve” “coach involve” “teacher-pupil relation” “teacher-student relation” “teacher-pupil connect” “teacher-student connect” “connectedness to adult” “prosocial adult” “pro-social adult” “prosocial parent” “pro-social parent” “prosocial grandparent” “pro-social grandparent” “prosocial guardian” “pro-social guardian” “prosocial teacher” “pro-social teacher” “pro-social coach” “pro-social coach” “attachment to adult” “attachment to grandparent” “attachment to guardian” “attachment to teacher” “attachment to coach”

Connection/Commitment to School
“school connect” “school cohes” “school commit” “school engag” “school involvement” “school participation” “school attitude” “school relation” “school investment” “school adjust” “school success” “school support” “school attach” “school bond” “school belong” “school enviro” “school importan” “student connect” “student cohes” “student commit” “student engag” “student involvement” “student participation” “student attitude” “student investment” “student adjust” “student support” “student attach” “student bond” “student belong” “pupil connect” “pupil cohes” “pupil commit” “pupil engag” “pupil involvement” “pupil participation” “pupil attitude”
Connection/Commitment to School (continued)
“pupil investment” “pupil adjust” “pupil support” “pupil attach” “pupil bond” “pupil belong” “teacher connect” “teacher investment” “teacher support” “teacher attach” “teacher bond” “academic orientation” “academic commit” “academic investment” “academic adjust” “academic enviro” “educational orientation” “educational commit” “educational investment” “educational adjust” “educational enviro” “connection to teacher” “connection to school” “connection to student” “connection to pupil” “commitment to school” “commitment to student” “commitment to pupil” “commitment to education” “attachment to school” “attachment to student” “attachment to pupil” “attachment to teacher” “supportive school” “supportive academic” “supportive teacher” “supportive education” “positive school” “positive academic” “positive teacher” “positive education” “connected school” “connected academic” “connected education” “connection to school” “connection to academic” “connection to education” “invested school” “invested academic” “invested teacher” “invested education” “investment in school” “investment in academic” “investment in education” “investment in student” “investment in pupil” “committed school” “committed academic” “committed teacher” “committed education” “commitment to school” “commitment to academic” “commitment to teacher” “commitment to education” “caring school” “caring academic” “caring teacher” “caring education” “school-family” “family-school” “school-parent” “parent-school” “sense of belong” “truancy” “truant” “missed school” “missing school” “school absence” “school absent” “absent from school” “chronically absent” “chronic absence” “educational support”

Coordination of Resources and Services Among Community Agencies

Cultural Norms that Support Aggression Toward Others
Diminished Economic Opportunities/High Unemployment Rates

“unemploy” “employment” “job” “economic opportunity” “residential resource” “neighborhood resource” “neighborhood economic” “community resource” “community economic” “local resource” “local econom” “local capital” “local investment” “economic crisis” “financial crisis” “business presence” “businesses per capita” “retail environment” “labor market opportunity” “self-employed” “self employed” “underemploy” “under-employ” “under employ”

Distracted Driving

“distracted driv” “driving distract” “cell phone” “cellular phone” “mobile phone” “texting while driving” “night time driv” “nighttime driv” “driving at night” “number of passenger” “teen passenger” “teenage passenger”

Economic Stress


Family Conflict


Family Support and Connectedness

“family attach” “familial attachment” “family activities” “family decision” “family connect” “familial connect” “family monitor” “familial monitor” “family support” “familial support” “family involv” “familial involv” “family cohes” “familial cohes” “family bond” “familial bond” “family trust” “familial trust” “family accept” “familial accept” “family affection” “familial affection” “family close” “familial close” “family function” “familial function” “family environment” “familial environment” “family communication” “familial communication” “parent attach” “parental attachment” “parental connect” “parent connect” “parental monitor” “parent monitor” “parental support” “parent support” “parent involv” “parent involv” “parent warmth”
Family Support and Connectedness (continued)
“parental warmth” “parent bond” “parental bond” “parent trust” “parental trust” “parent accept” “parental accept” “parent affection” “parental affection” “parent interest” “parental interest” “caregiver attach” “caregiver connect” “caregiver monitor” “caregiver support” “caregiver involv” “caregiver warmth” “caregiver bond” “caregiver trust” “caregiver accept” “caregiver affection” caregiver interest “maternal attach” “maternal connect” “maternal monitor” “maternal support” “maternal involv” “maternal warmth” “maternal bond” “maternal trust” “maternal accept” “maternal affection” “maternal interest” “paternal attach” “paternal connect” “paternal monitor” “paternal support” “paternal involv” “paternal warmth” “paternal bond” “paternal trust” “paternal accept” “paternal affection” “paternal interest” “supportive family” “supportive familial” “supportive parent” “supportive mother” “supportive father” “supportive caregiver” “loving family” “loving familial” “loving parent” “loving mother” “loving father” “loving caregiver” “caring family” “caring familial” “caring parent” “caring mother” “caring father” “caring caregiver” “emotional support” “positive family” “positive familial” “stable family” “stable familial” “positive parent” “positive mother” “positive father” “positive caregiver” “emotional connect” “emotional intimacy” “positive communication” “connected family” “family interconnect” “household cohes” “attachment to family” “parental monitoring” “child monitoring”

Gang Involvement
“gang member” “gang violen” “gang homicide” “gang crime” “gang affiliat” “gang-affiliat” “gang associat” “gang-associat” “gang involv” “gang-involved” “gang-related” “gang network” “exposure to gang” “exposure to a gang” “belonging to gang” “belonging to a gang” “involvement in gang” “involvement in a gang” “participation in gang” “participation in a gang” “affiliation with gang” “affiliation with a gang” “association with gang” “association with a gang”

Harmful Norms Around Masculinity and Femininity

High Alcohol Outlet Density
“alcohol outlet” “alcohol license” “on premise” “on-premise” “off premise” “off-premise” “density of bars” “liquor outlet” “liquor store” “liquor license” “drinking places” “drinking establishment”

History of Violent Victimization and ACEs
History of Violent Victimization and ACEs (continued)
“history of sexual exploitation” “history of human traffic” “history of maltreat” “history of harassment”
“history of child abus” “history of child mistreat” “history of pedophil” “history of corporal punish” “history
of physical abus” “history of non-physical abus” “history of physically abus” “history of emotional abus”
“history of emotionally abus” “history of psychological abus” “history of psychologically abus” “history of
verbal abus” “history of neglect” “history of dating abus” “history of dating conflict” “history of adolescent
abus” “history of stalking” “history of controlling behavior” “history of humiliation” “history of parental
abus” “history of parental conflict” “history of abused by a parent” “history of abused by a caregiver”
“history of abused by their mother” “history of abused by their father” “history of abused by a fam”
“history of abused by an adult” “history of abused by a caregiver” “history of abused as a child” “history of
abuse as a child” “history of abuse in childhood” “history of bully” “history of bullied” “history of ostracism”
“history of ostracized” “history of social rejection” “history of socially rejected” “history of peer victim”
“history of peer abus” “history of elder abus” “history of older adult abus” “history of suicid” “history of
intentional overdose” “history of intentional death” “history of adverse childhood experience” “history of
adverse experience” “history of childhood trauma” “history of traumatic experience” “history of trauma in
childhood” “history of abuse” “history of incarcerat” “history of prison” “history of historical trauma” “past
batter” “past victim” “past rape” “past molest” “past sexual abus” “past sex traffic” “past sexual coer” “past
coercive sex” “past sexual exploitation” “past human traffic” “past maltreat” “past harassment” “past child
abus” “past child mistreat” “past pedophil” “past corporal punish” “past physical abus” “past non-physical
abus” “past physically abus” “past emotional abus” “past emotionally abus” “past psychological abus” “past
psychologically abus” “past verbal abus” “past neglect” “past dating abus” “past dating conflict” “past
adolescent abus” “past stalk” “past controlling behavior” “past humiliation” “past parental abus” “past
parental conflict” “past abused by a parent” “past abused by a caregiver” “past abused by their mother”
“past abused by their father” “past abused by a fam” “past abused by an adult” “past abused by a caregiver”
“past abused as a child” “past abuse as a child” “past abuse in childhood” “past bully” “past
bullied” “past ostracism” “past ostracized” “past social rejection” “past socially rejected” “past peer victim”
“past peer abus” “past elder abus” “past older adult abus” “past suicid” “past intentional overdose” “past
intentional death” “past adverse childhood experience” “past adverse experience” “past childhood
trauma” “past traumatic experience” “past trauma in childhood” “past history of abuse” “past incarcerat”
“past prison” “past historical trauma”

Household Rules and Child Monitoring
“poor parent” “parent-child relations” “parent-youth relations” “parent relations” “parental relations”
“parent hostil” “parental hostil” “harsh discipline” “harsh punish” “harsh disciplin” “physical punishment”
“physical discipline” “inconsistent disciplin” “harsh parent” “inconsistent parent” “maladaptive parent”
“parenting stress” “parent stress” “parenting skill” “parent function” “parental function” “caregiver stress”
“caregiver hostil” “caregiver function” “maternal hostil” “paternal hostil” “attachment to parent”
“attachment to caregiver” “attachment to mother” “attachment to father” “parental attachment”
“attachment to parent” “attachment to caregiver” “social competenc” “parenting practice” “parenting
behavior” “parenting behaviour” “parent behavior” “poor supervision” “lack of supervision” “authoritarian
parent”

Impaired Driving
“impaired driving” “impaired driver” “intoxicated driving” “intoxicated driver” “driving under the influence”
“driving while intoxicated” “blood alcohol level” “blood alcohol content”

Lack of Non-Violent Problem Solving Skills
“aggress” “lack of coping” “problem solving” “problem-solving” “lack of communication” “poor
interpersonal” “poor communication” “poor coping” “maladaptive coping” “maladaptive behavior”
Lack of Non-Violent Problem Solving Skills (continued)
“hostile communicat” “coping skill” “social skill” “communication skill” “interpersonal skill” “life skill”
“coping strateg” “communication strateg” “interpersonal problem” “social problem” “relationship
problem” “interpersonal conflict” “social conflict” “relationship conflict” “peer conflict” “social
competence” “interpersonal competence” “peer pressure” “physical fight” “fighting”

Language Barriers
"language" "foreign" "non-English"

Large Number of Dependent Children
“dependent” “dependent child”

Low Educational Achievement
“school achieve” “school success” “school attain” “school progress” “school performance” “school
aspiration” “school disengage” “school advancement” “school readiness” “school failure” “educational
achieve” “educational success” “educational attain” “educational progress” “educational performance”
“educational aspiration” “educational disengage” “educational advancement” “academic achieve”
“academic success” “academic attain” “academic progress” “academic performance” “academic
aspiration” “academic disengage” “academic advancement” “school drop-out” “school drop out”
“grades” “grade point average” “GPA” “undereducated” “low achieving” “low-achieving” “low education”
“education level” “level of education” “success in school” “progress in school” “schoolwork” “school
work” “coursework” “course work” “homework” “home work” “primary education” “secondary
education” “tertiary education” “higher education” “high school education” “high-school education”
“college” “achievement in school” “performance in school” “school deviance” “school graduat”
“graduate on time” “on time graduat” “on-time graduat” “diploma” “verbal IQ” “low IQ”

Media Violence
“m-rated”

Medication Adverse Effects and Misuse
“medication abuse” “medication addict” “medication depend” “medication misuse” “drug misuse”
“maladaptive use” “prescription abuse” “prescription addict” “prescription depend” “prescription
misuse” “prescription drug abuse” “prescription drug addict” “prescription drug depend” “prescription
drug misuse” “anticoagulant” “blood thinner” “blood-thinner” “warfarin” “asprin” “clopidogrel” “heparin”
“rivaroxaban” “Xarelto” “dabigatran” “Pradaxa” “apixaban” “Eliquis” “edoxaban” “Lixiana” “platelet
aggregat” “plavix” “clopidogrel” “effient” “prasugrel” “brilinta” “ticagrelor”

Motor Vehicle Crashes
“vehicle accident” “vehicle crash” “vehicle collision” “vehicle injur” “moving vehicle violation” “vehicle
death” “vehicle fatal” “vehicle trauma” “vehicle safety” “vehicular accident” “vehicular crash” “vehicular
collision” “vehicular injur” “vehicular violation” “vehicular death” “vehicular fatal” “vehicular trauma”
“vehicular safety” “traffic accident” “traffic crash” “traffic collision” “traffic injur” “traffic violation” “traffic
death” “traffic fatal” “traffic trauma” “traffic safety” “car accident” “car crash” “car collision” “car injur”
“car violation” “car death” “car fatal” “car trauma” “car safety” “motorcycle accident” “motorcycle crash”
“motorcycle collision” “motorcycle injur” “motorcycle wreck” “motorcycle violation” “motorcycle death”
“motorcycle fatal” “motorcycle trauma” “motorcycle safety” “road accident” “road crash” “road collision”
“road injur” “road violation” “road death” “road fatal” “road trauma” “road safety” “pedestrian accident”
“pedestrian crash” “pedestrian collision” “pedestrian injur” “pedestrian violation” “pedestrian death”
“pedestrian fatal” “pedestrian trauma” “pedestrian safety” “pedestrian-motor vehicle accident”
Motor Vehicle Crashes (continued)
“pedestrian-motor vehicle crash” “pedestrian-motor vehicle collision” “pedestrian-motor vehicle injury”
“pedestrian-motor vehicle violation” “pedestrian-motor vehicle death” “pedestrian-motor vehicle fatality”
“pedestrian-motor vehicle trauma” “pedestrian-motor vehicle safety” “driving accident” “driving crash”
“driving collision” “driving injury” “driving death” “driving fatality” “driving trauma” “driving safety” “driving
behavior” “driving behaviour” “driving violation” “moving violation” “automobile accident” “automobile
crash” “automobile collision” “automobile injury” “automobile violation” “automobile death”
“automobile fatality” “automobile trauma” “automobile safety” “truck accident” “truck crash” “truck
collision” “truck injury” “truck violation” “truck death” “truck fatality” “truck trauma” “truck safety” “sports
utility vehicle accident” “sports utility vehicle crash” “sports utility vehicle collision” “sports utility
vehicle injury” “sports utility vehicle violation” “sports utility vehicle death” “sports utility vehicle fatality”
“sports utility vehicle trauma” “sports utility vehicle safety” “interstate accident” “interstate crash”
“interstate collision” “interstate injury” “interstate violation” “interstate death” “interstate fatality”
“interstate trauma” “interstate safety” “highway accident” “highway crash” “highway collision” “highway
injury” “highway violation” “highway death” “highway fatality” “highway trauma” “highway safety” “wreck”
“fender bender” “collide” “terrain vehicle accident” “terrain vehicle crash” “ATV accident” “ATV crash”
“ATV collision” “ATV injury” “ATV violation” “ATV death” “ATV fatality” “ATV trauma” “ATV safety” “safe
driving”

Neighborhood Poverty
“poverty” “impoverish” “low income” “low-income” “limited income” “household income” “poor
community” “poor resident” “wealthy community” “economic disadvantage” “economically
disadvantaged” “economic instability” “economic deprivation” “economically deprived” “economic
resources” “financial disadvantage” “financially disadvantaged” “financial deprivation” “financially
deprived” “concentrated disadvantage” “concentration of disadvantage” “concentrated deprivation”
“local disrepair” “local disadvantage” “local disadvantage” “local deprivation” “socioeconomic” “community resources”
“community disrepair” “community disadvantage” “community deprivation” “disadvantaged
community” “neighborhood resources” “neighborhood disrepair” “neighborhood disadvantage”
“neighborhood deprivation” “neighbourhood resources” “neighbourhood disrepair” “neighbourhood
disadvantage” “neighbourhood deprivation” “affluence” “affluent” “dilapidated” “overcrowded”

Nonbiological, Transient Caregivers in the Home (e.g., mother’s male partner)
“mother’s male partner” “male partner” “boyfriend” “nonbiological” “transient caregiver” “female
partner” “girlfriend” “partner” “non-biological”

Parents’ Understanding of Children’s Needs, Child Development and Parenting Skills
“poor parent” “parent-child relations” “parent-youth relations” “parent relations” “parental relations”
“parent hostility” “parental hostility” “parent-child hostility” “parent-child conflict” “parent-child
conflict” “parent-child strain” “parent-child stress” “parent-child connect” “parent-child connect”
“parent-child interconnect” “parent child interconnect” “child attachment” “harsh discipline” “harsh punish”
“harsh discipline” “physical punishment” “physical discipline” “inconsistent discipline” “harsh parent”
“inconsistent parent” “maladaptive parent” “parenting stress” “parenting skill” “parent
function” “parental function” “caregiver stress” “caregiver hostility” “caregiver function” “maternal hostility”
“paternal hostility” “attachment to parent” “attachment to caregiver” “attachment to mother”
“attachment to father” “parental attachment” “attachment to parent” “attachment to caregiver” “social
competence” “parenting practice” “parenting behavior” “parenting behaviour” “parent behavior” “parent
behaviour” “poor supervision” “lack of supervision” “authoritarian parent” “child need” “child
development”
Parental Employment
“unemploy” “employment” “job” “economic opportunity” “residential resource” “neighborhood resource” “neighborhood economic” “community resource” “community economic” “local resource” “local econom” “local capital” “local investment” “economic crisis” “financial crisis” “business presence” “businesses per capita” “retail environment” “labor market opportunity” “self-employed” “self employed” “underemploy” “under-employ” “under employ”

Parental Thoughts and Emotions That Tend to Support or Justify Maltreatment Behaviors

Parenting Stress

Poor Behavioral Control/Impulsiveness
Poor Neighborhood Support and Cohesion
“social disorganization” “social disengagement” “social instability” “social marginal” “social disenfranchise” “social inaction” “community disorgan” “community disengage” “community instability” “community isolation” “community marginal” “community disenfranchise” “community inaction” “community condition” “neighborhood disorgan” “neighborhood disengage” “neighborhood instability” “neighborhood isolation” “neighborhood marginal” “neighborhood disenfranchise” “neighborhood condition” “neighbourhood disorgan” “neighbourhood disengage” “neighbourhood instability” “neighbourhood isolation” “neighbourhood marginal” “neighbourhood disenfranchise” “neighbourhood condition” “local disorganization” “local disengagement” “local instability” “local marginal” “local inaction” “resident disengage” “resident disenfranchise” “resident inaction” “residential instability” “transient” “socially disorganized” “socially disenfranchised” “socially unstable” “socially marginalized” “socially marginalised” “socially disenfranchised” “locally disorganized” “locally disengaged” “locally disenfranchise” “isolated community” “isolated neighbor” “isolated neighbour” “isolated resident” “marginalized community” “marginalized neighbor” “marginalised neighbour” “marginalized resident” “disenfranchised community” “disenfranchised neighbor” “disenfranchised neighbour” “disenfranchised resident”

Poor Parent-Child Relationships

Proper Child Safety Seat Use/Child Backseat Sitting Location
“car seat” “carseat” “booster seat” “back seat” “child restraint” “backseat” “rear seat” “rear center seat” “seated in the rear” “seated in the back” “child passenger” “child safety” “forward-facing car seat” “child passenger safety technician”

Psychological/Mental Health Problems

Seatbelt Use
“Seat belt” “seatbelt” “restraint” “belt use”

Single Parenthood
“single parent” “single-parent” “lone parent” “lone-parent” “one parent” “one-parent”
Skills in Solving Problems Non-Violently
“conflict resolution” “cooperative behavior” “caring behavior” “caring behaviour” “problem orientation” “managing stress” “managing anx” “socially competent” “interpersonally competent” “prosocial behavior” “pro-social behavior” “prosocial act” “pro-social act” “empathy”

Social Isolation/Lack of Support
“social isolation” “socially isolated” “lack of support” “shut in” “shut-in” “social exclusion” “social deprivation” “social stress” “psychological support” “loneliness” “lonely” “social alienation”

Societal Income Inequality
“income inequality” “income inequity” “income distribution” “income stratification” “neighborhood inequality” “neighbourhood inequality” “neighborhood stratification” “neighbourhood stratification” “economic inequality” “economic inequity” “economic distribution” “economic stratification” “equal opportunity” “social stratification” “GINI index” “GINI coefficient” “GINI ratio”

Substance Use

Witnessing Violence
“exposure to crim” “exposure to a crime” “exposure to abus” “exposure to adver” “exposure to assault” “exposure to harassment” “exposed to crim” “exposed to a crime” “exposed to abus” “exposed to adver” “exposed to assault” “exposed to harassment” “witness”

Young Parent Age
“young parent” “young pregnant” “teen parent” “teen pregnant” “adolescent parent” “adolescent pregnant”
For the code titled *2_bill-content-search.R* (see below)

The purpose of this R code is to scan the bills in the Michigan Legislature and to identify which bills contain specific keywords in their text. This code differs from “1_bill_subject_search” by scanning the entire text of the bills, not just their summaries. Search terms and the handmade legislative tracking tool are imported into R, and we export an excel file that contains all bills (included in the tracking tool) with a binary indicator determining which search terms are in the text of each bill.

The code is split into four primary sections:

**Initialize**
- This portion sets the computer working directory and loads the libraries necessary to run the rest of the code.
- It is important that the working directory is specified to your computer and folder location. For best results, the “coresvipp-legislative-analysis” folder should contain the same sub-folders as this original folder. If this is not the case, then all file paths will have to be specified for your computer. All search terms files should additionally be identically formatted to the original files as well.

**Import Data**
- This portion reads in the data necessary to run the rest of the code
  - Files loaded into R
    - “Updated risk-protective-factor-keywords_01_04_2020.xlsx”
      - We read in only the “full_dictionary” sheet into R.
    - “Updated Michigan Legislative Tracking Tool 982020 (tracking starts 05_2017)_2.xlsx”.
      - This is a manually created file that contains the information for each bill. The code uses the information from the “Document” column to create the URL which contains the bill’s text as a PDF. These URLs may need to be adjusted per the state and legislative periods you wish to scan.
    - The contents of these bills are stored in the file “bills_contents”

**Read and Search**
- In this section we search “bills_contents” for any of the search terms. Resulting file is a long-formatted list of each bill and search term with a binary indicator determining if each search term is present in each bill.

**Write and Export**
- Here we designate our output file path and save our data as an excel file.
- Output file path may need to be updated & we include the date in the name of the output file.
2_bill-content-search.R

# Initialize: Set working directory & libraries.
# Import Data: Read in Search Terms and bills from Michigan Legislature
# Read and Search: Compare to bills just downloaded and keep only the new bills. Read and search bills for subject keywords, create a (1/0) indicator if that bill contains the subject keywords
# Write and Export: write bill and save as an excel file

# Initialize ----------------------------------------------------------------------------------------------------
setwd("H:/Legislative_Code/coresvipp-legislative-analysis")
# libraries
install.packages(c("tidyverse", "rJava", "tabulizer", "readxl", "writexl", "dplyr"))
library(tidyverse)
library(rJava)
library(tabulizer)
library(readxl)
library(writexl)
library(dplyr)

# Import Data ------------------------------------------------------------------------------------------------
# Read in search terms
search_terms <- read_excel("search-terms/bill-subject-keywords.xlsx", sheet = "full_dictionary") %>%
  select(dictionary, terms) %>%
distinct()

# "Updated Michigan Legislative Tracking Tool 982020 (tracking starts 05_2017)_2.xlsx" is a file that
# is manually created based on the output of "1_bill_subject_search".
bills_tracking <- read_excel("H:/Legislative_Code/coresvipp-legislative-analysis/bill-tracking-
sheet/Updated Michigan Legislative Tracking Tool 982020 (tracking starts 05_2017)_2.xlsx", skip=2)
%>%
mutate(bill_name = Document)
# Drawing from "bills_tracking" this code creates the URL for each bill and extracts the bill text from legislative PDFs

### Creating URLs from document name

```r
bills_info <- separate(bills_tracking, Document, into = c("bill_origin_abbr", "bill_number", NA, "bill_year"), sep = " ")
mutate(
bill_year = as.numeric(bill_year),
bill_range_start = ifelse(bill_year %% 2 == 1, bill_year, bill_year - 1),
bill_range_end = ifelse(bill_year %% 2 == 1, bill_year + 1, bill_year),
bill_year_range = str_c(bill_range_start, "-", bill_range_end),
bill_origin = case_when(bill_origin_abbr == "HB" ~ "House", bill_origin_abbr == "HR" ~ "House", bill_origin_abbr == "SB" ~ "Senate", bill_origin_abbr == "SR" ~ "Senate"),
bill_origin_code = case_when(bill_origin_abbr == "HB" ~ "HIB", bill_origin_abbr == "SB" ~ "SIB", bill_origin_abbr == "HR" ~ "HIR", bill_origin_abbr == "SR" ~ "SIR"),
bill_file_name = str_c(bill_year, "-", bill_origin_code, "-", bill_number, ".pdf"),
bill_introduce = case_when(bill_origin_abbr == "HB" ~ "/billintroduced/", bill_origin_abbr == "SB" ~ "/billintroduced/", bill_origin_abbr == "HR" ~ "/resolutionintroduced/", bill_origin_abbr == "SR" ~ "/resolutionintroduced/"),
bill_url = str_c("https://www.legislature.mi.gov/documents/", bill_year_range, bill_introduce, bill_origin, "/pdf/", bill_file_name)
)
```

### Extract bill text from pdfs

```r
bills_contents <- bills_info %>%
mutate(bill_text = map_chr(bill_url, ~str_c(extract_text(file = .x, area = list(c(70, 71, 738, 560))), collapse = " "))
```

### Search for shared risk and protective factor language in bill text

```r
term_search_output <- map_df(search_terms$terms, ~tibble(bill_name = bills_contents$bill_name, search_term = ., match_count = str_count(bills_contents$bill_text, regex(., ignore_case = T)))
```

# Read and Search

```r
# Search for shared risk and protective factor language in bill text
term_search_output <- map_df(
search_terms$terms,
~tibble(bill_name = bills_contents$bill_name, search_term = ",
match_count = str_count(bills_contents$bill_text, regex(., ignore_case = T))
)
) %>%
distinct() %>%
left_join(search_terms, by = c("search_term" = "terms")) %>%
select(bill_name, dictionary, search_term, match_count)
```
# Write and Export

```r
# specify output file path
output_file_path <- str_c("output/risk-protective-factors/", str_remove_all(Sys.Date(), "."), "-bill-
randpfactors-search-results.xlsx")

# write out results to file path
write_xlsx(term_search_output, output_file_path, format_headers = TRUE)

# export term search results
write_xlsx(term_search_output, output_file_path, format_headers = T)
```
## APPENDIX D--Specific Examples of Included and Excluded Bills By Shared Risk & Protective Factor

<table>
<thead>
<tr>
<th>INCLUDE</th>
<th>EXCLUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to health care and social services</strong></td>
<td><strong>The language in the bill must do something to grant or increase access to health care and/or social services. For example, many bills flag for “social service” “counselor” “therapist”, etc., but the bill is just listing these professions as mandatory reporters for child abuse, but the bill does nothing to guarantee that victims of child abuse have access to health care or social services, so these would be excluded.</strong></td>
</tr>
<tr>
<td>- Include bills that suggest access to health care and social services is protective against violence or injury.</td>
<td></td>
</tr>
<tr>
<td>- Include bills that refer people to services</td>
<td></td>
</tr>
<tr>
<td>- Include bills about training people to respond to domestic violence/dating violence/sexual assault</td>
<td></td>
</tr>
<tr>
<td>- Include bills that let employees take time off work to address the psychological/emotional effects of domestic/sexual violence</td>
<td><strong>Like Access to health care and social services - the language in the bill must do something to grant or increase access to health care and/or social services. For example, many bills flag for “social service” “counselor” “therapist”, etc., but the bill is just listing these professions as mandatory reporters for child abuse, but the bill does nothing to guarantee that victims of child abuse have access to health care or social services, so these would be excluded.</strong></td>
</tr>
<tr>
<td>- HB 5155 of 2019, SB 0604 of 2019</td>
<td></td>
</tr>
</tbody>
</table>

## Access to Mental Health and Substance Abuse Services

<table>
<thead>
<tr>
<th>INCLUDE</th>
<th>EXCLUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>- To be included, it must be clear in the bill that the services are mental health or substance use disorder services, not just health care and social services.</td>
<td></td>
</tr>
<tr>
<td>- Include bills that state that access to mental health and substance use disorder services is protective against violence or injury.</td>
<td></td>
</tr>
<tr>
<td>- Include bills that refer people to services</td>
<td></td>
</tr>
<tr>
<td>- Include bills about training people to respond to domestic violence/dating violence/sexual assault</td>
<td></td>
</tr>
<tr>
<td>- Include bills that let employees take time off work to address the psychological/emotional effects of domestic/sexual violence</td>
<td><strong>Like Access to health care and social services - the language in the bill must do something to grant or increase access to health care and/or social services. For example, many bills flag for “social service” “counselor” “therapist”, etc., but the bill is just listing these professions as mandatory reporters for child abuse, but the bill does nothing to guarantee that victims of child abuse have access to health care or social services, so these would be excluded.</strong></td>
</tr>
<tr>
<td>- HB 5155 of 2019, SB 0604 of 2019</td>
<td></td>
</tr>
</tbody>
</table>

## Adequate Housing

<table>
<thead>
<tr>
<th>INCLUDE</th>
<th>EXCLUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Bill must either provide for adequate housing, or state that adequate housing is a protective factor.</td>
<td></td>
</tr>
</tbody>
</table>
### Association with Delinquent Peers

- Exclude bills that say that students must be taught that cyberbullying is a type of teen dating violence
  - HB 5785 of 2018

### Association with Prosocial Peers

- Include bills that say students must be taught bystander intervention skills and create an environment that doesn’t tolerate abuse
  - HB 5500 or 2020, SB 0620 of 2017

### Built Environment

- To be included, the bill must state that the built environment affects the risk of motor vehicle injury, or do something to positively affect the built environment in a way that a possible effect could be a reduction in motor vehicle injury.

### Bystander Intervention Skills

- Exclude instances about law enforcement intervention, to be included the bystanders must be civilians
  - HB 4705 of 2019, HB 4707 of 2019, HB 6283 of 2020

- Bystander intervention skills is not a protective factor for teen dating violence

### Caring Adults Outside the Family Who Can Serve as Role Models or Mentors

- Include HR 0058 of 2019 which says that promoting social support systems is a known protective factor to prevent child maltreatment.

- “Social service” is listed in several bills because social service technicians are named as mandatory reporters for child abuse. Do NOT include these. To be included, there must be some implication that other adults can be supportive or role models.
### Child has special needs that may increase caregiver burden (e.g., disabilities, mental health issues, and chronic physical illness)

- Include bills saying that a vulnerable child includes a child with a disability or mental illness
  - HB 4783 of 2019

- Exclude search terms that are flagged in reference to a mental health code
  - HB 4783 of 2019

### Communities That Support Parents and Take Responsibility for Preventing Abuse

- To be included, the language can be about either communities that support parents and/or people outside the family who take responsibility for preventing abuse. For example, “social service” flags in many bills because social service technicians are mandatory reporters for child abuse. In these instances, INCLUDE “social service” because social service technicians have been charged with taking responsibility for preventing abuse.
  - HB 4108 of 2019, SB 0780 of 2020

- Include bills that state that law enforcement must intervene when child abuse is suspected.
  - HB 4705 of 2019, HB 4707 of 2019, HB 6283 of 2020

- Include bills that say that supporting parents or preventing abuse is a protective factor for preventing injury.
  - HR 0058 of 2019

### Community Support and Connectedness

- Include instances saying that community/social support is a protective factor
  - SR 0035 of 2019 - "when we actively increase education, awareness, and community involvement, we can help prevent sexual violence."
  - HR 0064 of 2019 - actively increasing community involvement can prevent sexual violence
  - HR 0058 of 2019 - promoting social support systems is a known protective factor to prevent child maltreatment

- Exclude search terms flagged in a list of who is a mandatory reporter for child abuse
  - HB 5334 of 2017, etc.
## Concrete Support for Basic Needs

- Include HR 0058 of 2019 which says that promoting social support systems is a known protective factor to prevent child maltreatment.
- “Social service” flags in many bills because social service technicians are mandatory reporters for child abuse. In these instances, EXCLUDE unless the bill does something to actually increase access to support or basic needs like guarantee that victims of child abuse have access to social services.

## Connection/Commitment to School

- Include bills that provide students with educational support or create a positive school environment, or give resources and support to victims of dating violence/sexual assault
  - HB 4195 of 2019 - emotional and educational support for pupils affected by sexual abuse to allow the pupil to continue to be successful in school
  - HB 5055 of 2019 - victims can get a restraining order if someone interferes with their educational environment
  - HB 5500 of 2020 - bill to require school to teach pupils bystander intervention skills to create a school environment that doesn’t tolerate abuse
  - SB 0270 of 2019 - create a school environment in which dating violence is not acceptable
- Exclude instances where “school bond” flags in language about monetary school bonds.
  - SB 0904 of 2018

## Coordination of Resources and Services Among Community Agencies

- Include language that promotes education about dating violence and abuse, and include bills that provide referrals and services to social services
  - HB 4026 of 2017 - a shelter program must provide referral services
  - HB 4195 of 2019, HB 4975 of 2017 - provide educational information to parents/guardians on the warning sign of a child being sexually abused and information on needed assistance, referral, or resources
- Exclude employment related bills that detail accepting employment referrals, unless the language is explicitly about employment referrals for victims of domestic/sexual violence
  - HB 5156 of 2019, HB 5248 of 2017, SB 0604 of 2019, SB 0666 of 2017
<table>
<thead>
<tr>
<th>Cultural Norms That Support Aggression Toward Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exclude unless the bill is about norms related to aggression</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diminished Economic Opportunities/High Unemployment Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This is a community level factor, so to be included it must be working on a community scale</td>
</tr>
<tr>
<td>• An example that would be included – a covid stimulus bill that would send stimulus checks to everyone, because this would provide community-level economic support</td>
</tr>
<tr>
<td>• Exclude instances where the flagged search term is used in a bill detailing what information someone must register on a child abuse registry</td>
</tr>
<tr>
<td>• Exclude unemployment-related bills, because even though they extend employment protections to victims of domestic violence, the bill isn't providing diminished economic opportunities at a community scale. HOWEVER, we would count these instances as positive for Economic Stress</td>
</tr>
<tr>
<td>• HB 4529 of 2019, etc.</td>
</tr>
<tr>
<td>• SB 0717 of 2020, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Include instances extending unemployment protections to victims of domestic/sexual violence</td>
</tr>
<tr>
<td>• HB 5156 of 2019, SB 0666 of 2017, etc.</td>
</tr>
<tr>
<td>• Include bills that allow victims to get restraining orders to prevent their abuser from interfering with their place of employment of employment environment</td>
</tr>
<tr>
<td>• HB 5055 of 2019</td>
</tr>
<tr>
<td>• Include bills that say shelters must provide financial assistance</td>
</tr>
<tr>
<td>• HB 4026 of 2017</td>
</tr>
<tr>
<td>• Include bills that acknowledge that financial stress is a risk factor for violence</td>
</tr>
<tr>
<td>• HR 0255 of 2020 - financial stress from the covid19 pandemic has exacerbated tensions related to domestic violence</td>
</tr>
<tr>
<td>• Exclude instances where the flagged search term is used in a bill detailing what information someone must register on a child abuse registry</td>
</tr>
<tr>
<td>• HB 4529 of 2019, etc.</td>
</tr>
</tbody>
</table>
### Family Conflict
- To be included, there must be some mention or implication of family
- Include instances that extend protections to employees if they or their family member is a victim of domestic violence
  - SB 0605 of 2019
- Exclude instances that are specific to dating relationships within the text of the bill
  - HB 5500 of 2020, SB 0270 of 2019

### Harmful Norms Around Masculinity and Femininity
- Include bills that say that harmful norms about gender roles are a risk factor for violence
  - SR 0081 of 2019, SR 0148 of 2020 - says that many dynamics of power and control that are involved in domestic violence are rooted in gender roles and stereotypes

### Lack of Non-Violent Problem-Solving Skills
- Include bills teaching non-violent problem solving skills
  - HB 5785 of 2018 - teach students that a history of aggression is a risk factor for perpetration of domestic violence AND teach students communication skills that help resolve conflicts within intimate relationships
- Exclude instances where “dependent” flagged in “independent”
  - HB 6283 of 2020, HB 4705 of 2019, HB 4707 of 2019

### Large Number of Dependent Children
- Must include some reference to having many children
- Exclude instances where “college” or “higher education” have flagged in a bill detailing registration information for people on a child abuse registry
  - HB 4527 of 2019, etc.

### Low Educational Achievement
- To be included, the bill must do something to prevent low educational achievement, or create a positive learning/school environment.
- Exclude instances where “grades” is referring to year in school (e.g., 9th grade)
  - HB 4195 of 2019, etc.
- Exclude instances where “college” or “higher education” have flagged in a bill detailing registration information for people on a child abuse registry
  - HB 4527 of 2019, etc.
### Motor Vehicle Crashes

- Include instances discussing moving violations for motor vehicle crashes, because the penalty is a potential deterrent from future unsafe driving
  - HB 4617 of 2019, HB 4951 of 2017, SB 0089 of 2019, SB 0318 of 2019
- Exclude references to the office of highway safety

### Parental Employment

- To be included, the bill must be about parental employment
- Exclude instances where “employment” flagged in a bill detailing registration information for people on a child abuse registry
  - HB 4385 of 2017, etc.

### Parental Thoughts and Emotions That Tend to Support or Justify Maltreatment Behaviors

- To be included, must be about parental thoughts toward a child
- Exclude bills about maltreatment by caregiver against a vulnerable adult, because the caregiver is not necessarily a parent
  - HB 4487 of 2017, SB 0030 of 2019

### Parents’ Lack of Understanding of Children’s Needs, Child Development and Parenting Skills

- Exclude if not about parent’s understanding
  - HR 0058 of 2019

### Poor Behavioral Control/Impulsiveness

- Include bills teaching behavior control
  - HB 5336 of 2017, HB 5500 of 2020, etc. - teach pupils refusal skills and encourage them to resist risky behavior
- Exclude bills where “delinquency” is about delinquent payments
  - HB 5156 of 2019, HB 5248 of 2019, SB 0604 of 2019, SB 0666 of 2017
Proper Child Safety Seat Use/Child Backseat Sitting Location

- Include bills detailing requirements for booster seat use
  - HB 4600 of 2019

- Include bills that require proper child car seat restraint system use in the rear seat when available
  - SB 0318 of 2019

- In a few bills, “child passenger” flags in bills that say a court may waive civil fine for a citation if the person provides evidence of acquisition of a child seating system meeting requirements and has evidence that they have received education from a certified child passenger safety technician. INCLUDE these bills, because waiving the fine incentivizes people to obtain a proper child restraint system and education.

Poor Neighborhood Support and Cohesion

- To be included, the language must state or imply that the neighborhood or community environment is poor
- Exclude HB 4026 of 2017 - emergency shelter may be provided at transient or residential facilities available in the community, exclude because within the text of the bill, transient living facilities are not an indicator of poor neighborhood support

Psychological/Mental Health Problems

- Include instances that say that sexual/dating/domestic violence can have enduring psychological and/or mental health consequences, including ptsd
  - SR 0035 of 2019, HR 0064 of 2019

- Include instances that say that domestic violence includes emotional abuse and/or psychological violence
  - SB 0081 of 2020, SR 0148 of 2020

- Exclude instances where “emotion” is flagged in a bill saying that students must be taught about the emotional consequences of sex, unless it is about emotional abuse
  - SB 0270 of 2019, etc.

- Exclude instances where professions are named in a list of who is a mandatory reporter of child abuse
  - HB 5334 of 2017, etc.

- Exclude search terms flagged in a reference to the mental health code
  - HB 4783 of 2019
| Include bills that allow employees to take time off to address the psychological effects of domestic violence  
| ○ HB 5155 of 2019, etc. |
| Include bills that extend unemployment benefits to victims who must leave their job because staying in their job would be bad for their mental health  
| ○ HB 5248 of 2017, SB 0604 of 2019 |
| HR 0058 of 2019 - the stress produced by child abuse and neglect is a significant public health problem that imposes lasting and damaging effects on children's psychological health into adulthood |
| Include bills that train school employees in crisis management, because they will be better able to recognize and respond to psychological problems  
| ○ HB 5539 of 2018 |
| Include bills that provide emotional and educational support to students who have been affected by sexual abuse  
| ○ HB 4195 of 2019, HB 4975 of 2017 |
| Include bills that recognize the prevalence of psychological/mental health problems due to sexual violence  
| ○ SR 0035 of 2019 - says that 94% of women experience symptoms of PTSD after rape, more than any other violent crime |
| Exclude instances that say school personnel should be trained in ways to respond to disclosures of abuse that are psychologically adept with the child's age  
| ○ HB 4195 of 2019 |
### Seatbelt Use
- To be included, the search term must be about seat belt use for people not in a child car restraint system
- Exclude instances where "restraint" is flagged in language about child car seat restraint systems

### Social Isolation/ Lack of Support
- Include bills that acknowledge that social isolation and/or lack of support is a risk factor for violence
  - HR 0255 of 2020, SR 0115 of 2020 - perpetrators are exploiting social isolation heightened by the covid19 pandemic as a tactic of abuse

### Substance Use
- HB 5785 of 2018 - teach students that substance abuse is a risk factor for perpetrating domestic violence
- Include bills requiring that law enforcement collect information on whether a domestic abuse situation included substance use
  - HB 5055 of 2019, SB 0717 of 2020
- HB 4877 of 2017 - about pregnant women and substance use such that it harms the child while pregnant or after birth, also mentions enrolling in treatment programs

### Witnessing Violence
- Include bills that state that witnessing violence is a risk factor for violence
  - HB 5785 of 2018 - teach students that witnessing violence as a child is a risk factor for perpetration of domestic violence
- Exclude uses of “witness” that say that people in witness protection can register on a child abuse registry with their new identify
  - HB 4343 of 2017
Exclude uses of “witness” about witness statements, witness advocates, or information that should be collected from witnesses unless the bill does something to prevent people from witnessing violence or says that witnessing the violence is a risk factor for future violence