

# Executive Summary: Health Impact Review of SSB 5155

## Concerning suspension and expulsion of kindergarten and early elementary school students (2017-2018 Legislative Sessions)

**Evidence indicates that SSB 5155 has the potential to reduce instances of suspension and expulsion for students in kindergarten through second grade, which in turn has potential to improve educational outcomes, improve earning potential, and decrease health disparities.**

### BILL INFORMATION

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**Sponsors:** Senators Billig, Saldaña, Liias, Rolfes, Frockt, Takko, Darneille, Wellman, Kuderer, Hasegawa

#### Summary of Bill:

- Prohibits public school districts from suspending or expelling students in kindergarten through second grade (K-2), except in the case of a violation of [RCW 28A.600.420](#) (firearms on school premises, transportation, or facilities).
- Encourages school districts to implement evidence-based preventative, restorative, or other practices that support students in meeting behavioral expectations and to train staff to implement those practices.

### HEALTH IMPACT REVIEW

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#### Summary of Findings:

This Health Impact Review found the following evidence regarding the provisions in SSB 5155:

- A fair amount of evidence that prohibiting the use of suspensions and expulsions for students in grades K-2 would likely reduce instances of suspension and expulsion among these students.
- Strong evidence that reducing suspensions and expulsions for students in grades K-2 would likely improve educational outcomes.
- Very strong evidence that improving educational outcomes would likely improve educational attainment.
- Very strong evidence that improving educational attainment would likely improve earning potential.
- Very strong evidence that improving educational attainment would likely improve health outcomes.
- Very strong evidence that improving earning potential would likely improve health outcomes.
- Very strong evidence that improving health outcomes for students affected by suspensions and expulsions would likely decrease health disparities for students of color; students on free or reduced-priced lunch; students with disabilities and those receiving special education services; and students experiencing homelessness.

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# **Health Impact Review of SSB 5155**

**Concerning suspension and expulsion of kindergarten and early elementary school students**

**(2017-2018 Legislative Sessions)**

**March 6, 2018**

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## **Acknowledgement**

We would like to thank the experts who provided consultation and technical support during this Health Impact Review.

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## Introduction and Methods

A Health Impact Review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington State ([RCW 43.20.285](#)). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations ([RCW 43.20.270](#)). This document provides summaries of the evidence analyzed by State Board of Health staff during the Health Impact Review of Senate Bill 5155 ([SSB 5155](#)) from the 2017-2018 legislative sessions.

Staff analyzed the content of SSB 5155 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We consulted with experts and contacted stakeholders with diverse perspectives on the bill. State Board of Health staff can be contacted for more information on which stakeholders were consulted on this review. We conducted objective reviews of the literature for each pathway using databases including PubMed and Google Scholar.

The following pages provide a detailed analysis of the bill including the logic model, summaries of evidence, and annotated references. The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the literature review yielded few if any studies or only yielded studies that were poorly designed or executed or had high risk of bias.
- **A fair amount of evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a vast majority of which supported the association) but the body of evidence did contain some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or there were too few studies to reach the rigor of ‘very strong evidence’; or some combination of these.
- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

This review was subject to time constraints, which influenced the scope of work for this review. The annotated references are only a representation of the evidence and provide examples of current research. In some cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced multiple times.

## Analysis of SSB 5155 and the Scientific Evidence

### *Summary of relevant background information*

- RCW 28A.600 prohibits expulsion and suspension of a student for an indefinite period of time and establishes emergency expulsions as a disciplinary action ([RCW 28A.600.015](#)).<sup>1</sup>
- [RCW 28A.600.460](#) requires school districts record disciplinary actions taken using a statewide student data system publicly available on the Washington State Office of Superintendent of Public Instruction (OSPI) website.<sup>1</sup>
- [RCW 28A.600.490](#) directs OSPI to “convene a [Student Discipline Task Force] to develop: 1) standard definitions of causes of student discipline and data collection standards for disciplinary actions taken at the discretion of the school district and 2) data collection standards for disciplinary actions that are discretionary and for disciplinary actions that result in the exclusion of a student from school.”<sup>1,2</sup>
- In 2016, OSPI reconvened the Student Discipline Task Force to: 1) review and recommend data collection standards related to disproportionality in student discipline and 2) provide feedback regarding the revision of student discipline rules in [WAC 392-400](#).<sup>2</sup>
- Washington Administrative Code ([WAC 392-400-205](#)) provides definitions for short-term suspension, long-term suspension, expulsion, and emergency expulsion of students in Washington State.<sup>3</sup>
- OSPI collects and maintains data on student discipline for all public schools.

### *Summary of SSB 5155*

- Prohibits public school districts from suspending or expelling students in kindergarten through second grade (K-2), except in the case of a violation of [RCW 28A.600.420](#) (firearms on school premises, transportation, or facilities).
- Encourages school districts to implement evidence-based preventative, restorative, or other practices that support students in meeting behavioral expectations and to train staff to implement those practices.

### *Health impact SSB 5155*

Evidence indicates that SSB 5155 has the potential to reduce instances of suspension and expulsion for students in kindergarten through second grade, which in turn has potential to improve educational outcomes, improve earning potential, and decrease health disparities.

### *Pathways to health impacts*

The potential pathways leading from the provisions of SSB 5155 to decreased health disparities are depicted in Figure 1. There is a fair amount of evidence that prohibiting the use of suspension and expulsion of students in grades K-2 would likely reduce instances of suspension and expulsion among these students.<sup>4,5</sup> There is strong evidence that reducing suspension and expulsion of students in grades K-2 would likely improve educational outcomes.<sup>5-10</sup> In addition, the literature indicates that increased educational opportunities and outcomes are very strongly linked to increased educational attainment,<sup>6,7,9,11-14</sup> which in turn is very strongly associated with both improved health<sup>15-27</sup> and increased income<sup>16,28</sup> (which is also very strongly linked to improved health).<sup>15-17,19,24,25,29-35</sup> Students of color; students on free or reduced-price lunch; students with disabilities and those receiving special

education services; and students experiencing homelessness are more likely to be suspended or expelled and to experience health disparities.<sup>7,9,36,37</sup> Therefore, decreasing suspensions and expulsions among these students has potential to decrease health disparities.

Due to time limitations we only researched the most direct connections between the provisions of the bill and decreased health disparities and did not explore the evidence for all possible pathways. For example, potential pathways that were not researched include:

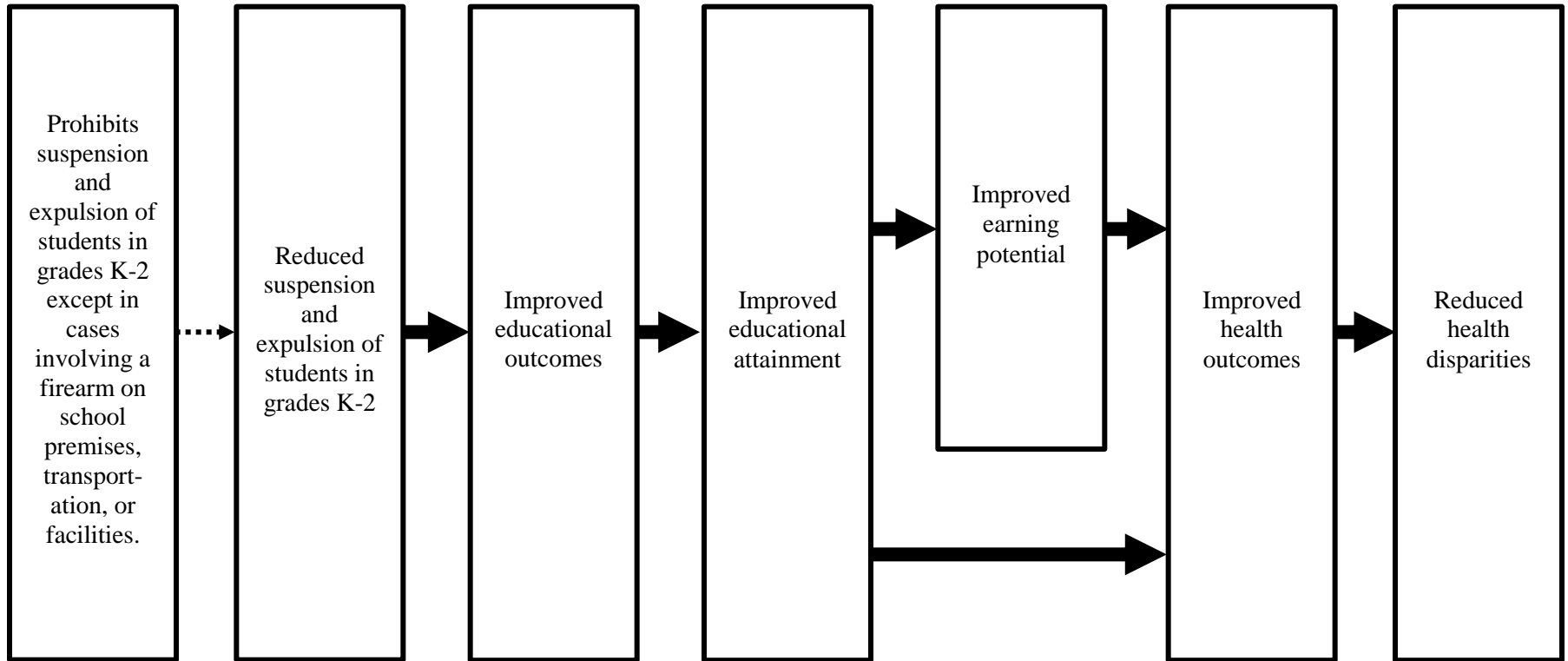
- Evidence for how reducing the use of exclusionary discipline practices for students in grades K-2 may affect the likelihood of future criminal justice system contact which in turn could affect individual health.<sup>7,9,36,38,39</sup>
- Evidence for how educator trainings on evidence-based alternatives to suspension and expulsion may improve educational outcomes and subsequent impacts on health.

### *Magnitude of Impact*

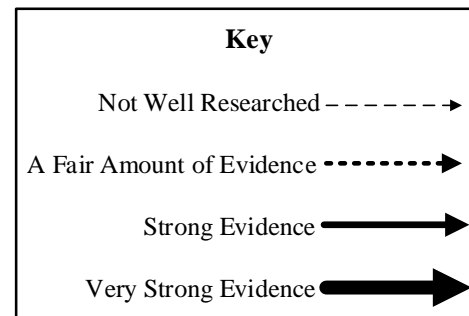
In 2017, approximately 4,154 (1.6%) distinct students in grades K-2 were suspended or expelled from a public school in Washington State.<sup>40</sup> Approximately 626 students with an exclusion were suspended or expelled four or more times during the school year, and there were a total of 8,814 exclusion events.<sup>40</sup> Short-term suspensions and emergency expulsions account for almost all of these events (98.88% and 1% respectively), although long-term suspension was used in 5 cases and expulsion was used in 6 cases for K-2 students.<sup>40</sup>

Students in second grade had statistically significantly higher rates of suspension or expulsion than kindergarteners. In addition, OSPI calculates a Disproportionality Composition Index to measure whether students in a particular group are suspended at a rate proportionate to their representation in the total student population.<sup>37</sup> Based on this measure, students of color, male students, students on free or reduced-price meals, students with disabilities and those receiving special education services, and students experiencing homelessness had disproportionately higher rates of suspension or expulsion than students overall.

## Logic Model



**Figure 1**  
**Substitute Senate Bill 5155**  
**Concerning suspension and expulsion of**  
**kindergarten and early elementary**  
**school students**



## Summaries of Findings

### **Will prohibiting suspension and expulsion of students in grades K-2 reduce instances of suspension and expulsion?**

There is a fair amount of evidence that prohibiting the use of suspension and expulsion of students in grades K-2 will likely reduce instances of suspension and expulsion among these students. Between 2014 and 2017, state legislatures in Connecticut, California, Oregon, Maryland, and New Jersey enacted legislation prohibiting or severely limiting the use of suspensions and expulsions for early elementary school students (Vanessa Hernandez, Youth Policy Director at American Civil Liberties Union of Washington, personal communication, February 2018). These state statutes aim to reduce the use of exclusionary discipline practices (suspension and expulsion). However, statutes vary slightly as to which grade levels these prohibitions/limitations apply. For example, Oregon limits out-of-school suspensions for all students in fifth grade or lower except in cases that meet specific criteria (e.g., non-accidental conduct causing serious physical harm to a student or school employee).<sup>41</sup> As states have only recently enacted and begun implementing these policies, analyses evaluating the effects are limited.

Available evidence from Connecticut and California suggest that statutes prohibiting or significantly limiting the use of exclusionary discipline practices have the potential to contribute to reductions in suspensions and expulsions.<sup>4,5</sup> Following the passage of Connecticut's law in 2014, the number of students in grades Pre-K to second (PK-2) receiving out-of-school suspension declined from 2,365 students in 2014-2015 to 1,674 students in 2015-2016 (-29.1%).<sup>5</sup> However, data also indicate that PK-2 students are receiving out-of-school suspensions for reasons not permitted in Connecticut's statute. During the 2015-2016 school year, students in grades PK-2 received exclusionary discipline sanctions for fighting/battery [44.2%]; school policy violation [26.8%]; physical verbal confrontation [18.5%]; personal threatening behavior [4.9%], or other, including drugs/alcohol/tobacco, property damage, sexually related behavior, theft behaviors, violent crimes, or weapons [5.6%].<sup>5</sup>

California also saw reductions in suspension rates after the state passed a law in 2014 prohibiting public schools from expelling any student or suspending students in grades K-3 for the offense of "willful defiance." The most commonly cited offense for out-of-school suspension, willful defiance is used as a "catchall category of offenses (including disruption) ranging from shouting obscenities at a teacher to forgetting to bring a pencil to class."<sup>4</sup> A correlation study of statewide K-12 data found that from 2013 to 2015 out-of-school suspensions declined for California's four major ethnic groups: Hispanic students (-30.3%), White (-28.5%), Black (-28.5%), and Asian (-29.9%).<sup>4</sup> However, authors note that this association does not signify a causal relationship with the passage of its legislation and that other factors likely contributed to this reduction. For example, some school districts had already taken steps to limit use of suspensions and expulsions. In fact, statewide data from 2011 to 2012 show that suspension rates fell by 12%-13% across all four ethnic groups.<sup>4</sup> Although it is unclear what degree Connecticut's and California's statute changes helped to reduce the use of suspensions within those states, the limited available evidence suggests that the enacted legislation to reduce the use of exclusionary discipline practices likely contributed to reductions.

Similarly, in 2015, Seattle Public Schools placed a moratorium on suspension and expulsion for students in elementary school. The moratorium prohibited suspension for three classifications of behavior: disruptive conduct, rule breaking, and disobedience. The moratorium was codified into Seattle Public School policy in December 2017. Since implementing the moratorium, data for kindergarteners suggest that suspension is decreasing. However, the decline in suspension cannot be attributed specifically to the policy shift since Seattle Public Schools implemented a number of initiatives to reduce and prevent suspensions and expulsions, including providing district-wide training of teachers and staff and implementing positive behavioral intervention supports (Pat Sander, Executive Director, Coordinated School Health, Seattle Public Schools, personal communication, February 2018).

In addition to traditional forms of suspensions and expulsions, Washington State provides for the use of “emergency expulsion” ([RCW 28A.600.015](#)), an immediate form of exclusionary discipline, which may modify the effects of SSB 5155. An emergency expulsion is defined by the Washington Administrative Code ([WAC 392-400-205](#)) as “an emergency removal from school for up to, and not exceeding, ten consecutive school days from the student’s current school placement by a school district superintendent...[who] must have good and sufficient reason to believe the student’s presence poses an immediate and continuing danger to other students or school staff or an immediate and continuing threat of substantial disruption of the educational process.”<sup>3</sup> The school district must end or convert the emergency expulsion to another form of corrective action within ten school days from the date of the expulsion. If it is converted to another form of disciplinary action, the school must provide notice and due process rights. SSB 5155 is intended to supersede the emergency expulsion action for students in grades K-2, however as evidence from California and Connecticut suggest, there is the potential that school districts may continue to use emergency expulsions (Joshua Lynch, Program Supervisor of Student Discipline and Behavior, OSPI, personal communication, February 2018). If school districts increase the use emergency expulsions in the place of traditional suspensions and expulsions, this could undermine the aim of SSB 5155 to prohibit or severely limit the use of exclusionary discipline practices for early elementary school students.

### **Will reducing suspension and expulsion of students in grades K-2 improve educational outcomes?**

There is strong evidence that reducing suspension and expulsion of students in grades K-2 will likely improve educational outcomes.<sup>5-10</sup> For example, a meta-analysis of 24 studies that examined the relationship between suspension and academic achievement outcomes found a statistically significant association between suspension and academic outcomes across all grade levels.<sup>6</sup> The Connecticut State Department of Education found significant differences in academic achievement between students who experienced at least one disciplinary sanction (suspension or expulsion) and those who did not. Across all grade ranges (elementary, middle, and high school), on average those who experienced at least one disciplinary sanction scored approximately 20 index points lower (0-100 point scale) in both math and English Language Arts (ELA) than their non-suspended peers.<sup>5</sup> Similarly, an analysis of Kentucky School Discipline Study (KSDS) data for students grades 6 through 10 found that students who were suspended each of the three study years were predicted to have a Measure of Academic Progress (MAP) math score 16.21 points lower than those who had never been suspended ( $p < .001$ ; nearly a one standard deviation reduction).<sup>8</sup> Students who were suspended each year of the study were predicted to have a MAP reading score 15.05 points lower than those who have never been



suspended ( $p < .001$ ; nearly a one-standard deviation decrease in academic achievement).<sup>8</sup> Additionally, having a suspension in a given year was associated with significantly lower math performance ( $b = -.56$ ;  $p < .05$ ) and reading evaluations ( $b = -1.01$ ;  $p < .001$ ) at the end of that academic year relative to other years, comparing each student to himself or herself.<sup>8</sup> A quasi-experimental study of two similar student groups with the only major difference being whether or not students had experienced suspension, found the “suspended group was nearly five grade levels behind the non-suspended group.”<sup>8</sup> These and other findings suggest that suspension may impede academic progress and contribute to lower academic achievement.

Research also indicates that the use of suspension and expulsion has negative consequences for school-wide academic achievement, even when controlling for demographics such as socioeconomic status.<sup>7,10</sup> One study found that students who experience heightened risk of lower academic achievement due to socioeconomic factors may be further disadvantaged by their schools’ use of exclusionary discipline practices.<sup>6</sup> Evaluation of school-level suspension and expulsion data for elementary and secondary schools in the Midwest found that, “after accounting for the influence of a school’s poverty rate, out-of-school suspension is the next strongest predictor of achievement.”<sup>42</sup> A multivariate analysis of KSDS data found “increasing school-level suspension is associated with very modest growth in reading achievement, to about the mean level of exclusionary discipline, at which point achievement begins to decline rapidly with increasing suspensions ( $p < .001$ ).”<sup>10</sup> Analyses of the association between suspension and math achievement follow the same trend. Results suggest that low to moderate levels of suspension (suspension rate less than or approximately the district mean) do not affect non-suspended students’ reading or math achievement. However, among schools with low levels of violence (one standard deviation below the mean) use of out-of-school suspension has a strong negative effect on predicted reading scores for non-suspended students.<sup>10</sup> The effect is less pronounced in disorganized, more violent school environments. The association remained when researchers controlled for student- and school-level demographic characteristics (e.g., race/ethnicity, special education, socioeconomic status).<sup>10</sup> Findings suggest that higher levels of exclusionary discipline within schools over time negatively affects the academic achievement of non-suspended students.

Finally, exclusionary discipline practices may also initiate or further exacerbate other factors that can affect educational outcomes. For example, the Departments of Health and Human Services and Education cite evidence that suspensions and expulsions can delay or interfere with processes necessary to identify and address underlying issues (e.g., disabilities or mental health issues), which may affect education outcomes.<sup>9</sup> Additionally, there is evidence that expulsion or suspension early in a child’s life is associated with expulsion or suspension in later school grades,<sup>9,36</sup> which may further compound the effects of exclusionary discipline on educational outcomes.

While evidence indicates that prohibiting or limiting suspension would likely improve educational outcomes, research is primarily focused on older grade levels and few studies have specifically evaluated the impacts of prohibiting or limiting suspension on educational outcomes for early elementary school students. Therefore, for the purpose of this analysis, we have rated the available evidence as strong rather than very strong.

### **Will improving educational outcomes improve educational attainment?**

There is very strong evidence that improved educational outcomes (e.g. higher grades and increased readiness to learn) are associated with higher educational attainment.<sup>11-14</sup> For example, one study found that low grades during primary school were predictive of not having completed a secondary education by age 20 or 21.<sup>14</sup> These links are well documented and because this connection is widely accepted, less time was dedicated to researching this relationship. In addition several measures of educational outcomes are innately indicative of education attainment (e.g. specific grades are required as a prerequisite for high school graduation—one measure of educational attainment) further supporting the strength-of-evidence for this relationship.

Additionally, there is a strong association between suspension and dropping out.<sup>6,7,9</sup> Students who are expelled or suspended from school are as much as 10 times more likely to drop out of high school as those never suspended or expelled.<sup>7,38,39</sup> Evidence also shows that young students who are expelled or suspended are more likely to experience academic failure and grade retention, hold negative attitudes toward school, face incarceration, have reduced lifetime earnings, and experience worse health outcomes than non-suspended students.<sup>7,9,36,38,39</sup>

### **Will improving educational attainment improve earning potential?**

There is very strong evidence for the connections between increasing educational attainment and increasing income as well as decreasing rates of unemployment. These links are well documented, and data indicate that these trends exist in Washington State.<sup>16,28</sup> Because this connection is widely accepted, less time was dedicated to researching this relationship.

### **Will improving earning potential improve health outcomes?**

There is very strong evidence that improving earning potential will improve health outcomes. There is a large body of robust evidence that supports the association between income, or socioeconomic position, and health.<sup>15-17,19,24,25,29-35</sup> Significant correlations exist between lower income and a number of health indicators including worse overall self-reported health, depression, stress, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes.<sup>15-17,29,32,34,43</sup> Further, 2015 data indicate that age-adjusted death rates were higher in Washington census tracts with higher poverty rates.<sup>24</sup> Household income was also the strongest predictor of self-reported health status in Washington in 2016, even after accounting for age, education, and race and ethnicity.<sup>25</sup>

### **Will improving educational attainment improve health outcomes?**

There is very strong evidence that higher educational attainment is associated with better health. Data collected nationally and in Washington State indicate a correlation between higher educational attainment and positive health outcomes such as decreased rates of diabetes, oral health problems, tobacco use, inactivity, obesity, depression, and coronary heart disease.<sup>15-27,44</sup> The correlation between health and education is observed even after controlling for income, which can serve as a mediating factor.

### **Will improving health outcomes for K-2 students experiencing exclusionary discipline reduce health disparities?**

There is very strong evidence that improving health outcomes for K-2 students experiencing exclusionary discipline would likely decrease health disparities.<sup>7,9,36</sup> Data from OSPI indicate

that students of color; students on free or reduce-priced lunch; students with disabilities and those receiving special education services; and students experiencing homelessness are suspended and expelled at disproportionately higher rates.<sup>37</sup> Since these groups of students also experience worse health outcomes, SSB 5155 also has the potential to decrease health disparities by race and ethnicity, income, disability, special education status, and homelessness.

### *Disparities by race/ethnicity*

The evidence that Black and African American students are disproportionately suspended and expelled compared to students of any other race or ethnicity is well documented.<sup>7,8,10,37-39,42,45-49</sup> Discipline rates are especially high for Black males.<sup>9,45,46</sup> Washington State Board of Education's 2016 Biennial Report found that Black students were twice as likely to be subject to exclusionary discipline in school when compared to all students in Washington State.<sup>37</sup> This disproportionality is consistent across all grades, and one study found that Black preschoolers represent 18% of preschool enrollment nationally, but 48% of preschoolers receiving more than one out-of-school suspension.<sup>45</sup> According to unpublished 2017 OSPI data, the odds of being suspended or expelled were statistically significantly higher for K-2 American Indian/Alaska Native (AI/AN) students (OR 0.697, p-value 0.000), Black students (OR 0.670, p-value 0.000), and students of two or more races (OR 0.354, p-value 0.000) than for White K-2 students.<sup>40</sup> These represent a decrease from 2015 and 2016 data. Meanwhile, Asian, Hispanic, and Native Hawaiian/Other Pacific Islander (NHOPI) K-2 students had statistically significantly lower odds of exclusionary disciplinary action than their White peers.<sup>40</sup>

Data has shown that communities of color experience worse health outcomes than their counterparts for many health measures. In Washington, data indicate that American Indian/Alaska Natives (AI/AN) and Black residents had some of the highest age-adjusted death rates and shortest life expectancies at birth compared to other groups in the state.<sup>24</sup> Further, communities of color also have higher rates of current tobacco use, diabetes, obesity, and poorer self-reported overall health and mental health.<sup>15,17,19,24,29,35,50-52</sup> Similar patterns are seen among youth as data also demonstrates that youth of color have worse health outcomes for many health measures compared to White youth.<sup>16,53</sup> For example, Healthy Youth Survey data show that 8th, 10th, and 12th grade respondents who identified as AI/AN or Hispanic were significantly more likely than their white peers to report symptoms of depression.<sup>53</sup> Additionally, Black and Hispanic children with special health care needs (CSHCN) are also disproportionately affected by disability, which is further compounded for those living in financial poverty.<sup>54</sup> Since students of color (particularly African American students) are more likely to experience exclusionary discipline and more likely to experience worse health outcomes, by reducing suspensions and expulsions, SSB 5155 has potential to reduce health disparities by race/ethnicity.

### *Disparities by income*

Data indicate that students on free and reduced-price lunch (FRPL) may be disproportionately suspended or expelled.<sup>10,37,39</sup> One study found that students on FRPL had 1.68 times the odds of being suspended or expelled across all grade levels compared to other students.<sup>39</sup> Analysis of unpublished 2017 OSPI data found that the odds of being suspended or expelled were 1.139 higher (p-value 0.000) for K-2 students on FRPL compared to other students.<sup>40</sup> Additional data from Washington State suggest that school districts that serve the highest percentages of students

eligible for free and reduced-price lunch also serve the highest percentages of students of color, which could exacerbate disparities.<sup>55</sup>

Evidence indicates that low socioeconomic status in the first five years of life has negative health outcomes in later childhood and adolescence including activity-limiting illness, parent-reported poor health status, acute and recurrent infections, increased body mass index (BMI), dental caries, and higher rates of hospitalization.<sup>33,43</sup> In addition, financial stress is also associated with adverse outcomes for families such as problem behavior in adolescents, inter-parental conflict, and parental depression.<sup>31</sup>

### *Disparities by disability and special education*

Studies have indicated that students with disabilities are more likely to be suspended than students with no disability.<sup>8,38,45,47,49,56,57</sup> Studies have found that students with disabilities represent approximately 10-11% of school-aged children, but account for 20-24% of students who are suspended.<sup>49,56</sup> They found that students with emotional disturbance had a higher odds of suspension than students with learning disabilities or other health impairments.<sup>49,56</sup> An evaluation of school enrollment and suspension data from Maryland also indicated that White students with autism or an intellectual disability were significantly more likely to be suspended than White students with no disability.<sup>57</sup> In Washington, the odds of being suspended or expelled were statistically significantly higher for both K-2 students with disabilities (OR 1.397, p-value 0.000) and students in special education (OR 1.567, p-value 0.000) than for students without a disability and not in special education, respectively.<sup>40</sup> These odds have risen slightly since 2015.

There is also some evidence that disproportionate suspension rates for students with disabilities may be further exacerbated for students of color.<sup>45,49</sup> Maryland suspension data from 2003 indicated that African American students with mental retardation had three times the odds of being suspended than students from any other racial group with mental retardation.<sup>56</sup> A 2017 study found that African American students with autism were at a higher risk of suspension than White students with autism, suggesting that race may play a role in suspension among students with intellectual disabilities.<sup>57</sup>

A study of Maryland suspension data from 2004 to 2015 found that, while suspension rates decreased over this time period, the risk of suspension for students with an intellectual disability increased. The authors noted that, “policy change may have reduced suspension practices while having the undesirable effect of increasing the odds of suspending students with autism or intellectual disability.”<sup>57</sup> Unpublished data from Seattle Public Schools also suggest that the rate of suspension for students in special education may be increasing as the overall rate of suspension decreased following the moratorium on suspension for elementary school students (Pat Sander, Executive Director, Coordinated School Health, Seattle Public Schools, personal communication, February 2018). Similarly, statewide data from OSPI also suggest the odds of suspension for these groups may be increasing.<sup>40</sup> Due to data restrictions and the recent timing of these policy changes, this relationship has not been further investigated.<sup>57</sup> However, these trends are worth noting, and may influence the impact that SSB 5155 has for students with disabilities or receiving special education services.

Research has shown that children with disabilities have poorer health outcomes than their peers without disabilities.<sup>54,58,59</sup> Data from the National Survey of Children with Special Health Care

Needs indicate that children with special health needs (CSHCN) who have a disability face health disparities and health care inequities compared to CSHSN without a disability. An analysis of the 2005-06 nationally representative sample of CSHCN (n=40,723) found "[t]he health conditions of CSHCN with disabilities compared with other CSHCN were more commonly deemed severe (26% vs 4%) and unstable (16% vs 4%)." <sup>54,59</sup> Additionally, CSHCN with disabilities had higher rates of utilization and unmet need and were less likely to have a medical home compared to their CSHCN peers without disabilities. Secondary analyses of population-based studies provide evidence that children with disabilities have a greater risk for obesity than their peers without disabilities. Obesity presents both a risk for developing chronic conditions (e.g., high blood pressure, hyperlipidemia, and insulin resistance) as well as secondary conditions associated with an individual's primary disability. <sup>60</sup> Secondary conditions commonly reported by people with disabilities that are likely worsened with excess weight include chronic pain, social isolation, depression, falls or other injuries, and extreme fatigue. <sup>60</sup> Another study found that 52% of children with intellectual disabilities have a number of additional health conditions and comorbidities, including obesity and sleep disorders. <sup>58</sup>

### *Disparities by homelessness*

Data from OSPI show that students who are homeless experience disproportionate rates of suspension and expulsion. <sup>40</sup> According to 2017 data, K-2 students experiencing homeless in Washington had statistically significantly higher odds (OR 0.880, p-value 0.000) of being suspended or expelled than their housed peers. These odds have remained consistent over the three years for which data is available. <sup>40</sup>

One study found that homeless students and migrant students experience greater levels of student mobility, and found that students who changed school within the past year had higher rates of suspension compared to non-mobile students. <sup>61</sup> Mobility may be a contributing factor to higher rates of suspension and expulsion for homeless students in Washington. <sup>62</sup> While research suggests that homeless students experience higher levels of student mobility and lower academic achievement, <sup>61-63</sup> fewer studies have examined the relationship between homelessness and discipline rates. A report from the Institute for Children, Poverty & Homelessness compiled data on students experiencing homelessness in Seattle Public Schools. <sup>62</sup> They found that students experiencing homelessness scored half the proficiency rate in math and English Language Arts (ELA) compared to housed students. <sup>62</sup> Students experiencing homelessness were twice as likely to be suspended or expelled than housed students, with 7.7% of all homeless students receiving a suspension or expulsion during the 2015-2016 school year compared to 2.8% of housed students. <sup>62</sup> Homeless students were also more likely to be suspended or expelled for less severe offenses and for longer periods of time than their housed peers. Specific to elementary school students, the report found that homeless students in lower grades were more likely to be disciplined for "exceptional misconduct" than housed students. Racial disparities in discipline were also compounded by homelessness, with 11% of Black homeless students being suspended or expelled compared to 7% of Black housed students. <sup>62</sup> The authors note that, "[Seattle Public Schools] moratorium on suspension for nonviolent offenses in elementary school benefit homeless students directly, as they are more likely to be disciplined and may already be chronically absent due to homelessness." <sup>62</sup>

Multiple studies, including two systematic reviews, have concluded that youth experiencing homelessness have worse health outcomes and greater health risks than their housed peers,<sup>64-66</sup> and that homelessness is an independent risk factor for poor health outcomes.<sup>66</sup> Overall, homeless youth experience greater rates of illness and injury, sexually transmitted diseases, pregnancy, poor nutrition, poor oral health, substance use disorders, depression, posttraumatic stress disorder, and anxiety.<sup>64-66</sup> A systematic review also concluded that homeless youth are at increased future risk of diabetes, heart disease, arthritis, and musculoskeletal disorders.<sup>65</sup> Therefore, prohibiting suspension and expulsion in early elementary school may improve the educational outcomes and reduce health disparities for students experiencing homelessness.

### **Other Considerations**

We considered a number of other research questions in order to determine if there are alternate pathways leading from the provisions in the bill to positive or negative health impacts. We ultimately did not include these pathways in the logic model on page four of this review because there was insufficient evidence to determine if the connections exist. We generally do not include a research question in the logic model if it is not well researched unless it is essential to the flow of the logic model. We evaluated the evidence on the impacts of suspension and expulsion policies on school safety and school climate. We did not find evidence that the use of suspension and expulsion improves overall school safety. The use of suspension and expulsion increased with the widespread adoption of zero tolerance policies in the late 1980s and 1990s.<sup>38</sup> A key assumption of zero tolerance policy is that the removal of disruptive students will result in a safer climate for other students.<sup>38,67</sup> The American Psychological Association convened a Zero Tolerance Task Force to examine the effectiveness of zero tolerance policies on school discipline. The task force found “data on a number of indicators of school climate have shown the opposite effect, that is, that schools with higher rates of school suspension and expulsion appear to have *less* satisfactory ratings of school climate, to have less satisfactory school governance structures, and to spend a disproportionate amount of time on disciplinary matters.”<sup>38</sup>

## **Annotated References**

**1. Final Bill Report Second Engrossed Substitute Senate Bill 5946. Olympia, Washington: Washington State Legislature;2013.**

ESSB 5946 aims to strengthen student educational outcomes through a variety of approaches summarized in this bill report. In addition to student discipline, the bill addresses reading and early literacy, the Learning Assistance Program, the Educator Support Program, and Alternative Learning Experience Programs.

**2. Student Discipline Task Force. Available at. Accessed February, 2018.**

The OSPI webpage provides an overview of the Student Discipline Task Force's 2013-2014 work toward these two aims. With the passage of the Fourth Substitute House Bill (4SHB) 1541 in 2016, OSPI reconvened the task force to: 1) review and recommend data collection standards related to disproportionality in student discipline and 2) provide feedback regarding the revision of student discipline rules in Chapter 392-400 WAC.

**3. 392-400-205 WAC. Definitions.**

WAC 392-400-205 provides definitions of school discipline, short-term suspension, long-term suspension, expulsion and emergency expulsion.

**4. Loveless Tom. The 2017 Brown Center Report on American Education: How Well Are American Students Learning?: The Brookings Institution;2017.**

In 2014, the California state legislature passed state law AB420 prohibiting public schools from expelling any student or suspending students in grades K-3 for the offense of "willful defiance"—"a catchall category of offenses (including disruption) ranging from shouting obscenities at a teacher to forgetting to bring a pencil to class." Los Angeles, San Francisco, and other school districts had already limited the use of exclusionary discipline practices for all grades for willful defiance, the most commonly cited offense for out-of-school suspensions. Statewide data from 2013 to 2015 show that out-of-school suspensions declined for all ethnic groups: Hispanic students (-30.3%), white (-28.5%), black (-28.5%), and Asian (-29.9%). However, black students were still disproportionately suspended compared to other ethnic groups in 2015 (approximately three times the rate of Hispanic students and four times that of white students). Further analysis of this disproportionality found that schools with younger students (elementary and K-8) tend to have low (<5%) African-American suspension rates; whereas, 42.9% of middle schools and 38.5% of high schools had high (> or = 5%) African-American suspension rates. The analysis also found that (1) larger schools had higher suspension rates for black students than small schools; (2) schools with more students qualifying for free and reduced-price meals (proxy for poverty) had higher African-American suspension rates than wealthier communities; and (3) schools with a greater percentage of black students had higher suspension rates for black students than schools with fewer black students. Authors conclude that results suggest that "policymakers should consider altering the organizational characteristics of schools as a strategy for reducing disparities in black suspension."

## **5. Education Connecticut State Department of. Suspensions and Expulsions in Connecticut. 2017.**

Effective July 1, 2015, the Connecticut state legislature passed Public Act 14-168 prohibiting local or regional boards of education from imposing out-of-school suspensions or expulsions on students in grades preschool through two (PK-2). Exceptions include out-of-school suspensions for students whose conduct is of a violent or sexual nature that endangers others and expulsion for possession of a firearm or certain other weapons for selling or distributing controlled substances. The act also establishes or updates requirements for school-based primary mental health programs. Following the passage of the law, the number of students grades PK-2 receiving out-of-school suspension declined by 29.1% (2,365 students in 2014-15 to 1,674 students in 2015-16). Analysis of 2015-2016 suspension and expulsion data for PK-2 found that 71.6% of suspended students were Black or Hispanic and 58.5% of all suspended students were Black or Hispanic boys. While declines are evidenced among all student groups, disproportionality persists in the application of sanctions by race and sex. During the 2015-16 behaviors resulting in in-school-suspension, out-of-school suspension, or expulsion for grades pre-k through second were due to fighting/battery [44.2%]; school policy violation [26.8%]; physical verbal confrontation [18.5%]; personal threatening behavior [4.9%], or other, including drugs/alcohol/tobacco, property damage, sexually related behavior, theft behaviors, violent crimes, weapons [5.6%]). Data indicate that PK-2 students are receiving out-of-school suspensions for reasons not permitted in Connecticut's statute. The analysis also found significant differences in academic achievement across all grade levels in both math and English language arts (ELA) between students who experienced at least one disciplinary sanction and those who did not. Those who experienced at least one disciplinary sanction saw approximately 20 index points lower (both math and ELA) than their non-suspended peers. This difference held true among elementary students.

## **6. Noltemeyer A.L., Ward R.M., Mcloughlin C. Relationship Between School Suspension and Student Outcomes: A Meta-Analysis. *School Psychology Review*. 2015;44(2):224-240.**

Noltemeyer and Ward (2015) completed a meta-analysis of 34 studies (53 cases) that looked at school suspension and academic achievement for students in grades K-12. The majority of cases (62.3%) focused on out-of-school suspensions, measured suspensions at the student level (58.5%), and were conducted with U.S. populations (96.2%). Twenty-four of these studies (42 cases) examined the relationship between suspension and achievement outcomes. Authors cite previous research which has shown Black students are significantly overrepresented as recipients of school suspension. Similarly, male students and economically disadvantaged students experience heightened risk of suspension. Additionally, a school's suspension rate has been shown to be independently associated with passage rate on a state achievement test at both the elementary and secondary school levels. Overall, they found a statistically significant relationship between suspension and academic outcomes across all grade-levels. Authors note that "these finding are particularly concerning given that low-income and urban schools, those which often face greater challenges related to achievement and dropout, use school suspensions at significantly higher rates than other schools." Results suggest that students who may experience heightened risk of lower academic achievement due to socioeconomic and other factors may be further disadvantaged by their schools' use of exclusionary disciplinary practices.



Moreover, the use of suspensions may initiate or exacerbate student disengagement from school which could in turn lead to dropout or poor achievement.

**7. Lamont J. H., Devore C. D., Allison M., et al. Out-of-school suspension and expulsion. *American Academy of Pediatrics*. 2013;131(3):e1000-e1007.**

This Policy Statement from the American Academy of Pediatrics (AAP) examines the rationale for out-of-school suspension and expulsion, discusses prevention strategies and alternatives to such exclusionary forms of discipline, and recommends physicians play a role in guiding school districts to find more effective and appropriate alternatives to these policies. Traditionally, the goals for out-of-school suspension and expulsion were to promote a safe environment for students and discourage inappropriate, violent behavior by removing those who participated in such behavior. However, research has demonstrated that "schools with higher rates of out-of-school suspension and expulsion are not safer for students or faculty." AAP notes that zero-tolerance policies gained recognition with the passage of the *Gun-Free Schools Act* (1994), which was "prompted by violent acts perpetrated by white students." Yet, many school districts use these policies to address a variety of infractions, including nonviolent offenses, and the vast majority of out-of-school suspensions and expulsions involve black or Hispanic students. Authors cite data that suggest that "students who are involved in the juvenile justice system are likely to have been suspended or expelled." Additionally, students who experience out-of-school suspension and expulsion are as much as 10 times more likely to drop out of high school than those who do not. Dropping out of high school can have lasting consequences for an individual's earning potential (reduce lifetime earnings by an average \$400,000 females and \$485,000 for males). Compared to the average high school graduate, the average high school dropout experiences worse health outcomes and has a life expectancy that is 6 to 9 years shorter. Furthermore, exclusionary discipline policies have collateral consequences beyond those students suspended. "Research indicates a negative relationship between the use of suspension and expulsion and school-wide academic achievement, even when controlling for demographics such as socioeconomic status." Authors conclude that research demonstrates that out-of-school suspension and expulsion are used too readily, are ineffective deterrents to inappropriate behavior, and are harmful and counter productive to the student, the family, the school district, and the community as a whole, both short- and long-term. AAP maintains that these exclusionary disciplinary practices "should not be considered as appropriate discipline in any but the most extreme and dangerous circumstances, as determined on an individual bases rather than as a blanket policy."

**8. Morris Edward W., Perry Brea L. The Punishment Gap: School Suspension and Racial Disparities in Achievement. *Social Problems*. 2016;63(1):68-86.**

Authors propose that school punishment is a logical explanation for achievement differences between black and white students for three reasons: 1) punishment varies widely by race, which suggests it may be related to racial variation in achievement; 2) suspension and expulsion exclude students from the learning environment, which can impede academic progress; and 3) "school suspensions increased markedly beginning in the 1990s at the same time that progress on narrowing the achievement gap waned." Researchers used longitudinal data from the Kentucky School District Disciple Study (KSDS). The sample of students grades 6 through 10 with complete records (n=16,248) includes children identified as white (59%), black (25%), Latino (10%), Asian (4%), and self-reported other race (3%). The sample population is comprised of

51% boys and 49% girls. The rates of out-of-school suspension in the KSDS and nationally representative National Household Education Surveys (NHES 2007) are the same with 22% reported as ever been suspended. Findings from the 17 schools indicate that black students are estimated to be 7.57 times as likely to be suspended as white students ( $p < .001$ ), and Latinos are over twice as likely as whites ( $OR = 2.39$ ;  $p < .001$ ). Additionally, students of other races are estimated to be 2.61 times more likely to be suspended than whites ( $p < .001$ ), while Asians are less likely than whites ( $OR = .20$ ;  $p < .001$ ). Furthermore, when school-level differences are controlled for, black students are still estimated to be nearly six times as likely to be suspended as their white peers ( $OR = 5.91$ ;  $p < .001$ ), Latinos are about twice as likely ( $OR = 1.87$ ;  $p < .001$ ), and students of other races are 2.47 times more likely ( $p < .001$ ). Asian students are less likely to be suspended than white students ( $OR = .23$ ;  $p < .001$ ). These findings suggest that "racial segregation into different schools explains about 12% of the effect of being black on the odds of suspension, and supplemental analyses confirm that schools with larger concentration of black students have significantly higher rates of out-of-school suspension." Analyses of covariates found: 1) Students who qualify for free/reduced lunch are predicted to be 6.36 times more likely to be suspended as those who do not ( $p < .001$ ); 2) students who receive special education services are estimated to be 3.19 times more likely than those who do not ( $p < .001$ ); and girls are less likely to be suspended than boys ( $OR = .36$ ;  $p < .001$ ). Controlling for each of these and family structure (one parent or two parent household), black students are predicted to have nearly 2.46 times the odds of suspension compared to whites students ( $OR = 4.46$ ;  $p < .001$ ). Students of other races are 57% more likely than whites to be suspended ( $p < .05$ ). However, the association becomes non-significant for all other races or ethnicities when controlling for all other factors suggesting that the elevated risk of suspension can be entirely explained by groups' lower levels of socioeconomic status and family structure. Analyses of the effect of suspension on academic achievement in reading and math suggest that "20% of the effect of being black on reading achievement ( $b = -2.07$ ;  $p < .001$ ) and 17% on math achievement ( $b = -2.24$ ;  $p < .001$ ) works indirectly through inequalities in exclusionary discipline experiences." Therefore, findings suggest disproportionate rates of suspension experienced by black students in public schools contribute to the racial achievement gap.

#### **9. Services United States Department of Health and Human, Education United States Department of. Policy Statement on Expulsion and Suspension Policies in Early Childhood Settings.No date.**

This policy statement, released by the U.S. Departments of Health and Human Services (HHS) and Education (ED), provides recommendations for preventing and severely limiting expulsion and suspensions in early childhood settings. Authors cite recent data that indicates these exclusionary discipline practices occur at high rates in preschool settings and research which suggests such practices are associated with negative educational and life outcomes. Evidence shows that young students who are expelled or suspended may experience lasting effects compared to their non-suspended peers: 1) they are as much as 10 times more likely to drop out of high school, 2) experience academic failure and grade retention, 3) hold negative school attitudes, and 4) face incarceration. Additionally, there is evidence that expulsion or suspension early in a child's life is associated with expulsion or suspension in later school grades. This is particularly concerning as racial and gender disparities in how these practices are applied show that young boys of color are suspended and expelled much more frequently than other children. Authors note that exclusionary discipline practices may also delay or interfere with processes necessary to identify and address underlying issues (e.g., disabilities or mental health issues) and

may contribute to increased family stress and burden. Therefore, HHS and ED state "expulsion and suspension practices in early childhood settings, two stressful and negative experiences young children and their families may encounter in early childhood programs, should be prevented, severely limited, and eventually eliminated." Appendices include information regarding evidence-based practice and resources for teachers and parents. For example, authors highlight positive behavior intervention and support (PBIS), a systems approach to establishing the social culture and behavioral supports necessary for all children to achieve both social and academic success. Randomized control trials of program-wide PBIS in elementary school settings found its use reduced discipline referrals and suspensions and improved fifth grade academic performance. PBIS has been associated with "improved perception of school safety and improvements in the proportion of students at third grade who met the state reading standard."

**10. Perry Brea L., Morris Edward W. Suspending Progress. *American Sociological Review*. 2014;79(6):1067-1087.**

This multivariate analysis of longitudinal data collected as part of the Kentucky School Discipline Study (KSDS) assesses the effects of high use of suspension on reading and math achievement. Authors note prior research focuses on students who experience suspension and expulsion but does not evaluate the effects on other students in the learning environment. The sample includes students in grades 6 through 10 (middle and high school) enrolled in a district public school during the study period from August 2008 to June 2011. Authors found exclusionary discipline patterns in the KSDS data are representative of national trends (e.g., race and ethnicity and gender). For example, 42% of Black students in the sample had ever been suspended compared to 43% in the nationally representative sample (a non-significant difference). In order to provide an estimate of school-level effects on individual achievement, researchers excluded 749 students with out-of-school suspensions from the analysis sample (n=16,148 students). Consistent with national trends, students with suspensions were disproportionately male, Black, Hispanic, and eligible for free/reduced lunch. Results indicate a statistically significant, curvilinear relationship between school-level out-of school suspension over time and student academic achievement. Researchers found low levels of school suspensions (below the mean = 93.97) do not affect non-suspended students' reading or math achievement. However, in schools with low levels of violence (one standard deviation below the mean) high levels of out-of-school suspension has a strong negative effect on predicted reading scores for non-suspended students (54th percentile at mean level of suspension; 28th percentile at very high levels of suspension [two standard deviations above mean]). Analyses of the association between suspension and math achievement follow the same trend. The effect is less pronounced in disorganized and violent school environments. This relationship is unaffected by the addition of demographic student- and school-level characteristics, and the time-ordered nature of the variable (suspensions occurred before or during the testing period) suggests a causal relationship. Findings suggest that higher levels of exclusionary discipline within schools over time negatively affect the academic achievement of non-suspended students in punitive contexts.

11. **Lucio R, Hunt E, M Bornovalova. Identifying the necessary and sufficient number of risk factors for predicting academic failure. *Developmental Psychology*. 2012;48(2):422-428.**

Lucio et al. analyzed data from the Educational Longitudinal Study: 2002 which includes a national sample of 14,796 students. The authors used a 5-step process to identify which factors contribute to academic 'failure'—a grade point average (GPA) of less than 2.0 which is the minimum GPA needed to graduate from high school. They found that a number of academic outcomes impact a student's GPA and therefore their ability to attain a high school diploma. Many of these are academic outcomes that other research has found to be impacted by skipping breakfast such as academic engagement, grade retention, and behavior among students. The authors also found that the odds of passing decreased with each additional risk factor: "For each risk factor that is added, there is a 47% increased likelihood of failing."

12. **Melby J. N., Conger R. D., Fang S. A., et al. Adolescent family experiences and educational attainment during early adulthood. *Developmental psychology*. 2008;44(6):1519-1536.**

Melby et al. analyzed data from a longitudinal study of two-biological-parent intact families in Iowa. They had a sample size of 451 families. The researchers conducted modeling to determine what factors impact educational attainment and found level of academic engagement was strongly correlated with later educational attainment.

13. **Ou Suh-Ruu, Reynolds Arthur J. Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly*. 2008;23(2):199-229.**

Ou and Reynolds analyzed data from the Chicago Longitudinal Study, using a sample size of 1,286 youth in order to investigate predictors of high school completion and total educational attainment. They found that, among other factors, school absences, grade retention, and youth's educational expectations all influenced educational attainment.

14. **Winding T. N., Nohr E. A., Labriola M., et al. Personal predictors of educational attainment after compulsory school: influence of measures of vulnerability, health, and school performance. *Scandinavian journal of public health*. 2013;41(1):92-101.**

Winding et al. analyzed data from a 2004 questionnaire completed by a cohort of adolescents born in 1989 (n=3053) in Denmark (83% response rate) and linked 2010 educational attainment data from Statistics Denmark. This allowed for a follow-up of 6.5 years. The authors found that low grades during primary school was predictive of not having completed a secondary education by age 20/21 (odds ratios between 1.7 and 2.5). For students with low math grades this association was even stronger. The authors cite two additional studies which have also found an association between school performance and later educational attainment.

15. **Health of Washington State: Mental Health. Washington State Department of Health;2008.**

Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2004-2006 indicate that American Indians/Alaska Natives and non-Hispanic Black individuals reported significantly higher rates of poor mental health compared to other groups. These relationships persisted after adjusting for additional factors such as age, income, and education. Washington BRFSS data also

show an association between lower annual household income and poor mental health, a relationship that was also shown with education. It is well understood that mental health is also closely related to other areas such as employment opportunities, physical health, and substance abuse. This report also highlights a Washington State study from 2002 that reveal that 16% of individuals in the state who were receiving publicly funded mental health services had at least one felony conviction, a rate over twice that of the general population.

16. **Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence And Trends Data: Washington-2014. 2014; Available at: <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2014&state=WA#XX>. Accessed August 16, 2016.**

Behavioral Risk Factor Surveillance System (BRFSS) 2014 data from Washington state show significant correlations between lower income and a number of health indicators including: worse overall self-reported health, depression, asthma, arthritis, stroke, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and diabetes. Data also show that as educational attainment increases income level also increases.

17. **Christensen Trevor, Weisser Justin. Health of Washington State Report: Tobacco Use. Washington State Department of Health;2015.**

Christensen et al. report Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2012 to 2014 indicate that prevalence of smoking decreases as income and levels of education increase. Further, American Indians and Alaska Natives (AI/AN) and Native Hawaiian/Other Pacific Islander populations have significantly higher smoking rates than white, black, Hispanic, and Asian populations.

18. **Kandel Denise B., Griesler Pamela C., Schaffran Christine. Educational attainment and smoking among women: Risk factors and consequences for offspring. *Drug and Alcohol Dependence*. 2009;104:S24-S33.**

Researchers examined United States data from four national data sets and found that, among women, lower levels of education are associated with greater risk of being a current smoker, smoking daily, smoking heavily, being nicotine dependent, starting to smoke at an early age, having higher levels of circulating cotinine (a metabolite of nicotine) per cigarettes smoked, and continuing to smoke in pregnancy. In addition, lower levels of maternal education were linked to increased risk of antisocial behavior among offspring.

19. **Kemple Angela. Health of Washington State Report: Diabetes. Washington State Department of Health;2016.**

Kemple presents data from Washington regarding diabetes in the state. Washington data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2012-2014 show that among adults, the percentage of persons with diabetes increased as household income decreased. This relationship was also true for education. Further, BRFSS data also show that age-adjusted diabetes prevalence is highest among those who are Hispanic, American Indian/Alaska Native, and black.

20. **McCarty C. A., Mason W. A., Kosterman R., et al. Adolescent school failure predicts later depression among girls. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine.* 2008;43(2):180-187.**

McCarty et al. conducted a prospective longitudinal cohort study with a sample of 808 youth followed from ages 10 to 21. The researchers discovered that adolescent school ‘failure’ (meaning being suspended, expelled, or dropping out of high school early) predisposed girls to depression in early adulthood.

21. **McLaren L. Socioeconomic status and obesity. *Epidemiologic Reviews.* 2007;29:29-48.**

McLaren et al. conducted a meta-analysis exploring the relationship between obesity and SES among adults. A total of 333 studies published internationally met the inclusion criteria. In highly developed countries, the majority of the studies found higher body weights among women with lower education attainment. Nearly 50% of the studies in highly developed countries found the same relationship for men.

22. **Mersky JP, AJ Reynolds. Educational success and adult health: Findings from the Chicago longitudinal study. *Prevention Science.* 2009;10(2):175-195.**

Mersky and Reynolds analyzed data from a Chicago prospective cohort study that followed 1,539 individuals. Results indicate that high school completion was significantly and inversely associated with tobacco smoking, frequent substance use, depression, and no health insurance coverage. In addition, middle school reading performance was inversely related to depression and student’s expectation to attend college was negatively associated with frequent drug use.

23. **Mezuk B, Eaton WW, Golden SH, et al. The influence of educational attainment on depression and risk of type 2 diabetes. *American Journal of Public Health.* 2011;98(8):1480.**

Researchers analyzed adult survey data collected in the Baltimore Epidemiological Catchment Area and then conducted follow-up interviews with the survey cohort. Mezuk et al. found a statistically significant association between type 2 diabetes and lower educational attainment. In addition, the data indicate that depression was associated with type 2 diabetes, but each year of education attained decreased the risk of type 2 diabetes for those experiencing depression.

24. **Poel A. Health of Washington State Report: Mortality and Life Expectancy. Data Update 2015. Washington State Department of Health;2015.**

Poel presents Washington state data on mortality and life expectancy. The data show that age-adjusted death rates were higher in Washington census tracts with higher poverty rates. The state data also show that American Indian/Alaska Natives, Native Hawaiian/Other Pacific Islanders, and black residents had the highest age-adjusted death rate and shortest life expectancy at birth compared to other groups in the state.

25. **Serafin M. Health of Washington State Report: Self-reported Health Status. Data Update 2016. Washington State Department of Health;2016.**

Serafin presents data from Washington state on self-reported health status. The data show that after accounting for age, education, race and ethnicity, household income was a strong predictor

of self-reported health status. Health status varied by race and ethnicity, with close to 35% of Hispanics, 30% of American Indian/Alaska Natives, and 20% of Native Hawaiian/Other Pacific Islanders reporting fair or poor health. Washington Behavioral Risk Factor Surveillance System (BRFSS) data from 2012-2014 also show that education was a strong predictor of self-reported fair or poor health after adjusting for age.

**26. Skodova Z., Nagyova I., van Dijk J. P., et al. Socioeconomic differences in psychosocial factors contributing to coronary heart disease: a review. *Journal of clinical psychology in medical settings*. 2008;15(3):204-213.**

Skodova et al. conducted a meta-analysis of the literature addressing the relationships between SES, coronary heart disease (CHD), and psychosocial factors contributing to coronary heart disease. Researchers identified 12 studies that met their inclusion criteria. They found that higher levels of education are associated with lower rates of CHD, and that decreasing education is associated with factors that are linked to CHD such as depression, anxiety, hostility, and a lack of social supports.

**27. Steptoe A., Hamer M., Butcher L., et al. Educational attainment but not measures of current socioeconomic circumstances are associated with leukocyte telomere length in healthy older men and women. *Brain, behavior, and immunity*. 2011;25(7):1292-1298.**

Steptoe et al. analyzed data collected from 543 male and female London-based civil servants of white European origin. All participants were between the ages of 53 and 76 and healthy. Researchers looked at blood samples to determine telomere length and telomerase activity. Telomere shortening is associated with aging. Short telomeres are also associated with increased risk of premature heart attack and mortality. Researchers found that lower educational attainment was associated with shorter telomere length after controlling for biological and behavioral covariates. This association remained significant even after adjusting for current SES. Researchers speculated that low educational attainment may be an indicator of long-term lower SES, and may be associated with accumulated stress resulting in telomere shortening. They also postulate that education may promote problem-solving skills leading to reduced responses to stress, thereby impacting aging.

**28. Bureau of Labor Statistics website. Employment projections: Earnings and unemployment rates by educational attainment. Last Updated March 15, 2016; Available at: [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm). Accessed November 1, 2016.**

National data from 2015 indicate that as educational attainment increases median weekly earnings also increase and unemployment rates decrease.

**29. Ellings Amy. Health of Washington State Report: Obesity and Overweight. Washington State Department of Health;2015.**

Ellings reports Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2002-2014, which shows that obesity rates are the highest among low income families and that as income increases, rates of obesity decrease. Further, individuals that graduated college or attended some college had lower rates of obesity than those who had a high school education or less. Black, American Indian and Alaska Native, and Hispanic Washington residents had higher rates of obesity even after accounting for gender, income, education, and age.

30. **Paul Karsten I., Moser Klaus. Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*. 2009;74(3):264-282.**

Paul et al. conducted a meta-analysis of 237 cross-sectional and 87 longitudinal studies that examined the relationship between mental health and unemployment. The meta-analysis of cross-sectional data revealed that unemployed persons showed significantly more symptoms of distress and impaired well-being than did employed persons. The meta-analyses of longitudinal studies and natural experiments supported the concept that unemployment is not only correlated to distress but also causes it.

31. **Ponnet K. Financial stress, parent functioning and adolescent problem behavior: an actor-partner interdependence approach to family stress processes in low-, middle-, and high-income families. *Journal of youth and adolescence*. 2014;43(10):1752-1769.**

Ponnet cites extensive evidence on the relationship between financial hardship and emotional problems among youth and adults, family conflict, problem behavior among adolescents, and psychological distress. The author analyzed data from a subsample of two-parent families with children between 11 and 17 years of age from the Relationship between Mothers, Fathers and Children study drawn from the Dutch-speaking part of Belgium (n= 1,596 individuals from 798 families). Analysis showed that parents in low-income groups had significantly more financial stress than those in middle-income and high-income groups. The author found that the association between financial stress and problem behavior in adolescents is mediated by depressive symptoms, interparental conflict, and positive parenting. They also found that financial stress had more detrimental impacts on depressive feelings for mothers with low incomes than for those with higher incomes.

32. **Prause J., Dooley D., Huh J. Income volatility and psychological depression. *American journal of community psychology*. 2009;43(1-2):57-70.**

Prause et al. analyzed a sample (n = 4,493) from the National Longitudinal Survey of Youth. Researchers found that income volatility was significantly associated with depression; and downward volatility (frequent losses in income) was significantly associated with depression even after controlling for baseline depression. High income appeared to act as a buffer, so those with lower incomes were more vulnerable to the adverse effects of downward volatility.

33. **Spencer N., Thanh T. M., Louise S. Low income/socio-economic status in early childhood and physical health in later childhood/adolescence: a systematic review. *Maternal and child health journal*. 2013;17(3):424-431.**

Spencer et al. conducted a meta-analysis of studies examining the relationship between low socioeconomic status in the first five years of life and physical health outcomes in later childhood and adolescence. Nine studies met the researchers' strict inclusion criteria. The studies indicated significant associations between early childhood low-income status and a number of adverse health outcomes including: activity-limiting illness, parent-reported poor health status, acute and recurrent infections, increasing body mass index (BMI), dental caries, and higher rates of hospitalization.



34. **Subramanyam M., Kawachi I., Berkman L., et al. Relative deprivation in income and self-rated health in the United States. *Social science & medicine*. 2009;69(3):327-334.**

Subramanyam et al. analyzed data from the 2002, 2004, and 2006 Current Population Surveys conducted by the United States Census Bureau. Researchers found that individuals from the lowest income category were over five times more likely to report being in poor health than participants from the highest income category. In addition, they found that relative deprivation (the differences in incomes between an individual and others who have higher incomes than that individual [one measure of income inequality]) appeared to explain a large part of this association.

35. **VanEenwyk J. Health of Washington State Report: Socioeconomic Position in Washington. Washington State Department of Health;2016.**

VanEenwyk presents data about socioeconomic position in Washington State including differences within the state as well as statewide differences compared to national data. Data indicate that compared to the United States as a whole, fewer Washington residents are living in poverty and a higher percentage of residents ages 25 and older have college degrees. However, these economic resources are not evenly distributed among all Washington residents. Females in Washington were more likely to be living in poverty than males and were also more likely to have lower wages. Further, American Indian and Alaska Native, Hispanic, and black residents had higher percentages of living in poverty and lower median household incomes compared to other groups. Data also indicated that counties in eastern Washington were more likely to have high poverty rates and high rates of unemployment than counties in western Washington.

36. **Meek Shantel E., Gilliam Walter S. Expulsion and Suspension in Early Education as Matters of Social Justice and Health Equity. *National Academy of Medicine*. 2016.**

This discussion paper provides a summary of the current evidence related to suspension and expulsion of children across the lifespan. The authors note that children of color are at the highest risk for suspension and expulsion, even from early learning programs, resulting in gaps in health and educational equity. Expulsion from early learning programs may result in decreased access to support services and may predict increased suspension and expulsion, academic failure, school dropout, and incarceration later in life.

37. **Education The Washington State Board of. Statewide Indicators of Education System Health.2016.**

In this 2016 Biennial Report the Washington State Board of Education (Board) recommends the Legislature add exclusionary discipline rates to the list of indicators evaluated to determine the system's health. The recommended indicator addresses disproportionality in discipline practices. The report states, "[t]his indicator focuses on the lost educational opportunity caused by exclusionary discipline practices, which likely contributes to opportunity and achievement gaps." According to the SBE, the goal for this indicator would be the "alignment of discipline events and rates and enrollment rates for each student group." The Board indicates that it will continue to engage the Accountability and Achievement Workgroup (AAW) to determine whether of Office of Superintendent of Public Instruction's (OSPI) Disproportionality Composition Index (CI) is the most appropriate indicator measure. CI is a measure of whether students assigned to a student group are suspended at a rate proportionate to their representation in the total student

population. A [CI] greater than 1.00 indicates the group makes up more of the suspensions and expulsions than their representation in the student population generally. Conversely, a CI less than 1.00 indicates the group makes up less of the suspensions and expulsions than their representation in the population generally. A CI of 1.00 for all student groups means that “no group is being subjected to suspensions and expulsions at a disproportionately high or low rate. Authors cite OSPI data from the three most recent years ending with the 2014-15 school year, which show Black/African American, Native American/Alaskan, Hispanic/Latino, Hawaiian/Pacific Islander, and Two or More Races students experience disproportionately high suspension and expulsion rates. Additionally, students with a disability and students participating in the Free and Reduced Price Lunch program are also experiencing disproportionately high suspension and expulsion rates. For example, Black students and students with a disability are more than twice as likely to be subject to exclusionary discipline in school when compared to all students in Washington State.

**38. Force American Psychological Association Zero Tolerance Task. Are Zero Tolerance Policies Effective in the Schools?2008.**

The American Psychological Association convened a Zero Tolerance Task Force to examine the effectiveness of zero tolerance policies on school discipline. They looked at 20 years worth of literature, and provided recommendations for future policy directions. They explain that zero tolerance policies gained widespread use in schools in the 1990s with the assumption that removing disruptive students from classrooms would improve the overall learning environment. They state that the policies were "intended to be applied regardless of the gravity of behavior, mitigating circumstances, or situational context. The task force found that zero tolerance policies disproportionately impact students of color and students with disabilities. They state, "overrepresentation in suspension and expulsion has been found consistently for African American students...The evidence shows that such disproportionality is not due entirely to economic disadvantage, nor are there any data supporting the assumption that African American students exhibit higher rates of disruption or violence that would warrant higher rates of discipline." The task force also found that zero tolerance in schools resulted in more referrals to the juvenile justice system, and that policies do not align with best practices for adolescent development.

**39. Petras Hanno, Masyn Katherine E., Buckley Jacquelyn A., et al. Who is most at risk for school removal? A multilevel discrete-time survival analysis of individual- and context-level influences. *Journal of Educational Psychology*. 2011;103(1):223-237.**

This study uses an advanced longitudinal modeling technique, multilevel discrete-time survival analysis, to examine the occurrence and the timing (i.e., grade) of school removal (i.e., suspension and expulsion), while "accounting for clustering of students within the classroom and explicitly incorporating the estimate of covariate effects at both the student level and classroom level on the event history process." Authors cite evidence that students who are removed from school are "at higher risk for several negative outcomes, including academic failure, grade retention, negative school attitude, and, consequently, high school dropout, juvenile delinquency, and incarceration." Researchers use data from a larger randomized prevention trial study of preventive interventions targeting early learning and aggression in first and second graders in Baltimore City public schools. The analysis includes participants from the control group who had complete records of variables of interest. The sample (n=1,169) is representative of all students

entering first grade in the 1986-1987 school year in urban areas comprised of neighborhoods at high risk (due to high rates of financial poverty and crime) for many negative outcomes. The majority of the sample is African American (65.1%) and Caucasian (33.6%). Results may not be generalizable to other racial and ethnic groups. Overall, the study shows that race and ethnicity, sex, financial poverty level, and early individual levels of aggression all have strong relationships to school removal. Additionally, researchers found risk differences remain when controlling for early individual levels of aggressive/disruptive behavior. For example, "African American students had 2.02 times the hazard odds of first school removal at any given grade compared with White students, controlling for the effects of SES, sex, and aggression." Similarly, students on free or reduced lunch had "1.68 times the hazard odds of first school removal at any grade compared with students of higher SES levels, holding the effects of race, sex, age, and aggression constant." Authors conclude that "boys compared with girls, African-American students compared to Caucasian students, and students living in financial poverty compared with those not living in poverty are at much greater risk for school removal, and this phenomenon is not fully accounted for by differences in students' initial levels of aggression."

**40. Health State Board of. Health Impact Review Suspension and Expulsion Data Analysis of Unpublished Office of Superintendent of Public Instruction Data. In: Office of Environmental Public Health Sciences WSDoH, ed2018.**

State Board of Health (SBOH) staff analyzed discipline data provided by the Office of Superintendent of Public Instruction (OSPI) for the years 2015-2017 (unpublished data, personal communication, February 14, 2018). Washington State Department of Health (DOH) staff from Office of Environmental Public Health Sciences conducted statistical tests to determine whether differences in exclusionary discipline rates were statistically significantly different between student groups.

**41. Duty of student to comply with rules, Oregon Revised Statute 339.250 (2015).**

Effective July 1, 2015, Oregon Revised Code 339.250 establishes limitations on the use of out-of-school suspension and expulsion of a student who is in fifth grade or lower.

**42. Rausch M.K., Skiba R.J. The Academic Cost of Discipline: The Relationship Between Suspension/Expulsion and School Achievement. Indiana University, Center for Evaluation and Education Policy;2005.**

The author summarizes past research suggesting that zero-tolerance policies were implemented to deter future misconduct for students and their peers, and to improve the learning environment for students that are not suspended or expelled. This study looked at two related hypothesis: 1. Does student suspension and expulsion increase academic achievement for students that are not suspended or expelled? And 2. Does student suspension and expulsion decrease academic achievement for students that are disciplined? The author states that there is "little available research and no published evidence in peer reviewed journals that has demonstrate a positive impact of student removal on student learning or academic achievement." The author analyzed school-level suspension and expulsion data for all public elementary and secondary schools in a Midwestern state to look at the relationship between academic achievement, race, and discipline. They controlled for other sociodemographic variables, including socioeconomic status, race, and grade level. At the elementary school level, after controlling for poverty, they found that African

American students were significantly more likely to be expelled than another other racial group and that White students scored significantly higher on standardized tests. The author concluded that, after controlling for sociodemographic factors, out-of-school suspension significantly predicted school achievement. The author states that, “after accounting for the influence of a school’s poverty rate, out-of-school suspension is the next strongest predictor of achievement, even stronger than a schools percent minority enrollment and level (elementary vs. secondary).”

43. **Food Research & Action Center. Relationship Between Poverty and Obesity. 2015; Available at: <http://frac.org/initiatives/hunger-and-obesity/are-low-income-people-at-greater-risk-for-overweight-or-obesity/>. Accessed November 14, 2016.**

Overview of studies from the United States that present research on the relationship between obesity and poverty. Provides relevant study conclusions for both adult and child populations.

44. **Hemphill S. A., Heerde J. A., Herrenkohl T. I., et al. The impact of school suspension on student tobacco use: a longitudinal study in Victoria, Australia, and Washington State, United States. *Health Educ Behav.* 2012;39(1):45-56.**

Hemphill et. al. completed a longitudinal study of 7th and 9th graders in Washington State and Victoria, Australia to determine the impacts of suspension on tobacco initiation. Overall, they determined that school suspension is associated with early onset of adolescent tobacco use. The authors note that early onset of tobacco use is more likely to lead to poor health outcomes later in life.

45. **US Department of Education Office for Civil Rights. Civil Rights Data Collection Data Snapshot: School Discipline, Restraint, & Seculsion Highlights.2014.**

A report from the U.S. Department of Education (2014) found that Black children and boys were more likely to be expelled from preschool than other students. For example, Black children represent 18% of preschool enrollment, but 48% of preschool children receiving more than one out-of-school suspension. Conversely, white students represent 43% of preschool enrollment but 26% of preschool children receiving more than one out-of-school suspension. Overall, students of color and students with disabilities are more likely to be suspended from school. With the exception of Latino and Asian-American students with disabilities, children of color with disabilities experience higher rates of out-of-school suspensions (more than one out of four boys and nearly one in five girls). However, preschool students with limited English proficiency do not receive out-of-school suspensions at disproportionately high rates.

46. **Gilliam Walter S. Prekindergarteners Left Behind: Expulsion rates in state prekindergarten systems. Yale University Child Study Center;2005.**

Gilliam analyzed data from a study of 3,898 prekindergarten classrooms across the United States. These classrooms represent 81% of all 52 state-funded prekindergarten systems operating across 40 different states. This study found that 6.67 preschoolers per 1,000 prekindergarten students were expelled, which is 3.2 times the rate of expulsion for all students in grades K-12. Rates of expulsion were highest for African American students and boys.

47. **Iselin Anne-Marie. Research on School Suspension. Duke University, Center for Child and Family Policy;No date.**

This research brief was prepared by Duke University's Center for Child and Family Policy as part of the 2010 North Carolina Family Impact Seminar, which provides educational briefings for state policymakers. The brief summarizes the research on school suspension, the impact of suspension on students, and the effectiveness of alternatives to suspension. Based on a review of available literature, the author states that suspension may be effective in removing a problematic student from school, providing temporary relief to frustrated school personnel, and raising parental attention about student misconduct. However, zero-tolerance policies do not improve overall school safety and are associated with lower academic performance, higher dropout rates, decreased likelihood of graduating on time, and further disciplinary action. Male students, students with disabilities, and Black or African American students are more likely to be suspended than other students.

**48. Noltemeyer A.L., Mcloughlin C.S. Patterns of Exclusionary Discipline by School Typology, Ethnicity, and their Interaction. *Perspectives on Urban Education*. 2010;Summer:27.**

This study used 2007-2008 school year data (disciplinary incidents) from 326 Ohio school districts (55% of all school districts in the state) to examine patterns of exclusionary discipline by school typology (i.e., urban, suburban, rural), student ethnicity, and their interaction. Analyses revealed significant differences in the use of exclusionary discipline (i.e., suspensions, expulsions, and other disciplinary actions) based on ethnicity. The average rate of both suspension and expulsion was over two and a half times greater among African American students as compared to white students. Researchers found that ethnicity accounted for 16.6% of the variability in disciplinary actions. Meanwhile, school typology accounted for 4% of the variability in exclusionary discipline. Researchers found the mean number of expulsions per 100 students was significantly greater among Major Urban—Very-high-poverty schools than that for all other school types. Results indicate that when controlling for student poverty level (an identified covariate): "(a) African American students are disproportionately represented as recipients of exclusionary discipline; (b) major urban very-high-poverty schools utilize these practices most frequently; and (c) disciplinary disproportionality was most evident in major urban districts with very-high-poverty and was least evident in rural districts with a small student population and low poverty."

**49. Achilles Georgianna M., McLaughlin Margaret J., Croninger Robert G. Sociocultural Correlates of Disciplinary Exclusion Among Students With Emotional, Behavioral, and Learning Disabilities in the SEELS National Dataset. *Journal of Emotional and Behavioral Disorders*. 2007;15(1):33-45.**

Researchers analyzed selected participant data (n=1,824) from the Special Education Elementary Longitudinal Study (SEELS) to identify factors associated with higher likelihood of exclusion (HLE) among students (ages 7 to 14 years) in three high-exclusion disability groups: emotional/behavioral disorders (EBD), other health impairment (OHI) with a diagnosis of attention-deficit/hyperactivity disorder (ADHD), and learning disability (LD). Researcher cite evidence that disciplinary exclusion disproportionately affects students with disabilities despite protections afforded students with disabilities under the Individuals with Disabilities Education Improvement Act (IDEIA; 1997 and 2004). One study reported suspension rates of approximately 20% for special education students compared to 10% for the overall student population. State and national studies indicate that "students with EBD and LD are suspended or

expelled at rates that double or even triple rates for the school population as a whole." Authors found HLE was more likely among students with EBD and ADHD compared to students with LD. HLE was also associated with African American ethnicity, older age, male gender, lower socioeconomic status, multiple school changes, urban schooling, and having parents who expressed low satisfaction. When socioeconomic status and family-structure (i.e., lived with two parents or did not) were controlled for, Hispanic ethnicity was no longer a statistically significant predictor of HLE. Researchers found that "later age of disability onset, shorter lapse in time from disability onset to service initiation, and receipt of early intervention or Head Start were unrelated to exclusion history."

**50. Child Weight and Physical Activity. Washington State Department of Health;2013.**

The authors present Washington state data on child weight and physical activity. The data show that in 2012, around 10% of Washington students in grades 8, 10, and 12 were obese and another 13-14% were overweight. Among 10th grade students, American Indian/Alaska Natives, Blacks, Hispanics, and Pacific Islanders were more likely than their white counterparts to be overweight or obese. Nationally, the authors indicate that the percentage of children and adolescents who were defined as overweight has doubled since the early 1970's and in 2012, around 42% of Washington students in grades 8, 10, and 12 reported that they were trying to lose weight.

**51. Ebbeling Cara B., Pawlak Dorota B., Ludwig David S. Childhood obesity: public-health crisis, common sense cure. *The Lancet*. 2002;360(9331):473-482.**

Ebbeling et al. present a global literature review on the scope of the childhood obesity problem and developments in the establishment of a cause, prevention, and treatment for obesity. Rates of childhood obesity have grown across the globe, with a nearly 2 to 3 fold increase in the rates in the United States over the last 25 years. Most relevant to this review, the authors examined extensive literature that demonstrates the association between childhood obesity and hypertension, high blood lipids, chronic inflammation, increased blood clotting tendency, endothelial dysfunction, hyperinsulinaemia, sleep apnea, asthma, and type 2 diabetes. Further, type 2 diabetes presents additional risks such as heart disease, stroke, kidney failure, and blindness. In addition to the physical health risks from childhood obesity, many studies have indicated substantial psychosocial consequences such as negative self-image and stereotyping. The authors note that Black and Hispanic youth in the United States are at a greater risk for type 2 diabetes and cardiovascular disease than their white counterparts.

**52. Jay Shubrook Jr. Childhood Obesity and the Risk of Diabetes in Minority Populations American Osteopathic Association Health Watch;2011.**

Shubrook presents data on childhood obesity and diabetes among children in the United States. Data shows that childhood obesity increases the risk of adult obesity with estimates indicating that obese children as young as age 6 have a 50% chance of being obese as an adult. Further data indicates that childhood obesity increases the risk of coronary heart disease and mortality as an adult. Data from the National Health and Nutrition Examination Survey (NHANES) show that Hispanic and non-Hispanic black children have the highest rates for childhood obesity in the United States. There also appears to be a disproportionately higher incidence of type 2 diabetes among minority children with the highest incidence found among Navajo Indian females (38.42 cases per 100,000 people compared to 3.7 cases per 100,000 white females). Shubrook concludes

that the burden of obesity is of great concern, particularly among minority populations in the U.S. and this increased risk needs to be acknowledged in order to address the problem effectively.

53. **QxQ Analysis. 2016. <http://www.askhys.net/Analyzer>. Accessed January 18, 2018.**

Washington State Healthy Youth Survey data from 2016 indicate that youth of color experience worse health outcomes than their peers. Data suggest that in Washington State, American Indian/Alaska Native and Black youth have disparately high rates of cigarette use across all grades. For example, among 12th graders, AI/AN youth (18.3% [95% CI 12-24.6%]) and Black youth (15% [95% CI 8.9-21.1%]) reported higher smoking rates than their peers with 11.9% (95% CI 10-13.8%) of White youth smoking. Data also show that 8th, 10th, and 12th graders who identified as AI/AN or Hispanic were also significantly more likely than their White peers to report symptoms of depression.

54. **Houtrow Amy J., Okurma Megumi J., Rehm Roberta S. Identifying Health Disparities and Health Care Inequities Between Children With Special Health Care Needs With and Without Disabilities. 2011.**

This study compared children with special health needs (CSHCN) with and without disabilities in terms of their health disparities and health care inequities. Authors analyzed a nationally representative sample of CSHCN (n=40,723) from the National Survey of CSHCN, 2005-06. Children were defined as having a disability if the child had " an ongoing limitation in his or her ability to do the things that other children of the same age can do due to a condition that has lasted or is expected to last at least 1 year." Results indicate that Blacks, Hispanics, publicly insured children, children living in financial poverty, and children raised by single parents are disproportionately affected by disability. Researchers found "[t]he health conditions of CSHCN with disabilities compared with other CSHCN were more commonly deemed severe (26% vs 4%) and unstable (16% vs 4%)." Additionally, CSHCN with disabilities had higher rates of utilization and unmet need compared to other CSHCN. Finally, less than one in three CSHCN with disabilities received care in a medical home compared to more than half of other CSHCN. Survey results indicate that CSHCN with disabilities experience more adverse health consequences and face more difficulty accessing health services than their CSHCN peers without disabilities.

55. **Office of Superintendent of Public Instruction website. Student enrollment demographic data 2016. Available at: <http://reportcard.ospi.k12.wa.us/DataDownload.aspx>. Accessed November 13, 2016.**

These recent Washington State data indicate that school districts that serve high percentages of students eligible for free and reduced-price lunch also tend to serve high percentages of students of color. Although the relationship is not true for every district, the trend is apparent when looking at data for all school districts combined.

**56. Krezmien M.P., Leone P.E., Achilles G.M. Suspension, Race, and Disability: Analysis of Statewide Practices and Reporting. *Journal of Emotional and Behavioral Disorders*. 2006;14(4):217-226.**

This study evaluated Maryland school enrollment and suspension data from 1995 to 2003 to examine differences in suspension rates by race and disability. The authors used special education eligibility categories to determine disability status. They cite past studies that have found that students with disabilities represent approximately 11% of all school-aged children, but account for 20-24% of students who are suspended. Overall, they found that the rate of suspensions in Maryland increased between 1995 and 2003. The odds of being suspended increased over time for African American students, and African American students were significantly more likely to be suspended than White students. Taking intellectual disabilities into account, in 2003, the odds of being suspended were higher for students with emotional disturbance, compared to learning disabilities or other health impairments. White, Hispanic, Asian, and American Indian students with intellectual disabilities were suspended at similar rates to White students with no disability. African American students with an intellectual disability were significantly more likely to be suspended than White students with no disability and more likely to be suspended than students from the same disability category from any other racial group. African American students with mental retardation had three times the risk of being suspended than any other racial group with mental retardation. The authors concluded that, “there was clear evidence that increases in suspension rates [as a result of zero-tolerance policies] were accompanied by deepening of the inequity in disciplinary treatment across racial groups.”

**57. Krezmien M. P., Travers J. C., Camacho K. Suspension rates of students with autism or intellectual disabilities in Maryland from 2004 to 2015. *J Intellect Disabil Res*. 2017;61(11):1011-1020.**

This study evaluated Maryland school enrollment and suspension data from 2004 to 2015 to examine differences in suspension rates by race and intellectual disability, including autism. The authors used special education eligibility categories to determine intellectual disability status. They found that African American students with autism or an intellectual disability as well as African American students with no disability were significantly more likely to be suspended. They also found that White students with autism or an intellectual disability were significantly more likely to be suspended than White students without a disability. For 2015, they found that African American students with autism were at a higher risk of suspension than White students with autism, suggesting that race may play a role in suspensions among students with intellectual disabilities. Overall, while the authors concluded that students with intellectual disabilities are more likely to be suspended than students with no disability, it is unclear how race contributes to this difference. The authors also found potential unintended consequences in reducing student suspension. Although the study found that suspensions in Maryland decreased from 2004 to 2015, students with an intellectual disability had a greater risk of suspension in 2015 than in 2004. The authors note that, “policy change may have reduced suspension practices while having the undesirable effect of increasing the odds of suspending students with autism or intellectual disability” and that “findings from this study are important because they showed state-wide reductions in disciplinary outcomes co-occurring with increased risk for some historically vulnerable groups.” Due to data restrictions, the authors were unable to further examine these trends.



**58. Allerton Lindsay A., Welch Vicki, Emerson Eric. Health inequalities experienced by children and young people with intellectual disabilities: A review of literature from the United Kingdom. *Journal of Intellectual Disabilities*. 2011;15(4):269-278.**

Authors conducted a systematic review of evidence on health inequalities experienced by children under the age of 18 living in the United Kingdom. Authors note a large body of evidence exists which shows people with intellectual disabilities have poorer health than their non-disabled peers, and that research findings suggest that a significant portion of these health differences are avoidable. The review found increased prevalence of epilepsy, endocrine disorders (e.g., hypothyroidism), depression, attention deficit hyperactivity disorder (ADHD), and Autism Spectrum Disorders (ASD) among children with intellectual disabilities compared to their non-intellectually disabled peers. In addition to being associated with intellectual disability, these conditions are also comorbid with one another. One study found that 52% of children with intellectual disability reported three or more health problems, while only 28% of typically developing children reported this level of comorbidities. Results also indicate that children with intellectual disabilities are more likely than their non-intellectually disabled peers to be obese and experience sleep disturbances. Studies have also shown that people with intellectual disabilities are at greater risk of exposure to poverty, poor housing, unemployment, discrimination, and other social determinants associated with ill health. Furthermore, "research demonstrates that families with a child with intellectual disability are more likely to become poor or live in poverty." Authors cite longitudinal data from England that demonstrated that "boys ages 13-14 with moderate intellectual disability are 4 times more likely to be poor and almost 2.5 times more likely to be bullied, which predicts poorer general health among adults with intellectual disability." Health inequalities experienced during childhood are particularly concerning as they may persist to adulthood and be compounded by health inequalities commonly experienced by adults with intellectual disabilities (e.g., increased risk of coronary heart disease, respiratory disease, osteoporosis, and diabetes). Researchers conclude "there is an increased prevalence of a number of health conditions and impairments among children with intellectual disability and evidence that these health inequalities are associated with several preventable environmental determinants."

**59. Houtrow Amy J., Okurma Megumi J., Hilton Joan F., et al. Profiling Health and Health-Related Services for Children With Special Health Care Needs With and Without Disabilities. *Academic Pediatric Association*. 2011;11(6).**

This study compared children with special health needs (CSHCN) with and without disabilities in terms of their health disparities and health care inequities. Authors analyzed a nationally representative sample of CSHCN (n=40,723) from the National Survey of CSHCN, 2005-06. Children with special health care needs (CSHCN) are defined as "children with chronic physical, developmental, emotional, or behavioral conditions who need or use health and related services of a type or amount beyond that typically required by children." Authors cite evidence that "over 20% of CSHCN qualify because they are limited or prevented in their abilities to do things that most children of the same age can do and, thus, are considered to be disabled based on the International Classification of Functioning, Disability and Health (ICF) framework for understanding disability." Disabling health conditions can have significant consequences for a child's health, including extensive health care needs, high rates of health service utilization and costs, and can result in difficulties with school and participation in life events. Results indicate

that CSHCN with disabilities had conditions that "changed all the time" 4 times as frequently as CSHCN without disabilities, and their conditions were rated as "severe" 7 times as frequently. Additionally, parents/caretakers reported CSHCN with disabilities experienced feelings of anxious and/or depression at nearly twice the frequency of other CSHCN (46% vs. 24%;  $p < .001$ ). Furthermore, nearly 40% of CSHCN with disabilities had reported behavioral problems and 38% had trouble making or keeping friends compared with 25% and 16%, respectively, among CSHCN without disabilities ( $p < .001$ ). Finally, CSHCN with disabilities were more likely to have missed more than 3 weeks of school (12%) than CSHCN without disabilities (3.3%);  $p < .001$ . The study also found that while 93% of CSHCN, both with and without disabilities, report having a personal doctor or nurse, those with disabilities are less likely to have report "a usual source of care", "family-centered care", "no difficulty with referrals/didn't need", "adequate care coordination/didn't need", and "care in a medical home" ( $p < 0.01$ ). Most notably only 48.8% of CSHCN with disabilities reported adequate care coordination compared with 73.5% of other CSHCN. CSHCN with disabilities have statistically higher odds of unmet need for the following services: prescription medication; specialty care; mental health services; physical therapy, occupation therapy, and/or speech therapy; medical supplies; durable medical equipment; and communication aids.

**60. Rimmer James H., Rowland Jennifer L., Yamaki Kiyoshi. Obesity and Secondary Conditions in Adolescents with Disabilities: Addressing the Needs of an Underserved Population. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2007;41:224-229.**

Authors cite secondary analyses of data from three population-based studies as evidence that children with disabilities have a greater risk for obesity than their non-disabled peers. For example, data from the 1999-2002 National Health and Nutrition Examination Survey (NHANES) indicate that the rate of overweight (i.e., BMI greater than or equal to 95th percentile for age and sex) was significantly higher ( $p < .05$ ) for youth ages 6 to 17 with mobility limitations (29.7%) compared to youth without mobility limitations (15.7%). Researchers have also reported a higher prevalence of overweight among children and adolescents with spina bifida, cerebral palsy, Prader-Willi syndrome, Down syndrome, muscular dystrophy, brain injury, visual impairments, learning disabilities, attention deficit hyperactivity disorder (ADHD), and autism spectrum disorders. Authors note that physical, social, and attitudinal barriers experienced by youth with disabilities contribute to this population's increased risk of obesity. In addition to being a risk factor for chronic conditions such as high blood pressure, hyperlipidemia, and insulin resistance, obesity presents a greater risk for developing secondary conditions associated with an individual's primary disability. Secondary conditions commonly reported by people with disabilities include chronic pain, social isolation, depression, falls or other injuries, and extreme fatigue are likely worsened with excess weight.

**61. Engce Necati. Relationship between mobility and student performance and behavior. *The Journal of Educational Research*. 2006;99(3):167-178.**

The authors cite previous research showing that students who change schools frequently perform worse academically, score lower on standardized tests, and have behavioral problems than students that do not change schools. They cite data from the U.S. General Accountability Office showing that 41% of mobile students were low-achievers, compared to 26% of non-mobile students. Previous studies also suggested that students in pre-kindergarten through third grade

were more likely to have high mobility, and that mobility may have greater negative impacts for students in lower grades. The author evaluated data from 1997-1998 for students in Louisiana public schools to determine the impact of student mobility on state norm-referenced tests and student suspension. They considered four types of mobility: 1. Within the school year; 2. Between school years; 3. Obligatory, or when the school structure requires a student to move to the next school for the next grade; and 4. Optional, or when a student chooses to attend a different school for the next year. They found an inverse relationship between student mobility and academic performance. As mobility increased, academic performance and test scores decreased. In addition, students with high mobility had lower test scores than non-mobile students across all grade levels and racial/ethnic groups. The impact of mobility on test scores remained significant after controlling for race/ethnicity and grade level. The author also found that obligatory mobile students scored higher on norm-referenced tests than optional mobile students, though both groups scored significantly lower than nonmobile student They also found that suspension rates were high for students that had changed school within the past year. The rate of in-school and out-of-school suspensions increased as mobility increased.

## **62. Institute for Children Poverty & Homelessness. The Seattle Atlas of Student Homelessness.2017.**

The Institute for Children, Poverty & Homelessness completed a report about the problem of homelessness for students in Seattle Public Schools. They found that the number of students experiencing homelessness in Seattle Public Schools has increased since the 2012-2013 school year, with over 6% (3,600) of students experiencing homelessness during the 2016-2017 school year. Approximately 97 percent of public schools in Seattle served at least one homeless student. The institute looked at the impacts of homeless on absenteeism, student mobility, test scores, and school discipline rates. Students experiencing homelessness were more likely to be Black or Hispanic, in special education, and in bilingual education programs. Approximately 66% of students experiencing homelessness were Black or Hispanic, although these groups account for only 31% of the Seattle Public School student population. Overall, the institute found that "housing instability compounds known racial and economic disparities. When measured using standardized state assessments, the 'opportunity gap' faced by low-income students and students of color is even wider if a student is also homeless. Similarly, the disparity in how often students of color receive suspensions is also increased when housing status is considered." In general, students experiencing homelessness scored half the proficiency rate in math and English Language Arts (ELA) compared to housed students. Students experiencing homelessness missed twice as many days of school on average compared to their housed peers, and 16% of homeless students missed between four and eight weeks of school. Homeless students also had higher rates of student mobility and transferred at four times the rate of housed students. In addition to these disparities, students experiencing homelessness were also twice as likely to be suspended or expelled than housed students, with 7.7% of all homeless students receiving a suspension or expulsion during the 2015-2016 school year compared to 2.8% of housed students. Homeless students were also more likely to be suspended or expelled for less severe offenses and for longer periods of time than their housed peers. Specific to elementary school students, the institute found that homeless students in lower grades were more likely to be disciplined for "exceptional misconduct." Racial disparities in discipline were also compounded by homelessness, with 11% of black homeless students being suspended or expelled compared to 7% of black housed students. The authors note that, "[Seattle Public Schools] moratorium on suspension for

nonviolent offenses in elementary school benefit homeless students directly, as they are more likely to be disciplined and may already be chronically absent due to homelessness."

**63. Office United States General Accountability. K-12 Education: Many Challenges Arise in Educating Students Who Change Schools Frequently. Report to Congressional Requesters. 2010.**

As part of the reauthorization process for the Elementary and Secondary Education Act of 1965 (ESEA), the U.S. General Accountability Office (GAO) analyzed federal survey data, interviewed officials from the U.S. Department of Education, conducted school site visits, and reviewed federal laws and research to determine: characteristics of students changing schools; effects of student mobility on academic achievement, behavior, and other outcomes; challenges for schools to meet the needs of students with high mobility; and federal programs that can help schools meet the needs of highly mobile students. The GAO found 70 percent of students changed schools two times or less, and 18 percent of students changed schools three times or more. Changes were either a result of moving to the next school for the next grade, or family relocation. They determined that students who changed schools were more likely to be low-income, innercity, migrant, or Limited English Proficient students. African American students were also more likely to change schools. They noted that homelessness also contributes to student mobility, but that it is often difficult to determine whether students are experiencing homelessness. The 2001 MicKinney-Vento Homeless Assistance Act, implemented through the Department of Education, requires local education agencies to designate a liaison to serve as a contact point between homeless families and schools. The Act provides funding to states to ensure that homeless students have equal access to public schools as other students. It also guarantees a student's right to enroll in and attend school even if they do not have required records, and requires that schools provide services that help children stay in their school of origin. The GAO notes that none of the studies they reviewed considered homelessness as a potential factor for student achievement. Overall, the GAO concluded that mobile students were more likely to score lower on math and reading tests and repeat a grade as compared to non-mobile students.

**64. Commerce Washington State Department of. Office of Homeless Youth: Prevention and Protection Programs 2016 Report. 2016.**

This article summarizes performance measures from Washington State programs working to reduce and prevent homelessness for youth and young adults. It provides future policy recommendations. The Department of Commerce estimates that approximately 13,000 youth in Washington State are homeless. One goal is to improve social and emotional well-being, and ensure that youth have access to behavioral and physical health care. Specifically related to these goals, the report found that 15% of youth engaged in Washington's housing programs report a physical disability or health condition. The report also states that the experience of homelessness puts youth at greater risk of drug and alcohol abuse, depression, anxiety, and posttraumatic stress disorder as well as poor nutrition, poor oral health, and sexually transmitted diseases.

65. **Kulik D.M., Gaetz S., Crowe C., et al. Homeless youth's overwhelming health burden: A review of the literature. *Paediatric Child Health*. 2011;16(6):e43-e47.**

The authors completed a systematic review of homeless youth under the age of 25. They cite studies concluding that homeless youth experience greater incidences of illness and injury, sexually transmitted infections, pregnancy, substance abuse, mental health concerns, mortality, poor nutrition, dental and periodontal disease, and increased future risk of diabetes, heart disease, arthritis, and musculoskeletal disorders. They also note that poor health for youth experiencing homelessness may be compounded by race/ethnicity, sexual orientation and gender identity.

66. **Medlow S., Klineberg E., Steinbeck K. The health diagnoses of homeless adolescents: a systematic review of the literature. *Journal of Adolescence*. 2014;37(5):531-542.**

Medlow et al. completed a systematic review of 21 articles to determine the prevalence rates of physical and mental health concerns for youth aged 10-19 experiencing homelessness. They cite previous research suggesting that homeless youth experience physical disorders at twice the rate and acute health concerns (e.g. respiratory infections) at three to five times the rate of their housed peers. Previous studies had also concluded that homelessness is an independent risk factor for poor health outcomes. Overall, the authors found that homeless youth experienced high rates of depression, posttraumatic stress disorder, anxiety, substance abuse, sexually transmitted diseases. While rates of health concerns varied across studies, the authors did note that "the burden of diagnosis and of multiple diagnosis is much higher among homeless than housed youths."

67. **Skiba Russell J. Reaching A Critical Juncture for Our Kids: The Need to Reassess School-Justice Practices. *Family Court Review*. 2013;51(3):380-387.**

Russell poses the question, "Does the removal of troublesome students from school reduce disruption and improve school climate enough to offset the inherent risks to educational opportunity and school bonding that comes from removing students from the school setting?" Three criteria are applied to judge the effectiveness of school removal: consistency of implementation, outcomes, and fairness of application across groups. In regards to consistency of implementation, evidence indicates that rates of suspension and expulsion vary dramatically across schools and school districts. National data suggest that out-of-school suspension is used in response to a wide variety of behaviors (e.g., fighting to insubordination) and that only a small percentage of suspensions actually occur in response to behavior that threatens the safety or security of schools. Additionally, a school's climate, governance, demographics, and principal and teacher attitudes toward zero-tolerance play significant roles in determining the rate of exclusionary discipline rates. Secondly, data does not support the assertion that out-of-school suspensions and expulsions reduce disruption or improve school climate. The author cites evidence that schools with higher rates of school suspensions have been found to have lower parent and teacher ratings of school climate and school governance, as well as lower outcomes on statewide test scores, regardless of student demographics. Finally, evidence consistently shows a high degree of racial disparity in exclusionary discipline practices. One study cited found that White students were referred more than Black students for objective offenses (e.g., smoking and vandalism), while Black students were referred more than White students for more subjective offenses (e.g., disrespect or loitering). Subsequent research has consistently documented "disciplinary disparities between Black and White students occur most often in

subjective categories, like defiance and disrespect." The article discusses evidence-based alternatives to zero tolerance that have been demonstrated to be effective components of a comprehensive program to ensure school safety: 1) schoolwide behavior planning and improved classroom management, 2) social emotional learning, 3) parent and community involvement, 4) early screening for mental health issues, 5) school- and districtwide data systems, and 6) effective and ongoing collaboration.