

# ISD 287's Metal Detectors

## *Summary of Literature School Year 2020 – 2021*

### Background

Intermediate School District 287 (ISD 287) in the Twin Cities West Metro provides intensive emotional supports to its students. ISD 287 staff use a variety of practices to promote a positive school atmosphere, foster social connection, manage interpersonal conflict, and maintain school safety. Metal detectors currently comprise one of the tools that ISD 287 uses, in the hopes of deterring students from bringing weapons and other contraband into the buildings and finding and seizing dangerous objects and other contraband.

Since the 2014 – 2015 school year, Wilder Research has been working with ISD 287 to evaluate districtwide practices in order to understand how such practices impact the district's learning atmosphere and safety. Past evaluation activities have focused on restorative practices and Student Safety Coaches.

### Overview of evaluation

Findings from past years drove the direction of the current year's focus. In SY19-20, a brief literature review highlighted some information about the (in)effectiveness and key drawbacks of metal detectors, including that metal detector use searches can expand punitive responses and create confrontation<sup>1</sup>. For the current school year, district stakeholders were interested in gaining a greater understanding about the use of metal detectors in schools, including any evidence of their impacts, and recommendations for how to safely desist from their use.

Here, we present a summary of the 24 relevant sources reviewed from the scholarship.

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<sup>1</sup> [https://www.wilder.org/sites/default/files/imports/ISD287\\_StudentSafetyCoaches\\_Summ\\_6-20.pdf](https://www.wilder.org/sites/default/files/imports/ISD287_StudentSafetyCoaches_Summ_6-20.pdf)

## Few schools use metal detectors

A handful of schools in large cities including Los Angeles and Chicago installed metal detectors in the 1980s (Servoss, & Finn, 2014). The number of schools using metal detection has ebbed and flowed since then. By 1999, around 10% of schools in the United States had metal detectors. By school year 2015-16, that had decreased to 4.5% of United States schools using random metal detector searches, and 1.8% using daily searches (Schildkraut & Grogan, 2019). The increase in their prevalence since the 1980s mirrors large increases in nationwide investment criminal punishment infrastructure. According to the U.S. Department of Education, “expenditures on public Pre-K–12 education increased by 107% from 1979–1980 to 2012–2013, but expenditures on state and local corrections increased by 324% over that same time period” (Nance, 2017, p. 831-2).

## Metal detector deployment is more correlated with systemic racism than school safety needs

Researchers have studied what factors are related to whether a school uses metal detector scans, and the evidence is clear that the racial composition of the student body is a greater predictor of metal detector use than any other factor, including violence and disorder in the school.

One study of nationally representative survey data from 2002 – 2006 found that “having a high proportion of African American students was the strongest predictor of school security level, even when controlling for region, urbanicity, enrollment, neighborhood crime, student misbehavior, and school [socioeconomic status]” (Servoss, & Finn, 2014, p. 84). A subsequent analysis of national survey data from 2007-08 found that “majority-minority high-violence schools were significantly more likely to conduct daily metal detector searches than other high-violence public schools” (Gastic, & Johnson, 2015, p. 308). Finally, an analysis of 2009-10 and 2013-14 national survey data by Nance showed that schools with a greater percentage of students of color are more likely to rely on security measures including metal detectors. After controlling for crime and disorder in the school and location (urban, suburban, or rural), researchers concluded that schools with majority students of color were two to eighteen times more likely to use security measures including metal detectors than schools with between 0 and 19% students of color (Nance, 2017, p.811). Schools that are similar across many metrics, including student body size, student violence and misbehavior, neighborhood safety, and location do not deploy metal detectors at equal rates; as noted, research shows that the strongest predictor of metal detector deployment is the percentage of students of color in the student body.

Another factor that is unrelated to safety but related to metal detector deployment is parental involvement. An analysis of the 2015-16 School Survey on Crime and Safety showed that “high levels of school-based parent engagement were associated with lower odds of employing invasive security measures,” defined as metal detectors, contraband sweeps, or drug sniffing canines (Matthews, 2019, p. 25). It may be that engaged parents protect against the types of disorder that

districts try to address with metal detectors, or that parents do not want their children subject to invasive security measures and their engagement drives school policies.

## School security measures have negative impacts

There is a robust body of scholarship examining the impact of school security measures, including metal detectors, police officers in schools, random searches, surveillance cameras, locked buildings, and badged teachers and staff, on student outcomes. Some research is specific to metal detectors alone and is summarized below. Other studies examine the impact of a suite of security measures, and find negative impacts and ineffectiveness including:

- An increase in rates of suspensions (Servoss & Finn, 2014)
- A detrimental effect on academic outcomes (NASP, 2018)
- An increase in racial disparities in school suspensions that burden Black students and are not explained by student behavior (Finn & Servoss, T., 2015)
- A failure to reduce school avoidance for those who are survivors of homophobic violence in school (Fisher, & Tanner-Smith, 2016)
- An increase in personal thefts and drug use at school (Limber & Kowalski, 2020)
- A failure to decrease violence at school (Limber & Kowalski, 2020)

Additionally, many studies have found that security measures are related to decreased perceptions of safety by parents and students (Mowen, & Freng, A., 2019; Reingle Gonzalez et al, 2016, citing five studies), although two other studies found that some safety measures were related with some increased perceptions of safety (Reingle Gonzalez et al, 2016). A presentation of perception of safety research by Servoss and Finn (2015) concluded:

*Given two students of the same gender, socioeconomic status, victimization history, and race/ethnicity and school size and neighborhood crime, the student in the school with more security reported feeling less safe. Females, African-American, Latino, and low socioeconomic status students feel significantly less safe.*

## Metal detectors may not contribute to perceived school safety

Many studies explore the connection between metal detectors, specifically, and perceived safety in school. It is important to contextualize this data. First, national surveys find that 88% of students agree that school is safe (Servoss & Finn, J., 2015). Additionally, research shows that when students feel safe and are treated fairly and with respect, they are likely to engage at school, and “[decide] to complete school and to continue educational pursuits beyond high school” (Servoss & Finn., 2014, p. 62). Feeling safe in school is important in and of itself, and is also an important foundation for learning.

Some research shows that metal detectors may baselessly decrease students' perceptions of safety, or increase fear. A 2011 study found that for students with the same previous victimization experience and similar characteristics (race, socioeconomic status, etc.), "the presence of metal detectors increases levels of fear for all groups" (Bachman, Randolph & Brown, 2011). A 2011 study of national survey data found that, where students have the same levels of violence at school, "metal detectors are negatively correlated with students' sense of safety at school." (Gastic, 2011). The same study found that students in urban schools may not experience as big a dip in their perception of safety as rural students where metal detectors are used (Gastic, 2011, p. 486). A 2016 study found that metal detectors are "associated with greater odds of fear of victimization at school" (Fischer, & Tanner-Smith, 2016, p. 251). A 2019 review of scholarship on the relationship between perceptions of safety and metal detector use found an additional three studies that concluded that students report decreased feelings of safety where metal detectors are present, or were "more likely to perceive violence and disorder at their schools" (Schildkraut & Grogan 2019). Finally, the National Association of School Psychologists concluded in 2018 that "the use of metal detectors is negatively correlated with students' sense of safety at school, even when taking into account the level of violence at the schools" (NASP, p. 2).

However, other scholarship found that metal detectors decreased student fear at school (Gastic & Johnson, 2015, p. 301). An additional meta-analysis of metal detector and student perception research concluded that "evidence [is] currently insufficient for conclusions of effectiveness to be drawn" (Reingle Gonzalez et al, 2016, p. 14).

Many studies, researchers, and school psychologists find that metal detectors are detrimental to students' perceptions of safety; however, there are studies that find the opposite, or no relationship between metal detectors and perceived safety.

## **Metal detectors do not contribute to actual school safety**

Scholarship is less mixed about the relationships between metal detectors and actual school safety; we found no evidence that metal detectors improve overall school safety. First, anecdotal and qualitative reports indicate that metal detectors do not prevent school violence or weapons carrying. First, some mass murders at schools involve responsible parties accessing schools with metal detectors (Harper & Seok, 2019). Further, an analysis of around three million metal detector scans of students over two months in New York City found that just 126 possible weapons were seized – not all through scans (Reyes, 2016; this is a scan to seizure rate of less than 1/100<sup>th</sup> of one percent). Further analysis showed that the majority of weapons (57%) confiscated one year in NYC schools with metal detectors were found outside of the metal detectors (Schildkraut & Grogan, 2019). Finally, reports from students and school staff bolster these anecdotes. One researcher reports that "most students he spoke with during his visits to urban schools understood that anyone who wanted to bring a weapon into a school could get it into the building without being discovered by a metal detector" (Nance, 2013, p. 24). Another researcher reported that

“only 32% of school safety officers she interviewed believed that weapon detection systems effectively prevented or minimized violent crimes in schools” (Nance, 2017, p. 793).

We reviewed other scholarship on the link between metal detectors and school safety:

- A 1993 survey of a representative sample of 2100 New York City public school students found that “students who attended schools with metal detector programs were less likely than students in schools without metal detectors to carry weapons in school (7.8% vs. 13.6%).” The study also found no difference in weapons carrying outside of school, threats, or involvement in physical fights in school or elsewhere. Authors noted that it is possible that metal detector presence merely decreases student reports of weapons carrying, not the actual behavior (Hankin et al, 2011).
- Three studies found metal detectors are positively related to school violence (Gastic, 2011, p. 487, citations omitted)
- Two studies found little relationship between metal detectors and “students risk of victimization at school, or the presence of drugs and weapons at school” (Gastic & Johnson, 2015, p. 301, citations omitted)

To summarize: one study that showed that metal detectors were associated with decreased student reports of carrying weapons, and multiple studies that showed that metal detectors are either not related to other indicators of school safety, or show metal detectors associated with increased risk of school violence.

## **Metal detectors may not improve other school outcomes**

Other scholarship examines the link between metal detectors and other school outcomes. We found:

- One study that did not find a relationship between metal detectors and school suspensions (Mowen, 2014, )
- One study that found that metal detectors are related to poorer student relationships with teachers, and that metal detectors are related to “improved perceptions of the fairness and consistency of school rules” (Fischer et al, 2019, p. 357, citation omitted)
- One study that found that metal detectors increased the odds that students would avoid school entries (Fisher, & Tanner-Smith, 2016, p. 251)

## **Factors other than metal detectors promote safe and high-achieving schools**

Metal detector deployment is more highly related to systemic racism than school safety needs, and there is more evidence of the ineffectiveness and harms of metal detectors than of positive

impacts. The scholarship we reviewed included information about factors that promote positive and productive school environments.

The U.S. Department of Education partnered with the U.S. Secret Service to conduct a three-year study of effective prevention of school violence. They found that in safe schools there is:

- Mutual respect between adults and students
- Students can be open about their struggles “without fear of shame and reprisal”
- Students feel emotionally connected to the school
- Teachers and staff are positive role models
- There are “places for open discussion where diversity and differences are respected”
- There are supports for communication between students and adults, and
- “Conflict is managed and mediated constructively”

The study concluded that

*School climates that cultivate respect, provide emotional support, and pay attention to students’ academic, social, and emotional needs can reduce the possibility of targeted violence.*  
Nance, 2017, 795

Other scholarship finds the following:

- Positive student relationships with teachers and staff, and perceptions of fairness of school rules predict lower rates of problematic student behavior (Fisher, et al, 2019)
- Optimal learning conditions include students “feeling a sense of belonging in the school community, and having a positive self-image” (Nance, 2017, p. 785)

## Safe removal of metal detectors

Our search for scholarship or sources about removing metal detectors from schools returned just one result. Many New York City schools use metal detectors, in either daily scans or random searches, and the New York City school system created a process in July 2016 for school administrators to request the removal of metal detectors. This process involves administration consulting with stakeholders, including “members of the school safety committee and leadership team, the school’s union representative, teachers, students, parents, safety agents, and the local superintendent” (Veiga, 2017). If the stakeholders unanimously agree to metal detector removal, police and city education departments review the principal’s request, review school safety data, “conduct a ‘scanning assessment,’ and meet with the principal and superintendent before deciding whether to grant the request” (Veiga, 2017). Between July 2016 and reporting in Dec 2017, no schools had requested metal detector addition, and just one school went through the process to request metal detector removal.

## Recommendations

Based on our review of relevant scholarship, we conclude that school safety and academic achievement are related to practices that meet student needs; foster positive relationships, openness, and mutual respect; and deal constructively with conflict and harm; and that strict security and metal detectors likely detract from rather than complement these practices. We also found no empirical evidence on the safe removal of metal detectors in schools.

To promote school safety and academic achievement, and to build a foundation for removing metal detectors from ISD 287, we recommend:

- **Clear communication and consistent implementation of school rules.** Research finds that students' perception of fairness is related to many positive outcomes, including school safety and academic achievement. We recommend ISD 287 prioritize consistent and clear communication of school rules to students, consistency in positive reinforcement of rule following, and consistency in constructive consequences for rule-breaking. To further increase perceptions of fairness and other factors associated with positive outcomes, such as student connection and mutual respect, we recommend that students have a voice in the co-creation of some school rules, including positive reinforcement and constructive consequence policies
- **Continued use and improvement of Positive Behavioral Interventions and Supports (PBIS), restorative practices, and Student Safety Coaches.** Our review found that many of the factors positively related with school safety and academic achievement are factors promoted by PBIS, restorative practices, and School Safety Coaches. To continue to improve school climate and outcomes across the district, we recommend that the district continue to use and improve these practices.
- **Improved understanding of the impacts of metal detectors and how to safely remove them from ISD 287.** We conclude that ISD 287's metal detectors are likely ineffective, and possibly counterproductive, to improving key district outcomes such as perceived safety, actual safety, and academic achievement, and that safe removal is likely possible. In order to better align the scholarship with district needs, we recommend further study of how metal detectors have been used, where weapons and contraband have been found, student and stakeholder perceptions of metal detectors, and student and stakeholder engagement about fostering buy-in for metal detector removal.



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MAY 2021