

Safety and Security in Schools

Evidence for School Design and Violence

POSITION STATEMENT

Children spend a significant portion of their lives in schools. Due to children's developmental stage and the amount of time spent in school, school can have a profound impact on overall wellbeing and cognitive development. At its best, a school provides an environment that fosters and nurtures children's development as learners, social beings, and members of society. Before these goals can be a reality, however, a child must be safe.

This piece aims to synthesize evidence related to school design and violence and inform architects and designers. School shootings are rare but can result in catastrophic consequences (Center for Homeland Defense and Security, n.d.). Social factors, such as neighborhood characteristics, school policies, and social dynamics are considered stronger factors than the built environment; yet, the environmental design may still offer some protective value. *Crime Prevention Through Environmental Design* (CPTED) has been used worldwide over the past few decades with the intent to reduce crime. Access control, one of the core CPTED principles, has been linked to shootings. Lockable door hardware from inside classrooms, combined with teachers' practice of locking classroom doors, has been found to be the most effective environmental intervention to prevent school shootings. However, studies about school design have not found consistent evidence linking other CPTED principles (e.g., territoriality and surveillance) to students' reports of violence. CPTED principles are not a panacea that alone can keep students safe. Rather, they are an evolving framework that now includes other contextual factors such as school culture and neighborhood characteristics. Practitioners are encouraged to utilize design strategies that can nurture communities both inside and outside the schools.

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EVIDENCE OVERVIEW

Safety and belonging are among basic human needs (Maslow, 1943); thus insecurity from crimes and being bullied by peers in the learning environment can threaten children's wellbeing. School shootings are very rare events; yet, the number of incidents as well as the number of people killed have been on the rise. 2018 marked the highest number of incidents as well as the highest number of people killed in schools since 1970 (Center for Homeland Defense and Security, n.d.). Bullying is much more likely to occur compared to shootings and can harm victims' sense of belonging in school (Goldweber, Waasdorp, & Bradshaw, 2013). Furthermore, school violence can result in long-term consequences for the mental health of both victims and of witnesses (Flannery, Wester, & Singer, 2004). Existing literature about crimes and bullying are typically focused on the effects of interventions such as changes in school policy than on the design of the physical environment. Yet, some work related to design is available for us to consider, largely related to a multi-disciplinary approach called CPTED.

Stemming from Jacob's (1961) *The death and life of great American cities* and Newman's (1996) *Defensible space, Crime prevention through environmental design* (CPTED) is an approach that aims to reduce crime through environmental design and has been widely used in practice worldwide (Cozens & Love, 2015). Territoriality through clear demarcation and ownership, surveillance, access control, management/maintenance, reinforcing legitimate activities, physical barriers such as fences or doors (target hardening), and considerations of the surrounding environment are the environmental principles of CPTED, and they are not mutually exclusive (Cozens & Love, 2015; Newman, 1996).

Related to *access control* and *target hardening* principles in CPTED, the most effective physical attributes against school shootings are lockable doors which can help block an active shooter's access to classrooms and other areas (Rock, 2018). Doors should be lockable from inside

the classroom without compromising egress and should be unlockable from the outside with a key or credential (Rock, 2018; The National Association of State Fire Marshals, 2015). No other evidence or recommendations about physical attributes have been found regarding school shootings.

Based on the CPTED framework originated from design synthesis using urban and neighborhood settings, the *School Assessment for Environmental Typology* (SAfETY) is an assessment tool tailored for school settings (Bradshaw, Milam, Furr-Holden, & Lindstrom Johnson, 2015). Applying the tool in 58 high schools, however, CPTED principles were not related to reports of bullying from students in the same study. A limitation of this tool is that it applies the CPTED principles to aggregated spaces per type such as hallways and classrooms, which can overlook individual rooms' or areas' characteristics. The SAfETY could be more effective if assessing per specific space rather than per general space types (e.g., hallway 1, hallway 2, etc. vs. hallways in the school).

Classrooms and cafeterias were the locations where bullying most frequently occurred (Bradshaw et al., 2015). Additionally, bullying occurrences have been found to differ by school types (Bevilacqua et al., 2017), yet it is unclear whether these differences were due to school design or other factors.

The CPTED framework has evolved over the years and now includes social factors such as community culture (Cozens & Love, 2015). This evolution recognizes that that in order to provide safety, many contextual factors related to each project need to be considered in addition to the physical design principles (Saville & Cleveland, 1997). Social cohesion, community culture, inclusion, community identity, and resident participation are included in the 2nd generation CPTED (Cozens & Love, 2015). Note that these social dimensions and physical environments are not mutually exclusive. Design strategies can nurture communities and walkable neighborhoods (Park, 2017). Physical attributes—such as nooks with tables and chairs, greenery, attractive social hubs with

various seating options to choose from—can encourage social interaction and community building in urban and neighborhood settings (Gehl, 2010; Lieberman, 2013; Oldenburg, 1999; Whyte, 1980), which can be applied to school settings.

Outside of providing lockable doors, there is scant existing evidence that can help architects and designers create safer learning environments. Urban and neighborhood design strategies can foster community growth in school settings, which may affect bullying. If safety and security is fundamental for successful cities as Jacobs (1961) claimed, it is also essential for schools where our youth grow and thrive.

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