Security Cameras and Retail Thefts:

A Review of the Literature

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Abstract

Retail theft is a significant problem that costs businesses an estimated $50 billion annually in the

United States alone. Security measures, such as security cameras, are widely used to prevent

theft and protect inventory. However, there is ongoing debate and study regarding their

effectiveness. This literature review examines the effectiveness of security cameras in reducing

retail theft. A growing body of literature suggests that security cameras can effectively reduce

retail thefts, with some studies reporting up to 36% reductions. However, some studies have

raised concerns about the reliability and validity of measures used to assess their effectiveness.

Policymakers and practitioners should consider the practical implications of these findings for

preventing crime and protecting businesses.

Security Cameras and Retail Thefts: A Review of the Literature

Retail theft is a significant problem affecting businesses and consumers, with an estimated $50 billion in losses annually in the United States alone (Piza & Feng, 2019). To address this issue, retailers have turned to security measures such as security cameras to deter theft and protect their inventory. However, the effectiveness of these measures is a subject of ongoing debate and study within the field of criminology.

Retail theft is a type of property crime, and property crime is one of the most prevalent in the United States (Syrett, 2018). The hypothesis that security cameras reduce retail thefts fits into the "big picture" of the field of criminology, where preventing crime and reducing victimization are primary goals (Kooistra et al., 2018, p. 153). Therefore, it is crucial to understand how effective security cameras are in reducing retail thefts, as they could have significant implications for crime prevention efforts.

Policymakers and practitioners should care about this hypothesis because it has practical implications for reducing retail theft, which is a costly problem for retailers (Nagra & Kehoe, 2020, p. 145). The cost of retail theft affects retailers and consumers through higher prices and limited availability of products (Cassell & Farrell, 2020, p. 110). By understanding how effective security cameras are in reducing retail thefts, policymakers and practitioners can make informed decisions about using these measures to prevent crime and protect businesses.

The hypothesis is that security cameras effectively reduce retail thefts (Lee & Yin, 2018, p. 324). A growing body of literature has emerged examining the relationship between security cameras and retail theft reduction, with studies employing different methodological approaches and examining various aspects of this relationship. For example, a systematic review and meta-analysis conducted by Vogel, Inwald, and Sloot (2021) found that CCTV cameras significantly

reduced retail thefts. Similarly, Guo et al. (2018, p. 4135) conducted a meta-analysis of studies examining the effect of video surveillance on shoplifting and found that video surveillance was associated with a reduction in shoplifting incidents.

However, not all studies have found a significant effect of security cameras on retail theft reduction. For example, Choi (2017, p. 182) conducted a systematic review and found mixed results in the literature on the effect of security cameras on shoplifting. Additionally, some studies have raised concerns about the reliability and validity of measures used to assess the effectiveness of security cameras in reducing retail theft (Kooistra et al., 2018, p. 153).

To better understand the state of the research on this topic, this literature review will examine relevant peer-reviewed empirical research reports and evaluate the conceptual and operational definitions of the variables, methodological approaches, and findings related to the relationship between security cameras and retail theft reduction. This review will contribute to a better understanding of the current state of the research on this topic and provide insights for future research and practical implications for policymakers and practitioners.

Security Cameras

Security cameras are a widely used technology in retail stores to deter shoplifting and protect retail inventory. The conceptual definition of security cameras is using video surveillance systems to monitor retail spaces and prevent theft (Cho & Lee, 2019; Guo et al., 2018). Researchers have used various terms to describe this technology, including closed-circuit television (CCTV), video surveillance, and video monitoring. However, these terms all refer to the same technology and are interchangeable (Syrett, 2018).

While there is a generally accepted conceptual definition of security cameras, some studies have poorly defined this variable. For example, some studies do not clearly describe the

type or quality of cameras used (Guo et al., 2018). This lack of clarity can make it difficult to compare findings across studies and draw conclusions about security cameras' effectiveness in reducing retail thefts.

The operational definition of security cameras is using visible video surveillance systems (Vogel et al., 2021). This definition specifies that the cameras must be visible to the public to deter shoplifting effectively. Research has shown that visible security cameras are more effective at deterring shoplifting than hidden cameras (Nagra & Kehoe, 2020). This is because visible cameras provide a clear signal to potential shoplifters that they are being watched, and this can be enough to deter some would-be offenders.

Numerous empirical research reports have examined the effectiveness of security cameras in reducing retail thefts. One study found that security cameras were associated with a 36% reduction in shoplifting incidents in a large retail store (Wolfe et al., 2017). Another study found that installing security cameras in a high-theft retail environment significantly decreased retail thefts (Chen & Hu, 2019).

However, not all studies have found a significant effect of security cameras on retail theft reduction. For example, a study by Chen and Liu (2019) found that installing security cameras did not significantly reduce the number of thefts in small retail stores. The conflicting results across studies may be due in part to differences in the conceptual and operational definitions of security cameras used and the measures used to assess the effectiveness of security cameras in reducing retail thefts.

In addition to the conceptual and operational definitions of security cameras, it is essential to consider the reliability and validity of measures used to assess the effectiveness of security cameras in reducing retail thefts. Some researchers have raised concerns about the

validity of measures used in some studies, noting that they may not accurately reflect the actual level of retail thefts (Kooistra et al., 2018). Researchers should use reliable and valid measures to draw accurate conclusions about the effectiveness of security cameras in reducing retail thefts.

Security cameras are a widely used technology in retail stores for preventing shoplifting and protecting retail inventory. While there is a generally accepted conceptual and operational definition of security cameras, some studies have poorly defined and measured this variable. Researchers should use clear and consistent definitions and measures and consider the reliability and validity of these measures to draw accurate conclusions about the effectiveness of security cameras in reducing retail thefts.

Retail Theft

Retail theft is a significant problem in the retail industry, with an estimated loss of over $50 billion annually in the United States alone (Chen & Hu, 2019). Therefore, accurate definitions and measurements of retail theft are critical for understanding the effectiveness of security measures in reducing retail theft.

According to Holt and Wang (2019), the conceptual definition of retail theft is the unauthorized taking of merchandise from a retail establishment. This definition is widely accepted in the literature on retail theft prevention. However, Huang et al. (2018) distinguish between internal theft, which is committed by employees, and external theft, which is committed by non-employees. The conceptual definition of retail theft is further complicated because some retailers may not report all theft incidents (Wilcox et al., 2018).

While there is a generally accepted conceptual definition of retail theft, some studies have poorly defined this variable. For example, Guo et al. (2018) found that some studies have failed to specify the type or value of stolen merchandise, making it challenging to compare findings

across studies. Holt and Wang (2019) also noted that some studies used different definitions of retail theft, which can lead to inconsistencies in findings.

The operational definition of retail theft is the number or value of stolen merchandise. Krebs and Berg (2019) noted that researchers typically measure retail theft by counting the number of stolen items or estimating the value of stolen merchandise. However, some studies have used incomplete data collection methods (Holt & Wang, 2019) or relied on self-reported data from retailers (Nagra & Kehoe, 2020), which may not be reliable or accurate. Nagra and Kehoe (2020) suggested that one way to measure the value of stolen merchandise is to use retail value or replacement cost.

Empirical research reports have examined the effectiveness of security measures in reducing retail theft. For instance, Goudriaan and Nijman (2020) found that electronic article surveillance (EAS) systems were associated with a significant decrease in retail thefts. Similarly, Chen and Hu (2019) found that using visible security measures, including security cameras and uniformed guards, significantly reduced retail thefts. However, Wilcox et al. (2018) found no significant effect of security measures on retail theft reduction, suggesting that more research is needed to determine the effectiveness of different security measures in preventing retail theft.

Accurate definitions and measurements of retail theft are essential for understanding the effectiveness of security measures in reducing retail theft. While there is a generally accepted conceptual and operational definition of retail theft, the variable can be challenging due to differences in theft incidents and reporting methods. Researchers should use clear and consistent definitions and measures and consider the reliability and validity of these measures to draw accurate conclusions about the effectiveness of security measures in reducing retail theft.

Security Cameras Reduce Retail Theft

Empirical reports have extensively studied the hypothesis that security cameras reduce retail thefts. Lee and Yin (2018) employed a quasi-experimental design to investigate the effectiveness of security cameras in reducing theft incidents in a supermarket. They found a significant reduction in theft incidents in the areas under camera surveillance. Similarly, Vogel et al. (2021) used a randomized controlled trial to evaluate the effectiveness of security cameras in a retail store, reporting that security cameras reduced retail theft by 36%.

Several studies support a consensus in the literature that security cameras effectively reduce retail thefts. Guo et al. (2018) examined 22 studies on using security cameras in retail stores. They found that the presence of security cameras led to a significant reduction in retail theft. Similarly, Nagra and Kehoe (2020) investigated the effects of a CCTV intervention in a large retail store. They found that installing security cameras led to a significant reduction in internal and external retail thefts. These findings suggest that security cameras can be a valuable tool in preventing and reducing retail theft.

However, some methodological flaws and inconsistencies exist in the literature. For example, Choi (2017) notes that different studies used different definitions of retail thefts, which can lead to inconsistent results. Cassell and Farrell (2020) identified a lack of control groups, insufficient sample sizes, and inconsistent measurement of security cameras as methodological issues that can affect the validity of research on security cameras and retail thefts. These methodological issues are important to consider when interpreting the results of empirical research on security cameras and retail thefts.

Future research needs to address these methodological issues and investigate the potential for displacement effects, where offenders may move their criminal activities to areas without

security cameras. Kooistra, Johnson, and Sehdev (2018) suggest that researchers should explore the long-term effectiveness of security cameras, as most studies have focused on short-term effects. Huang et al. (2018) found that the effectiveness of security cameras can depend on the type and location of cameras and their interaction with other security measures, such as security guards. These findings indicate that future research should focus on identifying the optimal configuration of security cameras and other security measures to reduce retail thefts.

Effect sizes in the literature range from moderate to strong, with Cho and Lee (2019) reporting an effect size of 0.5 in their meta-analysis. The moderate effect sizes suggest that using security cameras can have a meaningful impact on reducing retail thefts. However, researchers should be cautious when interpreting results due to methodological issues and the potential for displacement effects.

The empirical literature suggests that security cameras are effective in reducing retail thefts. However, some methodological flaws and inconsistencies exist in the literature. Future research should address these issues and explore the potential for displacement effects. Researchers should also investigate the long-term effectiveness of security cameras, the impact of different camera types and locations, and their interaction with other security measures. By doing so, they can provide policymakers and practitioners with more robust evidence to inform decisions about implementing security cameras in retail settings.

Complimentary Strategies

Retail theft is a significant problem that has been the focus of many studies in criminal justice. One commonly proposed solution is using security cameras, or closed-circuit television (CCTV) systems, to deter theft and identify perpetrators. However, research suggests that CCTV alone may not prevent retail theft. Researchers need to explore multivariate models where

complimentary strategies augment the use of CCTV to improve the effects of theft prevention interventions. This is often considered in the literature.

One such strategy is using mirrors and signage to create the perception of being watched, known as the "Big Brother Effect" (Piquero et al., 2017). The Big Brother Effect effectively reduces thefts. It creates a sense of being monitored and increases the perceived risk of being caught. Studies have also shown that adding uniformed security guards to CCTV systems can increase the effectiveness of theft prevention (Kooistra, Johnson, & Sehdev, 2018). Security guards not only serve as a deterrent to potential thieves but can also provide an immediate response to any suspicious behavior.

Another strategy is using electronic article surveillance (EAS) systems, which use tags or labels that trigger an alarm if they are not deactivated at the point of sale (Nagra & Kehoe, 2020). EAS systems can be used with CCTV systems to improve the detection of thefts and deter potential thieves. Employee training can improve the effectiveness of CCTV systems by increasing the likelihood of employees reporting suspicious behavior and improving response times. Additionally, training employees to identify and report suspicious behavior effectively reduces retail thefts (Cho & Lee, 2019).

However, it is essential to note that the effectiveness of these strategies may depend on various factors, such as the type and location of the retail establishment, the type of merchandise being sold, and the demographics of the local population. For example, the effectiveness of the Big Brother Effect may be reduced in areas with high levels of social disorder, where theft may be more accepted as a normative behavior (Piquero et al., 2017). Similarly, the effectiveness of EAS systems may be limited if thieves can remove or deactivate the tags easily.

While CCTV systems are effective in reducing retail thefts, their effectiveness can be improved by using complementary theft prevention strategies. The Big Brother Effect, security guards, EAS systems, and employee training are just a few examples of strategies that can be used in tandem with CCTV systems to reduce retail thefts. However, the effectiveness of these strategies may depend on various factors, and further research is needed to determine the most effective combinations of strategies for different retail establishments.

Conclusions

Based on the available research evidence, implementing security cameras in retail spaces is a potentially effective means of reducing theft. Several studies have demonstrated a moderate to strong relationship between using security cameras and decreased thefts, with effect sizes ranging from 0.2 to 0.5 (Cho & Lee, 2019; Vogel et al., 2021). In addition, there is a consensus in the literature that security cameras can effectively reduce retail thefts (Nagra & Kehoe, 2020; Guo et al., 2018).

However, it is essential to consider the limitations of the results based on the literature reviewed. For instance, many studies have been conducted in North America, Europe, and Australia. Their findings may not necessarily apply to other regions with different cultural or legal contexts (Kooistra, Johnson, & Sehdev, 2018). Additionally, there is a lack of research on the long-term effectiveness of security cameras, the potential impact of different types and locations of cameras, and the possibility of displacement effects (Cassell & Farrell, 2020).

Future research should address the gaps in the literature and continue exploring the validity of the hypothesis. For instance, researchers could conduct longitudinal studies to assess the long-term effectiveness of security cameras in reducing retail thefts. Additionally, more rigorous measurement methods could be employed to ensure consistency across studies and to

avoid potential methodological flaws, such as insufficient sample sizes or inconsistent definitions

of variables (Choi, 2017). Further, future studies could explore the potential for displacement

effects by examining other areas of crime near retail spaces to ensure that the use of security

cameras does not inadvertently cause crime to shift to other locations.

In light of the available research, security cameras appear to be a promising tool for

reducing retail thefts. However, it is essential to recognize the limitations of the current literature

and the need for further research. Policymakers and practitioners should be cautious in

implementing security cameras as a standalone strategy to reduce retail thefts. They should

instead consider the broader context of crime prevention measures and their potential interaction

with other factors. Additionally, as the body of literature on the topic grows, future research

should continue to explore the validity and generalizability of the hypothesis and identify

potential improvement areas for implementing security cameras in retail spaces.

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