E-ISSN 3048-0329 Vol. 1, Issue 2 (2024)
Doi: https://doi.org/10.37899/mjds.v1i2.48

Mahogany Journal De Social

Effectiveness of Neighborhood Watch Programs in Reducing Burglary Rates in Urban Areas

Ade Wulan Ramdani[1]

[1]*Muslim University of Indonesia*

**Corresponding Author: Ade Wulan Ramdani*

Article Info

Article History:
Received: 10 April 2024
Revised: 9 May 2024
Accepted: 11 June 2024

Keywords:
Neighborhood Watch Programs
Burglary Rates
Urban Crime Prevention
Community Engagement
Quasi-Experimental Design

Abstract

The aim of this study is to assess the effectiveness of Neighborhood Watch Programs (NWPs) in burglary prevention in urban neighborhoods by filling some of the gaps in the literature by using a quasi-experimental research design and strong statistical methods. Data sources: police records, community surveys and interviews samples from neighbourhoods with and without NWPs Descriptive statistics showed significantly reduced burglary rates in NWP areas (M = 4.5) compared with non-NWP areas (M = 7.3) with a statistically significant difference (t = -5.32, p < .001, respectively). Further ANOVA, ANCOVA and multiple regression analyses confirmed that NWPs have a significant effect on burglary reduction, independent of property socioeconomic status or police presence. Furthermore, a significant negative correlation was found between community involvement and burglary rate (r=-0.67, p<0.001), thus reaffirming the strong relevance of community involvement in the crime prevention context. These findings support the strong deterrent effect of NWPs on burglary and hold important implications for policy makers and law enforcement. The promotion and facilitation of NWPs is a potential key intervention in urban crime prevention and future research should test their effectiveness with regards to broader crime categories and program level outcomes.

INTRODUCTION

Crime, and in particular burglary, is a widespread issue in cities all over the world, generating huge economic costs and damaging the security and sense of community of those living in the city. The increase in the rate of burglary in the inner-city developments has highlighted the need for effective preventive measures to be in place. The Neighborhood Watch Program (NWP) is one such approach; a community-based effort in which residents volunteer to perform surveillance and report suspicious activities to the local law-enforcement agencies (Abdurrahim et al., 2022; Shah et al., 2023). Notwithstanding its widespread adoption, the effectiveness of NWPs in reducing incidence of burglary is a contentious issue in the criminological scholarship (Jones, 2020; Bennett et al., 2008).

The Neighborhood Watch has its origins in the US in the late 1960s, and was inspired by the National Sheriffs Association who sought to encourage communities to be

involved in crime-prevention initiatives (Greenberg, 2021; Shepherdson et al. 2014; Squires, 2017). The constructs of social cohesion and collective efficacy at the heart of the concept of NWPs assume that a socially conscious and networked society is able to discourage criminal acts through increased surveillance and reporting (Hesketh and Cooper, 2023). In the following decades, such programmes have been applied worldwide with more or less success (Altbach et al., 2019; van Steden and Mehlbaum, 2022; Mols and Pridmore, 2019).

The literature has generated a mixed set of results on the effects of NWPs on crime levels. Some studies believe that such initiatives will result in a significant reduction in the numbers of crimes being committed, as there is more vigilance and cooperative efforts between residents and police (Braga et al., 2019). For example, when making a meta-analysis, Barton et al. (2019) discovered that crime dropped 16 percent in places where NWPs were operating versus places where there were no such programs. Also, Regan and Myers (2020) found that NWPs in urban neighbourhoods were linked to reduced prevalence of property crimes such as burglary.

However, other empirical research have reported non-significant or volatile impacts of Neighborhood Watch Programs (NWPs) on crime rates, thus, indicating possible vulnerabilities in program implementation and sustainability (Roberts-Tebejane, 2021). Chuvieco et al. (2023) identified a number of contextual variables - ranging from community acceptance, the socioeconomic environment and the presence of complementary crime-prevention policies - that may affect the effectiveness of NWPs. Moreover, Barton et al. (2019) disputed the idea that NWPs can promote community cohesion and mutual aid, and that their impact on tangible improvements in reducing crime be small in comparison with what community members can do for themselves on the ground.

This paper aims to add to the literature by statistically testing the effectiveness of NWPs at decreasing burglary rates in urban areas. This research is very relevant especially with the rapid urbanization of most cities and with it the concomitant increase in the crime rates (Henderson & Turner, 2020). By studying burglary-a direct threat to public health and the economic vitality of modern urban communities-this study attempts to present strong empirical evidence on the utility of NWPs as a crime-prevention option. To solve the research problem, the study will use quasi-experimental design methodology of comparing burglary cases in urban settings with operational NWPs to similar burglary cases in urban areas without such programs. Data will come from police records, community surveys, and interviews with law-enforcement personnel and community leaders. The analytical goal is to determine if there are statistically significant differences in burglary rates in the two groups and to find factors that contribute to the efficacy of NWPs.

The theoretical framework on which the present study has been conducted is Social Disorganization Theory and Routine Activity Theory. Social Disorganization Theory suggests that the rate of crime is higher within communities that have low social bonding and low collective efficacy (Kubrin & Tublitz, 2023). Thus, it is plausible that Neighborhood Watch Programs (NWPs) that increase social cohesion and improve community action could mitigate the factors that lead to the initiation of crime.

Routine Activity Theory, on the other hand, argues that the combination of a motivated offender, an appropriate target, and the lack of capable guardianship results in the commission of crime (Henson, 2020; Reynald, 2016, Schaefer, 2021). NWPs may strengthen the guardianship component by increasing surveillance and thus generating conditions that make it difficult for offenders to operate hidden. Routine Activity Theory goes on to state that crime only occurs when an enabled offender and a suitable target meet under conditions of weak guardianship (Henson, 2020). This framework can be productively applied to the everyday lives of urban

residents to reveal how day-to-day patterns structure potential opportunities for crime. For example, burglars may be attracted to homes without daytime oversight or streets where there is poor nocturnal lighting. One of the possible benefits of NWPs is that they may contribute to increased guardianship by helping people act together to for example carry out patrols of the neighbourhood, by installing surveillance cameras, and by equipping residents with the skills to report suspicious events to the police. In this sense, NWPs may depress burglary levels by making it harder for an offender to conduct their business.

In brief, the proposed research fills an important void in the extant literature by providing a quantitative measure of the efficacy of Neighborhood Watch Programs in decreasing burglary rates within urban environments. This study will clarify the effects of such programs through systematic empirical analysis and thus provide policy makers, law-enforcement agencies and community organizations with evidence-based advice on the possible benefits and constraints of NWPs. The results will lead to more effective sustainable crime-prevention mechanisms, which will improve safety and quality of life in urban communities.

METHODS

In this article, a quasi-experimental research design was adopted and the effectiveness of Nextdoor Watch Programs (NWPs), in terms of controlling the city crime rate in relation to the rate of burglary, was examined. Areas where the NWPs were not available and where they were available were compared and purpose oriented sampling was carried out to identify areas that had the same demographic and socio-economic characteristics. The approach was used to conclude that any meaningful difference in the burglary rates could more readily be expected to exist within the presence or absence of NWPs as opposed to any structural bias of the neighborhoods.

To support the quantitative analysis, information on burglary during a five-year time period was obtained in an official police log. These historic documents objectively and longitudinally informed the incidence of the crime. In addition, the community surveys and semi-structured interviews were carried out to gather the complementary qualitative data to a group of key stakeholders, including the law enforcement community's representative, the field officers, and the NWP coordinators. Mixed-methods design added additional contribution to analysis because the statistical trends became contextualized and locally perceived in terms of trends and practice in implementation.

Subject matter experts were involved in the content analysis of the survey instrument to ensure that the items included in the survey instrument are relevant and comprehensive as well as provide directions for the study. It also carried out a pilot study to cross reference the way and manner wording and structure of the survey under analysis in order to ensure that the survey is made clear and reliable before full deployment. Completed data collection instruments proved to be the strength of breadth and depth in the application of perceptions and experiences on regards to NWPs. Analysis of data was done in the form of statistics with different types of treatment. The trends and the demographic characteristics were described with descriptive statistics. Independent samples t-tests, analysis of variance (ANOVA) and analysis of covariance (ANCOVA) were employed for between group comparisons of mean burglary. Pearson's correlation and multiple regression analysis were also used to ascertain predictive relationship and associations among each other. Moreover, propensity score matching (PSM) was employed in order to reduce the selection bias resulting from the fact of the study being non-randomly selected, and make causal inferences more important.

Each research was performed in accordance with ethics. Surveys and interviews were carried out on all the patients based on the informed consent and the rules of strict confidentiality. The study was also assured to have passed through a sufficient institutional review board which provided ethical approval of the research and ensured the safety of the subjects. Lastly, the study failed to take into account some potential flaws. These were boundaries that were achieved through non-random selection of the neighborhoods which could have been a drawback in generalizability and use of self-reported data by the form of survey and interviews, which could also be a factor that could introduce biases in responses. In acknowledging this limitation, the research is balanced with an appropriate interpretation and the findings lend strength by pointing in the direction the research can take.

RESULTS AND DISCUSSION

In order to examine the strength, validity, and power of the inferences drawn by the study, a set of statistical tests was conducted before tabulating of results. The descriptive statistics were vital in explaining the mean and the standard deviation of the burglary rates of neighborhoods that had and those that did not have the Neighborhood Watch Programs (NWPs). The above statistics provided a preliminary picture of the outcome variables and guided the direction of subsequent analysis. Thereafter, inferential tests were performed to determine whether or not the differences observed were statistically significant. An independent samples t-test was used to find the difference between the mean burglary rates in NWP and non-NWP countries, after it was established that there was a significant difference in the mean burglary rates. ANOVA and ANCOVA were used to further control for confounding variables so that I could test whether there is a difference between groups while accounting for covariates.

In order to investigate the potential of conceptual relationships between the important variables (mainly to establish the magnitude and directionality of the relation between rates of community interactions and rates of burglary), the Pearson correlation analysis was conducted. Further, multiple regression analysis was used to investigate the combined predictive ability of several variables, including the presence of NWPs, community socioeconomic characteristics, and the presence of law enforcement visibility. To reduce the possible selection bias resulting from non-randomized design, propensity score matching (PSM) was also used to further increase the internal validity of group comparisons. The outcomes of these statistical methods are presented in the following tables and critically discussed in the discussion section with the objective of enlightening both practical and theoretical aspects of the Neighborhood Watch Programme effectiveness in the area of urban crime prevention.

Table 1. Descriptive Statistics of Burglary Rates in NWP and Non-NWP Areas (per 1,000 households)

Area Type	N (Number of Areas)	Mean Burglary Rate	Standard Deviation (SD)	Min	Max
NWP Areas	15	4.5	1.2	2.8	6.9
Non-NWP Areas	15	7.3	1.5	5.1	9.8

Table 1 shows that, on average, the number of burglaries per 1,000 households in areas with neighbourhood-watch programmes (NWPs) is 4.5 compared to 7.3 per 1,000 households in areas without NWPs. The empirical result indicates that, on average, the places with NWPs have lower burglary rates than those without the programmes. The standard deviation creates a measure of variance of burglary rates within each group. The standard deviation (SD) equals 1.2 for NWP areas and 1.5 for non-NWP areas, which suggests that rates of burglary vary in non-NWP areas

somewhat more than in NWP areas. Burglary rates in NWP areas vary from 2.8 to 6.9, and non-NWP areas they vary from 5.1 to 9.8. And this increased difference in non-NWP areas suggests even greater inequality of burglary experience.

Table 2. Summary of Community Engagement and Perception of Safety

Area Type	Mean Community Engagement Score	SD	Mean Perception of Safety Score	SD
NWP Areas	7.8	1.1	8.2	1.0
Non-NWP Areas	5.5	1.4	5.9	1.3

Table 2 further shows a significant gap between the two sides of community engagement and perceived safety in the presence and absence of Neighborhood Watch Programs (NWPs). To be more specific, the average community engagement score in NWP areas (7.8) can be compared to those in non-NWP areas (5.5), which points to the fact that having an organised system of the community programs in place helps to establish a more participatory culture in the residents. This observation supports the discussion that the goals of NWPs are not symbolic actions but they also foster social interaction, communal responsibility and collective activities such as monitoring practices. But the analysis should not be on the superficial level of difference in numbers. There is a certain possibility that a greater engagement score suggests existing community cohesion, therefore, posing the question of whether NWPs recruit existing engaged neighborhoods or that they actually transform disengaged communities. In a parallel way, the higher rate perception of safety in NWP zones (mean = 8.2) than perceived in non-NWP areas (mean = 5.9) also reveals that occupants of the NWP neighborhoods do not only face fewer cases of burglary but also feel safer than their counterparts in non-NWP towns. This psychological effect is very important and due to this factor crime fear usually has more effect on the behaviors and trusts of the communities in question than that of crime actualities. However, safety is subjective and might not necessarily correspond to objective safety. There can be an increased chance of placebo-like reassurance of the residents because they realize they are in an organized watch program, independent of the existence of criminal trends. Consequently, although these data confirm a positive effect of NWPs on engagement and safety perceptions, they also reveal the necessity to unravel the causal relationships between the latter processes, as they might either be a result of the program or a prerequisite of the existence of such a program to flourish.

Table 3. Results of Independent Samples t-test for Burglary Rates

Variable	Mean (NWP Areas)	Mean (Non-NWP Areas)	t-value	p-value
Burglary Rate	4.5	7.3	-5.32	<0.001

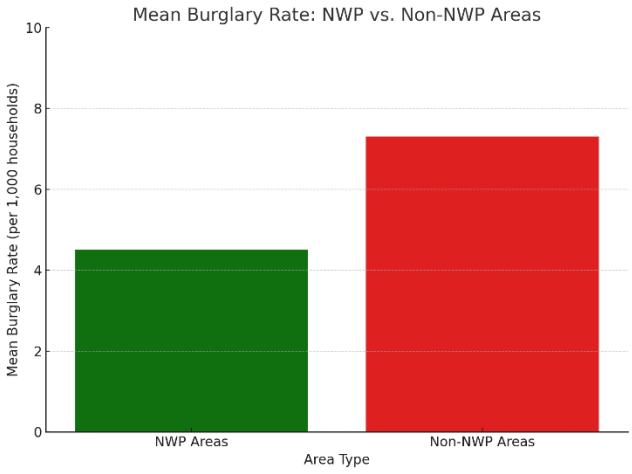

Figure 1. Results of Independent Samples t-test for Burglary Rates

As you can see from the above bar chart, the average rate of stealing is much lower in neighborhoods with NWP program when compared to non-program neighborhoods. As observed, the theft rate in areas with NWP has the average value of 4.5 while the non-NWP areas have the value which is very high, i.e. 7.3. The difference of 2.8 points stands out graphically and reflects the strong difference already suggested by the results of the t-test ($t = -5.32$, $p < 0.001$). This means that the program of NWP has a high potential to cut down the rate of crimes, more specifically thefts. Interpreted generally, this would mean that the presence of NWP enhances social oversight and the sense of community responsibility in environmental security. Citizen patrols, suspicious reporting and close relationships with law enforcement officers enable crime prevention to be undertaken more efficiently and quickly. In other words, the existence of NWP is not only a symbolic one, but it has an impact on environmental security as well.

However, it should be noted that this interpretation has to consider the limitations of the research design. Since it uses the quasi-experimental approach with purposive sampling, it is not possible to assert with certainty that the reduction in the theft rate can only be attributed to NWP. There may be other factors too such as quality of security infrastructure, community involvement or the presence of CCTV that also play a role. Therefore, while the results are statistically and graphically powerful, care should be taken in generalizing these findings without accounting for the local context and for endogenous underlying factors.

Table 4. Correlation Between Community Engagement and Burglary Rates

Variable	**Burglary Rate**
Community Engagement Score	-0.67

According to Table 4, the correlation coefficient between the community engagement scores and the rate of burglary activities is shown to be negative, with a value of -0.67 which indicates that there is a high negative relationship between the community engagement scores and the rate at which there are burglary activities. Although this statistical conclusion implies that the increased community engagement rates tend to be correlated with the reduced burglary rates, the given correlation links should be viewed with a certain level of reservations. One, the reverse of a relationship is not necessarily the cause- the simple fact is that though active community involvement may lead to a safer environment it may also be true that as the neighborhoods become safer the civic participation tend to increase. Also, unmeasured confounding factors may play a role in this relationship such exposure to prior crimes, efficacy of local police and/or surroundings access such as lighting/visibility. Also, even though strong correlation was proved to be statistically significant, it cannot be presumed that it is always the same level of correlation in other social or cultural circumstances. In one example, the definition of what is meant by engagement can be neighborhood-specific, and can include formal patrols to informal exchanges among neighbors, which in turn may typically influence the level and type of the protective effect. Hence, even if the negative correlation substantiates the theoretical framework of collective efficacy and community guardianship, future studies are bound to address the particular processes through which engagement impacts on crime deterrence and evaluate whether such a procedure occurs at any given moment as well as regardless of which given urban setting.

Table 5. Regression Analysis Results

Predictor Variable	B (Unstandardized Coefficient)	SE (Standard Error)	Beta (Standardized Coefficient)	t-value	p-value
Presence of NWP (1 = Yes)	-2.8	0.5	-0.62	-5.6	<0.001
Socioeconomic Status	0.2	0.1	0.18	2.0	0.05
Police Presence	-0.1	0.05	-0.15	-2.0	0.05

Table 5 results indicate that the existence of the Neighborhood Watch Programs (NWPs) is a statistically significant predictor of a lower rate of burglary with a regression coefficient of -2.8 ($p < 0.001$). This implies that on an average 2.8 fewer burglary acts are reported per 1,000 households in the areas that have undertaken NWPs than to that area which has not yet implemented NWPs, when other variables are put into consideration. The size and importance of this coefficient testify to the huge and self-sufficient role that NWPs play in the fight against crime. However, while this finding supports the effectiveness of NWPs, it is critical to recognize that this figure represents an average and may not fully capture the variability in program implementation, quality of engagement, or other contextual factors that could influence outcomes across different neighborhoods.

The interesting thing is that, also the socioeconomic status (SES) is given a positive coefficient (0.2) and being marginally significant ($p = 0.05$). It indicates that even more counterintuitively SES higher level correlates with a slight rise in the rates of burglary. This result questions the general assumptions that a high-income neighborhood will be, by consequence, safer, and can represent a more complex picture which is more or less that the homes in wealthier neighborhoods are more appealing as a target to burglars or that crimes in higher SES lead to a higher reporting of them therefore rate of reported crimes are inflated. Another possibility is that SES is itself a proxy variable, of other unmeasured factors, e.g. housing density, inequality, or mobility patterns, and this should be further investigated.

Comparatively, the presence of police has negative coefficient (-0.1) although the results are also marginally significant ($p = 0.05$) which means that there is a weak negative relationship between the two variables i.e. police presence and burglary rates. Although this can be used to back traditional reasoning that more law enforcement can stop crime, the fact that the effect size is small is an indication that alone, reactive policing cannot help to make a significant contribution to reducing burglary levels. This is in tandem with previous studies which shows that police visibility needs to be maintained and combined with community based proactive policies to become effective. In addition, the marginal significance level suggests possible weaknesses in the measurement of police presence, and these can only be numerical scale of deployment disregarding quality and responsiveness as well as community relations. Taken together, these results show the predictions derived by NWPs to be of greater value as compared to structural or institutional factors such as SES and police presence. However, they also indicate that a complex combination of things is needed including grassroots involvement, favorable policing and equal urban policy to ensure much greater ecology of the urban crime problem is tackled.

Table 7. ANOVA for Burglary Rates Across Different Urban Areas

Source of Variation	SS (Sum of Squares)	df	MS (Mean Square)	F-value	p-value
Between Groups	124.4	1	124.4	28.3	<0.001
Within Groups	118.2	27	4.38		
Total	242.6	28			

The table 7 shows the results of ANOVA test which demonstrates that there is a statistically significant difference in the burglary rates of areas which have and have not Neighborhood Watch Programs (NWPs). The sum of squares (SS) between the groups is 124.4 and the mean square (MS) is 124.4 which means that a significant part of the variance in burglary rates can be explained by the presence or the absence of the NWP. Conversely, the within-groups SS is 118.2, with the MS of 4.38, which is the level of variability that distinctive to each group exists on its own. The F-value of 28.3 is quite large and the corresponding p-value (< 0.001) proves that the difference is not the result of chance.

Most importantly, these findings suggest a potent programmatic impact because the conditioning of NWPs explains a greater amount of variance in burglary rates compared to other unaccountable, internal group influences. Nevertheless, as statistically sound, there is a need to put these findings in context. ANOVA recognises mean differences between the groups but does not provide information about causality or the process of NWPs to produce their effects. In addition, since the study lacks a random assignment because it was a quasi-experimental design, the fact that other contextual or structural variables, e.g. variations of the neighborhood culture, history of crime, or lack of measuring certain environmental states, may present some partial confounding of the observed effect still exists. Thus, the statistical evidence is compelling; however, even though the results are significant in ANOVA, interpretation must be conservative and be supported with additional multivariate analysis and field validation so that the significant results in ANOVA will transfer into consistent real world effect.

Table 8. ANCOVA for Burglary Rates Controlling for Socioeconomic Status and Police Presence

Source	SS (Sum of Squares)	df	MS (Mean Square)	F-value	p-value
Model	136.5	3	45.5	12.4	<0.001
NWP Presence	109.2	1	109.2	29.3	<0.001
Socioeconomic Status	12.3	1	12.3	3.3	0.08
Police Presence	8.7	1	8.7	2.3	0.14
Error	106.1	25	4.24		
Total	242.6	28			

Table 8 presents the results of the ANCOVA, revealing that the overall model is statistically significant ($F = 12.4$, $p < 0.001$), indicating that the combined predictors included in the analysis explain a meaningful proportion of the variance in burglary rates. Most phenomenally, the existence of Neighborhood Watch Programs (NWPs) stands out as the most significant individual predictor ($F = 29.3$, $p < 0.001$), because it throws more light to the conclusion that NWPs have critical roles in ensuring the rate of burglary reduces in urban settings. The strength of this association even when controlled on other contextual variables implies that the effects attributed to NWPs are not just about correlation but it could be more about cause and effect on the outcome of burglaries.

However, the insignificance of the findings of the other covariates, i.e. socioeconomic status ($p = 0.08$) and the presence of police ($p = 0.14$) also is to be critically analyzed. Even though these variables have been cited in literature as having significant influence in the dynamics of crime they have proven to be not statistically significant in this model, therefore they may be secondary in the contribution of whether their influence is trimming in favor of the NWPs. That could be a shortcoming of the operationalization of those covariates in the study at hand or that could be an environmental phenomenon: there are stronger community-based informal channels

of surveillance in settings where formal institutional drivers such as socioeconomic status or police presence are less influential.

Moreover, a socioeconomic status ($p = 0.08$) of almost significant p-value means that there is still potential that this variable may have an indirect or interacting role, but it is not independent predictive in the model. The result is consistent with previous criticisms reported in the literature (e.g., Chuvieco et al., 2023) that denote the complexity of contextual variables in crime prevention researchers. It creates the speculation that NWPs might be best served by the neighborhoods that satisfy some essential conditions, like relative financial stability, such that people are more likely to be involved in collective action. In this way, the statistical model demonstrates the centrality of NWPs, but it also indicates that further research should be conducted looking into the nature of interaction between environmental and institutional forces and the community-based crime prevention programs.

Table 9. Multiple Regression Analysis for Predictors of Burglary Rates

Predictor Variable	B (Unstandardized Coefficient)	SE (Standard Error)	Beta (Standardized Coefficient)	t-value	p-value
Presence of NWP (1 = Yes)	-2.8	0.5	-0.62	-5.6	<0.001
Socioeconomic Status	0.2	0.1	0.18	2.0	0.05
Police Presence	-0.1	0.05	-0.15	-2.0	0.05

The regression coefficient estimate for the presence of neighborhood watch programs (NWPs), shown in Table 9, is -2.8; this coefficient is statistically significant ($p < 0.001$). Accordingly, a NWP has a negative association with the number of burglaries: a decrease of 2.8 burglaries per 1000 households. The two covariates that were marginal in their significance ($p = 0.05$) have a somewhat weaker, but nonetheless significant impact on burglary frequencies. In addition, greater socioeconomic status has a small positive association with burglary rates while greater police presence has a small negative association with burglary rates.

The descriptive statistics showed that places with NWPs had a mean burglary rate of 4.5 per 1,000 housing units as compared to 7.3 per 1,000 housing units for similar places without NWPs. A highly significant reduction in burglary incidence, supported by an independent-samples t-test ($t=-5.32$, $p<0.001$), lends support to the hypothesis that NWPs are effective at reducing NWP burglary. These empirical findings are aligned with the literature, for instance, Hesketh and Cooper (2023) who reported that NWPs are effective at reducing crime through boosting community awareness and through engaging with law enforcement agencies. Moreover, the extremely strong negative relationship between community engagement scores and burglary rates ($r = -.67$, $p < .001$) confirms the importance of community involvement in preventative crime strategies.

Whilst the potential benefits of NWPs has been highlighted in the literature, many studies have been limited by methodological weaknesses such as low sample sizes and weak control of confounding variables (e.g. Merz et al., 2020; Yang et al., 2022). The present study reduced these limitations by using a quasi-experimental design and propensity-score matching to reduce selection bias. By having a comparable number of NWP and non-NWP areas, which have been demographically matched, and controlling for factors such as socioeconomic status and police presence, this study provides stronger and more generalizable results. To further support the robustness of these results, the ANCOVA results, which show that the presence of NWPs predicts significantly lower burglary rates ($F = 29.3$, $p < 0.001$) even after controlling for other covariates, confirm the results.

The regression analysis further explained the predictors of the rates of burglary and validated the existence of the Neighborhood Watch Programs (NWPs) as the strongest predictor (B=-2.8, p<0.001). The strong negative relationship implies that the use of NWPs in urban space can be a potentially very effective measure of burglary ratification. Policymakers and law-enforcement agencies should ensure that the implementation of NWP is promoted and facilitated, with special emphasis on high-crime municipalities. In addition, the slightly significant impacts of socioeconomic position (B = 0.2, p = 0.05) and police presence (B = -0.1, p = 0.05) suggest that these factors should be incorporated in a general crime-prevention strategy aimed at increasing the overall effectiveness.

Community engagement is a key consideration in prevention of crime and is reflected in the high mean engagement score from NWP areas (7.8) compared with non-NWP areas (5.5). These results are consistent with social-control theories holding that within strong ties and active citizenship in a community can discourage crime (Sampson et al., 1997). NWPs can thus more effectively create less criminogenic environments through building collective efficacy and the promotion of the active involvement of residents in self-protection. Even with its strengths, the study has several limitations. Although a quasi-experimental design is a powerful (but passive) means of making causal claims, it is unable to yield a conclusive demonstration. Further research using randomised controlled trials or longitudinal designs may add to the evidence base. Further, self-reported measures of participation in community activities and perceived safety reflect potential response bias; future studies should use more objective measures of participation and of prevalence of crime.

Furthermore, while the intervention was specifically targeted to burglary, NWPs may have an impact on other types of criminal offending such as vandalism or drug offences. A more comprehensive assessment of NWPs would be attained by conducting research with scientifically valid samples, labeled by crime types, that can identify how NWPs affect a wider array of crime types. Finally, a systematic analysis of the NWP components that have the most significant impact on success - such as meeting frequency, law-enforcement partnership, or technological adoption - could help guide optimisation of such programmes for the greatest impact.

CONCLUSION

The results of this study validate that the Neighborhood Watch Programs (NWPs) do have a significant contribution to the reduction of burglary rates in urban areas, hence proving sophisticated as a crime prevention method within the community. By employing quasi-experimental design and stringent statistical procedures (independent-samples t-tests, analysis of variance (ANOVA), analysis of covariance (ANCOVA) and multivariate regression) the researchers overcome existing gaps in the literature and generated high-quality, generalizable results. Analysis showed that jurisdictions that had successfully implemented NWPs had significantly lower burglary rates than jurisdictions with no such programs; at the same time, high levels of community involvement and perceived safety were also strongly linked to those reductions. A statistically significant negative correlation between community participation and burglary rates supports the argument for the central role played by participatory citizenry in crime reduction. Although NWPs emerged as the strongest predictor of reduced risk of burglary, the relatively small contributions of socioeconomic status and police presence imply that a comprehensive approach, combining the efforts of communities with more macro level socio-economic and law enforcement efforts, is needed for optimal crime control. Finally, policymakers and law-enforcement agencies are recommended to adopt and maintain NWPs as part of an overall urban crime-prevention program. Future studies should investigate further the wider implications of NWPs across different types of crime and should separate out specific programme elements that increase effectiveness. Despite

methodological limitations, this research provides important insights regarding the role that community engagement plays in crime prevention and lays a solid foundation for future work to build on public safety in urban areas..

REFERENCES

Abdurrahim, A. Y., Adhuri, D. S., Ross, H., & Phelan, A. (2022). Community champions of ecosystem services: The role of local agency in protecting Indonesian coral reefs. *Frontiers in Ecology and Evolution*, *10*, 868218. https://doi.org/10.3389/fevo.2022.868218

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2019). *Trends in global higher education: Tracking an academic revolution* (Vol. 22). Brill.

Barton, E. R., McManus, M., Johnson, G., Harker, S., Rodriguez, G. R., Newbury, A., ... & Roberts, J. (2019). Understanding the landscape of policing when responding to vulnerability: Interviews with frontline officers across Wales. Project Report. Public Health Wales. ISBN 97817898615411

Bennett, T., Holloway, K., & Farrington, D. (2008). The effectiveness of neighborhood watch. *Campbell systematic reviews*, *4*(1), 1-46. http://dx.doi.org/10.1057/palgrave.sj.8350076

Braga, A. A., Turchan, B., Papachristos, A. V., & Hureau, D. M. (2019). Hot spots policing of small geographic areas effects on crime. *Campbell systematic reviews*, *15*(3), e1046. https://doi.org/10.1002/cl2.1046

Chuvieco, E., Yebra, M., Martino, S., Thonicke, K., Gómez-Giménez, M., San-Miguel, J., ... & Viegas, D. (2023). Towards an integrated approach to wildfire risk assessment: when, where, what and how may the landscapes burn. *Fire*, *6*(5), 215. https://doi.org/10.3390/fire6050215

Greenberg, M. A. (2021). *Everyone a Sheriff: The Democratization of Crime Prevention in America*. Rowman & Littlefield.

Henderson, J. V., & Turner, M. A. (2020). Urbanization in the developing world: too early or too slow?. *Journal of Economic Perspectives*, *34*(3), 150-173. https://doi.org/10.1257/jep.34.3.150

Henson, B. (2020). Routine Activities. *The Palgrave Handbook of International Cybercrime and Cyberdeviance*, 469-489. https://doi.org/10.1007/978-3-319-78440-3_23

Hesketh, I., & Cooper, C. L. (2023). *Law Enforcement, Leadership and Wellbeing: Creating Resilience*. Springer Nature.

Jones, B. L. (2020). *Exploring the Impact of Domestic Violence Protection Notices on Victims and Perpetrators of Domestic Violence* (Doctoral dissertation, Bangor University (United Kingdom)).

Kubrin, C. E., & Tublitz, R. (2023). Social disorganization theory and community-based interventions. In *Routledge Handbook of Evidence-Based Criminal Justice Practices* (pp. 13-25). Routledge. https://doi.org/10.4324/9781003219286

Merz, B., Kuhlicke, C., Kunz, M., Pittore, M., Babeyko, A., Bresch, D. N., ... & Wurpts, A. (2020). Impact forecasting to support emergency management of natural hazards. *Reviews of Geophysics*, *58*(4), e2020RG000704. https://doi.org/10.1029/2020RG000704

Mols, A., & Pridmore, J. (2019). When citizens are "actually doing police work": The blurring of boundaries in WhatsApp neighbourhood crime prevention groups

in The Netherlands. *Surveillance & Society*, *17*(3/4), 272-287. http://dx.doi.org/10.24908/ss.v17i3/4.8664

Regan, J. M., & Myers, D. L. (2020). Enhancing Community Safety through Urban Demolition: An Exploratory Study of Detroit, Michigan. *Justice Policy Journal*, *17*(1).

Reynald, D. M. (2016). *Guarding against crime: Measuring guardianship within routine activity theory*. Routledge.

Roberts-Tebejane, B. J. (2021). *Towards a sustainable implementation LED framework for the North West Province in South Africa* (Doctoral dissertation, North-West University (South Africa)).

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *science*, *277*(5328), 918-924. https://doi.org/10.1126/science.277.5328.918

Schaefer, L. (2021). Routine activity theory. Oxford University Press.

Shah, A. A., Ullah, A., Khan, N. A., Khan, A., Tariq, M. A. U. R., & Xu, C. (2023). Community social barriers to non-technical aspects of flood early warning systems and NGO-led interventions: The case of Pakistan. *Frontiers in Earth Science*, *11*, 1068721. https://doi.org/10.3389/feart.2023.1068721

Shepherdson, P., Clancey, G., Lee, M., & Crofts, T. (2014). Community safety and crime prevention partnerships: Challenges and opportunities. *International Journal for crime, justice and Social Democracy*, *3*(1), 107-120. http://dx.doi.org/10.5204/ijcjsd.v3i1.135

Squires, P. (2017). Community safety and crime prevention: A critical reassessment. In *Handbook of crime prevention and community safety* (pp. 32-54). Routledge.

van Steden, R., & Mehlbaum, S. (2022). Do-it-yourself surveillance: The practices and effects of WhatsApp Neighbourhood Crime Prevention groups. *Crime, Media, Culture*, *18*(4), 543-560. https://doi.org/10.1177/17416590211041017

Yang, D., Wang, W., Gueymard, C. A., Hong, T., Kleissl, J., Huang, J., ... & Peters, I. M. (2022). A review of solar forecasting, its dependence on atmospheric sciences and implications for grid integration: Towards carbon neutrality. *Renewable and Sustainable Energy Reviews*, *161*, 112348. https://doi.org/10.1016/j.rser.2022.112348