International Journal of Social Sciences
Citation: IJSS: **13**(03): 91-112, September 2024
DOI: 10.46852/2249-6637.03.2024.2

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RESEARCH PAPER

Impact of Gentrification on Community Dynamics in Angeles City: An Analysis of Collective Efficacy, Crime Rates, and Safety Perceptions

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Received: 19-05-2024 **Revised:** 28-08-2024 **Accepted:** 07-09-2024

ABSTRACT

Gentrification involves significant modernization in disadvantaged neighborhoods, transforming them into commercial hubs. In the Philippines, this process is prominent; Angeles City exemplifies this transformation due to its strategic location and infrastructure investments. Grounded on the social disorganization theory, this study investigates the impact of gentrification on community dynamics in Angeles City, focusing on collective efficacy, crime rates, and safety perceptions using cross sectional method and Pearson Moment Correlation. Mixed findings from previous studies suggest that gentrification can either weaken or strengthen community bonds and variably affect crime rates and safety perceptions. Despite the city's significant urban development and transformation, the research found no statistically significant relationships between these variables. This indicates that the changes in Angeles City do not necessarily affect crime rates or the residents' social dynamics and sense of security. The observed moderate associations between the variables appear to be due to random chance rather than reliable patterns. Given the lack of significant relationships, the study suggests that Angeles City should focus on other strategies to enhance community well-being and safety, including community engagement programs, inclusive urban planning, and enhanced safety measures. This approach can help foster a stronger, safer, and more cohesive community amidst ongoing urban development.

HIGHLIGHTS

- **Gentrification in Angeles City:** Rapid urbanization and commercial expansion are reshaping neighborhoods, but their social impact remains unclear.
- **Theoretical Basis:** Grounded in Social Disorganization Theory, the study examines how gentrification affects collective efficacy, crime rates, and safety perceptions.
- **Methodology:** A cross-sectional study using Pearson Moment Correlation, surveying residents from 33 barangays, with crime data from police records.
- **Findings:** No statistically significant relationships were found between gentrification, crime rates, collective efficacy, or safety perceptions.
- **Implications:** Gentrification does not necessarily impact social cohesion or crime rates, highlighting the need for community engagement and urban planning strategies.
- **Recommendations:** Future studies should use larger samples and qualitative approaches to explore deeper insights into gentrification's effects on communities.

Keywords: Collective Efficacy, Gentrification, Neighborhood Change, Perception of Safety, Crime Rate, Social Disorganization Theory

How to cite this article: Rhem Rick N. Corpuz, Mary Gail L. Lalic, Wendell M. Quinto and Joshua G. Gabriel. (2024). Impact of Gentrification on Community Dynamics in Angeles City: An Analysis of Collective Efficacy, Crime Rates, and Safety Perceptions. *Int. J. Soc. Sci.*, **13**(03): 91-112.

Source of Support: None; **Conflict of Interest:** None

Gentrification entails significant changes in line with drastic modernization typically occurring in disadvantaged neighborhoods. Santos Knight Frank (2022) ascertained that gentrification has taken over major cities in the Philippines, especially Metro Manila, considering that the Philippines has a lot of disadvantaged neighborhoods. This process helps bring out the sleeping potential of such cities to become commercial districts. This concept can be applied to Angeles City which is a highly urbanized city in Pampanga. Its strategic location, coupled with its advantageous routes throughout Luzon regions, has made it a potential hub for settlement, infrastructure development, and business expansion (Medina, 2023). Angeles City's urbanization has persisted despite its devastation in the 1991 eruption of Mount Pinatubo (Angeles City, 2020). This catastrophic event resulted in the deaths of several victims, disruption of livelihood, destruction of houses, and displacement of people. Further, Angeles City was reported to have five affected barangays and approximately 14,000 families victimized (De Guzman, 2004). However, considering its accessibility, economic zone developments and infrastructure investments still persisted such as the North Luzon Expressway (NLEX), MacArthur Highway Improvement, Subic-Clark-Tarlac Expressway (SCTEX), and Clark International Airport upgrade. Alongside these, numerous residential and commercial expansions have occurred, including malls, hotels, and restaurants.

One of the effects of gentrification is either the strengthening or breaking down of collective efficacy of a community as shown in some studies. Given these findings, it is necessary to weigh the effects of the gentrification in Angeles City, considering that Angeleños can be often seen mingling with each other on the streets and they can manifest collective hospitality. This is influenced by the long-standing values and rapport among Filipinos. Teach Beyond (2020) states that a Filipino word is used to describe the bond among community members, which is "Bayanihan." This word pertains to the unity of people to accomplish great things. This aligns with collective efficacy, a unifying strategy to address social problems collectively (Smith, 2021).

As physical changes in the neighborhoods of the locale become more evident, changes in some aspects of these areas may also follow, one of which is the impact on the city's crime rate. Studies have shown that an increase or decrease in crime can be associated with neighborhood gentrification. This, in turn, affects residents' safety perception from crime as well. Perception of safety generally refers to the individual judgment regarding the possibility of harm or loss (Canterbury, 2024). With this, the Angeleños may perceive themselves more safe or less safe depending on the kind of impact gentrification has on Angeles City.

Establishing meaningful connections between the four previously described concepts—which are also used as study variables—was the aim of this investigation. To support this purpose, some related studies were reviewed as part of the foundation of the research problem and hypotheses.

H1: There is no significant relationship between the collective efficacy and the gentrification in Angeles City.

Previous studies found opposing results in establishing the relationship between the two variables. Gibbons *et al.* (2019) asserted that a gentrified neighborhood yields to lower community connection. Meanwhile, Thurber (2019) proved that when gentrifiers learn the history of the neighborhood, a strong collective efficacy will still prevail.

H2: There is no significant relationship between the gentrification and the crime rate in Angeles City.

Barton *et al.* (2019) found no association between gentrification and shifts in total homicide cases in their 30-year study. Further, gentrification was also found having no direct relationship with crime during the period of disinvestment in the United States (Golash-Boza & Oh, 2021).

H3: There is no significant relationship between the gentrification and the perception of safety in Angeles City.

Existing studies presented varying conclusions regarding this relationship. In the study of Anguelovski

et al. (2020), gentrifiers, along with gang members and tourists, were involved in social unrest and drug selling, which caused significant fear and insecurity among residents. A case study by Largent and Quimby (2020) found that the arrival of people from different nationalities led to lower crime rates and increased safety perceptions in the neighborhood.

H4: There is no significant relationship between the crime rate and the perception of safety in Angeles City.

A few studies established dissimilar correlations between the two variables. Socha (2021) found a negative relationship wherein lower crime rate yields to higher sense of security. Nakamura and Shunsuke (2020) affirmed that crime, among other related factors, causes lower perceptions of safety.

H5: There is no significant relationship between the collective efficacy and the crime rate in Angeles City.

Manick *et al.* (2018) was unable to find a direct positive correlation between collective efficacy and homicide clearances in their study. Meanwhile, Maxwell *et al.* (2018) indicated that neighborhood collective efficacy directly influences how people perceive violence, experience victimization, and the actual homicide rates in Chicago neighborhoods.

H6: There is no significant relationship between the collective efficacy and the perception of safety in Angeles City.

The previous studies failed to conclude a direct relationship between the two variables. Dulin (2021) was only able to establish varying relationships between collective efficacy and perception of insecurity when applied in different areas of study. The findings of Cantora *et al.* (2019) were also limited to the relationship between collective efficacy and perceptions on police encounters.

Research Questions

The study examined how neighborhood changes in Angeles City affect the city's crime rate and the citizens' sense of overall efficacy and safety from crime.

Specifically, this study aimed to answer the following questions:

1. Is there a significant relationship between the collective efficacy and the gentrification in Angeles City?
2. Is there a significant relationship between the gentrification and the crime rate in Angeles City?
3. Is there a significant relationship between the gentrification and the perception of safety in Angeles City?
4. Is there a significant relationship between the crime rate and the perception of safety in Angeles City?
5. Is there a significant relationship between the collective efficacy and the crime rate in Angeles City?
6. Is there a significant relationship between the collective efficacy and the perception of safety in Angeles City?

Scope of the Study

The study focused on the residents of each barangay of Angeles City, Pampanga by establishing a notable link between the gentrification and their collective efficacy, perception of safety, and the crime rate. The study also focused on the past three to five years to assess the significant changes in the city. Further, taking respondents from each barangay enabled the result of the study to be generalized to the entire city. The study also tackled the number and type of crimes that were prevalent in the year 2023.

Conversely, the results of the study did not extend to the adjacent and gentrified neighborhoods outside Angeles City. In addition, the residents of Angeles City who have resided in the area for less than five years were excluded from the study. This is ensured that the respondents' inputs cover the significant changes in their neighborhoods in terms of the aspects being measured and that the study reflects long-term residents' experiences. This helped avoid skewed results from newer residents' initial impressions. Moreover, this was in line with the time-frame provided by the

standard questionnaires adopted for gentrification and perception of safety. Lastly, the study did not explore in detail the displaced residents of Angeles City and their prevalent situations, as well as the cultural and racial divisions caused by gentrification which can be tackled better in a qualitative study. The study only investigated the possible impact of gentrification on social ties, security, and crime of the area, instead of focusing on the other effects of gentrification in a city.

Review of Related Literature

Collective efficacy and gentrification

Collective Efficacy

Smith (2021), in her study, improved Sampson's 2012 definition of collective efficacy. This improved definition asserts that the essence of collective efficacy is when the citizens of a community are capable of having a unifying strategy for recognizing and addressing deviance. In this way, Sampson's definition of collective efficacy, which is the relationship between mutual trust and harmony among citizens in connection with their collective goals for monitoring and aiding neighborhood social control, was given a more applicatory sense. In the paper of Poe, Quinain, Nacar, and Fernandez (2018), which was conducted in the Philippines, collective efficacy is to be understood in light of Psychology, which is the combination of beliefs of a group in terms of the amount of their performance as a unit. In this current study, this performance is focused on how effective members of a community are in addressing deviance or crimes in their community, which also boils down to the other variables of this study, such as crime rate and perception of safety. Further, community psychology studies prove that the residents of a neighborhood tend to participate in community development efforts when they recognize a high-level collective efficacy in their neighborhood (Darmofal, 2010; Sampson, Raudenbush, & Earls, 1997; Yoon, 2011 as cited in Poe *et al.* 2018).

Gibbons, Barton, and Reling (2019), in contrast to previous research on the operationalized community, did not make use of a complete operationalization of social capital or collective efficacy in measuring neighborhood community connection. This means that in studying neighborhood community connection, collective efficacy may or may not be used depending on the specific area of focus of the variables involved. Meanwhile, collective efficacy was utilized as a variable to measure its effect on the level of neighborhood violence, household victimization, and homicide rates. It was found that approximately 70% of collective efficacy variance is responsible for the number of concentrated disadvantages, immigrant concentration, and residential stability of the neighborhood (Maxwell, Garner, & Skogan, 2018).

Gentrification

Gentrification happens when more affluent residents migrate to a neighborhood, thereby replacing the lower-income households and changing the overall value of that neighborhood (Kennedy & Leonard, 2001 as cited in Barton, Weil, & De Voorde, 2023). Guthrie (2019) claims that this term is described as the transformation of urban areas across the globe. This simply shows that gentrification is widely studied to see what implications this process has on the level of crime and safety of the residents of a neighborhood. Back (2019) specifically studied urban gentrification, citing Shin *et al.* (2015), who stated that urban gentrification is rooted in displacement. This suggests interdependence with economic global activities, which ultimately give rise to contradiction, dispute, and the latest forms of urban stratification. Applying gentrification in an urban setting is more complicated because there will be a clash of different beliefs and practices among people due to diversity.

Bernstein and Isaac (2021) focused their study on applying gentrification and community engagement in South Atlanta, Georgia. Two key points are emphasized: (1) community dialogue is crucial for uniting people to tackle social and economic issues, and (2) building social cohesion strengthens collective trust, values, and beliefs in the community. Meanwhile, gentrification may seem to be best applied in developing slum areas, which are known for having poor living conditions. There were only a few aspects of gentrification theory seen in the slum transformations in Lagos, Niegria and only two

of Davidson and Lees' four defining characteristics of gentrification apply to the gathered data (Guthrie, 2019). Interpreting this finding, the gentrification process in Lagos cannot be considered complete as the aspects and characteristics of gentrification were not fully integrated into the transformation of the area.

Relationship between collective efficacy and gentrification

Arguably, there is a higher perceived collective efficacy if the neighborhood has undergone a gentrification process (Steinmetz-Wood *et al.* 2017 as cited in Gibbons *et al.* 2019). This was invalidated by the findings of Gibbons *et al.* (2019) because their hypothesis that gentrifying a neighborhood would result in a lower neighborhood community connection was supported. The difference in their findings may depend on the area and people studied since in 2017, Steinmetz-Wood et al. found in their study that there are residents who formed a strong sense of community when their areas were gentrified. It was also found that members of the community raised concerns regarding their diminishing social ties and sense of community concerning social cohesion in the gentrified neighborhoods of Atlanta, Georgia composed of white and black people (Bernstein & Isaac, 2021). Meanwhile, despite the disadvantages offered by gentrification such as residential displacement and lack of affordable housing, Thurber (2019) proved that if the residents who moved into the neighborhood take time to study the precious history and practices of the neighborhood and establish rapport with their neighbors, gentrification would still lead to a collective efficacy and a sense of community.

Gentrification and crime rate

Crime Rate

Crime rate, generally, is understood as the amount of shift in recorded crimes and violations in a particular area based on the official statistics of these records over a certain period. In the study of Nakamura and Shunsuke (2020), the crime rate was used as a variable to measure its effect on the fear of crime of residents. Golash-Boza and Oh (2021) utilized a spatial analysis with the use of crime data together with census data and American Community Survey (ACS) data to evaluate the link between crime and neighborhood change at the census tract level.

Relationship between gentrification and crime rate

The following findings are found regarding the relationship between the gentrification and crime rate. Firstly, MacDonald and Stokes (2020) reviewed different studies and asserted that gentrification and land-use changes result in a short-term reduction in crime. Further, some of the studies they reviewed posit that demolishing or redeveloping abandoned houses decreases crime as well. This is supported by another study wherein it was found that migrants who have high income, college education, and who belong to white households moving into low-income neighborhoods in the central city yield a decrease in violent crimes in the central city (Ellen, Horn, & Reed, 2019).

Partially contrary to the aforementioned findings, Barton, Valasik, Brault, and Tita (2019) found no association between gentrification and changes in total or gang homicide within their 30 years of study; however, they found that gentrification has a positive association with non-gang homicide only. On the other hand, during the disinvestment period in the United States (1990-2000), changes in college-educated residents or home values did not link to violent crime increase. Crime rose with Black residents' decrease, suggesting their departure disrupted social control. (Golash-Boza & Oh, 2021).

Perception of safety and gentrification

Perception of safety generally refers to the individual judgment regarding the possibility of harm or loss (Canterbury, 2024). It is not synonymous with fear of crime but is usually used by researchers as a method of measuring fear of crime in their communities (Toward, 2017). Thus, the perception of an individual of his neighborhood directly influences his fear of crime and perception of safety (Leverentz, Pittman, & Skinnon, 2018). According to Zhang, Fan, Kang, Hu, and Ratti (2021), perceptions of safety are shaped by perceived threat or danger and exhibit a different pattern over time and space than victimization by criminal activity.

Relationship between gentrification and perception of safety

Different nationalities moving in led to decreased crime, increased diversity, and boosted business due to perceived safety improvements, as observed in Largent and Quimby's (2020) review of case studies. Leverentz *et al.* (2018) found that while newer residents, particularly White residents, relied more on perceived disorder in social and physical aspects, long-term residents had a positive perception of safety due to established relationships with other long-term residents. This finding partially supports the current assertion. The study examined three neighborhoods.

On the other hand, Anguelovski *et al.* (2020) found that gentrifiers, alongside gang members and tourists, were involved in social unrest, particularly in drug selling, causing significant fear and insecurity among residents, highlighting that gentrification does not necessarily equate to perceived safety in neighborhoods. Oscilowicz, Honey-Rosés, Anguelovski, Triguero-Mas, and Cole (2020) examined the impact of gentrification on displacement, particularly affecting green spaces where children play safely. Gentrifiers' arrival restricted access for original, socially vulnerable residents, raising displacement and safety concerns. This research also investigated how the presence of tourists and commercial patrons outdoors enlivens public green spaces and enhances the safety perception of both tourists and residents. It was found that green play spaces fostered feelings of safety, freedom, enjoyment, and trust among visitors and locals alike.

Relationship between crime rate and perception of safety

Socha (2021) stated that in researching a similar topic, "the level of an individual's sense of security should be determined by the level of crime in one's area" (p. 509). He further concluded that the lower the crime rate, the higher the sense of security of an individual and vice versa. Lee and Cho (2018) also suggested that members of wealthy communities that have low crime rates usually mark themselves as safe in their communities as opposed to those living in communities with higher crime rates. This premise is highlighted in the study of Ogneva-Himmelberger, Ross, Caywood, Khananayev, and Starr (2019) who found varying intensity in the relationship between perceived safety and reported crimes. Drug-related transactions and prostitution were primary concerns. Sex workers were seen as unsafe for young women. Other safety concerns included gunshots, homeless individuals, mendicants, speeding, burglary, and purse-snatching.

Nakamura and Shunsuke (2020) found that there are higher perceptions of safety in the northern part of city center and business district than in the southern part of the city center and suburbs of Delhi, India. They further emphasized that crime and other related factors cause lower perceptions of safety. With this, thinking of a strategy to minimize crime and establish safer cities is one way to ensure good perceptions of safety. The efficacy of Malaysia's Safe City Program, which employs "Crime Prevention Through Environmental Design (CPTED)" to lower crime, lessen public fear of crime, and enhance public discernment of safety, was investigated by Lim *et al.* (2020). While individual initiatives had some success in reducing street crimes, the program faced challenges in fully addressing crime and fear due to the complexity of urban environments. The study suggested that combining efforts from guardians, victims, and offenders would make the program more effective.

Relationship between collective efficacy and crime rate

According to Zanhow, Corcoran, Kimpton, and Wickes (2021), collective efficacy implies the level of crime in their area of study. It was affirmed that when members of the community are actively participating in legal engagements and keeping an eye out for suspicious transactions and criminal behavior, an environment less conducive to crime is created. DeCesare (2021) examined the impact of collective efficacy on crime in higher education institutions (IHEs), noting that according to Social Disorganization Theory, community diversity can reduce organization and collective crime resistance. This theory suggests higher crime rates in diverse IHEs compared to more organized neighboring communities. However, the presence of collective efficacy traits like

trust, social control, and social cohesion can potentially mitigate crime in both neighborhoods and IHEs.

Kochel and Weisburd (2018) focused their study on areas with lower collective efficacy that lead to more disorder and crime. They found that hotspot policing, which involves increased police presence in high-crime areas, can boost collective efficacy in disadvantaged communities. Manick, Parker, and Williams (2018) further explored the effect of collective efficacy on homicide clearances in Chicago neighborhoods. They found that collective efficacy indeed has a positive correlation with homicide clearances, even when other neighborhood factors and the composition of homicides have been considered. Maxwell *et al.* (2018) strengthened the findings of Manick *et al.* in their study since they found that the resident surveys, the U.S. census, and official homicide records in Chicago showed that neighborhood collective efficacy contributes directly to forming the perceptions of violence in neighborhoods, victimization in households, and homicide rates.

Collective efficacy and perception of safety

There are no studies directly pertaining to the relationship of collective efficacy and perception of safety. However, some similar studies presented the following findings.

Dulin (2021) found that collective efficacy influences perceptions of insecurity differently. While focusing on criminal concerns boosted future perceptions of crime, neighborhoods' ability to address social issues decreased perceptions of insecurity. However, collective efficacy had no effect on perceptions of insecurity within households. Cantora, Wasileski, Iyer, and Restivo (2019) suggested that higher collective efficacy leads to positive perceptions of the police and increased resident cooperation, enhancing safety perceptions. Their findings showed that neighborhood trust significantly influences community views of the police, with elderly residents particularly likely to have favorable opinions, especially regarding police responsiveness.

Hernandez, Dammert, and Kanashiro (2020) found that non-organic measures like private security and physical barriers are strongly linked to residents' fear of crime, especially when social capital or collective efficacy is weak. Their results indicate that individuals using self-protection measures have a higher fear of crime, which is intensified in communities with low collective efficacy. Thus, high collective efficacy is essential to reduce fear of crime. A panel research with two waves conducted in Belgium by Hardyns, Pauwels, and Heylen (2018) found that personal social support, perceived social trust, and informal social control do not significantly impact fear of victimization. These findings challenge the overall relevance of collective efficacy theory to fear of victimization.

Collective Efficacy and Gentrification

Bernstein and Isaac (2021) made use of gentrification as a variable to measure its effect on community dialogue which is essential in establishing social cohesion. They pointed out two limitations in their study which are (1) out of their five target neighborhoods, only three were participants of the focus groups, and (2) there is no evident racial diversity among the participants since only one focus group and two interviewees were Whites, and this make-up is similar to that of the community itself.

In an action research conducted by Thurber (2019) called "The Neighborhood Story Project," the participation of the inhabitants of neighborhoods undergoing gentrification was required to tackle beyond the tangible impacts of gentrification. With this, a few limitations of the study were found: (1) the number of participants per project was eight to twelve people only which is not a very significant number, (2) the project failed to establish a significant relationship between the long-time residents and the new residents, as well as bridging the gap between race, class, and tenure, (3) only the maintenance of civic action was the result of collective efficacy instilled among the members of the community studied.

Gentrification and Crime Rate

Golash-Boza and Oh (2021) suggest that future studies involved in investigating the relationship between crime rate and neighborhood change must employ the broader context of the socioeconomic aspect of their

area of study.

Meanwhile, Ellen *et al.* (2019), in their findings, failed to establish a causal connection between falling crime rates and gentrification. Although a suggestive link was established between the two variables, this does not directly prove that the decrease in crime causes gentrification. And more importantly, the researchers suggest that there may be other contributing factors aside from falling crime rates that cause gentrification in the area studied.

Gentrification and Perception of Safety

Based on the study of Oscilowicz *et al.* (2020), their study is limited to site observations focusing on green play space, especially the enclosed playground. It is also focused on two neighborhoods only to identify the impacts of the gentrification process from which the researchers stated their difficulty in attributing all the differences between these neighborhoods. They further suggested that limiting their study to two specific cases does not offer generalization to other cities or communities considering that there are a lot of differences and other contributing factors in other potential areas of study. Further, there are only a few self-reported and non-random sampling in their study where the quantitative analysis of their data was based.

Crime Rate and Perception of Safety

The study of Nakamura and Shunsuke (2020) lacks generalizability since it only focused on the case of Delhi, India. The researchers suggest that future studies on the same topic should explore other cities in India, as well as the cities in Africa and Latin America, which are developing countries. The residents of such developing countries are likely to have no fear of crime despite the high crime rates in their communities since they are used to this kind of culture.

Socha (2021) pointed out that his findings have limitations just like any other studies and suggested that future studies should consider not only the quantitative data like crime rates but also the perceptions of security of the residents in formulating local security policies.

Collective Efficacy and Crime Rate

Zanhow *et al.* (2021) presented some limitations in their study. There are only two specific crimes that they studied which are theft and nuisance crimes that have opportunistic nature. However, this approach does not enable their findings to have generalizability to other types of crimes, especially violent crimes and household break-ins.

The limitations of the study of Kochel and Weisburd (2018) are that they focused on hotspot policing strategies to improve public perception of the police and not enhancing the collective efficacy of the residents.

Collective Efficacy and Perception of Safety

Hardyns *et al.* (2018) only studied one aspect of fear of crime, limiting the scope of their results. They failed to explore the emotional and behavioral aspects of fear of crime in the subjects. Additionally, they failed to consider prior victimization records due to the issue of overlapping among time intervals of measurements. More importantly, they failed to prove the significant correlation between perceived low collective efficacy and perceived disorder, which would cause a decrease in fear of crime levels.

The study of Hernandez *et al.* (2020) only relied on cross-sectional data which means that their findings only present statistical association and not causality. As fear of crime has a multifaceted nature, this study was only able to include one subset of predictors of fear of crime due to constraints in data.

The Current Study

This study addressed multiple research gaps from previous studies related to gentrification, collective efficacy, crime rates, and safety perceptions. It expanded on Bernstein and Isaac (2021) by involving more neighborhoods and diverse participants, reflecting the varied population of Angeles City. Compared to Thurber (2019), this study included more respondents and analyzed relationships between long-term and newer residents, investigating both civic and informal relationships. The socioeconomic factors linked to crime

rates, as highlighted by Golash-Boza and Oh (2021), were also explored.

Instead of examining whether falling crime rates lead to gentrification, as in Ellen *et al.* (2019), this study focused on whether gentrification impacts crime. Unlike Oscilowicz *et al.* (2020), it analyzed all barangays of Angeles City, going beyond specific locations like green spaces. It followed Nakamura and Shunsuke's (2020) suggestion by studying communities in a developing country and addressed Socha's (2021) call to examine residents' perceptions of security to guide local policies.

Furthermore, the study generalized findings by exploring all types of reported crimes in Angeles City, building on Zanhow *et al.* (2021). It shifted focus from hotspot policing (Kochel and Weisburd, 2018) to collective efficacy's effect on crime rates. Unlike Hardyns *et al.* (2018), the study examined perceptions of safety rather than fear of crime, and, addressing Hernandez *et al.* (2020), it included diverse subjects, considering factors like age, gender, and socioeconomic status.

Theoretical Framework

The theory that lays the foundation for this study is the Social Disorganization Theory by Clifford Shaw and Henry McKay. Social disorganization happens when the effective social control in a society is broken down which leads to the absence of harmony and the presence of conflict between groups (Ciobanu, 2019). Meanwhile, DeCesare (2021) reiterated the factors making a community socially disorganized as identified by Shaw and McKay. These factors are "low socioeconomic status (SES), high ethnic and racial heterogeneity, and high residential turnover" (DeCesare, 2021, p. 22). The presence of these factors in a community prevents it from becoming socially organized which in turn would result in an increased crime rate. This best describes what the study aimed to explore. Applying this to Angeles City, the socioeconomic status of the residents was analyzed through determining their capability to afford the increasing costs in their areas, move into another dwelling within the area, or rent in apartments. Meanwhile, the metric of ethnic diversity was determining the fluctuation of newcomers arriving in the communities, whether the people share the same values or not, and whether the long-term and new residents generally get along with each other or not given their different origins. Regarding the turnover of residential properties, the respondents were questioned about whether or not people in their neighborhood are "flipping," or purchasing and renovating homes before renting or selling them. Collectively, these factors affect crime rate and perception of safety of the neighborhood to a certain degree, but not significantly. Addressing the gaps in the study of Bernstein and Isaac (2021), Thurber (2019), Golash-Boza and Oh (2021), Nakamura and Shunsuke (2020), Zanhow *et al.* (2021), among others, enabled the researchers of the current study to employ more neighborhoods, more respondents, explore the socioeconomic aspect of the city, and include all types of prevalent crimes in the city, respectively. This also allowed for the study to expand the application of the Social Disogranization Theory in Angeles City.

Conceptual Framework

The function of the conceptual framework is to organize the salient concepts of the study that summarize the focus and the path taken by the study (Shikalepo, 2020). With this understanding, this section elaborates the paradigm of the study which shows the relationship between the four main variables that this study will revolve around (see Fig. 1): (a) collective efficacy, (b) gentrification, (c) crime rate, and (d) perception of safety from crime.

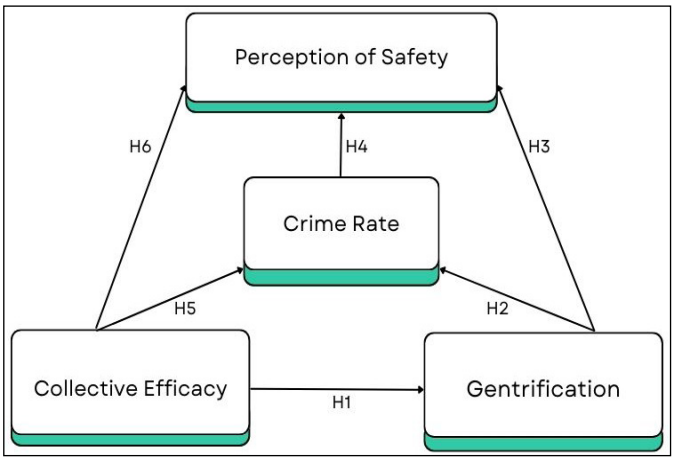

Fig. 1: Paradigm of the study

The relationships between these four variables focus on the following hypotheses based on the introduction and the literature review: (1) there is no significant relationship between the collective efficacy and the gentrification in Angeles City; (2) there is no significant relationship between the gentrification and the crime rate in Angeles City; (3) there is no significant relationship between the gentrification and the perception of safety in Angeles City; (4) there is no significant relationship between the crime rate and the perception of safety in Angeles City; (5) there is no significant relationship between the collective efficacy and the crime rate in Angeles City; and (6) there is no significant relationship between the collective efficacy and the perception of safety in Angeles City.

METHODS

Study Design

Based on the research questions, the appropriate design for this study is a cross-sectional. In the current study, data collection started by identifying the sample size with the combination of the researchers' discretion in choosing the specific people as respondents. The sample size was determined using the Raosoft calculator and a percentage calculator, where the census data of Angeles City was entered for processing. Upon knowing the specific respondents, they were given informed consents which was included in the questionnaire. The questionnaire consisted of three different set of questions combined to accommodate the three variables of the study which are collective efficacy, gentrification, and perception of safety. The researchers assisted the respondents in answering the questionnaire. On the other hand, the statistical analysis for the data was Pearson Moment Correlation.

Locale of the Study

The entirety of this study was conducted in Angeles City. Each barangay had a representative sample size, specifically determining how many people were needed as respondents in those areas. Due to its ongoing developmental transformations, the researchers selected Angeles City as the focal point for this study. The city is experiencing significant growth, evidenced by the establishment of new businesses such as restaurants, hotels, and various other enterprises. The influx of migrants in the city was an important factor that was considered as well. This surge in development has led to noticeable gentrification across multiple barangays. This was also essential in determining the effect of gentrification on the collective efficacy of Angeleños and their safety perception from crime based on the status of the crime in the area.

Study Participants and Sample Size

This study's respondents came from the 33 barangays of Angeles City, Pampanga. According to the city census, there is a total population of 462,928 in all 33 barangays. The sampling technique for this study was Cluster Sampling under Non-Probability Sampling. The Non-Probability Sampling was used due to the geographical size of the area of study which requires a Cluster Sampling. This sampling technique also enables the researchers to collect responses faster and in a cost-effective manner (Laerd, n.d.). Wang *et al.* (2020) studied the mental health problems of cancer patients during COVID-19 that were admitted to Sun Yat-sen University Cancer Center. This is one of the largest cancer centers in China. Considering that they were studying subjects from a specific area, they used Cluster Sampling. With this, the Cluster Sample was more inclined with this study because it divides the population based on geography. In line with this, the researchers first divided Angeles City into its barangays; then, they gathered samples from all barangays to achieve generalization. The Raosoft calculator was utilized to calculate the total sample size by entering the necessary information such as a margin of error of 5%, confidence level of 95%, the actual population size of Angeles City, and the response distribution of 50%. Thus, the recommended sample size based on this population was 384. Using further this information, the population percentage of each barangay based on the census data was calculated with their respective population to get the sample size for each area.

Inclusion and Exclusion Criteria

The respondents met a few characteristics to be qualified to participate. For the first criterion, the respondent were 18 years of age or above. While the researchers recognize that minors might have unique perspectives and may express a desire to participate, they must adhere to standard protocols in research. Firstly, minors are not legally permitted to consent to participate without a guardian present. Secondly, including respondents who are not yet of legal age could compromise the validity and reliability of this study's data. Therefore, to maintain the survey's standards and uphold ethical research practices, minors were not permitted to participate. For the second criterion, the respondent belonged to any gender, race, marital status, and educational attainment. This ensured generalization of the results. For the third criterion, the respondent were official residents of Angeles City. This ensured that the data gathered leans towards the study's goal of applying the research problem to Angeles City. A barangay identification card was required to verify the respondent's official residency in Angeles City. When the barangay ID was unavailable, a voter's identification card or any other valid identification which indicates the address of the respondent was the alternative used.

The exclusion criteria, which prohibits an individual from being a respondent of this study, provides that the individual has not lived in Angeles City for at least five years. This is in accordance with the standard questionnaire for gentrification and perception of safety formulated by Hirsch, Grunwald, Miles, and Michael (2021) and Su and Li (2016), respectively.

Research Instruments

The Collective Efficacy Scale by Sampson, Raudenbush, and Earls (1997) was utilized to measure the collective efficacy variable. The questionnaire was derived from their study, "Neighborhoods and violent crime: A multilevel study of collective efficacy." The questionnaire was a 4-point scale consisting of ten comprehensible questions. The ten questions were divided into two parts. The first part consisted of questions that determine neighborhood social control and compassion. The choices include (1) "very unlikely," (2) "unlikely," (3) "likely," and (4) "very likely." The second part consisted of questions that determine compassion, trust, and harmony among residents. The choices include (1) "strongly disagree," (2) "disagree," (3) "agree," and (4) "strongly agree." Questions 9 and 10 were reverse-coded.

The PACER scale by Hirsch *et al.* (2021) was utilized to measure the gentrification variable. The questionnaire was derived from their study entitled "Development of an instrument to measure perceived gentrification for health research: Perceptions about changes in environments and residents (PACER)." The questionnaire was a 4-point scale consisting of 19 comprehensible questions. The questions were divided into two parts. The first part required the respondent to think about the changes in their neighborhood in the past three to five years or the current changes they perceive. The questions pertain to the establishment of new businesses and stores, the inflation of housing prices, the construction of new buildings and amenities, and the state of the relationship between the old and new neighbors. The choices for this part were (1) "strongly disagree," (2) "disagree," (3) "Agree," and (4) "strongly agree." The second part consisted of questions focusing on the affordability of residential places and feelings about the neighborhood changes. The choices for this part were the same as the choices in the first part. Questions 4, 15, and 18 were reverse-coded.

The questionnaire utilized in the study by Su and Li (2016) entitled "The Relationship between Gentrification and Sense of Security in Harlem" was adopted to measure the perception of safety variable. Specifically, the second part of the aforementioned questionnaire was adopted to measure the given variable. It was a 4-point scale composed of three questions separated by different choices. The first question refered to the feeling of security while walking alone at night. The choices were (1) "very dangerous," (2) "dangerous," (3) "safe," and (4) "very safe." The second question refered to the perception of leaving belongings unattended in public places. The choices were (1) "I have to grab my things/put them on my lap even when I am eating," (2) "I would take all my things with me," (3) "I sometimes feel safe to leave my belongings on my seat," and (4)

"I always feel safe to leave my belongings on my seat." The last question referred to the neighborhood's state of being safe in the last five years, as perceived by the respondents. The choices were (1) "A lot more dangerous," (2) "More dangerous," (3) "Safer," and (4) "A lot safer."

The data was electronically gathered from the Angeles City Police Office to assess the crime rate in Angeles City. This office is responsible for recording every reported crime in the area. One of their responsibilities is to store these records properly and responsibly. Thus, they are the primary source of crime data in Angeles City. The data gathered was from the year 2023, indicating the type of crimes, as well as the number of cases solved and cleared. These data were calculated per 100,000 people to get the actual crime rate and the average.

The researchers have sent an email to each of the authors of the three respective questionnaires for collective efficacy, gentrification, and perception of safety to ensure that they are given the right to use these questionnaires for their data collection.

Procedures

The design of this study is a cross-sectional method, which requires that the data collection method is in the form of surveys. The data collection instruments were adopted from existing studies authored by other researchers. Thus, they are understood to have undergone validity and reliability assessment and pilot testing, which eliminate the possibility of errors with the instruments and, in return, allowed these instruments to be used for the entire data collection of this study. Following the computed number of respondents per barangay of Angeles City, the researchers asked for those who are long-term residents and vendors as respondents within each barangay while considering the inclusion and exclusion criteria of the study. This recruitment was naturally followed by the reading and explaining of the informed consent containing the intentions of the researchers, respect for the autonomy of the respondents, the benefits obtained from the study, the assurance of non-maleficence on the part of the respondents, and the privacy and confidentiality of the information gathered in a language they understood. The respondents were asked if they indeed understood the terms and if they had no disagreements. Afterward, the questionnaires were administered to the participating respondents. They had the freedom to read the questionnaires by themselves or ask for the assistance of the researchers. The questionnaires had Filipino translations for ease of understanding. The extent of the researchers' assistance was only limited to explaining questions they found complex and reading the questions entirely for some respondents who required it. The researchers also reiterated to the respondents that they can withdraw from participating if they sense discomfort or grave risk while answering the questions. Since the researchers were present during the data collection, they ensured the quality of the respondents' data inputs by verifying their completeness and accuracy to meet the standard protocols. The completed questionnaires were compiled in a secured envelope entrusted to the care and responsibility of the researcher leading this study. Most importantly, documentation of the data collection process was conducted to ensure transparency, replicability, and accountability. The respondents were asked for their permission to be photographed while answering the questionnaires. Upon meeting the target number of respondents, which is 384, the data from the questionnaires were converted into computerized data through the utilization of "Statistical Package for the Social Sciences" (SPSS).

Ethical Considerations

To ensure the protection of the respondents, they were given informed consent before the data collection. The informed consent emphasized that the research adheres to the ethical principles of research. The procedure involved having the respondent read the consent or with their preference; the researchers read and elaborated the consent to the respondents in a language they understood (i.e., English or Filipino). At the end of the consent process, the respondents were asked if they understood all aspects of the process and agree to participate in the survey. The right of the respondents to desist from participating in the study at any time was emphasized every time. The inputs of the respondents on

the questionnaires were a testament to their willingness to participate.

To ensure that the information provided by the respondents remains confidential, the completed questionnaires were stored in a secured envelope handled by the leader for safekeeping. At the end of each data collection day, the completed questionnaires were immediately encoded in the SPSS software to secure and back up the data properly. The only people with access to the physical and digital copies of the completed questionnaires were the three researchers for this study and their adviser. This is to maintain that the data collected were utilized for research purposes only. The data were kept until the whole research paper was completed and approved.

To ensure that the risks to respondents are minimized, the researchers had the respondents answer the questionnaires in a shaded and comfortable environment free from distractions and undue risks. The respondents also had the freedom to choose where they were most comfortable completing the questionnaires. The questionnaire on the perception of safety contains questions that assess the safety of the respondents' neighborhoods. Thus, they may face psychological distress if they were victimized in accordance with the specific situations posed by the questions. With this, the researchers assured the respondents that the purpose of such questions is only to determine the level of safety their neighborhoods have and not specifically target the details of their security or insecurity experiences. They also ensured that they may withdraw from the study due to this reason. The researchers were prepared to give support system to triggered respondents, but fortunately, no one faced distress. Regarding social risks, the questionnaires all pertain to the social changes and relationships experienced by the respondents; thus, they were asked to weigh these aspects with their emotions. This was not as risky because the required answers were not sensitive and did not necessarily pose harm.

To ensure that the benefits of the study are maximized, the researchers continuously assured the respondents that the study contributes greatly to them as residents of Angeles City as the results and interpretation of this study can be utilized for possible future social improvements and policies. This opens doors for an opportunity to address the residents' concerns with the growing gentrification process in their neighborhoods and its effects on their collective efficacy, safety, and crime rate. It also contributes to the Criminological research community, which can also be utilized by future researchers in Angeles City. Considering these, the participation of the respondents greatly helped in completing the research and attaining the aforementioned benefits, thereby outweighing the potential risks they may face.

To ensure fairness among the respondents, the selection was based on the inclusion and exclusion criteria provided for this study. Once respondents were chosen upon meeting the inclusion criteria and upon ensuring that they did not fall under the exclusion criteria, the researchers were obliged to specifically choose the respondents through their discretion while avoiding bias and subjectivity. The long-term residents and vendors of the city were chosen as they were considered to give more insightful inputs and they readily meet the criteria. Even vulnerable residents such as the elderly, persons with disabilities, or members of marginalized groups had an equal chance of being selected if they meet the criteria. Therefore, the researchers had the responsibility to employ extra care in handling such vulnerable respondents by thoroughly assisting them in reading and answering the informed consent and questionnaires, accommodating their concerns with the survey, attending to their personal needs while answering the survey, and acknowledge their perspective with respect and enthusiasm.

To ensure integrity in the research process, the ethical principles were regularly monitored until the completion of the survey and the research itself. The researchers and their adviser were the only people accessing the gathered data. They were also responsible for the storage and processing of such data. To address possible issues, the respondents were given the opportunity to contact the researchers through the provided email address in the informed consent. Finally, to completely observe the integrity of the research, every action taken by the researchers, from administering the informed consent

and questionnaires to processing the data, were well-documented through photographs.

Statistical Analysis of Data

The Pearson Moment Correlation is the statistical analysis utilized for this study to determine the significant relationship between collective efficacy, gentrification, perception of safety, and crime rate. The SPSS software was utilized to accomplish this. A significance level of 0.05 was maintained to determine the statistical significance of these respective relationships. The data gathered from the questionnaires were processed by determining the means, verbal interpretations, standard deviations, and variances for thorough analysis. The correlation for each research problem was also generated. A reliability analysis using SPSS was done to make sure the questionnaire was reliable, and the results showed an acceptable coefficient of Cronbach's Alpha of 0.75. The correlations were processed through interpretation to discover the degree of relationship between the four variables. Those with p-values less than 0.05 were considered statistically significant. Ultimately, these interpretations were linked to the findings of existing literature to conclude definitely about the study's results.

RESULTS AND DISCUSSION

The table 1 examines neighborhood residents' perceptions of collective efficacy, covering social disorder and community cohesion. It shows that residents view issues like school skipping, graffiti, and fights as likely occurrences, with mean scores between 2.51 and 2.99. The most frequently perceived issue is school skipping (2.99), while fights are less commonly perceived (2.51). On the positive side, statements about community cohesion and mutual trust received mean scores from 2.70 to 3.08, indicating agreement that the neighborhood is supportive and trustworthy, with "People around here are willing to help their neighbors" scoring highest (3.08). The data also reveals moderate variability in perceptions, with standard deviations from 1.04 to 1.27. Overall, the average score of 2.78 reflects a generally positive view of collective efficacy, despite some concerns about social disorder, underscoring the neighborhood's strong social capital and mutual support.

Table 1: Collective Efficacy

Collective Efficacy	Mean	Verbal Interpretation	Std. Deviation	Variance
Children were skipping school and hanging out on a street corner.	2.99	Likely	1.25	1.55
Children were spray-painting graffiti on a local building.	2.59	Likely	1.23	1.51
Children were showing disrespect to an adult.	2.79	Likely	1.24	1.53
A fight broke out in front of their house.	2.51	Likely	1.26	1.59
The fire station closest to their home was threatened with budget cuts	2.57	Likely	1.27	1.60
People around here are willing to help their neighbors.	3.08	Strongly Agree	1.11	1.22
This is a close-knit neighborhood.	2.80	Agree	1.17	1.37
People in this neighborhood can be trusted.	2.70	Agree	1.17	1.36
People in this neighborhood generally get along with each other.	2.89	Agree	1.04	1.08
People in this neighborhood share the same values.	2.89	Agree	1.11	1.22
Average	2.78	Agree	1.18	1.40

Table 2: Gentrification

Gentrification	Mean	Verbal Interpretation	Std. Deviation	Variance
New businesses are opening.	3.13	Strongly Agree	1.05	1.10
Long-standing businesses are being replaced by different businesses.	2.83	Agree	0.90	0.80
More expensive or fancier grocery stores are opening.	3.03	Strongly Agree	1.00	0.99
The cost of housing has decreased (i.e. renting or buying	1.96	Disagree	1.01	1.02
Construction of new buildings on vacant lots or to replace old buildings.	3.01	Strongly Agree	0.96	0.92
Construction of new or improved resources such as parks, bike lanes, transit, or sidewalks	2.88	Agree	0.92	0.85
People are "flipping" properties, buying and fixing them up to rent or sell.	2.81	Agree	1.00	1.00
Changes are leading to tension or conflict between me and my neighbors.	2.58	Agree	1.02	1.03
New people are moving into my neighborhood.	2.74	Agree	1.01	1.02
If I had to move right now, I could afford to move to a similar house or apartment within my neighborhood	2.54	Agree	1.10	1.22
I feel welcome in most new businesses in my neighborhood.	2.52	Agree	1.00	1.01
I feel the personality of my neighborhood has changed	2.93	Agree	0.99	0.98
I trust people moving into my neighborhood	2.60	Agree	0.95	0.89
I feel good about the changes happening in my neighborhood	3.01	Strongly Agree	0.95	0.91
I am not afraid of being pushed or forced out of my neighborhood	2.32	Agree	0.96	0.92
I would support changes to my neighborhood (e.g. new stores, sidewalks, parks) even if the changes make it more expensive for me to live here.	2.94	Agree	0.95	0.90
Changes in my neighborhood are meant for people like me.	2.79	Agree	0.96	0.93
Changes happening in my neighborhood do not make me feel unsure that I will stay here.	2.29	Agree	0.97	0.94
I feel I have a say in what changes occur in my neighborhood.	2.74	Agree	1.08	1.17
Average	2.72	Agree	0.99	0.98

The table 2 explores residents' perceptions and experiences of gentrification in their neighborhood, highlighting various aspects such as new businesses, housing affordability, and community dynamics. With an average mean score of 2.72, the data indicates overall agreement with gentrification-related changes, suggesting a generally positive or neutral perception among residents. High mean scores for statements about new businesses (3.13), new buildings (3.01), and positive feelings about neighborhood changes (3.01) reflect a favorable outlook. However, lower mean scores for statements about tension or conflict (2.58), feeling pushed out (2.32), and uncertainty about staying (2.29) indicate mixed or neutral perceptions on these issues. The variability in responses, as shown by the standard deviation and variance, suggests diverse experiences and attitudes toward gentrification. This nuanced understanding is essential for policymakers and stakeholders to address residents' needs and concerns amid neighborhood changes.

The table 3 provides insights into residents' perceptions of neighborhood safety across various scenarios, from walking alone at night to leaving belongings unattended in public. The average mean score of 2.90 suggests that residents generally feel safer in their neighborhood compared to previous years. High mean scores indicate

Table 3: Perception of Safety

Perception of Safety	Mean	Verbal Interpretation	Std. Deviation	Variance
How do you feel in terms of safety while walking alone after dark (e.g. after 10 pm)?	3.02	Very Safe	1.14	1.31
How do you feel leaving your bag on the table to pick up your food at a restaurant/go to the bathroom?	3.01	I always feel safe to leave my belongings on my seat	1.19	1.41
Do you think your neighborhood has become safer or less safe in the last 5 years?	2.67	Safer	1.20	1.44
Average	2.90	Safer	1.18	1.38

a strong sense of safety in specific scenarios, such as walking alone after dark (3.02) and leaving belongings unattended in public spaces (3.01), reflecting confidence and trust in the neighborhood's safety. Residents' varied opinions are shown in the assessments of how neighborhood safety has changed over the previous five years, which had a mean score of 2.67 and higher standard deviation and variance. Overall, the data portrays a positive perception of neighborhood safety, but highlights the need to consider individual experiences when assessing and improving community well-being.

Table 4: Crime Rate, 2023

Types of Crimes	Crime Rate
Against Person	19.01
Against Property	41.03
Non-Index Crime	43.42
Traffic Incidents	76.91
Special Laws	185.74
Average	73.22

The table 4 presents crime rates across various categories, showing that crimes against persons occur at a rate of 19.01 per 100,000 people, property crimes at 41.03, non-index crimes at 43.42, traffic incidents at 76.91, and crimes related to special laws at 185.74, resulting in an overall average crime rate of 73.22. The high rate of special law violations and traffic incidents highlights the need for targeted enforcement and preventive measures in these areas, while maintaining lower rates of personal and property crimes requires sustained investment in community policing and crime prevention programs. These insights underscore the importance of data-driven strategies to enhance community safety and well-being.

Table 5: Relationship between collective efficacy and gentrification

Correlations			
		Collective Efficacy	Gentrification
Collective Efficacy	Pearson Correlation	1	.440
	Sig. (2-tailed)		.176
	Sum of Squares and Cross-products	.318	.256
	Covariance	.032	.026
Gentrification	Pearson Correlation	.440	1
	Sig. (2-tailed)	.176	
	Sum of Squares and Cross-products	.256	1.605
	Covariance	.026	.089

The table 5 presents correlation data between collective efficacy and gentrification, including Pearson correlation coefficients, significance levels, sum of squares and cross-products, and covariance. The Pearson correlation coefficient is 0.440, indicating a moderate positive relationship, suggesting that as collective efficacy increases, gentrification also tends to increase. Yet, there is no statistical significance in the connection because the significance level (p-value) of 0.176 is higher than the generally accepted cutoff of 0.05. Thus, we cannot confidently assert a meaningful relationship between collective efficacy and gentrification based on this data alone. Descriptive statistics provide additional context about the variability and co-variation of the two variables. Collective efficacy has a sum of squares

and cross-products of 0.318, while gentrification has 1.605, indicating greater variation for gentrification. The covariance is 0.026, and the coefficient of variation between the two variables is 0.256, indicating a weak but positive link. According to a 2017-study by Steinmetz-Wood *et al.* there is stronger sense of community among residents when there is gentrification. This was opposed by Gibbons *et al.* (2019) and Bernstein & Isaac (2021), stating that gentrifying a neighborhood decrease neighborhood community connection. Meanwhile, the present data shows a moderate positive relationship between collective efficacy and gentrification, supporting the findings of Steinmetz-Wood *et al.* (2017); however, this cannot be concluded as statistically significant.

Table 6: Relationship between gentrification and crime rate

Correlations		
	Crime Rate	**Gentrification**
Pearson Correlation	1	-.041
Sig. (2-tailed)		.948

The correlation table 6 examines the relationship between crime rate and gentrification. The Pearson correlation coefficient between crime rate and gentrification is -0.041, indicating a very weak negative correlation. This suggests that as gentrification increases, crime rates tend to slightly decrease; however, the relationship is minimal. Significantly, the significance value (Sig. 2-tailed) is 0.948, which is significantly higher than the typical statistical significance threshold of 0.05. The high p-value suggests that there may not be a true underlying relationship and that the observed correlation is not statistically significant. According to the study of MacDonald and Stokes (2020) and Ellen, Horn, and Reed (2019), there is a reduction of crimes in neighborhoods that undergo redevelopment and fluctuations of migrants. On the contrary, Barton, Valasik, Brault, and Tita (2019) and Golash-Boza & Oh (2021) found no association between gentrification and crime in their respective studies. Meanwhile, the current study suggests that the negative correlation between the two variables aligns with the findings of MacDonald and Stokes (2020) and Ellen, Horn, and Reed (2019), but it is not statistically significant.

Table 7: Relationship between gentrification and perception of safety

Correlations		
	Perception of Safety	**Gentrification**
Pearson Correlation	1	-.038
Sig. (2-tailed)		.962
Sum of Squares and Cross-products	.079	-.010
Covariance	.026	-.003
Pearson Correlation	-.038	1
Sig. (2-tailed)	.962	
Sum of Squares and Cross-products	-.010	1.605
Covariance	-.003	.089

The provided correlation data examines the relationship between neighborhood safety perceptions and gentrification levels. The Pearson correlation coefficient of -0.038 indicates a very weak negative correlation, suggesting a slight tendency for gentrification levels to decrease as safety perceptions increase, and vice versa. With a p-value of 0.962, this correlation is not highly relevant, meaning that random fluctuation instead of a real connection between the variables could be the cause of the apparent relationship. Descriptive statistics reveal that the variation in safety perception scores is relatively small compared to the variation in gentrification levels. The covariance of -0.003 suggests a minimal tendency for these variables to change in opposite directions. These findings are in agreement with the studies of Anguelovski *et al.* (2020), Largent and Quimby (2020) and in contradiction with the study of Oscilowicz *et al.* (2020)/ However, given the p-value of the current findings, this cannot be considered as statistically significant.

Table 8: Relationship between crime rate and perception of safety

Correlations		
	Crime Rate	**Perception of Safety**
Pearson Correlation	1	-.274
Sig. (2-tailed)		.726

The correlation table 8 looks into the linkage between the apparent degree of security and the crime rate.

There is a weak negative association, as indicated by the Pearson correlation coefficient of -0.274, between the impression of safety and the crime rate. This implies that there is a minor negative correlation between feelings of safety and rising crime rates, however the correlation is not very strong. The negative sign implies an inverse relationship, which aligns with the general expectation that higher crime rates are associated with lower perceptions of safety. Nevertheless, this association is not statistically significant, as indicated by the significance value (Sig. 2-tailed) of 0.726, which is far higher than the conventional cutoff of 0.05. Thus, the observed relationship could be due to random variation rather than an actual association. These findings are in consonance with the findings of Socha (2021), Ogneva-Himmelberger *et al.* (2019), Nakamura and Shunsuke (2020) and Lim *et al.* (2020); however, the current study findings are not statistically significant, thereby concluding that the inverse relationship between the two variables may be random.

Table 9: Relationship between collective efficacy and crime rate

Correlations			
		Crime Rate	**Collective Efficacy**
	Pearson Correlation	1	-.576
	Sig. (2-tailed)		.310

The correlation table 9 examines the relationship between crime rate and collective efficacy, revealing a Pearson correlation coefficient of -0.576. This shows a somewhat negative association, indicating that lower crime rates are linked to higher levels of community collective efficacy. The negative sign of the correlation coefficient is consistent with theoretical expectations, as collective efficacy typically correlates with reduced crime rates. However, this link is not statistically significant at the traditional threshold of 0.05, according to the statistical significance (Sig. 2-tailed) of 0.310. Because of this, even though the negative association is quite high, it might just be the result of chance rather than a consistent pattern. The inverse relationship between collective efficacy and crime rate agrees with Kochel and Weisburd (2018), while Zanhow *et al.* (2021) and Maxwell *et al.* (2018) found positive correlation between the two variables, but the current finding does not definitively conclude the relationship due to statistical insignificance. Therefore, this finding is more inclined toward the study of Manick *et al.* (2018) who found no direct positive correlation between the two variables.

The correlation data looks at the relationship between perceptions of safety in a community and collective efficacy, two important concepts in studying the social dynamics and general well-being of neighborhoods. The Pearson correlation coefficient is 0.019, indicating a very weak positive correlation between these variables. This implies almost no discernible relationship between collective efficacy and perception of safety.

Table 10: Relationship between collective efficacy and perception of safety

Correlations			
		Collective Efficacy	**Perception of Safety**
	Pearson Correlation	1	.019
	Sig. (2-tailed)		.981
	Sum of Squares and Cross-products	.318	.002
	Covariance	.032	.001
	Pearson Correlation	.019	1
	Sig. (2-tailed)	.981	
	Sum of Squares and Cross-products	.002	.079
	Covariance	.001	.026

Furthermore, the p-value of 0.981 significantly surpasses the significance level of 0.05, indicating that the observed connection is more likely the result of chance than of a real association. Descriptive statistics show the sum of squares and cross-products for collective efficacy at 0.318, indicating total variation in collective efficacy scores, while for perception of safety, it is only 0.002, showing minimal variation in safety perception scores. The covariance between the two variables is 0.032, suggesting a slight tendency for them to change together, though this relationship is weak. Existing studies do not present direct relationships between the two variables. Dulin (2021) and Wasileski *et al.* (2019)

found that collective efficacy have positive correlations with perception of insecurity and police perceptions, respectively. These studies do not directly support the current findings.

Synthesis of Data

Based on the correlation analyses, there were no significant relationships observed between collective efficacy, gentrification, perception of safety, and crime rate. While there were some moderate associations detected, such as between collective efficacy and gentrification, and between crime rate and collective efficacy, these relationships lack statistical significance. Additionally, the correlations between gentrification and crime rate, gentrification and perception of safety, crime rate and perception of safety, as well as collective efficacy and perception of safety, were very weak and statistically insignificant. These findings suggest that any observed associations may be due to random chance rather than indicating a reliable pattern. Therefore, the analysis does not provide evidence of significant relationships between collective efficacy, gentrification, perception of safety, and crime rate, highlighting the need for further research with larger and more representative samples to better understand these dynamics comprehensively.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings and Implications

Relationship between collective efficacy and gentrification

The data indicates a moderate positive correlation (Pearson coefficient of 0.440) between collective efficacy and gentrification, demonstrating that greater degrees of collective efficacy may be connected with rising gentrification. However, the p-value of 0.176 indicates this relationship is not statistically significant, preventing a confident assertion of a meaningful connection. Descriptive statistics reveal greater variability in gentrification compared to collective efficacy, with a small positive covariance of 0.026. This moderate positive correlation aligns with the 2017-study of Steinmetz-Wood *et al.* who found a solid community sense in gentrifying areas, but contradicts Gibbons *et al.* (2019) and Bernstein & Isaac (2021), who reported decreased community connection due to gentrification. Consequently, while there appears to be a trend supporting Steinmetz-Wood *et al.*'s findings, the lack of statistical significance means further research is necessary to draw definitive conclusions. The implications are that policymakers and researchers should consider the nuanced and potentially context-dependent relationship between collective efficacy and gentrification, acknowledging that current data does not provide definitive evidence.

Relationship between gentrification and crime rate

The correlation table reveals a very weak negative relationship (Pearson coefficient of -0.041) between crime rate and gentrification, indicating a slight tendency for crime rates to decrease as gentrification increases. However, this correlation is not statistically significant (p-value of 0.948), suggesting the observed relationship could be due to random chance. This aligns with MacDonald and Stokes (2020) and Ellen, Horn, and Reed (2019), who found crime reductions in redeveloped neighborhoods, but contrasts with Barton, Valasik, Brault, and Tita (2019) and Golash-Boza & Oh (2021), who found no significant association. The current data implies that while there may be a trend towards reduced crime with gentrification, the lack of statistical significance means no definitive conclusions can be drawn. Policymakers should therefore be cautious in attributing changes in crime rates to gentrification without further, more conclusive research.

Relationship between gentrification and perception of safety

The correlation data reveals a very weak negative relationship (Pearson coefficient of -0.038) between neighborhood safety perceptions and gentrification levels, suggesting a slight tendency for safety perceptions to decrease as gentrification increases, and vice versa. This relationship is not statistically significant (p-value of 0.962), indicating it could be due to random variation

rather than a true connection. The descriptive statistics show minimal variation in safety perception scores compared to gentrification levels, with a covariance of -0.003, indicating a negligible inverse relationship. These findings align with Anguelovski *et al.* (2020) and Largent and Quimby (2020), but contradict Oscilowicz *et al.* (2020). The implications are that, despite a potential trend, there is no statistically significant evidence linking neighborhood safety perceptions and gentrification, suggesting that further research is necessary to elucidate this relationship.

Relationship between perception of safety and crime rate

The correlation table explores the link between perceptions of safety and crime rate, demonstrating a weak negative association (Pearson coefficient of -0.274). This implies that greater crime rates are slightly associated with poorer perceptions of safety, keeping with popular predictions. However, the significance value (p-value of 0.726) is much over the normal threshold of 0.05, indicating that this link is not statistically significant and could be attributable to random variation. These findings align with those of Socha (2021), Ogneva-Himmelberger et al. (2019), Nakamura and Shunsuke (2020), and Lim *et al.* (2020), but the current study's lack of statistical significance means the observed inverse relationship may be coincidental. The implications are that while there may be a trend towards lower safety perceptions with higher crime rates, this study does not provide strong enough evidence to support this relationship.

Relationship between collective efficacy and crime rate

The correlation table examines the relationship between crime rate and collective efficacy, showing a Pearson correlation coefficient of -0.576, which suggests a moderate negative correlation—higher collective efficacy is associated with lower crime rates. This aligns with theoretical expectations and studies like Kochel and Weisburd (2018). However, the observed association may be chance, as indicated by the p-value of 0.310, which indicates that the correlation is not highly significant. This lack of significance means we cannot conclusively assert a reliable pattern between collective efficacy and crime rates, despite the moderately strong negative correlation. These results align more with Manick *et al.* (2018), who found no direct positive correlation between these variables, and challenge studies like Zanhow *et al.* (2021) and Maxwell *et al.* (2018), which reported a positive correlation. The implications suggest that collective efficacy does not necessarily affect crime in Angeles City.

Relationship between collective efficacy and perception of safety

The correlation data examines the relationship between collective efficacy and perception of safety within a community, revealing a very weak positive correlation (Pearson coefficient of 0.019), suggesting almost no discernible relationship between these variables. The high p-value of 0.981 implies that the observed link is likely due to a coincidence rather than a true association. Descriptive statistics show a sum of squares and cross-products of 0.318 for collective efficacy, indicating some variation, while the sum of squares and cross-products for perception of safety is only 0.002, indicating minimal variation. The covariance of 0.032 suggests a slight, albeit weak, tendency for these variables to change together. Existing studies, such as Dulin (2021) and Wasileski *et al.* (2019), found positive correlations with perception of insecurity and police perceptions, respectively, but do not directly support the current findings. The implications are that there appears to be no meaningful relationship between collective efficacy and perception of safety based on this data, highlighting the need for further research to explore these dynamics and identify potential influencing factors.

CONCLUSION

The correlation analyses examined six relationships within the context of community dynamics and well-being. Firstly, the correlation between collective efficacy and gentrification revealed a moderate positive relationship, but lacks statistical significance, suggesting caution in assuming a direct link between the two. Secondly, the correlation between gentrification

and crime rate indicated a minimal and statistically insignificant relationship, urging more comprehensive research to understand their interplay. Thirdly, the correlation between gentrification and perception of safety yielded a very weak and insignificant result. Fourthly, the review on crime rate and perception of safety suggested a weak negative relationship, but lacked statistical significance, underscoring the need for more nuanced exploration. Fifthly, the correlation between crime rate and collective efficacy revealed a moderate negative relationship, yet lacked statistical significance, indicating the complexity of their dynamics. Lastly, the relationship between collective efficacy and perception of safety showed a very weak and statistically insignificant positive correlation. These findings collectively underscore the need for comprehensive research methodologies to inform effective community development and urban planning strategies.

Recommendations

Given the data, it is advised that future academic investigations focus on gathering data on the similar topics in other areas than Angeles City. It is additionally encouraged that future studies look at other effects of gentrification not covered by this study such as displacement and cultural and racial divisions to determine significant relationships. Given the lack of significant relationships between the variables, the city must focus on other strategies to enhance community well-being and safety, such as implementing community engagement programs, inclusive urban planning, and enhanced safety measures. Policymakers and urban planners should exercise caution in assuming direct links between these variables and consider a holistic approach that incorporates multiple factors influencing community well-being. Additionally, interventions aimed at enhancing collective efficacy and improving perceptions of safety should be informed by rigorous empirical evidence to ensure effectiveness.

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