INVESTIGATING THE INFLUENCE OF DEPRIVATION, POLICE STATIONS AND EDUCATION FACILITIES ON ACQUISITIVE CRIME

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ABSTRACT

Despite acquisitive crimes being the most recorded crimes in the UK (ONS, 2022), relatively little research has considered factors that influence their number. The study hypothesises that 1) deprivation will positively affect the number of acquisitive crimes, 2) both education facilities and police stations will negatively affect the number of acquisitive crimes, and 3) police stations will negatively influence the number of thefts. Publicly available data of all crimes recorded in Manchester by the Greater Manchester Police were collected on the UK Government website and the index of deprivation was collected through the Lower Layer Super Output Areas on the English Data Police website. According to the results, deprivation had a positive effect on the number of acquisitive crimes (N = 4,423). The presence of one education facility positively influenced the number of acquisitive crimes. Furthermore, the presence of police stations was positively associated to the total number of acquisitive crimes, however, the number of thefts from a person and other thefts were lower in areas with a police station. The study addresses the gap of how acquisitive crimes are affected by the index of deprivation, while also emphasises on the importance of police stations and education facilities in the number of acquisitive crimes.

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Introduction

Merton's Strain Theory (Merton, 1938) argues that societal values are the source of delinquency since goals in society are based on wealth, success and a conventional family unit. However, with the goals not being available to everyone equally, those who feel denied access to the legitimate routes may challenge the norms and adopt an anti-social behaviour through the commitment of crime (Webber, 2021). Anomie Theory (Messner and Rosenfeld, 1996) holds that people take decisions based on socialised values, and what is considered 'normal' by the society (Konty, 2005). In Merton's Strain Theory (1938), *anomie* (lack of the usual social or ethical standards in individuals or groups) proposes that social structures may pressure individuals to commit crimes when there is a disjunction between cultural goals (the goals that are set by the society) and the socially available means to achieve them. Agnew (1992) further explain that escaping from certain strains (conditions disliked by individuals, e.g., parents with low financial resources) increase the likelihood of crime. These strains can have emotional consequences that pressure the corrective action, with crime being a coping mechanism to anger, frustration (e.g., shoplifting). It is argued that certain factors must converge before criminal coping is likely, according to Agnew (2013), individuals must "(a) possess a set of characteristics that together create a strong propensity for criminal coping, (b) experience criminogenic strains, which are perceived as unjust and high in magnitude; and (c) be in circumstances conducive to criminal coping" (p. 653). Although punishment is a predominant aspect of crimes, since material accumulation became a priority, "playing by the rules" became less important and 'everyday crimes' (such as acquisitive crimes) became a part of the system (Itashiki, 2011).

Acquisitive crime refers to crimes aiming to obtain material gain such as theft, robbery, and burglary (Itashiki, 2011), and maybe particularly relevant in a society which encourages consumer spending. In fact, in the UK, it is estimated that a burglary occurs every 116 seconds (Crime Stoppers, 2022). Moreover, 1.4 million thefts, 258,594 burglaries, and 61,486 robbery offences have been recorded by the English and Welsh Police by the year ending September 2021 (Office for National Statistics [ONS], 2021). Nevertheless, despite the high number of acquisitive crimes, it is important to note that the national lockdown restrictions in 2020/2021 with non-essential shops and the night-time economy being closed, had an impact on the number

of acquisitive crimes (supported by crime opportunity theories such as the Rational Choice Theory and the Routine Activity Theory; Cohen & Felson, 1979; Felson & Clarke, 1998). The Rational Choice Theory (Felson & Clarke, 1998) explains the existence of crimes and their occurrences, and suggests that individuals who offend develop rational choices and will favour targets that offer reward with diminutive risks. Therefore, due to lockdown restrictions, statistics may be underrepresented at this time. Overall, this high number of acquisitive crimes emphasises the need to explore factors that may positively or negatively influence the occurrence of acquisitive crime, with the objective of a better protection against them.

Acquisitive crimes happen every day and in fact are the types of crimes that are most reported by the police in the UK (ONS, 2022). Nonetheless, to the authors' knowledge, no research has focused on the relationship between acquisitive crimes and the index of deprivation in the UK, and limited research has explored the factors that can negatively or positively impact acquisitive crime, a gap in the literature that the current study aims to address. Therefore, the current study will allow to draw some explanations that can be practically useful for decreasing acquisitive crimes.

As previously mentioned, Merton's Strain Theory (1938) suggests that legitimate means are insufficient to get what is desired. Therefore, crimes could be considered as a consequence of low available resources rather than a cause of it, namely *socioeconomic deprivation* (Alm and Estrada, 2018; Finegan, Firth & Delgadillo, 2020). Crimes do not only imply violating (e.g., stealing, damaging) an object, but also, violating a member of one's own community. For that reason, *social deprivation* must also be considered as a definition of poverty. Townsend (1993) developed this concept by highlighting the relational and anagraphic aspects of deprivation. Townsend wrote that "social deprivation implies a non-participation in the roles, relationships, customs, functions, rights and responsibilities involved in being an active member of society or group" (in Ciacci & Tagliafico, 2020, p. 59). Accordingly, Mishra & Novakowski (2016) believe that the reason individuals who are not deprived still commit crimes is due to their personal evaluation of being in some way 'deprived'. Runciman (1966) defines this concept as *relative deprivation*, whereby people feel a sense of deprivation in comparison to others in society. The source of this 'deprived' feeling can be based on tangible items (e.g., money, cars) and intangible items (e.g., social status, justice) with there being the possibility for these feelings to build up towards social movements. Indeed, this disparity is perceived as unfair rather than as envy which leads individuals to behave anti-socially. These findings demonstrate the importance of studying deprivation in relation to crimes, especially crimes aimed at obtaining material gain such as acquisitive crime.

Studies have found that police presence can hinder crime considerably (Blesse & Diegmann, 2022; Braga, Welsh & Schnell, 2015; Fyfe, Terpstra & Tops, 2013). This is due to the fact that individuals weigh the risks and rewards before committing a crime (Webber, 2021), illustrated by the Rational Choice Theory (Felson & Clarke, 1998). Despite evidence demonstrating that presence of police forces can affect crimes (Blesse and Diegmann, 2022; Fyfe, Terpstra &Tops, 2013), many countries have centralised their police organisation, hence reducing the number of police stations (Fyfe, Terpstra & Tops, 2013). This is problematic since police stations themselves represent a relevant parameter in the cost-benefit considerations of criminal offenders by lowering the expected value of getting caught (Blesse & Diegmann, 2022). Interestingly, according to Mburu & Helbich (2016), out of all acquisitive crimes, bicycle theft is the only crime that is not affected by the presence of police stations at any distance. This phenomenon may be explained by the fact that bicycle theft requires less time and effort than other acquisitive crimes, and generally does not include a direct victim-offender relationship that can be emotionally dense (Mburu & Helbich, 2016). Furthermore, when one is being attacked, it is more likely that it will lead to a reaction that may alert people (Bowers, 2014), while bicycle theft usually occurs in the victim's absence (Mburu & Helbich, 2016). These findings further emphasise on the need to study acquisitive crimes as a whole, and separately.

Moreover, studies have shown the effect of education on the reduction of crimes (Case & Hazel, 2020; Gibbons & Machin, 2008; Skrede Gleditsch, Rivera & Zárate-Tenorio, 2022; Wang & Li, 2022). For instance, Åslund et al. (2018) found that extending from two to three years the high school vocational track reduced the number of adult and juvenile crime. Luallen (2006)'s study shows that crime increased by 21.4% on days when teachers' strikes took place. Indeed, it has been found that poor educational experience is correlated to risk factors for offending (Case & Hazel, 2020). Accordingly, Halleröd (2011) suggests that if a young person perceives their future prospects are worse than the majority of other of their own age, they will be more likely to drop out of school and engage in criminal activity. From a theoretical point of view, the reasons education decrease crime could be due to the lack of opportunity in terms of time and freedom to adopt anti-social behaviour (school's premises being secured; Lochner, 2004). Furthermore, good attendance in secondary and tertiary education has a negative influence on crimes (Skrede Gleditsch, Rivera & Zárate-Tenorio, 2022), which highlights that school attendance impacts crime numbers. On a final note, as supported by the Social Identity Theory (Tajfel &Turner, 1979,) much research concludes that adolescents are highly likely to engage in criminality as a way to "fit in" within a group (Hirschi & Gottfredson, 1983; Piquero,

Farrington & Blumstein, 2007), which brings the position of education as the core factor to minimise that probability.

Social, psychological, and economic theories have helped in understanding the reasons individuals commit crime despite society being against it (De Courson & Nettle, 2021; Hayward, 2007; McIntyre, 2017). Concurrent with previous research on the relationship between crimes and deprivation (Ciacci & Tagliafico, 2020; Finegan, Firth & Delgadillo, 2020; Morgan, 2000; Oishi, Kesebir & Diener, 2011), the first hypothesis of the current study is that deprivation will positively affect the number of acquisitive crimes. Since education and police stations have been found as factors impacting on the number of crimes (Blesse & Diegmann, 2022, Braga, Welsh & Schnell, 2015; Fyfe, Terpstra & Tops, 2013; Gibbons & Machin, 2008; Mburu & Helbich, 2016; Wang & Li, 2022), the second hypothesis is that both education facilities and police stations will negatively affect the number of acquisitive crimes. Finally, in accordance with research exploring the effect of police stations on different types of acquisitive crimes (Mburu & Helbich, 2016), the third hypothesis is that police stations will negatively influence the number of thefts (theft from a person, bicycle theft and other theft).

Research Methodology

In this research, acquisitive crimes (*i.e.*, burglary, theft from a person, robbery, bicycle theft and other theft) are the dependent variables, and the independent variables are Lower Layer Super Output Areas (LSOAs). The reason for collecting LSOAs is due to its hierarchy geographic nature allowing the obtainment of the Index of Multiple Deprivation (IMD) for each postcode in Manchester. The IMD is a deprivation index calculated by the UK government (UK Government, 2019); it consists in a combination of seven estimates of deprivation: Income, Employment, Education, Health, Crime, Barriers to Housing and Services and Living Environment. The control variables are police station and education facility (*i.e.*, schools, universities, and colleges). This study received ethical approval from the University of Liverpool since the data have been made publicly available by the UK government and UK police force.

The collection of all the available crimes registered by the police in 2019 were collected on the English Data Police website (https://data.police.uk/). Importantly, the decision of collecting crimes in 2019 is due to the national lockdown restrictions in 2020/2021 that strongly impacted on the number of crimes and thus on the true picture of criminality in the UK. The authors wanted to focus on a city that experiences a high level of crime; and because London

has already been the focal point of much criminology research, the authors decided to shift their focus to Manchester. Often presented as 'the capital of northern England' the city is known to be one of the top five English cities with the highest rates of crime (ONS, 2022). Indeed, Manchester is facing a high crime rate when compared to its residential population (N = 586,100; Manchester City Council, 2022) with an increase of crimes since 2015, with 126.6 per 1,000 population in 2021/2022, the highest crime rate during the recorded time period (Statista, 2022). Moreover, Manchester is one of the most deprived cities in the UK and ranks 6 out of 326 local authorities in England, where 1 is the most deprived (Ministry of Housing, Communities and Local Government, 2019). Finally, in order to establish the link between deprivation and acquisitive crimes, the LSOAs of 2019 have been collected on the UK Government website (https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019).

In total, 556,943 crimes had been registered in the Greater Manchester Built-Up Area (Manchester, Bolton, Stockport, Oldham, Rochdale, Salford, and Bury) between January 2019 and June 2019 (included). It is important to note that at the time of the data collection, the crimes registered between July 2019 and December 2019 had not been shared by the police. The first step of the data collection consisted of downloading all crime data for each of the six months. For each of these months, the authors selected the crime following the criteria of involving the obtention of material gain, therefore, *burglary*, *theft from a person*, *robbery*, *bicycle theft*, and *other theft* had been selected. The second step consisted of selecting only the acquisitive crimes that (1) had been registered by the Greater Manchester Police (GMP) and (2) had occurred in the city of Manchester (excluding the towns). This procedure revealed 4,423 acquisitive crimes. In the third step, in order to associate each postcode where an acquisitive crime had been registered by the GMP with the level of deprivation, the index of deprivation for each of these places were collected through the Lower Layer Super Output Areas (LSOAs) of 2019. Out of 32,853 LSOAs, the authors found each of the postcode where an acquisitive crime had been registered by the GMP. The authors selected the LSOA for each of the collected postcode (N = 228), resulting in seven LSOAs. A data file was then created on Excel to match each postcode with the corresponding LSOA (index of deprivation), type of acquisitive crime, and number of acquisitive crimes between the months of January to June. Therefore, data for each postcode was collected six times. The final step involved the collection of the factors (police station and education facility). Google Maps and Google Earth were used to pinpoint each school, university, and college in each postcode. Official records of all the universities, schools and colleges in the city of Manchester were also checked. Each police station in Manchester was

also located via the Greater Manchester Police official website (https://www.gmp.police.uk/foi-ai/greater-manchester-police/who-we-are-and-what-wedo/2019/location-police-stations/). Google Maps and Google Earth were also used to double check the location of the police stations.

Data was analysed using the Statistical Package for the Social Sciences (SPSS) version 27 (IBM Corporation, 2019). Some researchers argue that non-parametric testing should be conducted on data that is not normally distributed (see Appendix A), however, given the sample was large enough to not assume normality and to avoid a Type I error (Bishara and Hittner, 2012; Edgell and Noon, 1984; Field, 2000; Hopkins, Dettori and Chapman, 2018; Runyon et al., 1996; Vickers, 2005), the authors favoured the use of parametric tests. For all analyses, the significance level was fixed at $p < .05$. Prior analyses were incorporated to check outliers, missing data, and normality of distribution.

Results

Between January 2019 and June 2019 (included), the GMP recorded 4,423 acquisitive crimes in the city of Manchester. Overall, during these 6 months, theft from a person was the most recorded crime (N = 1,844), followed by other theft (N = 1,480), then burglary (N = 467), followed by robbery (N = 436), and bicycle theft with 196 recorded crimes.

Table 1: Descriptive statistics per LSOA

LSOA	Acquisitive crime		Police station		Educational facility	
	M	SD	M	SD	M	SD
1	6.93	5.2	0	0	0.11	0.32
2	7.69	11.08	0.17	0.38	0.67	0.76
3	37.5	66.71	0	0	0.29	0.46
4	37.29	66.88	0	0	0.14	0.35
5	46.06	62.3	0.09	0.49	0	0
6	3.72	4.11	0	0	0	0
7	6.06	4.32	0	0	0.67	0.49

An analysis of variance (ANOVA) was conducted to test whether LSOAs (7), police stations (2) and education facilities (3) affected the number of acquisitive crimes. As indicated in Table 3, ANOVA test showed the number of acquisitive crimes is significantly influenced by LSOAs (F (6) = 51.29, $p < .001$, MSE =117595.55, ηp2 = .59), police stations (F (1) = 36.13, $p < .001$, MSE = 117595.55, ηp2 = .15), and education facilities (F (2) = 54.73, $p < .001$, MSE

= 117595.55, ηp2 = .34). There was also a significant influence of LSOAs on education facilities (*F* (1,4) = 57.22, *p* < .001, *MSE* = 117595.55, ηp2 = .52) and on police stations (*F* (1,1) = 58.57, *p* < .001, *MSE* = 117595.55, ηp2 = .22). Moreover, two significant interactions were indicated between 1) police stations and education facilities (*F* (1,0) = 0, *p* < .001, *MSE* = 117595.55, ηp2 = .00), and between 2) LSOAs, police station and education facilities (*F* (1,0) = 0, *p* < .001, *MSE* = 117595.55, ηp2 = .00). Interestingly, as indicated in Table 1, the number of acquisitive crimes was higher for LSOAs of 3 (*M* = 37.5, *SD* = 66.71) and 5 (*M* = 46.06, *SD* = 62.3), and not of 6 or 7 (considered the most deprived). Also, the number of acquisitive crimes was higher in areas where there was a police station (*M* = 66.08, *SD* = 68.38). Finally, the presence of one education facility affected positively the number of acquisitive crimes (*M* = 52.33, *SD* = 84.82), but not of two education facilities (*M* = 1.5, *SD* = 0.84; see Table 2).

Table 2: Descriptive statistics of police station and education facility

	M	N	SD
Police station			
No	18.54	216	44.27
Yes	66.08	12	68.38
Education facility			
0	13.08	174	24.04
1	52.33	48	84.82
2	1.5	6	0.84

These findings confirm the first hypothesis since deprivation positively influences acquisitive crimes even though the most deprived areas were not those with the highest positive influence on acquisitive crimes. However, the second hypothesis is rejected since both education facility and police station positively affected the number of acquisitive crimes.

Table 3: ANOVA between acquisitive crime, LSOAs, police station and education facility

	Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Intercept	117595.55	1	117595.55	180.17	<.001	.46
Police station	23580.68	1	23580.68	36.13	<.001	.15
LSOAs	200833.81	6	33472.30	51.29	<.001	.59

Education facility	71445.17	2	35722.58	54.73	<.001	.34
Police station * LSOAs	38226.12	1	38226.12	58.57	<.001	.22
Police station * Education facility	.00	0	.	.	.	.00
LSOAs* Education facility	149392.34	4	37348.08	57.22	<.001	.52
Police station * LSOAs* Education Facility	.00	0	.	.	.	.00
Error	139020.06	213	652.68			

Following these analyses, in order to establish if each of the acquisitive crime differ from one another, Pearson's correlations were performed. As showed in Table 4, each of the acquisitive crime was positively correlated with the other acquisitive crime such as bicycle theft and robbery (r (228) = 0.61, p < .001), and robbery and burglary (r (228) = 0.69, p < .001). However, some acquisitive crimes showed a particular strong correlation such as robbery and theft from a person (r (228) = 0.85, p < .001), other theft and robbery (r (228) = 0.9, p < .001) and theft from a person and other theft (r (228) = 0.95, p < .001). These results suggest that when one acquisitive crime increases, the other acquisitive crimes do so; or when one acquisitive crime decreases, the others also decrease. This is particularly true for robbery, theft from a person and other theft.

Table 4: Pearson's correlations between acquisitive crime

	1.	2.	3.	4.	5.
1. Burglary	1.00				
2. Theft from a person	0.7**	1.00			
3. Robbery	0.69**	0.85**	1.00		
4. Bicycle theft	0.59**	0.73**	0.61**	1.00	

5. Other theft	0.74**	0.95**	0.9**	0.7**	1.00

***p < .01*

Consequently, an independent *t*-test was performed to determine the effect of police stations on each acquisitive crime to test the third hypothesis. Less theft from a person (*M* = 32.75, *SD* = 36.53; see Table 5) was recorded when a police station was present in the area of the crime (*t* (11.46) = -2.43, *p* = .03). Similarly, a significant negative influence on other theft (*M* = 23.42, *SD* = 23.86) was found in areas with a police station (*t* (11.4) = -2.48, *p* = .03). No significant result on the influence of police stations was found for burglary, robbery or bicycle theft (see Table 6) which leads to the rejection of the third hypothesis even though police stations did affect negatively the number of other theft and theft from a person.

Table 5: Means of each acquisitive crime depending on police station's presence

	Police station	N	M	SD	Std. Error Mean
Burglary	No	216	2.49	4.06	0.28
	Yes	12	3.25	3.02	0.87
Theft from a person	No	216	6.9	22.21	1.51
	Yes	12	32.75	36.53	10.54
Robbery	No	216	2.10	4.75	0.32
	Yes	12	4.75	5.10	1.47
Bicycle theft	No	216	.91	2.06	0.14
	Yes	12	1.92	2.19	0.63
Other theft	No	216	6.15	13.55	0.92
	Yes	12	23.42	23.86	6.89

Table 6: T-test between acquisitive crime and police station

	t	df	p
Burglary	-0.84	13.31	.42
Theft from a person	-2.43	11.46	.03
Robbery	-1.76	12.08	.10
Bicycle theft	-1.56	12.1	.14
Other theft	-2.48	11.4	.03

Discussion

The aim of the study was to evaluate the relationship between deprivation and acquisitive crime in the city of Manchester (UK). The study also analysed factors (police stations and education facilities) that potentially influence the number of acquisitive crimes. Measuring the link between acquisitive crime, deprivation, police stations, and education facilities allows deeper insight into explanations of the occurrence of acquisitive crime that could be useful for crime prevention research. Indeed, understanding if the presence of certain physical infrastructures (university, college, school, and police station) positively or negatively affects the number of crimes would bring determinant findings that could be considered for incentives aimed to lower crimes. Therefore, the current study's analysis measured if deprivation and education facilities had an influence on the occurrence of acquisitive crime, and if police stations had an influence on acquisitive crime as a whole and also individually (burglary, theft from a person, robbery, bicycle theft and other theft), these findings will be discussed subsequently.

Findings of the current study demonstrated that all acquisitive crimes were correlated to each other which means that when the number of one type of acquisitive crime rises, it is likely that another acquisitive crime increases. Nevertheless, differences were showed by the correlations. Robbery, theft from a person and other theft shared particularly strong correlations which emphasises on the fact that despite sharing similar features, acquisitive crimes can differ from one another. Indeed, these three types of acquisitive crimes imply a direct victim-offender interaction while bicycle theft and burglary generally occur during victim's absence (Mburu and Helbich, 2016). Moreover, robbery, theft from a person and other theft tend to occur more inside premises compared to bicycle theft that tends to happen outdoors (Mburu and Helbich, 2016). Since differences have been found, these findings reveal the importance of exploring acquisitive crimes as an overall type of crime but also individually.

Regarding the factors, deprivation (LSOAs) affected the number of acquisitive crimes. In fact, more acquisitive crime had been recorded in areas where the LSOAs were 3 and 5 which

do not correspond to the most deprived areas. This could be explained by the fact that obtaining material gain is lower in very deprived areas since material ownership is correlated to higher economic resources (McIntyre, 2017). Another potential explanation is that, deprived areas promote community ties due to facing financial difficulties and require more social support, which leads people living in deprived conditions to not offend or at least not towards individuals of their own communities. It is also important to note that areas with LSOAs of 3 and 5 are more likely to be located nearer the city centre of Manchester, and acquisitive crimes could occur more in city centres because of the high number of shops, restaurants, banks, cycle parking which creates more criminal opportunities (supported by the Rational Choice Theory; Felson & Clarke, 1998). Furthermore, in city centres, individuals could compare with people of higher socioeconomic classes creating a sense of frustration that could lead to anti-social behaviours. Especially since acquisitive crime reflects the society of consumerism (Itashiki, 2011), seeing a person with a certain object could increase the desire of possessing it and subsequently increase the opportunity of offending (Hall, Winlow and Ancrum, 2008). Therefore, deprivation is associated to the number of acquisitive crimes, but it is important to consider the influence of other factors for crime prevention.

Contemporary research has shown that education has an impact on crimes (Åslund et al., 2018; Case & Hazel, 2020; Skrede Gleditsch, Rivera & Zárate-Tenorio, 2022; Wang and Li, 2022), and the current study demonstrates the same relationship. In fact, in areas with at least one education facility, the number of crimes was higher. From a socio-environmental point of view, academic facilities are associated to higher rates of theft due to the population size that they attract. As Mburu & Helbich (2016) explain, bicycle thefts tend to occur closer to universities, a finding aligned with the opportunity theories (Felson & Clarke, 1998). However, other psychosocial theories bring another dimension to the link between education and crimes. Social Identity Theory (Tajfel & Turner, 1979) suggests that adolescents tend to feel pressure to "fit in" with groups and are more likely to offend if the group is doing so. Therefore, students may feel more compelled towards adopting anti-social behaviours at school or after school (Dishion & Dodge, 2005; Oriol et al., 2017; Sentse, Kretschmer, & Salmivalli, 2015). Consequently, during academic years, criminality and antisocial behaviours may be the result of fearing peer rejection (Thompson & Bynum, 2017). Åslund et al. (2018) demonstrate that in Sweden, extending the number of high school's years that young individuals are required to attend reduces criminality. Since the UK education system has changed in recent years (from 2015, education is compulsory until the age of 18; UK Government, 2022), future research should examine its impact on acquisitive crimes. Academic facilities have a positive effect on

crimes despite the security usually in place, therefore, it is interesting to consider if the governmental infrastructures aimed for the safety of the population, such as police stations, are fulfilling their objectives of reducing crimes.

Higher number of acquisitive crimes were found in areas with a police station. This statement suggests that the presence of a police station does not reduce criminal activity; however, as indicated by Rahmani & Golmehr (2014), police stations are usually located in areas of high crime. Another aspect to consider is the fact that offenders brought to police stations may re-offend, geographically close to the same police station. Nevertheless, the current study's findings showed that police stations negatively affected theft from a person and other theft which shows that police station may not influence drastically all acquisitive crimes but certain types of them. Importantly, results show that police station did not affect the number of bicycle thefts which confirms Mburu & Helbich's (2016) study conclusion. It is possible that the presence of police station has been found to deter overall thefts (Blesse & Diegmann, 2022), because thefts imply a direct offender-victim relationship (Mburu & Helbich, 2016) and thus are more visible (e.g., person screams) which could lead individuals to alert the police station. To increase the effect of police stations on crimes, more police patrols could be organised in areas where police stations are located. Blattman et al. (2021) found that police patrols have an impact on the reduction of crimes even if the effect is relatively small. It should be proposed that future research should examine the efficacy of police patrols during the day and at night, in order to ascertain if these measures are worth the cost and organisation they require.

The current study is based on publicly available data since the access to all registered crimes was only possible through the UK police. However, it is imperative to acknowledge inherent methodological drawbacks of using secondary data. The analysis on public available data led to incomplete information. Indeed, at the time of the data collection, the GMP had not shared the registration of crimes between July 2019 and December 2019. Future research should focus on at least one full year of registered crimes for more complete findings. Also, it is important to consider that the number of crimes in the current study reflects only the crimes that had been registered by the GMP police; however, it is certain that crimes had occurred in Manchester without being reported to the police which impacts on the constancy of drawing a true picture of the criminality. Therefore, future research should place a greater focus on qualitative paradigms through the populations', students', and police officers' views on their experiences with acquisitive crime in order to develop a more accurate analysis of the occurrence of acquisitive crime. Although the current study focuses on one city in the UK with

high rates of crime and index of deprivation, the suggestion that these findings are transferable to other cities is questionable. Future research could compare this relationship between smaller, medium and larger cities with different level of deprivation (high, medium, low) to establish differences or similarities in the link between deprivation and acquisitive crimes. Finally, future research should consider the role of other independent variables that may affect the number of acquisitive crimes.

Conclusion

To conclude, the current study investigated the relationship between deprivation and acquisitive crime in the city of Manchester (UK), and the influences of education facilities and police stations on the occurrence of acquisitive crime. Interestingly, deprivation positively influences the number of acquisitive crimes, but the most deprived areas were not those with the most acquisitive crime. Also, the current study found that more crimes involving material gain had been recorded in areas with one education facility. Regarding the presence of police stations, it affected positively the number of acquisitive crimes, however, after analysing the acquisitive crimes individually, the results indicated that the number of thefts from a person and other theft were lower in areas with a police station. These latter results bring new findings and emphasise on the need for future research to explore each acquisitive crime and their specificities. Indeed, future research should carry on measuring the link between deprivation and each acquisitive crime as well as the long-term effects of police stations and education facilities on acquisitive crime. Thereby providing an insight into this complex relationship could be useful for the development of incentives aimed to lower acquisitive crime and subsequently to protect the public.

List of abbreviations:

ONS: Office for National Statistics.

LSOAs: Lower Layer Super Output Areas.

GMP: Greater Manchester Police.

IMD: Index of Multiple Deprivation.

SPSS: Statistical Package for the Social Sciences.

REFERENCES

Agnew, R. (1992). "Foundation for a General Strain Theory of Crime and Delinquency". *Criminology, 30,* 47-87.

Agnew, R. (2013). "When Criminal Coping is Likely: An Extension of General Strain Theory". *Deviant Behavior, 34*(8), 653–670. https://doi.org/10.1080/01639625.2013.766529

Alm, S., and Estrada, F. (2018). "Future Prospects, Deprivation, and Criminality – A Longitudinal Birth Cohort Study". *Deviant Behavior, 39*(10), pp. 1280-1293.

Åslund, O., Grönqvist, H., Hall, C., and Vlachosd, J. (2018). "Education and Criminal Behaviour: Insights from an Expansion of Upper Secondary School". *Labour Economics, 52,* pp. 178-192.

Bishara, A. J., and Hittner, J. B. (2012). "Testing the Significance of a Correlation with Nonnormal Data: Comparison of Pearson, Spearman, Transformation, and Resampling Approaches". *Psychological Methods, 17*(3), pp. 399–417. https://doi.org/10.1037/a0028087

Blattman, C., Green, D. P., Ortega, D., and Tobón, S. (2021). "Place-Based Interventions at Scale: The Direct and Spillover Effects of Policing and City Services on Crime". *Journal of the European Economic Association, 19*(4), pp. 2022–2051.

Blesse, S., and Diegmann, A. (2022). "The Place-Based Effects of Police Stations on Crime: Evidence from Station Closures". *Journal of Public Economics, 207,* pp. 1-19.

Bowers, K. (2014). "Risky Facilities: Crime Radiators or Crime Absorbers? A Comparison of Internal and External Levels of Theft". *Journal of Quantitative Criminology, 30*(3), pp. 389-414.

Braga, A. A., Welsh, B. C., and Schnell, C. (2015). "Can Policing Disorder Reduce Crime? A Systematic Review and Meta-Analysis". *Journal of Research in Crime and Delinquency, 52*(4), pp. 567–588.

Case, S., and Hazel, N. (2020). "Child First, Offender Second–A Progressive Model for Education in Custody". *International Journal of Educational Development, 77,* pp. 1-8.

Ciacci, A., and Tagliafico, G. (2020). "Measuring the Existence of a Link between Crime and Social Deprivation within a Metropolitan Area". *Revista de Estudios Andaluces, 40*(1), pp. 58–77.

Cohen, L. E., & Felson, M. (1979). "Social Change and Crime Rate Trends: A Routine Activity Approach". *American Sociological Review, 44*, 588-608.

Crime Stoppers (2022). *Burglary.* Available at: https://crimestoppers-uk.org/keeping-safe/home-property-safety/burglary (Accessed: 13 October 2023).

De Courson, B., and Nettle, D. (2021). "Why Do Inequality and Deprivation Produce High Crime and Low Trust?". *Scientific Reports, 11*(1), pp. 1-11.

Dishion, T. J., and Dodge, K. A. (2005). "Peer Contagion in Interventions for Children and Adolescents: Moving Towards an Understanding of the Ecology and Dynamics of Change". *Journal of Abnormal Child Psychology, 33*(3), pp. 395-400.

Edgell, S., and Noon, S. (1984). "Effect of Violation of Normality on the T-Test of the Correlation Coefficient". *Psychological Bulletin, 95*(3), pp. 576-583.

Felson M., and Clarke, R. V. (1998). "Opportunity Makes the Thief: Practical Theory for Crime Prevention". *Police Research Series, 98*, pp. 1-36.

Field, A. (2000). *Discovering statistics using SPSS for Windows*. Sage Publications Ltd.

Finegan, M., Firth, N., and Delgadillo, J. (2020). "Adverse Impact of Neighbourhood Socioeconomic Deprivation on Psychological Treatment Outcomes: The Role of Area Level Income and Crime". *Psychotherapy Research, 30*(4), pp. 546-554.

Fyfe, N. R., Terpstra, J., and Tops, P. (2013). *Centralizing Forces? Comparative Perspectives on Contemporary Police Reform in Northern and Western Europe*. The Hague: Eleven International Publishing.

Gibbons, S., and Machin, S. (2008). "Valuing School Quality, Better Transport, and Lower Crime: Evidence from House Prices". *Oxford Review of Economic Policy, 24*(1), pp. 99–119.

Greater Manchester Police (2022). *Location of Police Stations*. Available at: https://www.gmp.police.uk/foiai/greater-manchester-police/who-we-are-and-what-we-do/2019/location-policestations/ (Accessed: 16 June 2022).

Hall, S., Winlow, S., and Ancrum, C. (2008). *Criminal Identities and Consumer Culture: Crime, Exclusion and the New Culture of Narcissism.* London: Routledge.

Halleröd, B. (2011). "What Do Children Know About Their Futures: Do Children's Expectations Predict Outcomes in Middle Age?". *Social Forces, 90*(1), pp. 65–83.

Hayward, K. (2007). "Situational Crime Prevention and its Discontents: Rational Choice Theory versus the 'Culture of Now'". *Social Policy and Administration, 41*(3), 232-250.

Hirschi, T., and Gottfredson, M. (1983). "Age and the Explanation of Crime". *American Journal of Sociology, 89*(3), pp. 552–584.

Hopkins, S., Dettori, J. R., and Chapman, J. R. (2018). "Parametric and Nonparametric Tests in Spine Research: Why Do They Matter?". *Global Spine Journal, 8*(6), pp. 652–654.

IBM Corporation (2019). *IBM SPSS Statistics for Windows, Version 27.0*. IBM Corporation.

Itashiki, M. R. (2011). *Explaining "Everyday Crime": A Test of Anomie and Relative Deprivation Theory* (Doctoral Dissertation), University of North Texas, Denton, USA.

Konty, M. (2005). "Microanomie: The Cognitive Foundations of The Relationship Between Anomie and Deviance". *Criminology, 43*(1), pp. 107–132.

Luallen, J. (2006). "School's Out… Forever: A Study of Juvenile Crime, At-Risk Youths and Teachers Strikes". *Journal of Urban Economics, 59*(1), pp. 75-103.

Office for National Statistics (2021). *Crimes in England and Wales: Year Ending September 2021.* Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingseptember2021?ref=authsignal-fraud-operations-blog.ghost.io (Accessed: 12 June 2021).

Oriol, X., Miranda, R., Amutio, A., Acosta, H. C., Mendoza, M. C., Torres-Vallejos, J., and Dalby, A. R. (2017). "Violent Relationships at the Social-Ecological Level: A MultiMediation Model to Predict Adolescent Victimization by Peers, Bullying and Depression in Early and Late Adolescence". *PLoS one, 12*(3), pp. 1-15.

Manchester City Council (2022). Population. Available at: https://www.manchester.gov.uk/info/200088/statistics_and_intelligence/438/population (Accessed: 8 June 2022).

Mburu, L. W., and Helbich, M. (2016). "Environmental Risk Factors influencing Bicycle Theft: A Spatial Analysis in London, UK". *PloS one, 11*(9), pp. 1-19.

McIntyre, S. (2017). "Personal Indebtedness, Community Characteristics and Theft Crimes". *Urban Studies, 54*(10), 2395-2419.

Merton, R. K. (1938). "Social Structure and Anomie". *American Sociological Review, 3*, 672–82.

Messner, S., and Rosenfeld, R. (1996). An Institutional Anomie Theory of the Social Distribution of Crime. In P. Cordella and L. Siegel (Eds.), *Contemporary Criminological Theory* (pp. 143–148). Northeastern University Press.

Ministry of Housing, Communities and Local Government (2019). *The English Indices of Deprivation (2019).* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835115/IoD2019_Statistical_Release.pdf (Accessed: 8 June 2022).

Mishra, S., and Novakowski, D. (2016). "Personal Relative Deprivation and Risk: An Examination of Individual Differences in Personality, Attitudes, and Behavioral Outcomes". *Personality and Individual Differences, 90*, pp. 22-26. https://doi.org/10.1016/j.paid.2015.10.031

Morgan, K. (2000). "Inequality and Crime". *The Review of Economics and Statistics, 82*(4), 530– 539.

Oishi, S., Kesebir, S., and Diener, E. (2011). "Income Inequality and Happiness". *Psychological Science, 22*(9), pp. 1095–1100.

Piquero, A., Farrington, D., and Blumstein, A. (2007). *Key Issues in Criminal Career Research: New Analyses of the Cambridge Study in Delinquent Development.* Cambridge University Press.

Rahmani, M. H., and Golmehr, E. (2014). "The Ideal and Practical Pattern of Positioning Police Stations in Qazvin City and its Comparison with the Present Condition". *European Online Journal of Natural and Social Sciences, 3*(4), pp. 320-329.

Runciman, W. G. (1966). *Relative Deprivation and Social Justice: A Study of Attitudes to Social Inequality in Twentieth-Century England*. London: Routledge and Kegan Paul.

Runyon, R. P., Haber, A., Pittenger, D. J., and Coleman, K. A. (1996). *Fundamentals of Behavioral Statistics (8th ed.).* McGraw-Hill.

Sentse, M., Kretschmer, T., and Salmivalli, C. (2015). "The Longitudinal Interplay Between

Bullying, Victimization, and Social Status: Age-Related and Gender Differences". *Social Development, 24*(3), pp. 659–677.

Skrede Gleditsch, K., Rivera, M., and Zárate-Tenorio, B. (2022). "Can Education Reduce Violent Crime? Evidence from Mexico Before and After the Drug War Onset". *Journal of Development Studies, 58*(2), 292-309.

Statista (2022). https://www.statista.com/statistics/1289595/crime-rate-in-manchester/ (Accessed: 23 November 2022).

Tajfel, H., and Turner, J. C. (1979). An Integrative Theory of Inter-Group Conflict. In W. G. Austin and S. Worche (Eds.), *The Social Psychology of Inter-Group Relations* (pp. 33–47). Brooks/Cole.

Thompson, W. E., and Bynum, J. E. (2017). *Juvenile Delinquency: A Sociological Approach (10th Ed.).* Rowman and Littlefield.

Townsend, P. (1993). *The International Analysis of Poverty*. London: Harvester Wheatsheaf.

UK Data Police (2022). *Data Downloads*. Available at: https://data.police.uk/data/ (Accessed: 15 June 2022).

UK Government (2019). *English Indices of Deprivation 2019.* Available at: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019 (Accessed: 13 June 2022).

UK Government (2024). *School leaving age: Can you leave school at 16 and what are your options?* Available at: https://educationhub.blog.gov.uk/2024/01/11/school-leaving-age-can-you-leave-school-at-16-and-what-are-your-options/ (Accessed: 2 February 2024).

Vickers, A. J. (2005). "Parametric Versus Non-Parametric Statistics in the Analysis of Randomized Trials with Non-Normally Distributed Data". *BMC Medical Research Methodology, 5*(35), pp. 1-12.

Wang, Z., and Li, Y. (2022). "Could Social Media Reflect Acquisitive Crime Patterns in London?". *Journal of Safety Science and Resilience, 3*(2), pp. 115-127.

Webber, C. (2021). "Rediscovering the Relative Deprivation and Crime Debate: Tracking its Fortunes from Left Realism to the Precariat". *Critical Criminology, 30*(2), pp. 321–347.

Appendix A

Kolmogorov-Smirnov test of burglary, theft from a person, robbery, bicycle theft, other theft, LSOAs, police station, and education facility.

	Statistic	df	p
Burglary	0.26	228	<.001
Theft from a person	0.4	228	<.001
Robbery	0.33	228	<.001
Bicycle theft	0.32	228	<.001
Other theft	0.32	228	<.001
LSOAs	0.14	228	<.001
Education facility	0.46	228	<.001
Police station	0.54	228	<.001