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Vandalism and tourism settings: an integrative review

ABSTRACT

Although wide agreement exists in the literature concerning the presence of vandalism in tourism, very little attention has been given to studying the phenomenon. This paper reviews published literature that addresses vandalism, its manifestation in tourism and its prevention. The review provides a comprehensive analysis of empirical research on the motivations for vandalism, deviant visitor behaviour and intervention strategies to manage such behaviours in tourism settings. The paper reviews the micro-level and macro level forces influencing vandalism and provides a definition, thematic analysis of current literature on motivation of vandalism and common themes in vandalism prevention. The analysis demonstrates a range of intervention strategies to curb vandalism. An evolution towards the use of more refined proactive techniques is apparent in recent work. The review provides a foundation for further work by theorists and practitioners.

1. INTRODUCTION

Vandalism by patrons is neither a recent phenomenon nor a passing, temporary fad. It has historical roots and is an ongoing problem. Sporadic insights from academic research reveal a range of terms used interchangeably for vandalism and norm-violating behaviours. The terms include dysfunctional customer behaviour (Duant & Harris, 2012), deviant customer behaviour (Mills & Bonoma, 1979), jaycustomers (Lovelock, 2001) and consumer misbehaviour (Fullerton & Punj, 2004). Harris and Reynolds (2004) recognize vandalism as a special type of dysfunctional customer behaviour. There is neither a single definition of vandalism nor a model solution. Society has to deal with the direct and indirect costs of vandalism which include financial costs, inconvenience, discomfort and even the fear of strangers. The loss of tourist revenue can be a further consequence of vandalism (Barker & Bridgeman, 1994). Offler, Thompson, Hirsch, Thomas, and Dawson (2009, p. 3) support these claims by maintaining that 'the costs of vandalism should be considered in the physical, psychological, social and economic contexts'. The review adopts the following working definition of vandalism and justifies and elaborates on this view in the course of the paper: *an act of human aggression that is anti-social, which while not necessarily invoking criminal charges, does result in damage to, or loss of property.*

This paper focuses on developing an understanding of the theories about vandalism, its manifestation in tourism and appropriate intervention practices. The task of limiting vandalism may be seen as one of the many challenges to making tourism more sustainable (Weaver, 2001; D. Pearce & Butler, 2010) but the lack of specific tourism linked studies on the topic currently provides an inadequate base for researchers and fails to assist pragmatic action (Hazard, 2009). The main purpose of the review is to understand the reach of the concept of vandalism in tourism and discuss the drivers and core ideas associated with this field. Importantly, the review presents a theoretical framework within which vandalism in tourism can be studied. The manuscript is organized as follows. The next section presents an extensive analysis of current literature on the influences on vandalistic behaviours. A range of micro-level and macro-level influences are identified and discussed. A case for vandalism in tourism as an outcome of the motivation—opportunity—intention set of concepts is then presented. A consideration and the adequacy of the working definition of vandalism employed in the paper is offered next. The common themes used to explain motivation for vandalism are also addressed. The review concludes with a discussion of the intervention

strategies to prevent vandalism thus succinctly offering implications for tourism researchers and those seeking to limit the problem.

2. VANDALISM AND ITS MANIFESTATIONS IN TOURISM

Many tourist sites show evidence of vandalism, some of it in long standing in its origins. In Figure 1 below, the world heritage site of the 3,000 year old city of Persepolis in modern day Iran is adorned in some places with ancient Greek and Roman graffiti, but those ancient signs of tourist damage are accompanied by the even more obvious nineteenth century stylistic engravings made by the visitors moving through the region many centuries later. In tourism, vandalism may be evidenced not just in the traces left behind, but the items removed with tourists deliberately souveniring parts of walls, rocks, plants, flowers, shells, coral, and even live animals and birds (Weaver, 2006). Facilities and items on display may be broken, stained or disfigured by intentional vandalistic acts, While the term vandalism is fairly strictly applied to physical manifestations of undesirable behaviour, it can also be argued that failing to respect cultural traditions such as not removing shoes in temples, neglecting to wear hijab in mosques and assertively photographing those who do not wish to be photographed are acts allied to vandalism.

According to Bhati (2014), some of the acts of vandalism at tourist sites are unlikely to be labelled or defined as criminal. Two factors shape the classification of vandalism as either criminal, or likely to be seen merely as an annoyance. The first is the severity of the act and the second is the prevailing legal framework at or beyond the site. Crime as a violation of a legal law is a reflection of the norms of society, a result of social construction due to interactions within society and the influences of cultural and historical contexts. Typically criminal convictions are upheld for those acts which are of large scale import to the society although even here there are exceptions due to the power of those perpetrating the acts and their purpose. For example, the actions of those involved in creating major environmental damage and change in tourism scenic areas due to engineering projects, are typically justified due to power inequalities among social and community groups.

Figure 1. Signs of vandalism at tourist attractions in Iran

Readings from the existing literature classify vandalism as a motivated behaviour (Cialdini, Griskevicius, Kenrick, Goldstein, & Mortensen, 2006). There are numerous definitions of vandalism that highlight intentionality, destructiveness, and property ownership as key features (McGuire, 2004; Millie, 2008). For example, if a visitor to a national park cuts a tree, it is an act of vandalism, but the same act by a park ranger does not attract a similar labelling. The ranger is exercising the right of property ownership and the action, guided by authority, will perhaps enhance the property value unlike the action of the visitor. Clearly, vandalism is a 'person-environment' interaction event and is influenced by the context. It is 'otherwise acceptable behaviour in an inappropriate context' (Pitt and Zube in Goldstein, 1996, p. 21). The norms and traditions of the community and individuals provide insight in understanding vandalism. Christensen and Clark (1983) exclude depreciative behaviour from the realm of vandalism. Similarly, S. Cohen's (1973) seminal and much-cited

work on vandalism defines it as 'a label attached to certain types of behaviour under certain conditions' (Ward, 1974, p. 23). As an example of the fluidity of the term, the work of the British graffiti artist Banksy, has arguably created a genre of graffiti art attractions in Bristol (Merrill, 2015). Similarly, some vandalism in past societies becomes very much part of the destination attraction in contemporary times and tourists are taken to see the graffiti of ancient Rome at Pompeii and more recently the graffiti in Copenhagen. Thus, factors such as history, tradition, ritual, play, awareness, and responsibility may restrict a certain act from being classified as vandalism.

The issues of intentionality and responsibility for one's actions are clearly pivotal to considerations of vandalism. Two views may be distinguished. The classical explanation is represented by the work of Beccaria (cited in McCaghy, 2008). It recognizes humans as rational beings who make deliberate behavioural decisions on the basis of an intelligent evaluation of pleasure and pain. Thus, the decision-making process leading to defacing of statues in a temple is a conscious decision of the perpetrator. By way of contrast, a positivist deterministic explanation is focused on analysis of forces shaping behaviour beyond the control of the person. In the positivist deterministic account the broad scale forces shaping the action rather than the psychological (classical) issues of responsibility and personal control are given more weight. For instance, the environmental design elements at an attraction could encourage or discourage a vandal from certain behaviours Thus, the deviant behaviour of a tourist in a tourism setting could be classically explained as pursuing hedonic pleasures or interpreted with a positivist deterministic view as an outcome of multiple determinants such as biological, environmental, or social factors.

The application of the idea of a continuum ranging from deliberate acts of property destruction classified as normal by the society, at one end, to unacceptable acts of vandalism at the other extreme also assists this discussion. While the latter acts are labelled as vandalism, the former are condoned and accepted on the pretext of being a part of such accepted conduct as development, ritual or play. Actual damage to cultural property by visitors may not be classified as vandalism unless such behaviours are seen by the wider community as inappropriate. Further, a visitor unaware of the local norms and definition (rules) may also unwittingly exhibit undesirable behaviours. For example, smoking in an art gallery may not appear to everyone to be an act of vandalism, but the cumulative effects of such behaviours on artwork are highly destructive. If the behaviour is explicitly not permitted, then the tourist who smokes is arguably committing an act of vandalism. Some acceptable business oriented labels for managing the financial components of these outcomes are written-off (reduction in value of the asset) and walling-in (sealed behind a wall). The following section attempts to identify and synthesize some of the key theoretical frameworks that have the potential to influence deviant behaviour.

Influences on deviant behaviour (Vandalism)

The discussion focuses at first on the broad perspectives on deviant behaviour classified under micro-level influences and macro-level influences in Figure 2. The initial discussion is followed by a case explaining the manifestation of vandalism in a tourism setting.
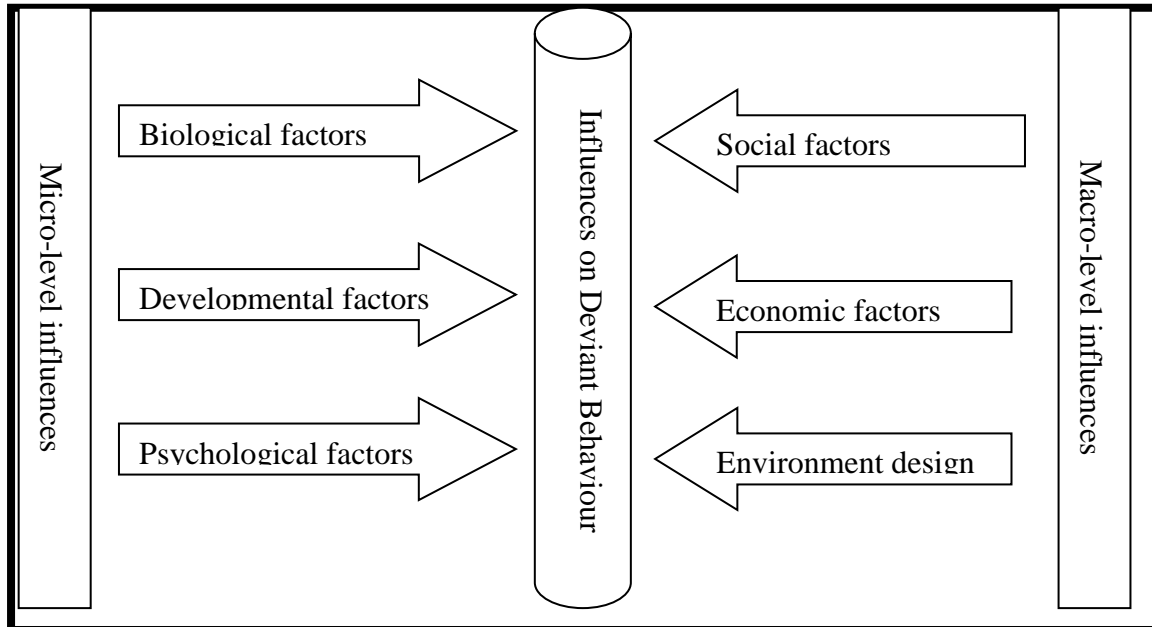

Figure 2. Micro-level and macro-level influences on deviant behaviour

Newman (1972a), Wincup and Griffiths (1999), Marsh (2006), McCaghy (2008), and Winfree and Abadinsky (2010) locate deviant behaviour explanations in biological, psychological, social, economic, and environmental roots. To reiterate a point made before, the concept of crime and deviance are separated by a distinction in both legal codes and social codes. While crime is understood as an act that breaks the law, deviance is explained as departing from social norms and practices. Crime is easy to establish (as long as there is a defined legal framework) while deviance is more complex as it is difficult to establish what is considered normal in a society. There are judgments of both a cultural and personal nature affecting the appraisal of deviance. Crime and deviance do overlap as most criminal acts are also viewed as deviant acts. However, criminal acts may not always infringe on social norms and values. Mercy killing is criminal in nature but does not violate social norms in some communities. On the other hand, littering in town center is breaking a social code but may not be criminal in nature. Vandalism, defined as a deliberate act of impersonal aggression relates closely to the concept of deviance. For the purpose of this study, the concentration will be on deviant behaviour. Many explanations of deviant behaviour do merge with the construct of crime. Nevertheless, the approach adopted here strives to limit the discussion to deviant behaviour and, specifically, vandalism.

Micro-level influences on deviant behaviour

Biological explanations of human behaviour have been criticized widely, however, there is a rich literature explaining the role of biology in understanding human conduct (Beaver & Walsh, 2011). Biologists generally adopt reductionist, materialist, and deterministic approaches to explain human acts and actors (Marsh, 2006). Linking observed

acts and actors to physical issues, hormones, male age crime curves, behavioural genetics, molecular genetics, brain structures, and development of the brain are some of the biologically based theories presented to explain behavior (Harmon-Jones & Winkielman, 2007). There is some speculation involved in linking all deviant behaviours to biological imperatives, but there is a body of work of some power in this field. It should be noted that behaviour is an interaction of various factors including biological factors and it is difficult to access the importance of all the factors (Beaver & Walsh, 2011). A bio-social explanation where a combination of biological factors and the environment are both fully considered is widely seen as offering a compelling understanding of the multiple determinants of complex actions (Bernasco, 2013; de Vries-de Bruijn, 1978).

Psychologists have tried to explain that deviant behaviour is a combination of developmental factors, situational factors, and psychological traits of an individual. The early work of Goddard and Louis Clark Vanuxem (1984) tried to establish a negative correlation between intelligence and deviant behaviour. Deviant behaviour was seen as occurring predominantly among those with a lower intelligence due to their inability to understand the law and social norms. Another psychological trait, impulsivity—that is, acting without thinking—is also linked to deviant behaviour. Impulsivity suggests that individuals lacking self-control act on impulse, often breaking the law and social norms. Similarly, Rotter (1975) employs the locus of control concept as another force underpinning the explanation of behaviour. According to this perspective, offenders generally have an assumed external locus of control and blame the consequences of their actions on external factors such as luck or poor facility design. The failure of multiple studies to replicate the locus of control scale represents a problem in its continued use, and without solid empirical support, the work is effectively a circular restatement of the problem with different terms. A comparable conceptualization is offered in the concept of external attribution, wherein the perpetrator assigns the cause of behaviour to some situation or event outside their control, such as situational or environment features (Gurel, Altinay, & Daniele, 2010).

Psychodynamic approaches which are largely based on Freud's work link behaviour to the unconscious mind. The inability to test the proposed unconscious processes has led to much criticism of this approach (Ahbel-Rappe, 2008). Freud's work does, however, bear brief consideration because he devoted quite a lot of time to writing about shades of aggression (Muris, 2006). There is some value in recognising that the roots of aggression Freud identified, namely, sexual frustrations and misplaced libido fixators, may have some contemporary credibility in that graffiti and destructive acts often have themed messages or images that are sexually explicit and perhaps intended to shock others (Hillman, 2013; Wiseman, 2008).

Macro-level influences on deviant behaviour

Moving away from the biological or psychological factors affecting individual behaviour, the role of social factors such as community (social) disorganization and poor social conditions are suggested by Sutherland (1937). Other general learning theories, including Skinner's operant behaviour and Pavlov's conditional reflexes (Gnoth, 1997), could be seen as having specific roles in learning and reinforcement for vandalistic behaviours. Other more interactive approaches to explaining deviant behaviours, such as the routine activity theory and the hot spot theory, emphasise cognitive influences on behaviour (Felson & Cohen, 1980). These approaches, which have already been used in tourism studies, will be considered in more detail in a later section in this paper.

The preceding discussion of biological influences and psychological influences on behaviour was necessarily linked to social factors. Thus, having noted the biological and psychological perspectives, the following section looks at explanations from sociological perspectives. As mentioned earlier, the classical view of deviant behaviour is based on the notion of the rational offender where an individual's behaviour is based on a considered calculation of the consequences. The approach does not explain why certain individuals become offenders. Structural functionalists maintain that society consists of the various institutions and groups that have mutual influence and result in a social system. Any threats to destroy this social system (society) are dysfunctional and so are the related behaviours. The strain theory examines social conditions and situations that lead some people to break rules and act in deviant ways (Featherstone & Deflem, 2003; Robert, 2012). The conflict between the cultural goals of a society and illegitimate means available to attain those goals lead to socially unacceptable behaviours, effectively to deviancy. Cohen's (1971) proposes that much vandalism, notably, graffiti and ideological vandalism, can be explained by subculture theory, which focuses on the inequality of opportunity in society. The explanation argues that normal behaviour is conforming, whereas deviant behaviour is abnormal but expressive in seeking to affirm a subculture. The abnormality can be attributed to biological, psychological, or social factors. The approach also emphasises the role of an individual in behaving abnormally.

Control theories emphasise the nature of control to prevent deviancy (Hall & Winlow, 2012; Pontell, 2004). In other words, in the absence of any controls, all behaviour will be abnormal. These controls could be external such as family and social control or internal self-control. Social bonding is the total force in an individual's social and physical environment that makes a person feel connected to the society or the social norms and practices. In the absence of bonds of attachment, commitment, involvement, and belief, the individual may not feel any moral restraints. The consequences are deviant behaviour. In addition to the influence of the social situation on behaviour, interactionist theories study the relationship between the offender and the others (Brownfield & Thompson, 2008). The labelling of the offender by the other members of the society raises the issue of selective enforcement of the law. The process also influences the behaviour of other people in the society towards those who are labelled. This leads to an amplification process for the individual who develops a stronger attachment with the label attached to them and the related deviant behaviour. For example, graffiti is considered vandalism by society, and the graffiti artist is labelled as a vandal. But as established already, sometimes these judgements are malleable and can change.

A small body of literature has highlighted the role of consumerism in influencing behaviour. Guang Tian (1984), in his work *Nations of Rebel*, highlights the development of the consumer trend labelled 'cool hunting'. It is interesting that in today's society being cool is fitting in and going with the trends that are in style. In a more recent study, the growth of brandalism is criticized by the author (Klein, 2000). Klein argued that brand builders draw on counter cultural and multicultural imagery to position their products as cool which effectively restricts consumer choice to cool brands. The growth in brandalism has supported the growth of brand-slammers and cultural jammers. It also reflects the power relation between corporations and individuals. These dysfunctional reactions are arguably a response to consumerism's questionable moral values of unsustainable growth and profit maximization (Gabriel & Lang, 2006).

The economic interpretation of deviance is an attempt to find a relationship between the deviant behaviour and economic factors such as income levels, the business

cycle, and poverty fluctuations (Deflem, 2012; Pontell, 2004). In some economic structures, ownership of resources by some individuals results in competition and exploitation of others. The big picture often hints at the inherent inequities in the society encouraging deviant behaviour. It is the ideological standards of normal behaviour and the distanced behaviours that are classified as problematic or deviant (Deflem, 2012).

The final perspective on deviant behaviour is grounded in the opportunity and deterrence in the environment (Newman, 1972a; O'Grady, 2011). The work here belongs to environmental design, psychology and planning traditions. It highlights the role of general deterrence, specific deterrence, absolute deterrence, restrictive deterrence, and absolute non-compliance in discouraging offender from deviant behaviour (Ward, Stafford, Gray, & Menke, 1994). Deterrence can be the result of an enforced law, social norm or practice, opportunity for crime, or designs of the environment (Quackenbush, 2011). The certainty and severity of punishment under the legal code, stigma for violating the social code, and increasing capable guardianship of suitable crime targets reduces opportunity for crime and deviant behaviour. The design of the environment in the form of public and private space may encourage social interaction between the residents (local community) and the opportunity to provide surveillance and sense of security to its residents and potential offenders (Clancey, Lee, & Fisher, 2012; Mair & Mair, 2003). The diversity of land use and proximity of commercial and residential use creates milieu that discourages deviant behaviour (Kennedy, 2012).

Environment design as a factor influencing deviant behaviour is of particular interest in tourism settings. The environment provides the context and transmits signals to which a visitor responds. Visitors to a tourist attraction take cues from the environment and adapt their behaviour accordingly. A broad, illuminated pathway directs the visitor to use the walkway (Geller, 2010; Lindsay, Kees, Lucy, & Rodger, 2013). However, do the visitors and the designers share the same understanding and the meaning of the sign? The social inequalities (gender, class, ethnicity) and the differences in individual, group, or local community's norms and practices influences the translation process and the meaning derived from environmental cues (McCaghy, 2008). Figure 3 below illustrates the use of signage and environment design in guiding visitor behaviour. The sign on the left discourages the visitor from feeding the animals at the attractions. The landscaping features in the picture on the left guide visitors to use park facilities such as bench and walking paths. Even here, however, some deterioration of the setting may exist because visitors have to use the grass (Figure 3) to access the seat. This is not vandalism as being discussed in this review but it draws attention to the simple point that tourists' actions cause damage in small cumulative and unintended ways and these effects are very much influenced by the layout of the environment in which they spend their time.

Figure 3. Picture composite to illustrate role of environment cues in shaping behaviour

Manifestations of vandalism in tourism

Vandalism in tourism can be portrayed as aggression towards property, but there is an absence of literature in applying the theoretical constructs to the phenomenon (Harris & Daunt, 2013; Nepal & Lu, 2009). Visitor behaviour at tourism attractions is a complex phenomenon influenced by several factors such as the motivation for any action (Bullock, 2011), the intention of the person (Pearce, 2011), and perception of opportunity in the physical setting (Ekblom, 2011). Figure 4 illustrates the forcefield between the three factors.
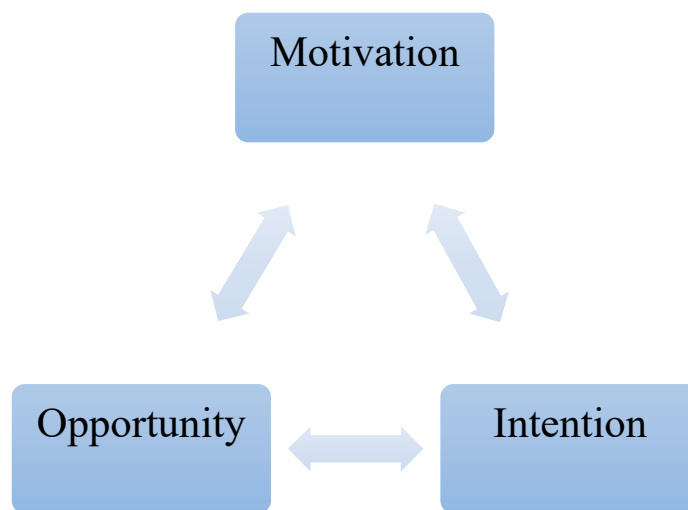

Figure 4. The vandalism triangle

It can be noted that the consequences of vandalism may spread beyond the immediate site where the behaviour occurs. For example, discarded plastic bags may be carried to the sea by rivers with consequential impacts on marine life. The single act of walkers leaving farm gates open may generate problems involving livestock being permitted to wander onto roads or to other locations. Coins pushed into tree trunks may disrupt saw milling processes several years later, ruin the machinery and downgrade the value of the timber. As one reviewer of this paper suggested, even the seemingly benign phenomenon of flashmobs, which could be considered by some as a form of vandalism are invading the space of others and possibly causing cultural disturbance (Yavuz & Kuloğlu, 2011; H. Zhao, 2013). In all

these varied instances, it is appropriate to observe that the behaviours vary on the continuum of intentional to unintentional attempts to cause damage, but nonetheless disruption and negative consequences can be identified.

Vandalism by visitors while visiting attractions is a continuing threat to sustainable tourism. Damage to popular historic and heritage properties I the form of grafitti or souveniring small items can leave a community with a large bill and a bad attitude towards tourists. The experience of the next cohort of tourists is damaged. There are increases in the repair and maintenance budget for the site administration. Some acts of vandalism like graffiti may be a motivated action and an act of expression. On the other hand, leaving open farm gates, or failing to pick up litter on the beach may not be premeditated, but simple thoughtlessness which might have been overcome with reminders and better litter facilities. While the damage to statues and wall paintings due to constant touching by scores of visitors is not the original intention of the visitor, the common outcome of these acts is also damage to property. Another common feature of the above actions and all other acts of vandalism is violation of the social norms and practices of the local community and wider social setting. It should be noted that while these behaviours are 'anti-social', they may not be criminal in nature. These examples are supported by the definition of vandalism at tourist sites/attractions for this paper as

> *an act of human aggression that is anti-social, which while not necessarily invoking criminal charges, does result in damage to, or loss of property.*

In reconsidering this working definition some key points for continuing to use it in this form can be made. The term act of human aggression stresses the intentionality of the behaviour although it allows some room for unintentional acts which are implicitly aggressive and negative to be considered. The vandalism may often flaunt legal codes but in the less severe cases it may not be important enough to warrant prosecution. In some cases the reach of the law is not precise enough to provide a determination as to whether or not a law has been broken. The outcome of the behaviour is clearly defined as damage and this term can be further deconstructed to include breaking, despoiling facilities and removing material of value. The cultural reach of the definition is not developed in this set of terms but with a slight adaptation researchers wishing to pursue vandalism studies in a cultural human to human interaction framework could do so with minor alterations to the terminology of damage in the final phrase. It can be asserted therefore that armed with this definition future researchers in tourism can be more consistent and united in applying the term to their studies.

3. MOTIVATION FOR VANDALISM

S. Cohen (1973) devised the most commonly used typology of vandalism based on six forms, with each linked to specific motivations. Cohen used the general motivations he identified to create *types* of vandalism. This vandalism typology has been adopted as the basis for specific analyses of vandalism. Some researchers have also considered developmental factors in commenting on and researching this behaviour (Cialdini, 2009; Cialdini & Goldstein, 2002; Crotts, 2011; Lorenz, 1970, 1977; Mayer, 2002). Further studies have focused on the demographics of offenders (Giles & Giles, 2007; Goldstein, 1996; Mayer, 2002; McCormick, 2003). The following section classifies the various theories (drivers) related to the motivation of vandalism into four subheadings: (1) environmental ecological drivers of motivation, (2) human ecological drivers of motivation, (3) behavioural ecological drivers of motivations, and (4) integrative ecological drivers of motivation. Table 1 summarises common thematic explanations of vandalism behaviour and key studies related

to the themes. By understanding these motivations and explanations, subsequently several measures to limit vandalism can not only be proposed but also conceptually grounded in themes likely to improve the chances of effective action.

Table 1 *Common themes in motivation to vandalism discussion*

Common themes	Authors
Environment design ecological explanations of vandalism	Jacobs (1961) Newman (1972) Wilson and Kelling (1982) Samdhal and Christensen (1985) Morgan and Dolphin (1986) Roncek and Maier (1991) Crotts (2003) Owen (2007) Hollis-Peel, Reynald and Welsh (2012) Daunt and Harris (2012) Cozens and Davies (2013)
Human ecological explanations of vandalism	Buss (1997) Bushman and Anderson (2002) Cialdini and Goldstein (2002) Moscardo (1991) Muris (2006) Huesmann (2007) Myers (2010) Strozier and Offer (2011) Schank and Abelson (2013)
Behavioural ecological explanations of vandalism	Greenberger and Allen (1978) Fisher and Baron (1982) Goldstein (1996) McCormick (2003) Fullerton and Punj (2004) Giles and Giles (2007) Offler et al. (2009) Thompson et al. (2012) Douglas, Burgess and Burgess (2013)
Integrative ecological explanations to vandalism	Cohen and Machalek (1988) Vila (1994) Goldstein (1996) Lewin (1997) McGuire (2004) Clarin et al. (2014)

Environment design ecological explanations of vandalism

The motivation for vandalism has been discussed within the fields of sociology, social geography, education, consumer behaviour, behavioural sciences, and criminology. 'The causes of property damage/vandalism are to be found in changes within society and in society's ability to integrate all its members' (Offler et al., 2009, p. 21).

Traditionally, crime has been correlated with income, age, family, and other demographic variables (Marsh, 2006; Pizam, 1999; Pizam & Mansfeld, 1996). However,

Newman (1972b) argues that the impact of the physical environment on deviant behaviour is critical. Newman's defensible spaces concept specifically examines how the environment affects behaviour. He has suggested that most crimes are a result of opportunity rather than being preconceived. As an example, a football pitch during a sports match is a public defensible space, whereas the pathway leading from adjacent parking areas might not be under surveillance and a more likely venue for vandalism. Thus, the key to addressing deviant behaviour is to reducing the opportunity rather than displacing it. Several studies show that there is a concentration of criminal activities in a few 'hot spots' (Crotts, 2003; Roncek & Maier, 1991). This approach suggests some sites are targets because there is a convergence of opportunities that facilitate vandalism and criminal behaviour.

Newman advocates the case for a community's ability to come together in joint action and influence the physical environment to deter unwanted behaviour. Joint actions have become essential for the long-term survival of tourism infrastructure as the use of force (police) without community consent, direction, and control can be irritants rather than deterrents. To set the norms of behaviour and the nature of activity possible within a location, it is necessary to have clear, unquestionable control over what can occur there. In such environments, criminals will perceive their likelihood of detection is greater and the opportunities to escape once a crime is committed more limited (Crotts, 2003). Design can make it possible for both the inhabitants and the visitors to perceive that an area is under the undisputed influence of a particular group, that they dictate the acceptable and unacceptable behaviour and activity within it. The potential criminal perceives such a space as controlled by its resident or guardians, who will identify the outsider as an easily recognised intruder whose presence is unwanted. Crime control can be achieved by creating a situation in which it is possible for the potential victim to be recognised in advance as well as assessing who might be a potential criminal. A criminal will rarely commit a crime in a space in which they know they will be easily recognised.

Creation of a sense of guardianship in an environment includes mechanisms—real and symbolic barriers defining an area of influence, opportunities for surveillance—that combine to bring an environment under the control of its inhabitants. The concept highlights the need for clear demarcation of areas of activity for particular users and acceptable behaviours. It provides natural opportunities for visual surveillance and a check on defaulters, thus creating defensible space. In the area of crime prevention, the physical environment can be manipulated for mechanical prevention. Defensible space design, while it uses mechanical prevention, formulates a model of corrective prevention (Newman, 1972a).

Newman argues that space can be categorized into private, semi-private, semi-public, and public space. Private and public space is defined clearly. For example, a private garden is private space, and city square or public beach is public space. The other two categories are defined less clearly. Since these spaces are shared and present a reduced sense of ownership and responsibility, it is here that most problems can occur. Some semi-private and semi-public spaces, such as recessed doorways and alleyways, are popular with vandals (Owen, 2007). It is also worth noting that greater tolerance to behaviours and a wider range of behaviours are expected as we move from private to public settings (Moran & Dolphin, 1986), that is, the control and likelihood of deviant behaviour increases as one moves from private to public space. The elements of defensible space, such as territoriality and surveillance, help reduce space ambiguity. Such design features push a setting towards private space and result in more control over vandalism behaviours.

Newman's approach to defensible spaces was not always supported by subsequent researchers. Pablant and Baxter (1975) did not find a significant link between lighting (Surveillance) and vandalism/crime. Moran and Dolphin (1986, p. 413) challenge the link between visibility and vandalism, refuting Newman's work on the basis of a contradictory prediction, noting that 'individual indicators have different meaning in terms of their interrelationship with other indicators in different environmental context'. For instance, different visitors may differently understand and respond to the environmental cues within the physical setting of an attraction site.

Despite criticism in other contexts, concepts of environmental design, territoriality, and surveillance can usefully be applied to tourism and deviant tourist behaviour. The design and surveillance opportunities in tourist attractions such as public beaches, historical monuments, and city centres can be described as having a clear potential to influence vandalistic behaviour. Most historic and public tourist properties score poorly in providing visual surveillance and establishing territorial claims. By way of contrast, more recently constructed tourist facilities primarily in urban settings often make good use of architectural design features in protecting properties. Modern technology has also created new possibilities of surveillance in closed-circuit television (CCTV) and controlled access with early warning systems and the tracking of patrons. Some forms of ticketing and identification of patrons including key access cards and identity markers may also control who is in the spaces where vandalism might occur.

The concept of defensible space and the role of environment and opportunity has been supported by considerable literature (Cozens & Davies, 2013; Daunt & Harris, 2012b; Samdahl & Christensen, 1985). Researchers in these studies considered such behaviours as carving on picnic tables in terms of ecological psychology; that is interactions between environmental conditions, people, and behaviour. The argument extends the role of environment cues by suggesting that the physical forms guide behaviours that fit the social use of the setting.

Samdahl and Christensen (1985) refer to these environmental cues as 'releasor cues' as they stimulate otherwise dormant behaviours. Their study of picnic tables employed both the concept of 'releasor cues' and social control mechanisms. Their research findings suggested a two-fold increase in 'fresh carvings' on previously carved tables due to releaser stimuli. On the other hand, tables with higher surveillance had fewer carving incidents, a finding that attributes behaviour to external control factors such as the presence of authority. Interestingly, Christensen also established a link between the presence of external control and stimulation of internal control mechanisms such as acceptable behaviours and social values and morals. The work of Greenberger and Allen (1978) in exploring vandalism in school settings extends the role of aesthetics, that is, enjoyment in vandalism. They employed ecological psychology principles to vandalism and concluded that the change in an object's initial appearance and in its appearance after being vandalised may serve as a stimulus for destructive behaviour. Thus, they supported the argument that environment and physical condition of the object or space increases the opportunity for deviant behaviours (Hollis-Peel, Reynald, & Welsh, 2012; Massoomeh Hedayati, Aldrin, Nordin Abd, & Mohammad Javad Maghsoodi, 2011).

The role of the environment in influencing behaviour is also acknowledged by the 'broken windows' theory, which emphasises the importance of early detection and rectification or repair of minor disorders such as litter, graffiti, and defaced surfaces, all of

which may serve as releasor cues and lead to more serious transgressions (Katy, 2007; Thompson et al., 2012; Wilson & Kelling, 1982). In other words, the presence of vandalism, in whatever form, creates an environment where vandalism (property damage / deviant behaviour) is perceived as normal and therefore increases in frequency and salience.

Other studies suggest it is not so much the physical place that produces criminal incidences, but more the type of place that presents and concentrates opportunities for predators (Sherman, Gartin, & Buerger, 1989). A response in the form of a security force may serve only to displace motivated offenders to other opportunistic locations with suitable targets and ineffective guardianship such as neighbourhoods, parks, and bars. Crotts (2003, p. 95) observed that 'communities that solely adopt such a reactionary approach to criminal victimization must be prepared to constantly refocus their attention on a shifting target' (2003, p. 95). This view reinforces the concerns about displacing vandalism rather than preventing it.

A comparable conceptualization is offered in the consumer behaviour literature. Research acknowledges an association between context and visitor/customer behaviour (Duant & Harris, 2012; Fullerton & Punj, 2004). Further empirical support categorizes vandalistic behaviours into two environmental contexts: physical design (layout, atmospherics and exterior (landscape) environment) and social factors (fellow customers and outlet vulnerability). There is evidence of a relationship between physical layout and design of buildings affecting the magnitude and frequency of aggressive behaviour. Studies offer evidence of an association between atmospherics and deviant behaviour. Vandalized and damaged landscape indicate acceptance and/or disregard for vandalism. A body of knowledge note the importance of perceived attitudes of fellow customers in shaping perpetrator behaviours. Harris and Reynolds (2003) provided empirical support to the 'domino effect'. Fullerton & Punj (2004) explored the routine activity theory to highlight that perceived opportunity to vandalize derived from lack of surveillance and deterrence in fostering deviant behaviour.

The above theories provide an explanation for the role of environmental factors as a strong influence shaping deviant behaviour. The discussion highlights the role of external influences such as the design of the environment in enabling opportunity for guardianship and the importance of opportunity-reducing tactics to discourage crime. However, it would be inappropriate to view the environment as the only influence on deviant behaviour. The containment theory of deviance identifies internal and external mechanisms of control that shape unsuitable behaviours (Reckless, 1972). The discussion points in the direction of the growing importance of internal behavioural factors and developmental influences on behaviour.

A number of broad societal, developmental, and environmental factors that are thought to be involved as constructs shaping abnormal behaviour have been discussed. Internal psychological forces result in an observable response when external stimuli, such as environment cues or lack of surveillance offer an opportunity. It is central to mention that these internal and external factors do not work in isolation and overlap in most explanations of deviant behaviours.

Human ecological explanations of vandalism

Early research on abnormal human behaviour can be traced to Freud's (Muris, 2006) psychoanalytic theory, which is still an influential theoretical model. Both Freud's and Lorenz's instinct theory of aggression (Strozier & Offer, 2011) offer internal explanations of human behaviour. According to early studies, aggressive energy is a pent-up instinctive drive in humans that may be released by external stimuli. The internal build-up may be expressed in some form (Sadger & Dundes, 2005; Strozier & Offer, 2011). Freud's analysis has been challenged and dismissed because the main concepts of the theory could not be validated empirically (Buss, 1997; Muris, 2006). Myers (2010) suggests that Freud's instinct theory fails to clarify cultural and individual variability in explaining human behaviour. However, these early explanations point to an important possibility that human behaviour including vandalism may have much of its origins in childhood.

Muris (2006), who focused on the origins of abnormal human behaviour, discussed four factors shaping adult tendencies: (1) characteristics of the child, (2) early interaction between children and their parents, (3) learning experiences from the environment, and (4) societal influences. The approach highlights both the role of biological and developmental influences on behaviour.

In support, Crotts (2011) explained deviant behaviour by linking needs to behaviour and classifying behaviour as a conditioned automatic response. He suggested that the human brain is a highly efficient organ and is influenced by structured externally reinforced learning, but at the same time is capable of more spontaneous self-initiated learning styles. In other words, research indicates the human brain is always moving from deliberative (explicit) to automatic (implicit) control in its decision (Cialdini, 2009; Cialdini & Goldstein, 2002; Crotts, 2008). These studies point to the role of developmental factors in driving motivation for vandalism. In addition, social factors also contribute to explanations of deviant behaviour.

Another broad-ranging generic line of enquiry fits this topic area. Social learning theory attributes behaviour to observation-based learning (Bushman & Anderson, 2002). People acquire social behaviours through direct experiences or by observing others. Huesmann (2007) interpreted observation-based learning through principles of script theory. According to script theory, a person selects a script (pre-determined action plans) to represent a situation and assumes a role in the script similar to an actor in a movie (Moscardo, 1991; Schank & Abelson, 2013). Children may observe such scripts repeated on mass media or immediate social surroundings and assume specific roles and behaviour within the scripts. This theory is helpful in simplifying the understanding of behaviour as compared to complex judgment-decision-based behavioural models (Erasmus, Bishoff, & Rousseau, 2010; Fischer, Kollar, Stegmann, & Wecker, 2013). The theme of imitation and copying behaviour is also useful in explaining reoccurring acts of aggression or vandalism.

Behavioural ecological explanations of vandalism

This section explores 'needs satisfaction' as the main influence of motivation to vandalize. Theories linked to specific needs of enjoyment, challenge and expression are discussed as the foundations of behaviours leading to vandalism (Douglas, Burgess, & Burgess, 2013). For example, Goldstein (1996) proposes that schools are a source of boredom for teenagers and therefore encourage increasing levels of vandalism. Although the example does not involve a tourist or tourist setting, it illustrates the concept of *enjoyment theory* and

may be identified as a core motivational factor behind increasing levels of vandalism (Offler et al., 2009). Understanding the motivations for this behaviour may also identify possible solutions. For example, vandalism is often the result of play and excitement seeking amongst children (or young adults) and, as such, is not malicious. However, the universal application of enjoyment theory is debatable as the logic in the preceding example may not be the case for a group of visitors littering public beaches with leftover food and trash.

On the same lines, Greenberger and Allen (1978) argue the case for enjoyment, risk-taking and pleasure in vandalism with the help of *aesthetic theory* built on Cohen's typology of Play Vandalism. The theory highlights the enjoyment and pleasure arising from the act of destruction. The appearance of the object in its surroundings, the process of destruction, and the post-destruction appearance of the object cumulatively serve as a trigger for vandalism. For instance, the appearance of a historic statue in its surrounding, the act and pleasure of defacing the statue, and the anticipated appearance of inspecting the remains may serve as cues to vandalism. The theory highlights the role of physiological factors that are inherent in the act of destruction and deviant behaviour. However, as agreed by the proponents as well as Goldstein (2004), the theory is not applicable to all acts of vandalism. Both enjoyment theory and aesthetic theory are useful in explaining vandalistic behaviour to satisfy hedonic pleasures arising from the act itself or from perceived appearance of a vandalised object in its surrounding.

Other than pleasure-seeking behaviour, vandalism may be the result of social expression. Using Cohen's typology of Ideological Vandalism, McCormick (2003) employs sociological theories to consider the ways in which graffiti is used as a tool to define people and their identities. Similarly, another study by Giles and Giles (2007) on graffiti substantiates the theory that graffiti is used as a form of expression and a demonstration of community identity. Graffiti and other forms of artwork or writings are identified as an easy mechanism for writers (vandals) to gain recognition and status amongst peers (Bushman & Anderson, 2002). The example considered previously of the street artist Banksy and his public acceptability supports the argument (Merrill, 2015). Similarly, Fisher and Baron (1982) propose that a key motivational factor behind vandalism is perceived inequality, which they labelled equity-control theory, where a perception of norms and fairness is violated in social and environmental arrangements. The purpose of the vandalism (as constructed in the theory) is to reduce this inequality (Thompson et al., 2012).

Integrative ecological explanations of vandalism

Several general or broad theories of deviant behaviour have been proposed in recent years. A few key theories have been discussed above. However, none of the approaches reviewed attempt to integrate factors across important ecological (environmental and situational), micro-level (internal to the individual), and macro-level (developmental and social) domains to provide holistic explanations of deviant behaviour. Vila (1994) proposed that human behaviour is a combination of all these complex interactions between ecological, micro-level, and macro-level factors. Further, Vila suggests that an individual experiences all these forces over their lifetime and this complexity requires an integrated approach in explaining aberrant behaviours (Clarin, Bitzilekis, Siemers, Goerlitz, & Hodgson, 2014).

The integrationist model offered by L. Cohen and Machalek (1988) and Vila (1994) expands on evolutionary psychology theory. The approach is helpful in providing a links to behaviour and a suite of factors. Earlier in this review, it was acknowledged that acts of

vandalism are complex behaviour. These behaviours are guided by a mix of influences (Clarin et al., 2014; Thompson et al., 2012). The integrationist model is particularly useful in this paper as it combines empirical findings and insights from the many disciplines that study deviant behaviour and integrates them into a single comprehensive theoretical framework. The core ideas explain how individual deviant behaviour is influenced by interactions between factors such as ecological, individual, and societal levels over the life course. The model employs theoretical concepts to study human behaviour that, and at the same time, gives special consideration to the unique properties of cultural and social factors (McGuire, 2004). Similarly, Harris and Reynolds (2004) call for an understanding of how conceptual factors such as physical and social environment are associate with types of vandalism.

The above view is supported by Goldstein (1996), who maintains that the study of vandalism has received little recent attention from researchers. The study argues that acts of vandalism and other minor criminal offences set the stage for more serious social transgression, and consequently, the study of vandalism and destruction should be vigorously pursued. Further the argument emphasised that vandalism is influenced by both dispositional and environmental factors. The theory therefore maintains that approaching vandalism from an interactionist perspective will produce the most useful theoretical models and practical interventions. However, Goldstein himself fails to consider the role of developmental and biological variables in vandalism and other destructive behaviours. Although classical interaction models pay little attention to such variables, a multi-dimensional model of behaviour is incomplete when developmental factors are not considered (Devlin & Brown, 2003; Daunt & Harris, 2012a; Fullerton & Punj, 1997; Harris & Russell-Bennett, 2015; Hazard, 2009).

In summary, vandalism to visitor attractions as a phenomenon cannot be explained simplistically and requires a comprehensive, multi-dimensional, and collaborative approach. A key position of this review is that any case analysis of the topic should address social, environmental, psychological and economic issues in relation to vandalism. These core ideas are employed in the following section to consider pragmatic approaches to limiting vandalism in international and domestic tourist settings.

4. PREVENTION – INTERVENTION STRATEGIES

It has already been argued that the costs of vandalism should be considered in the physical, psychological, social, and economic context. The multi-dimensional issue of vandalism requires a multi-dimensional approach to address the issues. Table 2 outlines the common themes in the discussion of vandalism prevention.

Table 2 *Common themes in vandalism prevention discussion*

Prevention themes	Author	Related theories and concepts
Cohen's typology of primary vandalism prevention	S. Cohen (1973)	Defeatism Deflection Utilitarian prevention Education and publicity Deterrence and retribution Primary prevention
Social prevention	Gottfredson and Hirschi (1990) Albrecht and Otta (1991) Farrington and Coid (2003) Baron (2006) Lucianetti (2011)	Self-control theory Merton's stain theory
Situational crime prevention	Jacobs (1961) Newman (1972) Felson and L. Cohen (1980) Vila (1994) Zhao and Liu (2011) Reynald (2011)	Environmental crime protection Defensible space Routine activity theory Environment modification Rational choice Guardianship
Environment design	McGuire (2004) Ekblom (2010) Cross (2011) Cozens and Davies (2013) Duatre, Lulham & Kaldor (2013)	Crime prevention through environment design (CPTED)
Technical and non-technical prevention	P. Pearce and Moscardo (1986) Vila (1994) Ekblom and Tilley (2000) White (2003) Lavarch (2003) Crow (2004) Offler et al. (2009) P.Pearce (2009) Kosters & Van Heijden (2015)	Mindfulness Hard and soft techniques Prevention and early identification Community engagement Task force Tertiary prevention and recidivism Education Positive psychology Nudge theory

S. Cohen conceptualized six categories of vandalism (property damage) in his seminal work published in 1973. The study proposed six different methods of prevention and control for vandalism. It can be observed that these ideas are consistently re-labelled and extended in the subsequent approaches and form a primary resource for other analyses.

A key approach to addressing vandalism is social prevention. Social prevention strategies can be explained as follows. The concept of social prevention focuses on tackling the root causes of vandalism and the dispositions of individuals to offend (Albrecht & Otto, 1991; Farrington & Coid, 2003; Lucianetti, 2011). The style of this approach is broadly allied to Cohen's educational category allied to his primary prevention of social inequalities. Two social prevention theories in particular have emerged to explain to damage prevention.

The self-control theory developed by Hirschi (Gottfredson & Hirschi, 1990) explains why people conform, rather than why they commit crime. The theory highlights the influence of elements such as attachment, commitment, involvement, and belief in social bonding of an individual to conventional value. Individuals with weak social bonding are more susceptible to deviant behaviours and as perpetrators. Discussion on stain theory is the next component of this section. The stain theory by Merton (Baron, 2006) argued that damage-prevention strategies should focus on both opportunity structures and the treatment of delinquency in the society. Individuals deprived of the opportunity to achieve social goals are more likely to seek alternate and deviant approaches of expression. Damage prevention should focus on creating educational programmes accordingly (Baron, 2007).

Modifications to the physical environment emerged as another set of vandalism control measures. Jacobs (1972) pioneered the conversation on environmental crime protection by highlighting those aspects of the physical environment that may hinder or encourage crime / vandalism. However, it was Newman (1972a) and his notion of defensible space that attracted most serious attention to this field of crime prevention. In support, Perlgut (1983, p. 125) added that 'vandalism is always against some aspect of the physical environment . . . they may be reacting to the environment, it's physical, managerial, social or economic aspects' (1983, p. 125). Certain components of the physical environment, such as street lighting, boundary fences/walls, spatial location of doors and windows and so forth have great influence on the nature and frequency of vandalism. Relating the discussion to Cohen's typology of preventive approaches, the environmental crime prevention discussion emphasises the deflection and utilitarian strategies concerned with the design and management of the physical environment.

Reflecting in part on the foundation work of Jacobs, situational crime prevention has emerged as one of the fastest-growing set of strategies to inhibit damage from vandalism. Initially developed by Clarke in 1980s, it is directed at specific contexts, including manipulations of the environment, reducing the opportunities and rewards of vandalism and target hardening. It relies primarily on rational choice theory and the routine activity theory (Zhao & Liu, 2011). The rational choice theory suggests that vandalism may be discouraged if the environmental setting increases the costs of vandalism, while reducing the perceived benefits to the perpetrators. It creates a perception of increased likelihood of apprehension and punishment (Wittek, Snijders, & Nee, 2013). Similarly, routine activity theory proposes three elements that may contribute to vandalism: targets, offender, and lack of guardianship (Felson & Cohen, 1980).

The theoretical framework of situational crime prevention proposes five major approaches: increasing the effort to comment vandalism, increasing the risk of detection, reducing perceived rewards from vandalism, reducing provocations, and removing excuses. Situational crime prevention is instrumental in the formation of evidence-based approaches to construct specific interventions to reduce particular type of vandalism. It is applauded for its cost-effectiveness and long-term effectiveness in reducing vandalism.

The following discussion draws on routine activity theory principles of capable guardianship (Felson & Cohen, 1980). A capable guardian is able to disrupt directly or indirectly the interaction between the offender and a suitable target. The concept of guardianship has been operationalized and measured in several ways. A survey of the

literature acknowledges considerable discussion on assessing the concept of guardianship (Hollis-Peel et al., 2012; Reynald, 2011).

The concept of guardianship in the routine activity literature is different from its understanding under the *crime prevention through environmental design* (CPTED) vandalism prevention approach. CPTED refers to guardianship as the ability of the guardian to intervene in the act of vandalism and prevent it. The approach emphasises the real-time feature of the intervention. Guardians may engage in guardianship activities intentionally or unintentionally as long as they are successful in preventing vandalism (McGuire, 2004; Reynald, 2011). Newman (1972a) and Jacobs (1972) had also advocated this basic principle to decrease the risk of opportunistic crime.

According to Duarte, the 'CPTED framework is based on the idea that proper and effective design and use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life' (2013, p. 225). The CPTED principles include territoriality, surveillance, access control, image/maintenance, activity support, and target hardening and were made popular by Cozens and a team of architects (Duarte, 2013). They extended the model from residential settings to a wider range of built environments. Recent studies on CPTED note that community participation is crucial in both the design of space as well as its management. Local community participation is helpful in creating and constructing the intended environment design elements (Leanne, 2011; Pizam & Mansfeld, 1996). The co-designing of the environmental space results in higher level of community participation and a sense of ownership. There is increased interest in understanding design processes from community perspectives (Duarte, Lulham, & Kaldor, 2011). Further it can be suggested that stakeholder participation ensures effective design and the improved management of intervention strategies.

In another study, Cross (2011) argued that through good design and its processes, the problem and the solution are addressed simultaneously. This feature of simultaneous consultation results in the emergence of a priori solution for specific sites. The exploratory nature of the emergent process creates innovative intervention approaches to vandalism. The discussion on hard and soft measures in the next section is another innovative approach to the prevention of vandalism.

The technical and non-technical preventive approach

Another approach to study vandalism intervention strategies is to classify them on the basis on the primary instrument around which the approach is developed. The two broad categories are technical and non-technical measures or hard and soft measures, respectively. Technical measures are defined as 'hard techniques' employed to address vandalism. Several measures under the CPTED philosophy, such as target hardening, access control, mechanical surveillance, and territoriality, are considered as technical measures. The literature on situational crime prevention also emphasises hard techniques employed to counter vandalism (Ekblom, 2010; Ekblom & Tilley, 2000). Non-technical measures, by way of contrast, include approaches to develop collaborative strategies to tackle the problem. Increased community participation and involvement of key stakeholders are examples of non-technical measures. The 'softer techniques' involve educating the visitors and key partners, creating a sense of ownership and belongingness, and using increased mindfulness to prevent acts of vandalism.

Technical measures are most effective when appealing to perpetrators who are motivated by challenge or who are involved in risk-taking. In other words, technical measures are helpful in reducing deliberate acts of vandalism. Nevertheless, it is important to employ non-technical intervention strategies to appeal to most visitors. Much of the damage caused by visitors at tourist sites is not deliberate. Thus, a combination of technical and non-technical techniques is most effective in addressing the complex phenomena of damage of which vandalism is a part. For instance, a popular lifestyle precinct such as Orchard Road in Singapore or Khaosan area in Bangkok city could use CCTV cameras and increased street lighting as technical measures and complement that with a powerful education programme to stop vandalism. Approaches to promote community pride in, and symbolic ownership of, specific visitor attractions are also appropriate.

Importantly, some evidence in the current literature suggests that increased enforcement and the introduction of technical preventive measures alone do not have a significant impact on the levels of vandalism (Offler et al., 2009). Table 3 below lists a range of technical and non-technical techniques that could be adopted in various combinations to arrive at a holistic, comprehensive, and multi-dimensional approach to tackle vandalism. It also highlights the importance of considering the behaviours of different groups with different behaviours and motivation. This kind of comprehensive approach is helpful in forming or collaborating relationships among the stakeholders. Alternatively, bridging the two approaches into a set of 'nudges' based on how people assess choices and make decisions (Kosters & Van der Heijden, 2015)

Table 3 *Technical and Non-Technical Behaviour Intervention Approaches to Address Vandalism*

Behaviour Intervention Strategies – Technical
- Prohibition of the sale of spray cans of paint and sharp tools to underage person and those with a record of deviant behaviour.
- Establishment of community clean-up squad to remove graffiti and litter.
- Reporting a perpetrator/vandal in the act to staff or use of a hotline number.
- Clean-up of the physical and social environment of the visitor attraction
- Use of vandalism-resistant materials such as tamperproof surfaces, break-resistant facilities, scratch-resistant films, and glass panels.
- Choice architecture to nudge patrons.
- Installation of increased lighting in secluded areas and erection of higher boundary walls/fences.
- Installation of operational and dummy CCTVs.

Behaviour Intervention Strategies – Non-technical
- Employing a holistic approach to eradicating vandalism.
- Gap identification and recommendations for best practices to stakeholders.
- Increased presence and visibility of patrolling staff.
- Establishing community watch for key stakeholders and public.
- Enlisting community support and ownership.
- Implementing education programs for visitors before or during the visit.
- Increasing the level of mindfulness with the visitors and key stakeholders.
- Joint projects between the community, site management, and/or local authorities.
- Use of social media to educate visitors and to solicit community support.
- Community engagement by building relationships with key community groups.

A key element of soliciting community participation is a sense of belonging and ownership of the visitor attraction across all levels of the local community who are affected by vandalism. This communication should indirectly be reaching potential perpetrators within the community. Creating community awareness of the consequences of vandalism through publicity and education programs is influential in creating a sense of belongingness. The increased level of belongingness within the community is instrumental in increasing community self-esteem and a sense of ownership and importance of the resource of the visitor attraction.

Involving the local community in the dialogue discussing vandalism and seeking their opinion in devising intervention strategies is a source of empowerment and promotes ownership among the general public. Examples of involvement include forming a joint patrol or setting up a special interest group. Community participation is an important non-technical strategy (discussed above) in curtailing vandalism. Offler et al. (2009, pp. 33-34) discuss successful case studies where a combination of technical and non-technical strategies helped in encouraging core values of empowerment and ownership in developing long-term sustainable practices in reducing vandalism. The examples discussed were the 'Go Ahead' public bus anti-vandalism campaign in the UK, the graffiti control campaign in Bankstown City Council, Australia, and a community policing initiative by the San Diego Police Mid-City Division, California. While global application of these measures is not guaranteed due to the differences in culture and local context, a general understanding is helpful in tailoring such strategies to local contexts. It is important to establish the difference between property damage control and damage prevention. In this kind of work, damage control refers to a reactive strategy, while damage prevention signifies proactive approaches to reducing vandalism at tourist attractions.

Another approach to crime-prevention strategies is to classify approaches focused on the individuals' levels of risks of committing crime. Brantingham and Faust, as cited in Nichols and Crow (2004), identified three types of prevention. They considered primary prevention directed at modification of the environment, secondary prevention directed at early identification and intervention, and finally, tertiary prevention directed at the control of recidivism. Another study argues for a distinction between social and situational approaches to preventing vandalism (Sutton, Cherney, & White, 2008). In general, social crime prevention is concerned with tackling the root cause of crime, while situational crime prevention emphasises the target and guardianship aspect of crime. The various typologies of damage prevention place emphasis on measures of law and order, criminal justice prevention measures, or practices outside of the criminal justice system. It is apparent from the preceding review that some typologies of crime-prevention strategies in the existing literature do in fact overlap (Zhao & Liu, 2011).

5. CONCLUSION

Considerable energy and resources have been directed at understanding vandalism and devising preventative schemes. In offering insights into these issues, this review offer a number of implications for theorists and practitioners. First, by gathering studies that consider vandalism and its links to tourism, the current study provides a foundation statement for research. The current research offers a theoretical contribution in suggesting and supporting the integration of approaches to the different influences to vandalism. Specifically, the findings reveal not just that that vandalism is a complex phenomenon and finds its roots in a combination of factors, but that an emphasis on several of these sources of information can be powerful guides to preventative action.

In more detail, the paper makes a significant contribution to the prevention of vandalism discussion through the identification of different forms of intervention strategies. The body of knowledge suggest intervention strategies such as protection and avoidance, deterrence, external control, education and social programs, and criminal justice system for serious transgressions (Thompson et al., 2012).

The study raise a number of implications for the practitioners especially attraction management and tourism policy makers. In particular, the findings suggest that 'context-specific' measures, such as modification to the environment in the form of physical design providing improved surveillance and territorial claim by adding symbolic barriers such as sign posts, gates and fences (alley gates), and improved lighting to reinforce the sense of territory ownership, reduce the risk of anti-social guide behaviour.

Further, this study presents a critical evaluation of intervention strategies. For instance, opportunity-reducing situational factors such as target hardening, immediate repair, which interfere with the vandal's ability to conduct their behaviour, make a violent behaviour appear riskier, more difficult, and less rewarding and can often be included in prevention and control strategies (Mair & Mair, 2003). However, these strategies are not free of criticism and remain largely untested. For instance, Crotts dismisses protection and control strategies through routine activity theory as it is argued that these measures merely displace the location of the incident without having a meaningful impact on frequency of vandalism. More empirical work on teasing out the value of hardening strategies and studying displacement in the vicinity of tourist sites can be strongly suggested.

Finally, the current study reveals the importance to attraction managers of fully considering visitor needs, expectations and satisfaction. While intervention linked to defensible spaces may help, there is also a need to focus on the underlying social causes, the motivation behind vandalism, and related intervention (Offler et al., 2009). Several empirical studies related to crime at visitor attractions conclude that qualitative methods of understanding the different types of crimes and approaches to address such behaviours are more effective in achieving the desired outcomes (Pizam, 1999; Tynon & Chavez, 2006). By clarifying definitional issues and assembling key ideas in this field, the topic area should now be more appealing to tourism researchers who seek to address this significant component of building a more sustainable tourism world.

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