5 Crowd Behaviour Theory

Crowds and crowd behaviour are consistently studied in an attempt to make sense of the phenomena that affect human safety. However, crowd deaths and incidents continue to occur frequently, suggesting modern theories around crowd behaviour are not being appropriately understood and applied to crowd management and crowd control. You don't have to have the academic acumen of Alexander E. Berlonghi, the pioneer in event risk management, to agree that without an understanding of crowd behaviour, crowd management and control activities are random, and ineffectual.

This chapter will provide an overview of crowd behaviour theories as a starting point for understanding how they can be utilised to assist in effective crowd control and crowd management.

It is helpful to imagine that crowd theories and crowd models are as diverse as crowds themselves and that as crowds change, evolve and develop, the theories and models must either change with them or the definitions move to a different phase. This text proposes future pathways for crowd management.

There are many collective crowd theories all of them are partially correct in the correct circumstances, none are absolutely complete in providing certainty of theoretical judgement.

What is a crowd?

Stephen Reicher, in his study on psychology (2001), describes crowds as:

"the elephant man of the social sciences. They are viewed as something strange, something pathological, something monstrous. At the same time they are viewed with awe and with fascination. However, above all, they are considered to be something apart"

Crowds have been defined in many ways, they are generally described as a group of people that are close, geographically or logically, and are affected by each other's presence and behaviour. In order to provide a more precise definition, the UK Government sets out five criteria that may jointly identify a crowd.

♦ **Size** – there should be a sizeable gathering of people

♦ **Density** – crowd members should be collocated in a particular area, with a sufficient density distribution

♦ **Time** – individuals should typically come together in a specific location for a specific purpose over a measurable amount of time

♦ **Collectivist** – crowd members should share a social identity, common goal or interest, and act in a coherent manner

♦ **Novelty** – individuals should be able to act in a socially coherent manner, despite coming together in an ambiguous or unfamiliar situation.

Crowds are often labelled as a description of their main characteristic. This is an over-simplification and a dangerous way to create crowd nomenclature, given the same crowd moves between these different types at different stages in its lifecycle.

Common descriptions have been:

♦ **Ambulatory crowd** – A crowd entering or exiting a venue, walking to or from car parks, or around the venue to use the facilities.

♦ **Disability or limited movement crowd** – A crowd in which people are limited or restricted in their mobility to some extent, for example, limited by their inability to walk, see, hear, or speak fully.

♦ **Cohesive or spectator crowd** – A crowd watching an event that they have some to the location to see, of that they happen to discover once there.

♦ **Expressive or revelrous crowd** – A crowd engaged in some form of emotional release, for example, singing, cheering, chanting, celebrating, or moving together.

♦ **Participatory crowd** – A crowd participating in the actual activities at an event, for instance, professional performers, athletes, or members of the audience invited to perform on stage.

♦ **Aggressive or hostile crowd** – A crowd which becomes abusive, threatening, boisterous, potentially unlawful, and disregards instruction from officials

♦ **Demonstrator crowd** – A crowd, often with a recognised leader, organised for a specific reason or event, to picket, demonstrate, march or chant

♦ **Escaping or trampling crowd** – A crowd attempting to escape from real or perceived danger or life-threatening situations, including people involved in organised evacuations, or chaotic pushing and shoving by a panicking mob

♦ **Dense or suffocating crowd** – A crowd in which people's physical movement rapidly decreases – to the point of impossibility – due to high crowd density, with people being swept along and compressed, resulting in serious injuries and fatalities from suffocation

♦ **Rushing or looting crowd** – A crowd whose main aim to is obtain, acquire, or steal something – for example, rushing to get the best seats, autographs, or even commit theft – which often causes damage to property, serious injury or fatalities

♦ **Violent crowd** – A crowd attacking, terrorising, or rioting with no consideration for the law or the rights of other people

Crowd behaviour models

There are many models for explaining crowd behaviour, coming from a variety of fields.

Classic crowd theories

The origins of crowd theory can be traced back to the 1800s, and early thinkers have had a significant impact on the development of the field. In essence, two philosophical schools of thought have dominated the field: *convergence* and *divergence*.

The convergence school of thought evolved from the early work of Le Bon and is based around the idea of 'group mind'. Le Bon stated that every individual in a large gathering is transformed into a crowd member, and as part of the crowd's collective mind they feel, think and act differently than they would if they were alone. This has had a sig-

nificant impact on the field with several deindividuation-based theories emerging. These deindividuation-based theories focus on describing the process by which a person supposedly loses their sense of individual identity and therefore engages in behaviour that is out of character, and often extreme.

The divergence school of thought suggests that it is common traits in the individuals that make up the crowd that develop group behaviour. This school suggests that similar innate drives that individuals in a crowd supposedly share give rise to similar behaviour. For example, the Social Identity Theory suggests that a person's sense of self is based on their group membership(s), and that people who belong to the same group form an 'in-group' (us) and discriminate against the 'outgroup' (them) to enhance their self-image. The Emergent Norm Theory suggests that new social norms emerge within a crowd as key members of the crowd (leaders) suggest appropriate actions and following members fall in line, forming the basis of the crowd's new norm.

Refuting the classic theories

It is only in the last 20-30 years that these schools of thought have been met with serious criticism and been overtaken by a more scientific approach to crowd analysis. The main problems identified with these classic models are:

Qualitative descriptions

The theories only offer qualitative descriptions, which are insufficient for the behaviour to be consistently modelled and applied to crowds more generally. This is partially because crowd behaviour has traditionally been studied through ethnography, which captures a narrative that can be difficult to model. Qualitative modelling also suffers from human bias and inconsistency, producing unreliable variations.

Computational models

More modern approaches to crowd analysis have begun to use computer generated crowd simulations, for which broader algorithmic models are required. Cellular automata (CA) computational models are effective for simulating physical systems and can capture the essential