

SEQUENCE ANALYSIS OF VIOLENCE IN FORENSIC YOUTH POPULATIONS

INTRODUCTION AND LITERATURE REVIEW

Human nature is nonlinear and multifactorial, so traditional methods of analysis are ineffective at providing a complete picture of behavioural episodes (Keatley, 2018). Kitzbichler et al. (2009) suggest that the organisation and activity of the human brain can be described as 'fractal' since it is self-similar and replicated when scaled across time.

When analysing violent behaviour to explore a temporal architecture, it is necessary to establish the scale at which the analysis will take place. This is usually informed by the available dataset and input of subjects involved in the research.

Meta-analysis undertaken by Papadopoulos et al. (2012), incorporates a large body of data, yet offers little information to practitioners, since antecedents to violence appear to be both directly and indirectly drawn from data, and are described in general terms, as a consequence of the variation in rationalisation across multiple studies.

David and Dana (2018), in exploring measures to reduce levels of harm in secure adult hospitals in England and Wales, were able to use data gathered from both observation and interaction with participants. This data was subsequently used to inform assessment processes, and resulted in a reduction in violent incidents and self-harm.

Similar work with young people in custody is problematic, due to the ethical and legal implications of incorporating participant interaction during research into prisoners (Brown, 2018), and the compounding complication of work undertaken with vulnerable children (Morrow & Richards, 1996), the harm caused by the most vulnerable young people in society to themselves and others, remains under-researched.



METHOD

DESIGN

An ex-post facto naturalistic observation of CCTV footage of violent incidents. Screening criteria for the footage are:

- The incident ends at the point of restraint by staff due to harm caused or threatened to the subject, or others; serious damage to property (the threshold equivalent to criminal damage); attempted escape from lawful custody.
- A minimum of 30 seconds of footage prior to the restraint of the resident.
- Where possible, sequencing of behaviour will begin 60 seconds prior to restraint.
- Behaviour is coded at the arbitrary level of observable gross and fine motor functions.
- Behaviour is coded on a second-by-second basis.

SAMPLE

The research took place in a Secure Children's Home; subjects were vulnerable young people aged between 13 and 18, who are placed there either due to arrest and imminent police questioning under Code C of the Police and Criminal Evidence Act (1984); remand by a criminal court; a sentence of detention following conviction for an offence; or as the result of a Section 25 Accommodation Order made by a family court judge under the Children Act (1989) and the Children (Secure Accommodation) Regulations (1991).

The Home is subject to oversight and inspection by Ofsted, The Youth Custody Service and the Local Children Safeguarding Board.

ANALYSIS

Due to local software restrictions, information was originally recorded onto Microsoft Excel, before being recoded using Visual Basic. R software (R Core Team, 2013) was used to complete statistical analysis, before a BSA program was used to map the data into a State Transition Diagram.



BEHAVIOUR SEQUENCE ANALYSIS

Behaviour Sequence Analysis (BSA) is a novel method of mapping human behaviour across time to rationalise the intrinsic patterns exhibited. Complex behaviour in a system can often be described by simple transitions from one behaviour to another, given consistent recording at a given arbitrary level. BSA has previously been used in mapping non-verbal communication (Marono et al., 2017) and to compare sequences of violence (Taylor et al., 2017).

RESEARCH AIMS

Analysis of the sequence of violent incidents perpetrated by residents of a Secure Children's Home;

Develop avenues of further enquiry into violence perpetrated by vulnerable groups;

Develop specific information and guidance to staff working with similar groups.

RESULTS

DATA

81 samples were viewed, 36 samples were screened out of analysis (27 samples had an obstructed view of the young person for over 15 seconds; 7 samples had no restraint occur; 3 samples had playback issues from one or more angles, meaning that the young person could not be observed for the duration of the incident; one sample occurred outside of the home.) 45 samples met the screening criteria and were recorded and coded.

PRELIMINARY FINDINGS

Staff intervention, through engaging in conversation with a young person throughout the incident consistently provides a way to prevent restraint;

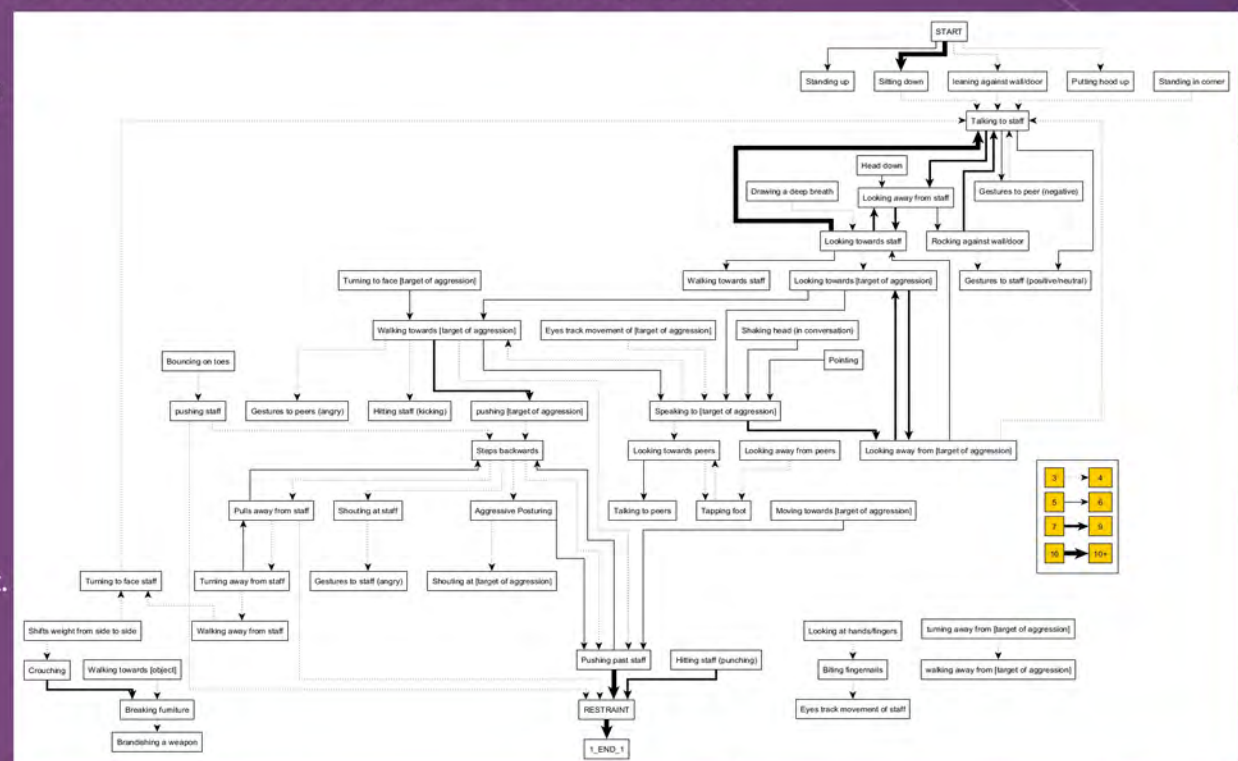
Staff are clearly implementing de-escalation training since residents start talking to staff following a variety of behaviours;

Staff will often physically intervene to prevent harm, however once this is ignored by residents, the most effective way to keep everyone safe is restraint.

FURTHER RESEARCH

BSA of violent sequences which specifically focuses on transition between facial expressions, specifically the seven universal facial expressions described by Matsumoto and Hwang (2011), and drawing upon the prior work completed by Marono et al. (2017), would provide further insight for practitioners who are focused upon supporting young people through emotional crisis.

STATE TRANSITION DIAGRAM (THRESHOLD FREQUENCY OF 3+)



KEY REFERENCES

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