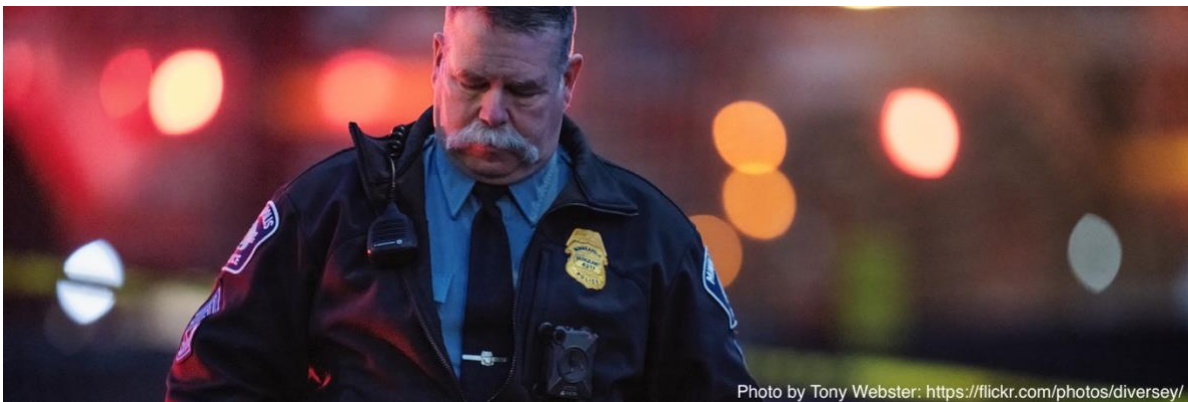


Situational Factors and Police Use of Force Across Micro-Time Intervals: A Video Systematic Social Observation and Panel Regression Analysis

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Key Takeaways

- Systematic social observation of body-worn camera footage and panel regression analysis tested the effect of police officer and civilian actions on police use of force across 5-second intervals
- The most influential variables are related to authority maintenance
- Additional variables reflecting procedural justice, civilian resistance, and bystander presence significantly influence when police use force occurs during civilian encounters
- Certain variables influence use of force at a distinct point in time whereas others exert influence over multiple time periods
- Overall findings support theoretical perspectives considering use of force as a transactional event

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Research Summary:

Prior research has consistently found that police-citizen encounters involving force typically extend across fairly lengthy time periods. During these extended periods, police officers must rapidly assess a series of dynamic situational factors, requiring the use of cognitive shortcuts that can influence later use of force decisions. Situational factors, and the cognitive shortcuts they motivate, can ebb and flow throughout a police-civilian encounter, differentially influencing the likelihood of force at various points. Within this context, empirical evaluations require measuring and assessing what happened in the seconds or minutes that preceded force as well as how the actions and behaviors of officers and the civilians they engage with influence the probability of force being used. Unfortunately, common data sources typically only allow for the cross-sectional analysis of use of force events, precluding the use of longitudinal methods that can sufficiently measure transactional events.

The current study reports on a systematic social observation (SSO) of body-worn camera (BWC) footage and panel regression analysis in Newark, NJ. The study sample includes 91 use of force events recorded on BWCs in Newark, NJ between December 2017 and December 2018. This study period reflects the pilot phase of the NPD's BWC deployment. Rather than analyze encounters as cross-sectional moments in time, we parsed out the entirety of each individual use of force event into a series of five-second time intervals to examine encounters longitudinally. Data on the actions of police officers, suspects, and bystanders, which were collected during the SSO, were scored into their appropriate corresponding time interval(s) based on the start and/or end time of the given action or behavior. The unique structure of the dataset allows for a new way of examining the situational nature of police-citizen encounters, which to our knowledge has yet to be done in use of force research.

All model covariates were categorized into theoretical constructs: active civilian resistance (n=4), authority maintenance (n=5), procedural justice (n=5), and bystander presence (n=3). Four different interval-based operationalizations we applied to the model covariates. The *instant* operationalization has start and end times that occurred instantaneously and simultaneously (e.g., a civilian shoving an officer). The *active* operationalization marks all of the consecutive interval(s) at which an action was actively occurring (e.g., officer explaining the reason for suspect detainment). The *post-occurrence* operationalization assigns the next six intervals (30 seconds) after a recorded instance of an action or behavior a value of '1' to explore their potentially delayed effect. The *lasting* operationalization captures the number of times an action or behavior occurs, and the influence of its occurrence on the remaining duration of the event.

Significant effects were observed for 2 of 4 civilian resistance variables, 3 of 4 authority maintenance variables, 4 of 5 procedural justice variables, and 1 of 3 bystander presence variables. Post-hoc analyses found that the 6 covariates most predictive of increased use of force likelihood were authority maintenance variables. These 6 authority maintenance variables accounted for more than 65% of the regression model's predictive capacity. This finding supports prior theoretical perspectives arguing that police use of force largely results from officer attempts to maintain authority over civilians during face-to-face encounters. Findings further indicate that the nature of the temporal influence greatly differed across variables. For example, civilians disobeying an officer's calm command increases the likelihood of force in the instant it occurs, whereas officers explaining detainment increases the likelihood of force in the post-occurrence period. This finding supports theoretical perspectives considering the actions and reactions of police officers and civilians as key factors in determining exactly when use of force occurs during police-civilian encounters.