Abstract
We examined the impact of extralegal factors on punishment in cases where an adult left a child in the car, and the child subsequently died of hyperthermia. After analyzing 427 cases, it was found that the severity of the sentence associated with the original charge was harsher for defendants who were under the influence of drugs or alcohol or who left the child intentionally. The defendant’s sex, SES, and race did not predict the severity of the charge. However, there was a trend toward African American defendants receiving longer sentences than Caucasian defendants. Paid caregivers received more moderate sentences than parents.

Introduction
Hyperthermia is the reaction of the human body to extremely hot conditions. It has received a great deal of attention in recent years because of the number of children who have died from this condition after they were left in a parked car. Between 1998 and 2016, 700 children in the United States died from vehicular heatstroke. Opinions about whether to prosecute these caregivers vary significantly in the legal system. In fact, the Associated Press reported that charges are only filed in about half of all cases (Breed, 2007). While some of the variation in charges may be explained by individual case differences (e.g., leaving the child intentionally versus accidently or the use of drugs or alcohol by the caregiver), it is also possible that extralegal factors, which should be irrelevant, are impacting decisions. Extralegal factors such as the sex, race, and the socioeconomic status of the defendant or the relationship between the defendant and the victim, may impact legal decisions.

Method
We analyzed 427 cases of child fatalities due to hyperthermia following being left in a vehicle that occurred in the United States between 2000 and 2016. To locate cases, we used the website titled Heatstroke Deaths of Children in vehicles (http://nheatstroke.org/) that was created by Jan Null, CCM of San Jose State University. For each case, the goal was to document the initial charge, the final case outcome, and relevant demographic factors including: the sex, race, and socioeconomic status of the defendant; the relationship between the defendant and the victim; and any other case relevant factors (EX: use of drugs or alcohol by the defendant).

We coded initial charges by CaseMaker X, an academic legal database, to find the maximum sentence associated with the charge. We chose to exclude cases where children got into the car on their own. The charges for cases like these also vary, but we wanted to keep the adult behavior as consistent as possible across cases.

Results & Discussion
Although we analyzed 427 cases of death by hyperthermia that occurred after a child had been left in a vehicle, not all variables could be identified for all cases, so sample size varies across analyses.

Variables tested: Defendant Sex, Race, and SES; Relationship to victim, Intentionality, & Substance Use
While a multiple regression would have been the ideal analysis for this data set, we had too much missing data to make this meaningful. We could not control for the missing data statistically because it was not random. Cases in which charges were filed and those that went to trial had fewer missing data points than those cases where no charges were filed. Instead, we ran separate linear regressions for each of the five predictor variables and used a Bonferroni correction (.05/6 = .008).

Only leaving the child intentionally vs unintentionally (β = -.29, t(244) = -4.72, p < .001) and using drugs or alcohol (β = .20, t(230) = 3.05, p = .003) were significant predictors of the severity of the original charge (as measured by the maximum prison sentence associated with that charge).

With regard to Defendant Race, we were only able to compare Caucasian and African American defendants because the sample size was too small to include other racial groups. While race did not predict severity of original charge, it was noted that when defendants received prison time, there was a trend toward seeing longer sentences given to African American defendants, t(14) = -2.05, p = .06, r² = 23%.

While Relationship to Victim did not significantly predict severity of the original charge, there was a significant difference in sentence received, χ²(4, N = 79) = 11.09, p = .026, φ = .37 between parents and paid providers. (See Table 1)

Conclusion
The factors that contributed significantly to severity of charges were the case relevant factors – the intentionality of the act and substance use by the responsible caregiver. Factors that should not be relevant (defendant race, sex, SES, and the relationship to victim) did not significantly influence charges. There were only small effects of defendant race and relationship to victim (parent vs paid caregiver) when it came to actual sentences.