Criminal Legal Contact, Labor Market Insecurity and Labor Market (Non)Participation – Online Supplement Summaries

The present document provides a brief substantive interpretation of the supplemental models presented in the online repository for this manuscript. Here, we justify supplemental materials and provide model interpretation, comparing supplemental results to the models presented in-text. We note that differing model strategies naturally produce unique findings given model assumptions. However, we note consistent similarities in the direction and magnitude of coefficients across modeling strategies, lending evidence of robustness of results. We break this document down into sections as they are presented in the online repository. We note that assessments of unique legal contact type are interspersed within the supplements, and we interpret them as they are presented.

Section 6 – Supplement – Single Level Models

We provide single-level Poisson models using robust standard errors clustered at the individual level to account for repeated respondent measures. Our main text utilizes a two-level random intercept Poisson model approach which better apportions error and variance at level 1 and level 2. While single level models are less robust in this regard, we feel that they provide initial evidence as to the relationships without transformed values.

In the bivariate, legal contact (any versus none) is positively associated with labor market insecurity ($b = 0.05$, $p < .05$). When controls are added to the model, contact remains positively associated with labor market insecurity but fails to reach statistical significance ($b = 0.02$, *n.s.*). We argue that models using a random intercept approach provide a most robust estimation method to better account for clustering, and thus we defer to those results for final contributions.

Models estimated by arrest, jail, and probation, respectively show similar directionality and significance patterns. In the bivariate, all three values are positively and significantly related to labor market insecurity, but fail to reach significance when additional controls are presented. Such findings lend credence to the dichotomization of these models for parsimony in the main text.

Results examining labor market non-participation again show remarkable similarity to models presented in the main text. Legal contact is negatively associated with time out of the labor market, and insecurity is positively associated with time out of the labor market; results hold in both the bivariate and when values are added to models together. When controls are added, results remain directionally similar but legal contact fails to reach traditional levels of significance. Again, results show consistency across arrest, jail, and probation.

Finally, results examining labor market participation (i.e. time spent searching for work) again show consistency with main-text values. Insecurity and legal contact are positively associated with time spent searching for work. These values hold true even when control variables are introduced. Models again are consistent across arrest, jail, and probation, respectively.

Section 7 – Supplement – Main Models by Type of Legal Contact
We provide two-level random intercept Poisson models broken out by type of legal contact. Results examining labor market insecurity as the outcome show similarity in direction across contact type, but some mild differences in significance. Given moderate relationships presented in the main text, we argue that these results provide general trend consistency.

Primary differences suggest that probation is more robustly related to labor market insecurity, displaying significant, positive values across models. We suggest that individuals on probation may feel uniquely pressured to be successful on the market, as probation officers may require their consistent market participation as a formal condition of probation. Further, jail fails to reach statistical significance as a predictor of insecurity in models including all control variables, which may indicate the range of jail stay that an individual experiences (i.e. detention for a handful of days versus months may lead to greater or less apprehension about returning to the market).

Results examining labor market *non-participation* are near identical to those presented in the main text. All forms of contact are negatively associated with time out of the labor force. The only difference that emerges is that probation remains the only significant predictor of time out of the labor force when all values are added to the model. Again, we suggest that formal conditions of probation may push probationers harder to actively participate in the labor market, reducing their willing disengagement from the market. Otherwise, results are the same across contact type.

Similarly, results examining months searching for work are near identical to those presented in the main text. Arrest, jail, and probation are associated with longer search duration. Further, within-person estimates of insecurity are modestly positively associated with time searching for work (with some coefficients reaching only marginal significance, similar to models in-text), while between-person estimates of insecurity are robustly positively associated with time searching for work.

Section 8 – Supplement – Negative Binomial Distribution
Section 8 provides the attempted code to address negative binomial distributions as an alternative to Poisson distributions. The negative binomial distribution is also appropriate for limited count structure outcome variables. Unfortunately, models failed to converge and thus were abandoned as full supplemental models. We argue that under recent scrutiny, negative binomial models have failed to address relevant concerns regarding overdispersion over repeated measures without additional adjustments and thus we feel that our Poisson models are better suited to the current analyses [1].

Section 9 – Supplement – Outcome: Time Employed
We provide a third outcome of interest: The number of months respondents reported employment in a wave. Respondents reported a high average number of months employed in recall periods ($\bar{x}$ = 18.05, sd = 7.63) though for any given recall period total months employed ranged from 0 to 24. Our models for employment reflect the same methods as those described in the text examining time out of the labor force and time searching for work.

Results suggest that within-individual differences in insecurity are not statistically related to the number of months employed in a recall period. However, between-group differences suggest that higher insecurity is associated with less time employed in a wave (b = -0.04, $p < .001$). In the bivariate, any legal contact is associated with *more* months employed in a wave (b = 0.04, $p < .01$). While counterintuitive, such results are commensurate with our finding that individuals with legal contact spend fewer months disengaged from the market. When all control variables are introduced, between-individual differences in insecurity is the only value that remains significantly related to time employed, indicating that higher insecurity is associated with fewer months employed (b = -0.04, $p < .001$). Legal contact and within-individual differences over time are not significantly related to time employed.

Similar directionality in coefficients is found among arrest, jail, and probation as separate measures of contact. Jail remains significantly related to more months employed in a recall period when all controls are added. Otherwise, results remain stable over type of contact.

Though unexplored as a potential mechanism in this paper, greater months employed as a result of contact may stem from greater need for employment. Individuals may opt to take lower paying jobs as a compromise after spending time on the labor market with unsuccessful search. These are potentially harmful adaptation strategies that impact long-term earnings, but provide short-term relief.

Section 10 – Supplement – Alternative Measures of Labor Market Insecurity

We provide two additional measures of labor market insecurity (i.e. insecurity) to examine whether differences in operationalization of insecurity pose different results. Initially, we intended to provide a factor score operationalizing labor market insecurity through three combined measures: "How often do you worry that you will not have a good job in the future?" (presented in the main text as our final operationalization for insecurity), "In the future, how likely you to be laid off from job?" (hereafter *layoff*), and "In the future, how likely you will have a job that pays well?" Confirmatory factor analyses suggested that these items loaded poorly onto a single underlying factor, suggesting poor overall fit when combined. We explore these items separately as other potential mechanisms, but argue that the latter two measures may be more reflective of job security rather than perceived insecurity.

Generally, all measures of legal contact were statistically unrelated to perceived layoff, though coefficients show similar positive directionality (suggesting that contact is associated with higher perceived chances of layoff). Similar to models presented in-text, between-person differences in perceived likelihood of layoff were positively related to time out of the labor force and positively related to time searching for work, even when controlling for other relevant variables.

Contact was similarly unrelated to perceived chances of getting a job that pays well regardless of type of contact. Again, however, these relationships showed positive directionality suggesting similar trends as those presented in the main text. Results regarding perceived chances of getting a job that pays well diverge slightly from the main text. Coefficients broadly indicate that recall periods in which a respondent perceives higher chances of getting a job that pays well are associated with more time out of the labor force in the subsequent recall period (from a within-person perspective). Conversely, respondents who report higher chances of getting a job that

pays well report less time out of the labor force compared to those who report lower chances of such a job (from a between-person perspective). Effects hold even when control variables are added to models.

It is possible that differences in the between-person measure indicate individual who purposely hold out for higher paying jobs. While this measure may indicate perceived insecurity (with higher insecurity affiliated with lower perceived chances of a well-paying job), it is also possible that this measure is indicative of long-term wage strategies. Individuals who perceive higher chances of a well-paying job in the future may accept work with the hope of upward mobility in the future, thus spending less time out of the labor force.

Individuals who perceive higher chances of a well paying job in a given recall period further report fewer months searching for work in subsequent recall periods. There is inconsistency in the between-person estimates, with some coefficients suggesting more months searching for work and some coefficients suggesting fewer months searching for work. Broadly, this measure shows less consistency in trends across models, indicating that this item may tap into metrics dissimilar from those posed by operationalizations presented in the main text and regarding perceived chances of layoff.

Section 11 – Supplement – Offense Severity and Time Since Last Offense
We examine offense severity (no offense = 0, violent/serious offense = 1, non-violent/non-serious offense = 2) and age at last offense across arrest, jail, and probation. Given the contact-specific nature of these measures, we do not aggregate them to a dichotomous measure.

Result suggest similarity in directionality as compared to coefficients presented in the text, though significance levels vary. Generally, any offense regardless of severity is associated with greater insecurity, though many coefficients fail to reach traditional levels of significance. Further, all levels of offense severity (as opposed to no offense) are associated with fewer months out of the labor force and greater time searching for work. While offense severity and labor market strategies should be examined further, this particular question is outside the scope of the present paper. We are heartened at the consistency in directionality, reifying our decision to use dichotomous measures of contact for our research questions. Results regarding insecurity pose similar coefficient directions, magnitudes, and significance, further suggesting that our operationalizations do not substantively bias our results.

Though we feel that age at last contact (arrest, jail, and probation, respectively) poses a different research question than our focus, we offer this alternative operationalization readers. Generally, age at last contact was not significantly associated with perceived insecurity. However, age at last contact is negatively associated with time out of the labor force and positively associated with time searching for work. Results indicate that respondents with more recent contact spend fewer months out of the labor force and greater months searching for work, findings commensurate with those presented in the main text.

Section 12 – Supplement – Grand Mean Centered Covariates
We examine values that are grand-mean centered as opposed to person-mean centered. We do not reintroduce person means at level two to accommodate the different modeling strategies. We feel

that these model takes away meaningful contributions looking at both within- and between-person estimates, though we present them for readers who are curious.

These models diverge slightly from those presented in the text. However, it is to be expected given the modeling strategy. Person-mean centered values are substantively different than grand-mean centered values, and thus unique results are expected. Main differences suggest that contact is unrelated to insecurity, though values again trend positive and lend support to our models presented in-text. Further, grand-mean centered values of insecurity are positively related to time out of the labor market and time spent searching for work, again supporting values presented in the main text.

Section 13 – Supplement – Age 18 or Older at Recall

We present models when individuals aged 16 and 17 are removed from models. Individuals may matriculate into the Transition to Adulthood Supplement (TAS) when they reach age 18 or when they graduate from high school, whichever transpires earlier in the life course. Several respondents matriculate into the TAS at age 16 and 17. To examine whether these respondents bias models, as they are at a place in the life course that may pose less pressure to perform on the labor market, we estimate models where respondents are excluded until age 18. Results generally remain consistent with some differences in significance.

Contact is again positively associated with perceived insecurity, though values fail to reach traditional levels of significance. Respondents aged 16 and 17 may be less familiar with the labor market and more apprehensive about breaking into this sphere, though we do not test the mechanism of this relationship. In this instance, type of contact does seem to be meaningful, with probation reaching statistical significance as a positive predictor of insecurity. However, trends are highly similar to those presented in text.

Coefficients representing insecurity as related to time out of the labor force and time searching for work remain highly consistent with values presented in-text. Contact similarly reveals a negative relationship with time out of the market in bivariate and restricted models, but fails to reach significance in the full models. Results related to time spent searching for work further remain consistent with values presented in text. Insecurity and contact are both positively related to time spent searching for work.

Works Cited

[1] P. D. Allison and R. P. Waterman, “Fixed-Effects Negative Binomial Regression Models,” *Sociol Methodol*, vol. 32, pp. 247–265, 2002.