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The Role of Gender and COVID-19 on Attitudes Toward Justice-Involved Adolescent Substance Users and Harm Reduction Policies

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Adolescent substance use remains a serious legal and health concern. The current study examines whether reminders of decarceration and health risks that occurred with COVID-19 influence attitudes toward harm reduction policies and justice-involved adolescents with substance use disorders, and whether effects vary by gender. Participants (N = 363) were randomized to one of four vignettes describing an adolescent (male or female) with a substance use disorder arrested for drug use, with or without a description of COVID-19 risks and subsequent decarceration. Attitudes toward the adolescent, harm reduction policies, and justice-involved youth were assessed. COVID-19 nor gender influenced participants' attitudes. This is the first study to investigate COVID-19's impact on attitudes toward drug policy. Limitations, implications, and suggestions for future research are discussed.

Keywords: gender, COVID-19, substance use, justice-involved youth

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Justice-involved youth (JIY) have higher rates of substance use and substance use disorders relative to their non-offending counterparts (Chassin, 2008; Teplin et al., 2002). An estimated range of 22-96% of JIY meet criteria for substance use disorders (Borschmann et al., 2020) relative to 15-16% among all adolescents (Swendsen et al., 2012). Youth substance use is a mental health concern *and* a form of delinquent behavior as youth substance use of any kind is illegal across the U.S. Youth with substance use disorders often experience other psychiatric symptoms (Teplin et al., 2002), but unfortunately, legal involvement resulting from youth substance use can exacerbate these preexisting mental health problems (Dierkhising et al., 2014; Gatti et al., 2009).

Within the juvenile justice system, males represent the majority (71%) of JIY, engage in more serious and frequent forms of delinquency (Ehrmann et al., 2019; Farrington et al., 2009; Gorman-Smith & Loeber, 2005; Loeber et al., 2013; Tracy et al., 2009) and are more likely to recidivate compared to female JIY (Holloway et al., 2022). Unfortunately, existing research on developmental trajectories of JIY (substance-using or not) often focuses exclusively on males or fails to differentiate study outcomes by gender, so evidence as to whether justice system involvement differentially affects females or other gender minorities (e.g., nonbinary youth) is limited. Moreover, as females are among the fastest-growing subgroups in the juvenile justice system (Ehrmann et al., 2019), research on female JIY is an increasingly important area of study.

A brief review of gender differences in risk factors and developmental pathways into the juvenile justice system is provided in the following section. Due to the unfortunately limited scholarship on gender minorities among JIY, for the remainder of this paper, I will focus primarily on the study of trajectories among cisgender female JIY relative to cisgender male JIY. The terms "male" and "female" will refer to self-identified cisgender males and females, respectively.

Gender Differences in Substance Use Among Justice-Involved Youth

There is some, albeit limited, research on differences and similarities in substance use behaviors between male and female JIY. Male and female JIY report similar rates of substance use, but female JIY are more likely to develop substance use disorders (Borschmann et al., 2020; Teplin et al., 2002; Teplin et al., 2006). Although males and females share risk factors (i.e., gender-neutral risks) for substance use, including deviant peers, high impulsivity, and low levels of parental monitoring (Pusch & Holtfreter, 2018; Scott & Brown, 2018) females also possess *gender-specific* developmental pathways and risks for substance use. For example, polyvictimization (i.e., experiencing multiple types of traumatic events and/or chronic trauma exposure) and sexual abuse are more robust predictors of substance use in females compared to males (Baglivio et al., 2014; Conrad et al., 2014; Kerig, 2018; Kerig & Ford, 2014; Modrowski et al., 2021; Weber & Lynch, 2021). Females are also more likely than males to use substances to cope with other psychiatric symptoms, such as post-traumatic stress or depression (Smith & Saldana, 2013). Rates of psychiatric comorbidity among JIY are higher among females (Abram et al., 2003; Copeland et al., 2007; Docherty et al., 2016; McCabe et al., 2002; Wasserman et al., 2005). Conflictual relationships, especially with family members or romantic partners, are a stronger predictor of substance use for females as well (Burgess-Proctor et al., 2016; Cauffman et al., 2007; Kerig, 2014; Kerig & Ford, 2014; Kuhn, 2015; Liu & Miller, 2020; Rusby et al., 2018; Skeer et al., 2011). Taken together, these findings suggest female JIY are more likely to engage in substance use in response to victimization-related experiences and/or problematic interpersonal relationships. Since justice involvement exacerbates preexisting psychiatric symptoms like PTSD and strains interpersonal relationships – both of which are more common among substance-using females (Dierkshing et al., 2014), punitive measures for youth substance use such as arrest or incarceration may be especially harmful to females struggling with substance use disorders.

Harm reduction policies may offer a more promising solution for treating substance use compared to more punitive measures. Studies show harm reduction policies are effective at reducing lethal overdoses (e.g., Marshall et al., 2011; Ritter & Cameron, 2006) and are more cost-efficient than punitive measures (Wilson et al., 2015). Harm reduction principles emphasize and address the complex contextual factors that contribute to substance use. Aside from incorporating strategies like safer drug use techniques (e.g., access to clean injection equipment), managed use, and abstinence to promote the health of substance users, harm reduction principles also emphasize the importance of understanding the structural inequalities that offer a larger context around substance users' lives (e.g., poverty, gender bias, abuse, posttraumatic stress, conflictual relationships as barriers to care; National Harm Reduction Coalition, 2022). One of the core principles of harm reduction is the importance of incorporating sociocultural (e.g., gender identity, cultural values and traditions, race) and risk (e.g., prior victimization, psychiatric comorbidity) factors in treating substance use.

Taken together, harm reduction strategies may be both more effective, cost-efficient, and humane than punitive policies such as detaining individuals for drug use. Congruent with harm reduction principles, feminist criminologists argue that female JIY have specific sociocultural and risk factors that are critical to consider to effectively address substance use among this population (e.g., Bloom et al., 2003; Covington et al., 2007). An overview of theoretical perspectives on female juvenile justice system involvement as it relates to substance use is provided in the subsequent section.

Feminist Criminology Perspectives

Feminist criminologists argue that understanding females' delinquent behavior (including substance use) requires consideration of the female identity more broadly (e.g., Belknap & Holsinger, 2006; Bloom et al., 2007; Chesney-Lind, 2006). They argue gender identity affects every aspect of life – and understanding the position of females in society (e.g., systematic

oppression of females, socialization into gender roles) is critical to understand female behavior since one's gender identity may yield different causal mechanisms for delinquent behaviors. For example, females may engage in substance use as a coping strategy to manage stressors specifically related to one's identity as a female (e.g., using appetite-suppressing drugs to manage societal pressure for females to be thin).

Studies investigating female JIY indicate females are overrepresented in arrests for minor and status offenses (e.g., Ehrmann et al., 2019). This overrepresentation is particularly problematic as there is evidence to suggest female JIY receive harsher sanctions for minor offenses like substance use relative to males (Espinosa & Sorensen, 2016). Scholars hypothesize this disparity may result from cognitive dissonance – i.e., substance-using behavior is incongruent with the classic, docile "female" stereotype – and thus officers or civilians who encounter females engaging in minor crimes are likely to judge their behavior as more extreme because it clashes with this stereotype. This cognitive dissonance is hypothesized to result in harsher sanctions for female JIY (Burson et al., 2019; Pasko, 2008). This disparity in sentencing practices is especially important to consider when other factors may exacerbate the already iatrogenic effects of justice involvement among females, for example, minority stress from representing a minoritized group (i.e., females) within an already marginalized community (i.e., JIY), or stressors resulting from the COVID-19 pandemic.

Juvenile Justice System and COVID-19

The spread of COVID-19 has wreaked havoc on the juvenile justice system. Thousands of youth and staff have been infected, and most juvenile detention facilities were forced to close due to public health recommendations (Rovner, 2021). As a result, COVID-19 accelerated decarceration efforts in the juvenile justice system (Buchanan et al., 2020). In light of the documented iatrogenic effects of involvement in the juvenile justice system, this movement toward decarceration has left many youth advocates hopeful that decarceration could last beyond COVID-19 (Buchanan et al., 2020). More specifically, they hope the success of these decarceration efforts (albeit due to public health concerns from COVID-19) may influence individuals to reconsider support for more punitive policies for youth offenders, such as institutionalization. However, there is also evidence to suggest that threats like COVID-19 often increase support for more conservative policies, (Jost et al., 2003) such as harsh sanctions for youth substance users.

Impact of COVID-19 on Political Views & Public Policy

Prior studies examining individuals' political beliefs and public policy views have shown that increased threat, such as a pandemic, typically causes shifts toward conservativism and increased support for more punitive policies (e.g., legal consequences for adolescent substance use; Beall et al., 2016; Jost et al., 2003). However, a recent study with over 2,000 participants assessed political beliefs and adherence to gender norms in January 2020 and April 2020 and showed the onset of the pandemic was *not* associated with increases in conservative political ideology, but that it *was* associated with increased adherence to gender norms (Rosenfeld & Tomiyama, 2021). This finding is important to consider in the context of female delinquency and the cognitive dissonance hypothesis, i.e., that females are more harshly sanctioned for minor crimes (like substance use) from cognitive dissonance elicited by incongruence between delinquent behavior and female gender norms. Following the cognitive dissonance hypothesis, it is possible that increased adherence to gender norms from COVID-19 could widen disparities in punishment for minor offenses between males and females.

To date, no studies have investigated whether reminders of COVID-19 health threats influence individuals' likelihood to support progressive, harm reduction-oriented policies for justice-involved adolescents with substance use disorders. It remains unclear whether public opinion of juvenile justice reform may be shaped by the COVID pandemic. Multiple studies have indicated that COVID-19 has *not* caused an increase in conservatism as expected, particularly among individuals who identify as liberal (e.g., Rosenfeld & Tomiyama, 2021; Su & Shen, 2021), which suggests reminders of COVID are unlikely to drive individuals to support more conservative policies and/or have more punitive attitudes toward justice-involved adolescents. Thus, it is plausible that if individuals are reminded of the more relaxed, less punitive policies successfully implemented in the juvenile justice system during the COVID-19 pandemic, they may be more willing to endorse furthering the liberal (rather than punitive) policies toward justice-involved youth beyond the pandemic. Literature on decision-making processes suggests individuals are prone to the anchoring bias – i.e., a cognitive bias that leads individuals to rely on a reference point they are given when making decisions (Kahneman et al., 2011). Thus, an "anchor" reminder that COVID-19 resulted in successful decarceration could trigger individuals to increase endorsement for continuing these efforts. However, *if* this effect exists, it is unclear whether it might vary depending on the sex of the JIY. Given the theory that female JIY are more harshly punished for low-level crimes (e.g., substance use) because their delinquent actions contrast with stereotypically female gender norms, it is possible that reminders of COVID-19, which have been shown to increase adherence to gender norms, may not yield the same support for more liberal, harm reduction policies, and/or punitive attitudes toward female compared to male JIY.

The aims of the current study are twofold. Aim 1 is to examine whether a reminder of COVID-induced decarceration policies in the juvenile justice system increases the likelihood of support for treatment vs. punishment for a JIY with a substance disorder, and to determine whether this reminder influences attitudes toward harm reduction policies and/or attitudes toward JIY more broadly. I hypothesize that, in line with the anchoring bias literature, participants will be more likely to endorse treatment vs. punishment for a JIY with a substance use disorder, more likely to support harm reduction policies, and less likely to endorse punitive attitudes toward JIY when assigned to read a vignette with a reminder of decarceration efforts due to COVID-19. Aim 2

Table 1. Sample Demographic Characteristics

Category	% or M (SD)
Gender	
Female	49.44%
Male	50.28%
Transgender	0.28%
Age	44.34 (12.26)
Race/Ethnicity	
Black	6.35%
White	81.50%
Native American	0.55%
Hispanic/Latinx	3.31%
Asian	7.18%
Other	0.28%
Multiethnic/Multiracial	0.83%
Sexuality	
Heterosexual	89.50%
Homosexual	3.60%
Bisexual	5.52%
Other	1.38%
Marital Status	
Single	45.30%
Married	40.06%
Divorced	9.67%
Separated	1.10%
Widowed	2.21%
Other	1.66%
Income	
<$25,000/year	18.78%
$25,000-34,999	11.33%
$35,000-$49,999	17.96%
$50,000-$74,999	23.48%
$75,000-$99,999	14.64%
$100,000-$149,999	8.01%
$150,000-$199,999	3.87%
$200,000 +	1.93%
Residential Area	
Urban	28.45%
Suburban	51.66%
Rural	19.89%
Education	
Less than a high school degree	0.55%
High school degree	27.90%
Associate degree	18.51%
Bachelor's degree	45.03%
Master's degree	6.35%
Professional degree (e.g., M.D., J.D.)	0.28%
Doctoral degree (e.g., Ph.D., Ed.D.)	1.38%
Political Affiliation	
Democrat	51.93%
Independent	23.48%
Republican	21.55%
Other	2.21%
Prefer not to say	0.83%

is to examine whether reminders of COVID-era decarceration differentially impact support for treatment vs. punishment of the JIY with a substance use disorder, as well as attitudes toward harm reduction policies and JIY more broadly depending on sex (i.e., male vs. female) of the offender. I hypothesize that individuals randomized to the female COVID condition will be more likely to have negative attitudes toward the adolescent and punitive attitudes toward JIY in general and that they will be less likely to support harm reduction strategies. I hypothesize that these gender differences will arise due to an increase in adherence to gender norms that have occurred in the context of COVID-19.

Method

Participants

Participants (N = 363) were Amazon Mechanical Turk (MTurk) workers aged 18 and older residing in the United States. MTurk is an online labor market that advertises research surveys to potential workers; it provides convenient, reliable data that are generally more demographically diverse than both college student samples and samples recruited by traditional methods such as listservs or in-person recruitment (Behrend et al., 2011; Burhmester et al., 2011). Participants recruited from Mechanical Turk also provide higher quality data compared to other online recruitment methods (Behrend et al., 2011) in part because Mechanical Turk allows for quality control and validity checks for the research team to review response quality. In the current study, we required worker approval ratings to exceed 90%, and we also included two validity checks at the end of the survey to assess attention to vignette content, in line with recommendations (Buhrmester et al., 2011). Only 292 participants answered both validity checks correctly. There were no significant differences in demographics between those who passed both validity checks and those who did not. Participant demographics of those who passed the validity checks are provided in Table 1.

Procedure

Participants were offered an information sheet describing the study to determine whether they would like to participate instead of providing informed consent, as this study was deemed exempt from consent by the University of Southern California Institutional Review Board (IRB). Exemption status was granted contingent on including warnings to participants of the potentially sensitive topic matter and reminders that they could withdraw from the study at any point and still receive payment on an information sheet before beginning the study. Finally, participants were also provided a debriefing statement upon completion of the study informing them of the intent of the study.

After reading through the information sheet, participants were randomized to read one of four vignettes describing an adolescent whom 1) is struggling with a substance use disorder, 2) was recently arrested for possession and use of an illicit substance, and 3) is now waiting for sentencing by the juvenile court. Participants were randomized to read about either a male or female adolescent, and

vignettes either contained a brief statement about COVID-19 health risks and the impact of COVID-19 in reducing incarceration and youth arrest rates in the juvenile justice system, or no reference to COVID-19 at all. Vignettes are provided in Appendix A. After reading the vignette, participants were asked to answer several survey questions about their impressions of the adolescent, their views on harm reduction policies, their opinions on juvenile offenders more broadly, and their beliefs in stereotypical gender roles. After completing these survey questions, participants were required to answer an attention check on whether the adolescent they read about was male or female, and whether the vignette they were assigned contained information about COVID-19. After completing the attention check, participants were paid $3 through Amazon's MTurk and were provided a debriefing statement on the nature of the study.

Measures

Harm Reduction Acceptability Scale

The Harm Reduction Acceptability Scale is a 25-item questionnaire that assesses individuals' support for harm reduction policies and treatment options for substance use (Goddard et al., 2003). Participants are required to rate their responses from (1) strongly disagree to (5) strongly agree. Example items include "Drug users should be given honest information about how illicit drugs may be used more safely," and "Even if their drug use is stable, women who use illicit drugs cannot be good mothers to infants and young children." The Harm Reduction Acceptability Scale yielded an excellent internal consistency rating of alpha = 0.94 in the current study.

Punitive Attitudes Toward Juvenile Offenders Scale

The Punitive Attitudes Toward Juvenile Offenders Scale (Pickett & Chiricos, 2012) is a 7-item scale that assesses individuals' attitudes toward juvenile offenders and support for the implementation of punitive policies within the juvenile justice system. Individuals are asked to rate statements from (1) not at all supportive to (10) very supportive. Example statements include: "locking up juvenile offenders," and "making sentences more severe for juveniles who commit crimes." Higher scores indicate support for more punitive policies toward juvenile offenders. This scale yielded excellent internal consistency scores of alpha = 0.94.

Harm, Punishment, and Stigma Questionnaire

The Harm, Punishment, and Stigma Questionnaire is a 32-item scale that was adapted from Kelly and Westerhoff's study assessing differences in attitudes toward a person with substance use disorder when using person-first versus disorder-first language (2010). Kelly and Westerhoff developed this scale using items from the 1996 General Social Survey (Pescosolido et al., 1996), a nationwide survey established to assess the public's mental health stigma toward different psychiatric disorders. The authors also included eight items they rationally derived to establish individuals' views on the appropriate legal consequences for a person with a substance use disorder who has violated his probation terms due to struggles with addiction.

Participants were asked to rate how much they disagreed or agreed with a statement on a scale from (1) strongly disagree to (6) strongly agree. Three different subscales emerged based on Kelly and Westerhoff's factor analysis that were also used for this study: the Punishment-Perpetrator subscale, the Social Threat subscale, and the Victim-Treatment subscale (2010). The Perpetrator-Punishment subscale is a measure of how much individuals believe a substance user should be blamed or punished for their behavior. An example of an item on this scale is "His/her problem is caused by poor choices he/she made." Higher scores indicate stronger beliefs that the person who uses substances is culpable and should be punished for their substance misuse. The social threat subscale assesses how much an individual believes that a substance user could cause them harm or pose a threat in social settings; higher scores on this scale indicate *weaker* beliefs that the individual poses a threat to them. An example item on the social harm subscale is "I would be willing to have the adolescent as a neighbor." Finally, the victim-treatment subscale assesses the degree to which an individual believes that a person with substance use disorder is culpable for their substance use problem and how much they deserve treatment for their substance use; higher scores indicate stronger beliefs that the substance user deserves treatment and is not culpable for their substance use disorder. An example item on the victim-treatment subscale is, "The adolescent should be referred to a therapist/psychologist/social worker." The subscales are reliable; the punishment-perpetrator subscale yielded internal consistency ratings of Cronbach's alpha = 0.93; the social threat subscale yielded Cronbach's alpha = 0.91, and the victim-treatment subscale yielded Cronbach's alpha = 0.83 in the current study.

Gender Equitable Men's Scale

The Gender Equitable Men's Scale is a 34-item scale that measures attitudes toward gender norms (Pulerwitz & Barker, 2008). This study has been used with adults and adolescent populations (Pulerwitz & Barker, 2008; Wesson et al., 2022). Higher scores indicate *lower* belief in gender norms, and increased support for gender equity. Example items include, "It is the man who decides what type of sex to have," and "A woman's most important role is to take care of her home and cook for her family." In the current study, this scale yielded an internal consistency of alpha = 0.91.

Statistical Analyses

Randomization

Randomization checks across groups on all demographic variables listed in Table 1 were conducted using Levene's Test of Equality of Error Variances, which is typically used to test between differences in conditions for 2 x 2 ANOVAs. If no significant differences are found in Levene's test it indicates that participant characteristics for each condition are roughly equivalent.

Study Outcome Measures

Two-way analyses of variance (ANOVAs) evaluated participants' attitudes after reading the vignette describing an adolescent with

Table 2. Means and Standard Deviations of Outcome Variables by Vignette Condition

Outcome Variable	Female *M* (*SD*) *n* = 74	Female COVID-19 *M* (*SD*) *n* = 74	Male *M* (*SD*) *n* = 81	Male COVID-19 *M* (*SD*) *n* = 63
Harm Reduction Acceptability Scale	89.79 (23.91)	88.30 (22.45)	84.11 (21.56)	89.08 (21.98)
Harm, Punishment, and Stigma– Punishment/ Perpetrator Subscale	46.69 (11.55)	46.21 (11.86)	45.49 (12.27)	46.48 (13.63)
Harm, Punishment, and Stigma – Social Threat Subscale	14.17 (5.69)	14.11 (4.99)	12.70 (4.91)	13.41 (5.37)
Harm, Punishment, and Stigma– Treatment/ Victim Subscale	32.71 (5.43)	33.28 (5.68)	34.36 (4.68)	33.08 (4.97)
Punitive Attitudes Toward Juvenile Offenders	27.25 (20.10)	29.50 (20.04)	27.67 (18.72)	26.59 (17.60)
Gender Equitable Men's Scale	25.85 (9.13)	24.23 (9.31)	25.18 (9.84)	25.50 (8.93)

Table 3. Two-Way ANOVA Comparisons by Vignette Condition

Outcome Variable	Effect	*F*	*p*	Partial eta^2
Harm Reduction Acceptability Scale				
	gender	0.87	.35	0.003
	COVID-19	0.44	.51	0.002
	gender * COVID-19	1.51	.22	0.005
Harm, Punishment, and Stigma– Punishment/Perpetrator Subscale				
	gender	0.57	.45	0.002
	COVID-19	0.18	.67	0.001
	gender * COVID-19	0.17	.68	0.001
Harm, Punishment, and Stigma – Social Threat Subscale				
	gender	3.13	.08	0.011
	COVID-19	0.27	.61	0.001
	gender * COVID-19	0.39	.53	0.001
Harm, Punishment, and Stigma– Victim/Treatment Subscale				
	gender	1.40	.24	0.005
	COVID-19	0.34	.56	0.001
	gender * COVID-19	2.29	.13	0.008
Punitive Attitudes Toward Juvenile Offenders				
	gender	0.31	.58	0.001
	COVID-19	0.07	.79	0.000
	gender * COVID-19	0.55	.46	0.002
Gender Equitable Men's Scale				
	gender	1.37	.24	0.005
	COVID-19	0.02	.89	0.000
	gender * COVID-19	0.314	.58	0.001

Partial eta square effect sizes are categorized as follows: 0.01 = small, 0.06 = medium, 0.14 = large

a substance use disorder awaiting sentencing depending on sex of the adolescent (male, female) and whether the vignette contained a reminder of COVID-19 disease spread and successful decarceration efforts (COVID reminder, no COVID reminder). Analyses were conducted in SPSS Version 28.0

All statistical analyses were considered significant at $p < .05$.

Results

Randomization

Randomization checks across groups on demographic variables were conducted using Levene's Test of Equality of Error Variances; no significant differences emerged between each of the four conditions in terms of demographic characteristics, indicating that they were roughly equivalent to one another.

Study Outcome Measures

There were no significant differences in support of harm reduction policies by gender of the adolescent or by assignment to COVID condition, nor was there an interaction effect between gender and COVID condition on any of the following scales: Harm Reduction Acceptability Scale, Harm, Punishment, and Stigma Questionnaire (including the Social Threat, Victim/Treatment, and Punish/Perpetrator Subscales), Punitive Attitudes Toward Juvenile Offenders, and Gender Equitable Men's Scale scores. See Table 2 for means and standard deviations of scale scores by condition. See Table 3 for results from analyses assessing for significant differences between means and standard deviations by condition.

Discussion

The purpose of this study was two-fold. The first aim was to determine whether reminders of the health threat of COVID-19 and subsequent, successful decarceration efforts that resulted from the pandemic influenced attitudes toward substance-using JIY. The second aim was to determine whether these reminders of COVID-19 differentially influenced attitudes toward a substance-using JIY depending on the sex of the offender. Contrary to my hypothesis for

aim 1, I found that reminders of the impact of COVID embedded into a vignette describing a justice-involved adolescent struggling with a substance use disorder did *not* influence attitudes toward the adolescent, support for harm reduction policies, adherence to gender norms, nor attitudes toward juvenile offenders more broadly. Analyses comparing scores on scales assessing these domains yielded null results when comparing participants assigned to the COVID vs. non-COVID condition. Contrary to my hypothesis for aim 2, there was no interaction effect between the sex of the adolescent in the vignette and reminders of the impact of COVID on scales assessing attitudes toward harm reduction policies, punitive attitudes toward juvenile offenders, nor one's likelihood to help, punish, or stigmatize the adolescent. Contrary to Rosenfeld and Tomiyama's (2021) findings that the onset of the pandemic led to increased adherence to gender norms, I did not find differences in adherence to gender norms when participants were presented with reminders of COVID-19 health threats. Adherence to gender norms was hypothesized to increase punitive attitudes toward female JIY only, thus, the absence of differences in adherence to gender norms between those assigned to COVID-19 vs. non-COVID-19 vignettes may explain the lack of interaction effect in attitudes toward the juvenile offender by COVID and gender.

Although results were incongruent with study hypotheses, there are several plausible explanations for my findings. These data were collected in April 2022, over two years after shelter-in-place orders were instituted in the United States. Thus, it is possible that after two years the "threat" of the COVID-19 pandemic waned – meaning that a reminder of COVID-19 might not operate as a "threat" that evokes increased adherence to gender norms as it did in Rosenfeld and Tomiyama's 2021 study. Of note, Rosenfeld and Tomiyama (2021) assessed attitudes *before* and *after* the onset of the pandemic, whereas this study assessed differences in attitudes with or without an anchor statement reminding individuals of COVID-19. Testing the effect of an anchor reminding a person of a consequence of a *current* situation compared to assessing attitudes *before and after* the onset of a life-altering event are different phenomena – and thus may explain why the COVID-19 anchor did not influence attitudes toward gender norms as was expected. Moreover, Rosenfeld and Tomiyama (2021) used a different measure assessing endorsement in gender stereotypes than what I used in this study. Although measures in both this and Rosenfeld and Tomiyama's study evaluate the same construct i.e., endorsement of gender equity vs. gender norms, the measure used in the current study included questions about one's endorsement of whether certain *qualities* were truer of men compared to women. In contrast, the measure used in Rosenfeld and Tomiyama's (2021) study includes primarily questions about whether *responsibility* for certain tasks (e.g., household tasks, parenting) varies depending on gender (i.e., cisgender male vs. cisgender female). The scale used to assess adherence to gender norms in Rosenfeld and Tomiyama's (2021) study has not been validated in the evaluation of attitudes toward adolescents and thus was not used in the current study. I instead chose to use the Gender Equitable Norms scale which has been validated in evaluating attitudes toward adolescents (Miller et al., 2012).

It is also possible null effects emerged because participants interpreted decarceration efforts described in the COVID-19 vignettes differently. The description provided in the vignettes simply noted that successful decarceration occurred due to public health concerns related to COVID-19. Although a statement was also provided about lower subsequent arrest rates, it was not made clear whether lower rates resulted from limited opportunities for offending due to shelter-in-place orders or from the adoption of less punitive, perhaps more treatment-centered approaches associated with decarceration. Unfortunately, data was not collected regarding participants' interpretations of the causes of the lower arrest rates. Significant differences in attitudes reported by participants randomized to COVID-19 vs. non-COVID-19 conditions may have emerged depending on interpretation of the vignette. For example, participants who interpreted lower arrest rates to result from the use of a nonpunitive, treatment-focused approach may have been more likely to endorse support for harm reduction policies and/or have more positive attitudes toward juvenile offenders relative to participants who were not randomized to a COVID-19 vignette (i.e., were not provided with a reminder of successful decarceration efforts). In contrast, those who interpreted the statement about reductions in arrest rates to be simply due to shelter-in-place orders that yielded fewer opportunities for arrest may have been more likely to have negative attitudes toward juvenile offenders and harm reduction policies.

Although results did not align with my hypotheses, some aspects of my findings are consistent with prior research. For example, previous studies have found that individuals are open to rehabilitative and treatment-oriented policies for juvenile offenders (e.g., Mears et al., 2016; Nagin et al., 2006; Piquero & Steinberg, 2010), and across conditions, participants' scores on the Harm, Punishment, and Stigma questionnaire indicated that participants generally favored treatment-oriented approaches toward the adolescent described in the questionnaire. Additionally, participants generally had low scores on the Punitive Attitudes Toward Juvenile Offenders scale. There is evidence to suggest that individuals are less likely to have negative attitudes toward juvenile offenders if they consider their developmental stage (i.e., age), and circumstantial factors that may contribute to justice system involvement (e.g., struggling with substance use; Ellis et al., 2018). Age and substance use were emphasized in the vignette, which may have contributed to relatively low scores across conditions on the Punitive Attitudes Toward Juvenile Offenders scale.

Limitations and Future Directions

Perhaps the most obvious limitation of this study is that it assesses individuals' reactions based on a vignette. It is unclear if these findings would translate to instances in which individuals have to make decisions for or against the implementation of harm reduction policies (e.g., voting on propositions during elections; judges' sentences) or punitive policies for juvenile offenders. It is also unclear whether self-reported attitudes toward a justice-

involved adolescent with a substance use disorder described in a vignette would mimic actual behavior and attitudes toward this individual if encountered in real life. On the other hand, vignettes are often utilized by researchers as a feasible and valid method to approximate reactions to hypothetical and/or sensitive situations that would be otherwise difficult to recreate in real life (Erfanian et al., 2020). Moreover, sparsely written vignettes like the ones used in the current study allow participants to fill in those gaps with stereotyped assumptions, which may allow for a more accurate measure of automatic bias rather than other types of vignettes, including detailed video-based stimuli.

Another study limitation is that I only looked at differences in attitudes toward JIY and/or policy between male and female cisgender adolescents, rather than a broad range of gender identities. This was largely due to limited funding; I would not have the statistical power needed to assess for differences in study outcomes by gender identity if I were to include gender-expansive identities (e.g., trans-female, trans-male, non-binary) because I would have fewer participants per condition. Future studies should expand on these findings by assessing differences across multiple gender identities; this would be a particularly important area of research given that gender-expansive individuals are overrepresented among JIY (Irvine & Canfield, 2016).

Additionally, this study only examined adolescent "substance use" more broadly and did not investigate whether type of drug (e.g., cocaine, heroin) use impacts individuals' attitudes toward JIY and/or support for harm reduction or punitive policies for JIY. Moreover, I did not test whether attitudes vary depending on the method of drug administration (e.g., injection vs. oral administration). Future work should explore whether the prime of COVID-19 influences attitudes toward JIY depending on drug type or method of administration, and/or whether there is an interaction by gender for these variables.

Future research should also investigate whether these results remain consistent when youth with intersectional identities (e.g., Black female, Latinx transgender male) are described in the vignette. Due to limited funding, I did not assess the influence of factors such as race or sexuality in addition to gender identity; in the vignette, I made no mention of any other identity variable other than "boy," "girl," and age (fifteen years old). Research shows that youth with multiple marginalized identities are overrepresented in the juvenile justice system (e.g., Conron & Wilson, 2019), largely because they are more likely to receive harsher punishments for delinquent behavior (including substance use) within juvenile justice contexts relative to their white, cisgender male peers (Rubino, 2021). There is also emerging evidence to suggest that these youth are disproportionately affected by COVID-19 (e.g., Maestripieri, 2021; Moore et al., 2021), which highlights the importance of further study on the impact of the pandemic on JIY with intersectional identities.

Finally, the study sample is not representative of the U.S. population. Although research indicates MTurk workers produce similarly convenient and reliable data relative to other populations commonly used in social psychology studies (e.g., college undergraduates, listservs, in-person recruitment; Behrend et al., 2011; Buhrmester et al., 2011), I cannot assume that results generated from MTurk workers would apply to the U.S. population more broadly. To this end, individuals who self-identify as White (85% in study vs. 76% in U.S. population; U.S. Census, 2021) and as Democrats were overrepresented in our sample (51% in study vs. 42% in U.S.; Jones, 2022). Individuals who self-identify as Black (6% in the study vs. 13% in U.S. population; U.S. Census, 2021) and as Republicans (20% in study and 49% in U.S. population; Jones, 2022) were underrepresented in our sample by half or more relative to the U.S. population. As such, findings from the current study may not reflect the perspectives of the American population more broadly.

Strengths and Implications

This is the first study to investigate the intersection of COVID-19 on attitudes toward substance-using JIY by sex. Literature on whether attitudes toward JIY vary by sex of the offender is limited in general; the added layer of COVID-19 makes this study particularly novel. Moreover, given the potential benefits of harm reduction policies (Dutta et al., 2012; Kimmel et al., 2021) and harm caused by punitive policies for youth in the juvenile justice system (Gatti et al., 2009; Cauffman et al., 2021), understanding factors that may predict or influence support for such policies regarding substance-using youth in the juvenile justice system is a public health concern. Substance misuse in adolescence is associated with various negative long-term outcomes, including but not limited to school dropout, continued involvement with the legal system, and lower socioeconomic status. (Larm et al., 2008; Schaefer et al., 2022). JIY are far more likely to be diagnosed with substance use disorders relative to nonoffending counterparts (Borschmann et al., 2020). Thus, policy changes surrounding consequences for adolescent substance, i.e., movements toward implementing treatment-oriented and less punitive measures could improve health outcomes for substance-using JIY. Results of this study suggest that reminders of the health threats of COVID-19 and subsequent effects on decarceration efforts are unlikely to influence public opinion on attitudes toward JIY; therefore, the use of these reminders would likely be ineffective in generating support for decarceration. Continued study of factors that bolster support for decarceration and harm reduction-oriented programs may help foster support for policy change that benefits JIY.

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