

University of Nevada, Reno

**Students' Emotional Reactions and Sentence Recommendations regarding Drug Use
during Pregnancy**

A thesis submitted in partial fulfillment of the requirements for the degree of Master of
Arts in Criminal Justice

by

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ABSTRACT

Researchers have studied drug use during pregnancy, but few have addressed community sentiment about drug use during pregnancy. This study examines individuals' emotional reactions and recommended legal responses (e.g., punishment, rehabilitation) regarding drug use during pregnancy. Specifically, it measured whether recommended punishment or rehabilitation sentences were affected by 1) drug type, 2) severity of the baby's injury, 3) whether the woman quit using during pregnancy, and 4) whether the woman had a previous baby (and that baby's outcome). It investigated the differences between criminal justice, health and other majors as well as possible differences between genders of respondents. While there were no significant response differences between college majors or by gender, results suggest that as the severity of the baby's injury increased the recommended sentences became harsher no matter what drug was used; however, methamphetamine users got the most punitive sentence recommendations while cigarette users got the least. There was leniency in sentence recommendations if the woman quit using drugs during pregnancy and the sentence recommendations were more punitive if there was a previous baby no matter what that baby's outcome was. Finally the study examined whether a doctor should turn in a woman who had a healthy baby, but was known to have used illegal drugs, whether all pregnant women should be drug tested and whether only pregnant women suspected of drug use should be tested. There was strong support for each inquiry.

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TABLE OF CONTENTS

Chapter 1 – Introduction	1
Chapter 2 – Legislative Responses to Drug Use during Pregnancy	4
Chapter 3 – Drug Use during Pregnancy Cases	7
Chapter 4 – Why Studying Emotional Reactions and Sentence Recommendations about Drug Use during Pregnancy is Important	11
Chapter 5 – Research Questions and Hypotheses	15
Chapter 6 – Overview of Study	21
Chapter 7 – Results	24
Chapter 8 – Discussion	32
Chapter 9 – Conclusions	38
References	40
Appendix A – Survey Scenarios	46
Tables	50

List of Tables

Table 1 – Effects of Drug Type on Emotions and Sentences

Table 2 – Effects of Injury Severity on Emotions and Sentences

Table 3 – Differences in Means for Emotional Responses when Woman Quit

Table 4 – Differences in Means for Sentencing Responses when Woman Quit

Table 5 – Differences in Means for Emotional Responses when Woman had Previous Baby

Table 6 – Differences in Means for Sentencing Responses when Woman had Previous Baby

Table 7 – Differences in Means for College Majors' Emotional Responses

Table 8 – Differences in Means for College Majors' Sentence Recommendations

Table 9 – Gender Differences in Means for Emotional Responses

Table 10 – Gender Differences in Means for Sentence Recommendations

Chapter 1 - Introduction

Few images evoke as much negative emotion as pregnant women who engage in behaviors that put their fetus at risk. Statistics show there may be good reason for people to be upset as drug use during pregnancy occurs frequently. The 2004 National Survey on Drug Use and Health (NSDUH), reported 4.6% of pregnant women between 15 and 44 used illicit drugs during pregnancy, 11.2% used alcohol and 18% used cigarettes (Kim & Krall, 2006).

Recently there have been many stories about women being charged and prosecuted for engaging in drug abuse while pregnant. In May of 2008 an Ohio woman was charged with manslaughter after toxic amounts of cocaine were found in the bloodstream of her stillborn baby (Wagner, 2008). In response to cases like this, most states have enacted one of three legal actions; these responses include treating prenatal drug use as a public health problem, making it a child protection issue or dealing with it as a criminal issue (Johnstone & Miller, 2008). The ways in which the legal system deals with the issue is sometimes controversial. For example, critics have argued that government policies that regulate the actions of pregnant women threaten personal autonomy (Colb, 2000). This right has long been recognized by the Fourth Amendment which prohibits “unreasonable searches and seizures.” Thus, states are struggling to come up with a solution that will protect the fetus without infringing on a pregnant woman’s right to personal autonomy.

Societal attitudes often influence legal decisions and lawmakers frequently rely on community sentiment (i.e., attitudes and opinions) when making laws. For instance, the ideological makeup of a legislator’s constituency can affect the legislator’s support for

policies (Oldmixon & Calfano, 2007). If laws are inconsistent with community sentiment, people may lose respect for the government and law enforcement and be less likely to abide by those laws (Tyler, 2006). In order to find out if laws are in accordance with current community views, it is important to study people's attitudes and opinions. For example, in Nevada, those in the healthcare field are required to notify a child welfare agency within 24 hours if they have reasonable cause to believe that a newborn infant has been affected by prenatal illegal substance abuse or have withdrawal symptoms from prenatal drug exposure (Protection of Children from Abuse and Neglect, 2008). This study examines whether student's attitudes and opinions are in agreement with policies like this?

In addition to investigating whether student sentiment is in agreement with the existing laws regarding drug use during pregnancy, the current study also investigates emotional reactions and sentence recommendations regarding drug use during pregnancy and whether they are affected by the following four factors: 1) drug type, 2) severity of the baby's injuries, 3) the woman's efforts to prevent injury by quitting the drug during pregnancy and 4) whether the woman had a previous pregnancy. The study also determines whether emotional reactions and sentence recommendations vary according to the student participants' college major (e.g. criminal justice or health) or gender. Finally, the study examines whether participants think doctors should drug test all pregnant women or only those suspected of drug use and whether they should turn in a woman who used illegal drugs if her baby is born healthy.

This study is important because criminal justice students may eventually develop policies to address problems such as drug use during pregnancy, health students may treat

pregnant women with addiction problems and other students will be part of the general public whose sentiments will be incorporated into community influences. These students are a representation of the attitudes and opinions of those who are in their respective fields.

Chapter 2 - Legislative Responses to Drug Use during Pregnancy

In the 1980s and 1990s the media often focused on the war on drugs (Paltrow, Cohen & Carey, 2000). As increases in drug use during pregnancy were reported different states began enacting legislation that focused on punishing these female offenders by imprisoning them and taking away their children (Miller, 2006). Many legislatures revised civil child neglect or abuse laws to include drug use during pregnancy and more than thirty states around the country have prosecuted women on theories of “fetal abuse” (Paltrow et al., 2000).

Currently, sixteen states consider drug abuse during pregnancy to be civil child abuse. For example, in South Carolina the “homicide by child abuse” law was developed in response to prenatal drug abuse. It states that actions demonstrating an extreme disregard for human life that results in the death of a child younger than eleven years old can result in a homicide prosecution (Coleman & Miller, 2007; *Offenses Against the Person*, 2003).

Wisconsin revised its Children’s Code to assert that its courts have exclusive jurisdiction over unborn children in need of protection or services and can be ordered by the court if the expectant mother lacks self control regarding the use of controlled substances (Children’s Code, 2005; Coleman & Miller, 2007). In 2005, Colorado, Nevada, Louisiana, and Arizona added the criteria of contributing drugs to a minor through the umbilical cord to their definitions of child abuse (Center for Reproductive Rights, 2005; Coleman & Miller, 2007). These legal responses are punitive measures that are meant to deter women from using drugs while pregnant.

Such actions sent the message that drug use during pregnancy would not be tolerated, but critics suggests it deterred women from obtaining prenatal care or drug treatment for fear of the consequences (Coleman & Miller, 2007; Dailard & Nash, 2000). Because of this risk, some states began to take a treatment oriented approach.

Nineteen states, excluding Nevada, created or funded drug treatment programs for pregnant women and seven states provide priority access to state funded drug treatment programs for pregnant women (Dailard & Nash, 2000; Johnstone & Miller, 2008). South Dakota adopted a statute, S.C. Code Ann. § 16-3-85, that allows for a “spouse, guardian, relative, physician, and administrator of a treatment facility, or any other responsible person” of a pregnant woman to petition the court to have the woman committed in order to provide drug treatment to her (Coleman & Miller, 2007; Offenses Against the Person, 2003).

Minnesota has a similar statute, the Minnesota Emergency Admission Statute, which states that any person can be admitted or held for emergency care or treatment in a treatment facility if the person is chemically dependent. This includes a pregnant woman who engages in habitual drug use (Civil Commitments, 2008; Coleman & Miller, 2007). These programs try to provide help for pregnant drug users to protect the fetus and try to keep the family intact once the child is born.

Fourteen states, including Nevada, have reporting requirements that require health care professionals to report prenatal drug exposure if substance abuse is suspected (Coleman & Miller, 2007; Dailard & Nash, 2000). Healthcare professionals in Iowa, Minnesota and Virginia are required to test some or all pregnant women and newborns for drug exposure (Dailard & Nash, 2000). Iowa and Kentucky are the only states where

the results will not necessarily be used for prosecution (Dailard & Nash, 2000). These are some examples of state responses ranging from therapeutic to punitive. In addition to these legislative responses, the courts have also responded to drug use during pregnancy, as discussed next.

Chapter 3 - Drug Use during Pregnancy Cases

On May 20, 2008 Tonya Regina Hairston, of Columbus, Mississippi was charged with culpable negligent manslaughter after toxic amounts of cocaine were found in her stillborn baby's bloodstream (Wagner, 2008). She was sentenced to 12 years in prison (Wagner, 2008). Regina McKnight was recently released from a South Carolina prison in May of 2008 after the South Carolina Supreme Court reversed her 20-year homicide conviction (Paltrow, 2008). She was convicted in 2001 on the charge that cocaine use caused the stillbirth of her baby, but this was found to be a scientifically unsupported claim (Paltrow, 2008).

In May of 2007, the supreme court of New Mexico also struck down the state's attempts to expand child abuse laws to apply to pregnant women and fetuses (Szczepanski, 2007). This came after Cynthia Martinez was charged with felony child abuse in 2003 because she could not overcome her drug addiction (Szczepanski, 2007). Her conviction has been overturned.

These cases demonstrate the controversial nature of drug use during pregnancy. The courts took a punitive approach in these cases, and their responses were challenged. This could be an indication that some of the state laws, discussed above, are not faring well from a legal perspective. This could be due, in part, to arguments raised by critics of these laws. These critics present five erroneous assumptions, discussed next, that have led to the punitive approach regarding drug use during pregnancy.

Assumptions about Perinatal Drug Abuse

Due to the exaggerated stories of the 1980s and 1990s state responses to the perceived drug crisis have been shaped by five misleading assumptions (Marshall, Menikoff &

Paltrow, 2003; Paltrow et al., 2000), which have led to calls for harsher penalties in response to drug abuse during pregnancy (Marshall et al., 2003; Paltrow et al., 2000).

First, it is assumed that all drug-exposed children are seriously damaged at birth; however, scientific studies do not support this assumption (Paltrow et al., 2000). Some newborns may suffer short or long term effects from being exposed to drugs (legal and illegal) in utero, however many infants suffer short or long term effects from factors such as inadequate prenatal care, improper nutrition and fertility drugs as well (Emmanuel, 1999). This means that the symptoms may be difficult to attribute directly to the drugs. In addition, a study found that poverty negatively affects a child's developing brain more than cocaine (Hurt, 1999).

The second assumption is that women who use drugs could simply stop, and failure to do so is a moral failing indicating disregard for the future child's well-being (Paltrow et al., 2000). The United States Supreme Court and the health care community recognize drug addiction as an illness that generally cannot be overcome without treatment (*Linder v. United States*, 1925; Marwick, 1998). Research has shown that many pregnant women who use drugs make an effort to stop or decrease their drug use once they know they are pregnant (Murphy & Rosenbaum, 1999). Thus, it is erroneous to assume that women with addictions do not care about their unborn children.

Third, it is assumed that a woman's use of drugs while pregnant indicates that she would be unable to care for her child once born (Paltrow et al., 2000). One study shows no significant difference between parenting practices for addicted and non-addicted mothers (Boyd, 1999). While more research is needed, it cannot be assumed that drug use during pregnancy is an indicator of an unfit mother.

The fourth assumption is that presupposing neglect and requiring child welfare intervention will protect children and improve their health (Paltrow et al., 2000). The very children that laws such as this have been established to protect are the ones that are suffering from these laws. Studies examining the effects of foster care on children have found that removing them from their homes can cause more psychological damage than the intervention was intended to prevent (Lawrence, Carlson & Egeland, 2006; Wald, 1975). Also, some pregnant drug users avoided seeking help for fear of losing their children (Gehshan, 1993). Consequently, by taking preemptive measures on “neglectful” situations that may not actually occur, children may be placed into environments that are also harmful.

The final assumption is that statutes relying on drug tests as sufficient evidence of neglect and abuse can be administered fairly (Paltrow et al., 2000). Statutes ordering child abuse reporting have not been consistently applied. Research has shown that the majority of women tested and investigated are poor minorities (Coleman & Miller, 2007; Roberts, 1991). In addition to the evidence that mandatory reporting laws are discriminatory towards minorities, this could also mean women in the majority groups who need help may be overlooked because minority women are being targeted disproportionately.

In sum, these assumptions influenced many state laws. They led to punitive measures that were more concerned with punishing pregnant drug users rather than focusing on treatment that could promote the health of the mother and fetus. These state actions led to many unintended consequences like the ones discussed in the previous paragraphs.

As the above review of legislative responses and case law revealed, there is much support for laws concerning drug use during pregnancy (as gauged by the large number of states that have such laws). In contrast, some of the presumptions just discussed raise some significant questions about the health effects of such laws. Because of this controversy surrounding these laws it is important to understand community sentiment as discussed next.

Chapter 4 - Why Studying Emotional Reactions and Sentence Recommendations about Drug Use during Pregnancy is Important

In general, it is important to understand community sentiment because this sentiment often influences whether laws are enacted (Oldmixon & Calfano, 2007; Zgoba, 2004). Community sentiment is frequently influenced by a moral panic when a heinous crime is committed and the media sensationalizes the crime until the community feels something needs to be done about it (Tonry, 2004; Zgoba, 2004). Many times the “solutions” that the moral panics offer are not effective. For example, after Amber Hagerman was abducted and murdered the public was horrified and outraged. In 1996 AMBER Alerts were established to aid in the recovery of abducted children. However, research has shown that the system is not as effective as it is portrayed to be (Griffin, Miller, Hoppe, Rebideaux & Hammack, 2007). The panic about drug exposed children is a topic that has been promoted by the media (Paltrow et al, 2000; Skinner, 1999). As previously discussed, the punitive legislative responses to pregnant drug users by states demonstrates that it is considered a problem. By studying students’ emotional reactions and sentence recommendations regarding drug use during pregnancy their sentiments can be measured against current sentiments to find out if changes should be made on how to deal with the issue. This is important because, as mentioned earlier, if people believe that laws are incongruent with community sentiment this may decrease their perceptions of government legitimacy; this can make them less likely to comply with the law (Tyler, 2006).

The attitudes of college students toward criminal justice issues were rarely focused on prior to 1990 (Hensley, Miller, Tewksbury & Koscheski, 2003). However,

these student attitudes have begun to be studied more in recent years (Benekos et al., 2002; Carlan & Byxbe, 2000; Dull & Wint, 1997; Farnworth, Longmire & West, 1998; Lane, 1997; Mackey & Courtright, 2000; Payne & Coogle, 1998; Payne & Gainey, 1999). Even so, no studies have researched opinions about drug use during pregnancy.

A survey was developed to gauge these students' emotional reactions and sentence recommendations regarding drug use during pregnancy. Different scenarios were described in which pregnant women engaged in drug abuse. A series of questions followed to find out what emotions the scenarios provoked, whether participants felt that treatments or punishments were necessary, and if so what sentence participants recommended. The responses will show what emotional reactions and sentence recommendations tend to be more common between different types of respondents (i.e. men and women or health and criminal justice majors).

Criminal Justice Opinions Regarding Drug Use during Pregnancy

Some Criminal Justice professionals tend to take a deterrent approach because they feel that by punishing the behavior they can deter it (Dailard & Nash, 2000). Others take a more rehabilitative approach, but this often involves things like mandatory treatment which could be seen as violation of rights (Brosh & Miller, 2008).

Health Opinions Regarding Drug Use during Pregnancy

Many medical associations feel that prenatal drug abuse is an issue that should be dealt with through education and treatment (Paltrow & Ehrlich, 2006). Healthcare professionals are critical of interventions such as criminalization or automatic removal of the child (Marshall et al., 2003). Research has shown pregnant women with addictions

will avoid things like prenatal care or going to the hospital in an emergency in order to avoid consequences (Johnstone & Miller, 2008; Poland, Ager & Olson, 1987).

Other Students' Opinions Regarding Drug Use during Pregnancy

It is expected that general community sentiment will take a fairly conservative view on drug use during pregnancy. Morally, many may look down on a woman who behaves in a manner that is seen as compromising the health of her unborn child (Colb, 2000). In addition, because there are so many laws concerning drug use during pregnancy it seems that the public feels something must be done and is in favor of these laws.

The Role of Emotions Related to Participant Responses

Emotions may influence the sentences a participant recommends. Rozin, Lowery, Imada and Haidt's (1999) suggest that contempt, anger and disgust are elicited when a perpetrator has committed a crime; these three emotions trigger "moral outrage" and influence how observers react to the perpetrator. Darley and Pittman (2003) alternatively suggest that anger alone may be enough to trigger moral outrage. Thus, this study will investigate the emotions that are invoked by reading about pregnant drug users, and whether these emotions are related to the response (e.g., rehabilitation, punishment) suggested. Researchers will also investigate whether different groups of participants (e.g., gender, major field of study) report different emotions. Finally researchers will discover whether the manipulations described above (e.g., drug type, severity of injury) affect emotions that participants experience.

Gender and Participant Responses

Gender may play a role in sentence recommendations. A recent study found that males think they should express emotions such as anger, contempt and disgust more than

females, while females think they should express emotions such as fear and sadness or powerless emotions more than males (Safdar, Friedlmeier, Matsumoto, Yoo, Kwantes, Kakai & Shigemasu, 2009). This could imply males will report stronger negative reactions than females. However, in a study by Simon and Nath (2004), it was found that females reported that their anger was more intense and lasted longer than that of males. Simon and Nath (2004) also found that females are more likely to report that they express their emotions in general and this could account for differences between male and female respondents. Another possibility is that individuals tend to treat people from their own group (the in-group) better than members of other groups (out-groups). For instance people tend to judge individual of their own (in-group) gender more leniently than individuals of the other (out-group) gender (Stephan, 1974). However, this in-group favoritism is not absolute. When harm is particularly severe, individuals may demonstrate the “blacksheep” effect (Kerr, Hymes, Anderson & Weathers, 1995). This phenomenon suggests that individuals can be more punitive toward members of their in-group. This occurs because the individual is trying to distance himself from this “blacksheep” that is making the entire in-group look bad. From a different perspective, Fabes and Martin (1991) found that men and women differ in how they express, but not in how they experience, emotions. Specifically, when emotional material is presented in a format, like a survey, the emotional reactions of males and females do not differ. This suggests that males and females will experience the emotions within the survey similarly.

Chapter 5 - Research Questions and Hypotheses

There are five purposes to this study. First, it sought to determine whether community sentiment is in agreement with the existing laws regarding drug use during pregnancy. Second, it sought to determine whether this sentiment varied according to various factors, including severity of harm to the child. Third, it investigated whether community sentiment varied according to the student participants' college major (e.g., criminal justice or health). Fourth it compared whether there were any gender differences in sentiment. Finally, it investigated whether participants believed doctors should test only those pregnant women suspected of drug use or all pregnant women, and whether a woman should be turned in if she used illegal drugs while pregnant even if her baby was born healthy. This is mainly an exploratory study, as attitude toward drug use during pregnancy is largely unstudied. Even so, some general (and tentative) predictions can be made for each of these major research questions.

Effect of Drug Type on Sentence and Emotional Reactions

This study measures individuals' emotional reactions and sentence recommendations toward a variety of scenarios. Although no strong predictions can be made, it is expected that women who smoked cigarettes while pregnant will receive the least punitive sentence recommendations and have the least intense negative emotional reactions (disgust, anger and contempt). Cigarettes are expected to have the highest level of apathy. No predictions are made for sympathy. Alcohol users are expected to receive more punitive sentence recommendations than those who use cigarettes since it has been more prevalent in the media and there are more warnings given to pregnant drinkers. They are also expected to elicit more of the negative emotional reactions. It is expected

that lower levels of apathy will be found for alcohol since warnings are more prominent. No predictions for sympathy are made. Both cigarette and alcohol abusers are expected to have more rehabilitative responses as compared to the other drugs since both are legal.

Given that marijuana is illegal it is expected to draw more punitive sentence recommendations (e.g., prison) and more negative emotional reactions than cigarettes and alcohol, but less than both cocaine and methamphetamine. Due to the harmful effects of cocaine and methamphetamine, the fact that they are illegal, and the prominent media placement of stories regarding these drugs they are expected to draw the most punitive sentence recommendations and elicit the most negative emotional responses. These predictions have intuitive value and the study will investigate whether they prove to be accurate or not.

Effect of Injury Severity on Sentence and Emotional Reactions

Women who had healthy babies are expected to be the most likely to receive recommendations for no punishment as well as elicit more sympathy and have higher levels of apathy as compared to the medium and high injury levels. Women who have low birth weight babies are expected to receive more punitive sentence recommendations than those who have healthy babies and elicit more negative emotional responses in participants. Women who had stillborn babies are expected to receive more of all the sentence recommendations, except no punishment, and elicit the most negative emotional responses as compared to the low and medium injury levels. Again, these hypotheses have intuitive value and will be explored within the study.

Effect of Quitting Drug Use on Sentence and Emotional Reactions

Participants are expected to give lesser sentence recommendations and have less intense negative emotional responses for women who attempted to quit than for those who did not try to quit. More sympathy is also expected for those who tried to quit than for those who did not. No predictions are made for apathy. These hypotheses reflect statutes, such as that in Nevada, that give lesser sentences to women who exposed their child to prenatal drug use but obtain help for their addictions (Protection of Children from Abuse and Neglect, 2008).

Effect of Having a Previous Child on Sentence and Emotional Reactions

Participants are expected to be more punitive in their sentence recommendations when the woman has had a previous child as this would show that her behavior is repetitive. Participants' negative emotional responses are expected to increase if the woman had a previous child as well. Participants are expected to have less sympathy and apathy for those who engage in this repetitive behavior. No study has specifically tested these hypotheses, but this study will investigate whether they are accurate.

In sum sentence recommendations are expected to increase in severity as well as elicit more negative emotional responses as drug types become perceived as more dangerous/harmful and are classified as illegal. As the injury to the baby becomes more damaging, sentence recommendations are expected to increase as are negative emotional responses; however if the mother tried to quit the drug during her pregnancy a more rehabilitative recommendation is expected and negative emotional responses are expected to decrease while sympathy increases. The woman having had previous children is expected to draw more negative emotional responses, less sympathy and more punitive

sentence recommendations due to repetitive behavior. Generally predictions for apathy were not made.

Does College Major Affect Emotional Reactions and Sentence Recommendations?

Students who are health majors are expected to be more attuned to the health consequences of governmental responses (e.g., imprisonment), it is expected that health majors will be more supportive of rehabilitative responses to drug use during pregnancy, as compared to criminal justice and other majors. It is also expected that they will be more sympathetic than criminal justice and other majors since they will understand addiction and what it takes to treat it.

Criminal Justice majors are expected to take the punitive approach, like recommending prison more than rehabilitation, especially when the situation involves a woman who has had a previous child. A possible explanation for this could be that dealing with women who use drugs during pregnancy may be a common occurrence for them and they may view their job as upholding the law, not becoming emotionally involved regarding offenders. Also, the more they encounter the problem, they may become desensitized to the situation and be more likely to respond with anger than sympathy.

Students in other majors are expected to reflect a conservative view regarding drug use during pregnancy. Judgments are passed if a pregnant woman smokes or consumes one alcoholic beverage in public. Drug use during pregnancy for a woman who has already had a previous child is expected to be considered an intolerable behavior. Because of this, sentence recommendations are expected to be fairly punitive (i.e., more rehabilitation, drug education, prison and foster care recommendations) and emotional

responses are expected to reflect more disgust, anger and contempt. Once again, these hypotheses have intuitive value and will be explored within the study.

Does Gender Affect Emotional Responses and Sentence Recommendations?

In a study by Simon and Nath (2004) it was found that women assert that they express their emotions more than men, and report their experience of anger as more intense than men. In an alternate study it was found that men felt they should express emotions such as anger, contempt and disgust more than women, while women thought they should express emotions such as fear and sadness or powerless emotions more than men (Safdar et al., 2009). This could indicate that men will report stronger negative emotions. Another possibility is due to the “blacksheep” effect, discussed earlier in the paper, women may recommend harsher sentences compared to men because they will want to distance themselves from the blacksheep. Thus, even though women are the ones who give birth and it could be hypothesized that they would hold more lenient and sympathetic views about drug use during pregnancy, it is possible that women will recommend more punitive sentences and have a more negative emotional response than men. Alternatively, a study conducted by Fabes and Martin (1991) found that men and women experience emotions similarly when situations are presented in arrangements like visual presentations or surveys. Due to recent studies regarding emotional responses between genders it is expected that females will have stronger emotional responses than males since they are more willing to report emotions, but men will have stronger negative emotional reactions.

Doctors and Reporting Drug Use during Pregnancy

Participants were asked if a doctor should report a woman they know used illegal drugs during pregnancy even if the baby is born healthy. They were also asked if doctors should be required to test all women for drug use or only those they suspect used drugs. It is expected that participants will think doctors should report women they know to have engaged in drug use during pregnancy even if the baby is born healthy. It is also expected there will only be positive support for testing those suspected of drug use since drug testing all women is seen as a violation of fourth amendment rights.

Chapter 6 - Overview of Study

This research will measure students' emotional reactions and sentence recommendations concerning drug use during pregnancy in order to determine whether community sentiment is in accord with the law. Results will indicate whether laws and policies should be changed in light of this student sentiment. The study will also determine if students in criminal justice, public health and other majors differ in their opinions about drug use during pregnancy. Gender differences will also be explored. Additionally, it investigates differences between the sentences recommended for pregnant women who use various types of drugs. It investigates whether recommended punishments (e.g., prison) or therapeutic recommendations (e.g., rehabilitation and drug education) are affected by 1) drug type, 2) severity of the baby's injury, 3) the woman quitting the drug usage during pregnancy, and 4) the woman having a previous baby and the previous baby's outcome. The study will also ascertain participants' views on drug testing pregnant women and whether doctors should turn in a woman they know to have used illegal drugs if the baby is born healthy.

Methods

Procedure

A total of 124 student participants, 83 females, 40 males and one who did not specify a gender or major, completed a survey posted on surveymonkey.com. Students were at a mid-sized university in the western United States. Criminal justice and health majors were recruited to participate in the study, but it was open to all majors. Respondents included 30 criminal justice students, 34 health students and 59 students

who had other majors. The participant who did not specify a gender or major was left out of the analyses that took these factors into account.

Measures

Participants were given 21 scenarios. Some differed in the type of drug that was used (i.e., marijuana, cocaine, cigarettes, alcohol and methamphetamine). Some differed in the harm that the baby experienced (i.e., low birth weight, healthy or stillborn). The scenarios were approximately 20-50 words long.

The first 15 scenarios reflected one of the five drugs listed above and one of the three levels of harm the baby experienced. Three scenarios added the caveat that the pregnant woman had discontinued her methamphetamine drug use in the fifth month, and altered the harm to the baby. Three scenarios where the woman used methamphetamine also added the condition of the woman having a previous baby and varied the harm to the baby. (See Appendix for questions.)

Participants were asked to think about the scenarios, and then tell how much they felt the following emotions: disgust, anger, contempt, sympathy and apathy. They answered on a five point scale from “none or very little” to “a great deal.” They were then asked if the woman should receive any of the following punishments or treatments: rehabilitation (committed to a rehabilitation hospital), prison time, drug education (sentenced to programs like Alcoholic’s Anonymous etc.), place child in foster care or no punishment. This information will indicate the sentiment of criminal justice, health and other students by obtaining their emotions about drug use during pregnancy.

The survey ends with three general yes or no questions about drug use during pregnancy. Participants were asked whether a doctor should turn in a woman they knew

had used illegal drugs during her pregnancy if her baby was born healthy, if doctors should be required to test all pregnant women for drug use, and if doctors should test only those they suspect of drug use.

Chapter 7 - Results

Effects of Drug Type on Emotional Reactions and Sentence Recommendations

In order to determine whether drug type affected recommended sentences and emotional reactions, a series of repeated measures ANOVAs was performed. Separate analyses were performed for each emotion and sentence. These analyses were further broken down by the baby's injury level. For instance, to determine whether participants' level of disgust varied due to drug type, three repeated measures ANOVAs were conducted, one for each injury level. The means for each analysis are presented in Table 1.

Overall, drug type did affect participants' sentence recommendations. Participants were significantly more likely to recommend prison time and foster care to methamphetamine and cocaine users than those who used cigarettes and marijuana. Participants were also more likely to recommend rehabilitation and drug education in conjunction with other sentences for each of the drug and injury types, except cigarettes. Participants were significantly more likely to assign no punishment to cigarette and alcohol users as compared to cocaine and methamphetamine users.

Participants generally had stronger negative (e.g., disgust, anger and contempt) emotional reactions to methamphetamine, cocaine and alcohol than cigarettes and marijuana. Participants had more sympathy for marijuana users, as compared to cocaine and methamphetamine users, whose babies suffered the high injury scenario. Apathy did not vary across drug types. The same general patterns held true for each injury severity type.

Effects of Injury Severity on Emotional Responses and Sentence Recommendations

In order to determine whether injury severity affected recommended sentences and emotional reactions, a series of repeated measures ANOVAs was performed again. Separate analyses were performed for each emotion and sentence. These analyses were further broken down by the drug type. The means for each analysis are presented in Table 2.

Overall, participants generally had more intense emotions in the high injury conditions than in the medium or low injury conditions. Apathy did not vary across injury levels. This held across all drug types. The more severe the injury, the more likely the participant was to suggest any particular sentence. For instance, participants were significantly more likely to recommend prison for the high injury level than for the medium or low levels. Participants were more likely to recommend foster care when the injury level increased as well. They were also significantly more likely to suggest rehabilitation and drug education for all injury levels. The option of “no punishment” did not vary across injury levels.

Differences in Means for Emotional Responses when Woman Quit

A series of repeated measures ANOVAs was again performed to determine whether the woman quitting the drug use affected emotional reactions. These analyses were broken down by injury level. For instance, in order to determine whether participants' emotional level varied due to the woman quitting drug use, three ANOVAs for each emotion were conducted. The means for each analysis are presented in Table 3.

Participants felt significantly more disgust, anger and contempt when the woman did not quit as compared to when she did quit. This pattern held no matter what injury level the child suffered. Participants felt more sympathy for the woman who quit

compared the woman who did not quit, but only in the low and high injury conditions. Finally, participants felt more apathy toward the woman who quit, but only in the low injury condition.

Differences in Means for Sentencing Responses when Woman Quit

Again, a series of repeated measures ANOVAs was performed to determine whether the woman quitting the drug use affected recommended sentences. The analyses were further broken down by injury type. In order to determine whether participants' sentence recommendations varied due to the woman quitting drug use three ANOVAs were conducted for each sentence, one for each injury type. The means for each analysis are presented in Table 4.

In the low and high injury conditions, participants were significantly less likely to recommend each type of sentence when the woman quit using drugs. The same pattern was found for medium injury, except there was not a significant difference for drug education. Participants were more likely to recommend no punishment if the woman quit though there was no significant difference for the medium injury level.

Differences in Means for Emotional Responses when Woman had Previous Baby

In order to determine whether the woman having a previous child affected emotional responses a series of repeated measures ANOVAs was performed. The analyses were further broken down by injury level. For example, in order to determine whether participants' level of disgust varied due to having a previous child, three ANOVAs were conducted. The means for each analysis are presented in Table 5.

In both the medium and high injury conditions, participants felt significantly more disgust, anger and contempt toward the woman who had had a previous child as

compared to the woman who had not. In the low injury condition, having a previous baby did not affect any emotions. Participants' reports of sympathy and apathy did not differ in any condition.

Differences in Means for Sentencing Responses when Woman had Previous Baby

To determine whether the woman having a previous child affected sentence recommendations a series of repeated measures ANOVAs was performed once again. In order to determine whether participants' sentence recommendations varied due to having a previous child, three ANOVAs were conducted. The analyses were conducted for each injury level. The means for each analysis are presented in Table 6.

No matter the injury level, participants were significantly more likely to suggest prison, drug education and foster care for the woman who had had a previous baby as compared to the woman who had not. Participants were more likely to suggest rehabilitation for the woman who had had a previous baby, but only in the medium and high injury levels. Participants were more likely to recommend no punishment if the woman did not have a previous child than if she did have a previous child, but only at the medium injury level.

Differences in Means for College Majors' Emotional Responses

In order to determine whether there were differences between college majors' emotional reactions a series of ANOVAs were performed. Separate analyses were performed for each scenario. The means for each analysis are presented in Table 7. Overall, all majors were statistically similar in the amount of disgust, anger and contempt they felt in the scenarios. The following breakdowns talk about the significance of the scenarios.

Scenarios 1 through 3 dealt with the low, medium and high injury levels for marijuana. Criminal justice majors felt the most apathy while health majors felt the least in the high injury scenario (scenario 3). Scenarios 4 through 6 dealt with cocaine. Criminal justice majors were more apathetic while health majors were the least in each of the scenarios. In the low injury scenario (scenario 6) criminal justice majors were more likely to be sympathetic and health majors were the least. Scenarios 7 through 9 are about cigarettes. Criminal justice majors were more likely to have apathy across all injury levels while health majors had the least. Criminal justice majors also showed more sympathy at the low (scenario 8) and medium (scenario 7) injury levels while health majors showed the least. Scenarios 10 through 12 were about alcohol. Criminal justice majors followed the trend of having more apathy through all of the injury levels while health majors showed the least. In the low (scenario 11) and medium (scenario 10) injury levels criminal justice majors once again felt more sympathy and health majors felt the least. Scenarios 13 through 15 dealt with methamphetamine. Once again, criminal justice majors had the most apathy while health majors showed the least amount for all injury levels. Criminal justice majors had more sympathy while health majors had the least for the low injury level (scenario 14).

Scenarios 16 through 18 asked whether a woman quitting the drug made a difference in emotional responses. Again, criminal justice majors had the most apathy and health majors had the least. Criminal justice majors also felt more sympathy while health majors felt the least at the low injury level (scenario 16). Finally, scenarios 19 through 21 asked whether having a previous baby affected emotional responses. Criminal justice majors showed the most apathy and health majors showed the least.

Differences in Means for College Majors' Sentence Recommendations

In order to determine whether there were differences between college majors' sentence recommendations a series of ANOVAs were performed. Separate analyses were performed for each scenario. The means for each analysis are presented in Table 8. Overall, there is no statistical significance between college majors and the rehabilitation and prison sentence recommendations as well as most of the other (i.e., drug education, foster care and no punishment) recommendations.

Scenarios 1 through 3 involve marijuana and show that criminal justice majors were least likely to recommend no punishment and health majors were the most likely for the medium injury level (scenario 1). In the cigarette scenarios, 7 through 9, health majors recommended drug education more than criminal justice and other majors at the medium injury level (scenario 7) with criminal justice majors recommending it the least. Scenarios 16 through 18 that examined the differences in sentence recommendations if the woman quit her drug use showed health majors recommending drug education the most and other majors recommending it the least in the low injury scenario (scenario 16). In scenarios 19 through 21 that looked at whether having a previous child affected sentence recommendations, criminal justice majors recommended foster care for all injury levels the most while other majors recommended it the least.

Gender Differences in Means for Emotional Responses

To determine whether there were gender differences in emotional responses a series of t-tests was performed. Separate analyses were done for each scenario. The means for each analysis are presented in Table 9.

In the marijuana scenarios, 1 through 3, females felt more disgust at the medium (scenario 1) and high (scenario 3) injury levels, more anger at the high injury level and more contempt at the low injury level (scenario 2) as compared to males. Females also felt more sympathy at the low injury level than males. In the cocaine scenarios, 4 through 6, females felt more disgust at the medium injury level (scenario 4) and more contempt at the medium and low (scenario 6) injury levels as compared to males. In the cigarette scenarios, 7 through 9, females had more disgust and anger at the high injury level (scenario 9) as compared to males. In the alcohol scenarios, 10 through 12, females showed more disgust at the high injury level (scenario 12) as compared to males. In the methamphetamine scenarios, 13 through 15, females had more disgust for the medium (scenario 13) and high (scenario 15) injury levels as compared to males. In the scenarios that looked at whether having a previous baby affected emotional responses, 19 through 21, females had more disgust at the low injury level (scenario 21) as compared to males.

Gender Differences in Means for Sentence Recommendations

Finally, to determine whether there were gender differences in sentence recommendations a series of t-tests was once again performed. Separate analyses were performed for each scenario. The means for each analysis are presented in Table 10.

Overall males and females showed no significant differences between sentence recommendations. In the marijuana scenarios, 1 through 3, females recommended drug education more than males at the high injury level (scenario 3). In the methamphetamine scenarios, 13 through 15, females were more likely than males to recommend prison at the high injury level (scenario 15).

Doctors and Reporting Drug Use during Pregnancy

A Pearson chi-square was run and showed no significance between the genders or different majors for the final three questions. These questions asked whether a doctor should turn in a woman they knew had used illegal drugs even if the baby was born healthy, whether all pregnant women should be drug tested, and whether only women suspected of drug use should be tested. Overall 85.5% of participants supported turning in a woman known to have used illegal drugs even if the baby was born healthy, 70.2% supported drug testing all pregnant women, and 77.4% supported testing only women suspected of drug use.

Chapter 8 - Discussion

The purpose of this paper was to investigate whether emotional reactions and sentence recommendations regarding drug use during pregnancy were affected by: 1) drug type, 2) severity of the baby's injuries, 3) the woman's efforts to prevent injury by quitting the drug during pregnancy and 4) whether the woman had a previous pregnancy. The study also investigated whether emotional reactions and sentence recommendations varied according to the student participants' college major (e.g. criminal justice or health) or gender. Finally, the study researched whether participants' thought doctors should drug test all pregnant women or only those suspected of drug use and whether they should turn in a woman who used illegal drugs if her baby was born healthy.

Are Emotional Responses and Sentence Recommendations in Agreement with Current Laws?

As mentioned earlier, current Nevada laws require those in healthcare professions to report to child welfare services or a law enforcement agency any person they have reasonable cause to believe affected a newborn infant by prenatal illegal substance abuse within 24 hours (Protection of Children from Abuse and Neglect, 2008). However, a notification and referral to an agency is not grounds for prosecution for illegal action. Any person in healthcare who does not make a report is guilty of a misdemeanor. Once a report is made an evaluation is conducted within three days. If the agency determines that an investigation is needed, it has to be conducted within three days after the completed evaluation. The alleged effect of prenatal illegal substance abuse on or the withdrawal symptoms resulting from any prenatal drug exposure can be eliminated if the child and family agree to participate in social or health services offered in the community

(Protection of Children from Abuse and Neglect, 2008). These laws imply that Nevada uses a rehabilitative approach to dealing with pregnant drug offenders if they are willing to participate in drug programs and follow the directions of child welfare services, however Nevada does not have programs targeting these offenders. In conclusion, while Nevada law encourages pregnant drug offenders to seek help, if they are unwilling to do so punishments are set up to deal with these offenders quickly. The research questions, discussed next, will help clarify student sentiment about what laws participants would support.

Did Drug Type Matter? The hypothesis was that illegal drugs (marijuana, cocaine and methamphetamine) would elicit more negative emotional responses, less sympathy and more punitive sentence recommendations. Marijuana, though illegal, does not provoke as many negative emotional responses or punitive sentencing recommendations. This implies that community sentiment may not be in line with current policy classifying marijuana as an illegal drug. Notably alcohol brought out more disgust, anger and contempt than marijuana as well as more punitive sentence recommendations. This was surprising because as a legal drug it was not expected to elicit more negative emotions or punitive sentences than marijuana, an illegal drug. This could be due to the prominent placement of messages (e.g., in the media, on labels) regarding the dangers of drinking alcohol while pregnant.

Did the Injury Level Matter? It was hypothesized that the higher the injury level, the more negative the emotional responses would be and the more punitive the sentence recommendations would be. This was largely true. In addition, participants supported a more comprehensive sentence, adding rehabilitative and drug education services to

punishment (e.g., prison), when dealing with medium and high injury scenarios. This could show support for laws that used a more comprehensive sentence approach.

Did Quitting the Drug Use while Pregnant Matter? The hypothesis was that quitting the drug use while pregnant would elicit less intense negative emotions, more sympathy, and lesser punitive sentence recommendations. Generally this was confirmed. This may indicate support for laws that would create more rehabilitative programs for pregnant drug users so that they will have resources to help them quit.

Did Having a Previous Child Matter? It was hypothesized that having a previous child would bring forth more negative emotional responses as well as more punitive sentence recommendations. Generally this was also confirmed. This indicates that participants feel something should be done about pregnant drug users who have a previous child and engage in the behavior again. Laws establishing more rehabilitative programs may be supported for this situation, however, laws that encourage harsher punishments (e.g., prison sentences) may be supported as well.

Were There Differences between College Majors' Emotional and Sentencing Responses? It was hypothesized that criminal justice students would have stronger negative emotional responses and more punitive sentence recommendations as would other students and health students would have more sympathy and rehabilitative sentence recommendations. It was found that generally there were not significant differences between the majors in emotional responses or sentence recommendations. This may be due to the fact that participants are not yet practicing in their intended fields of study. Criminal justice students were apt to have more apathy while health students had the least. Since crime and justice issues are more salient for criminal justice students they

could become desensitized to situations like drug use during pregnancy. They could also hold the view that their job is to uphold laws and not become emotionally involved.

Health students may have the least apathy because they will work with pregnant drug users and try to aid them in recovery. This may indicate a need for health related courses for criminal justice majors in order to socialize them to health issues.

Were There Gender Differences in Emotional and Sentencing Responses?

Generally, though there were a few scenarios where women had more intense emotional responses, it was not confirmed that females consistently had more emotional responses or that males had more negative emotional responses. Males and females had similar emotional responses confirming that their emotional experiences were comparable when presented with information in a context like a survey. Sentence recommendations were similar as well.

Did Students Agree that Doctors Should Report Drug Use or Suspected Drug Use? The hypothesis was that students would agree that doctors should turn in women who used illegal drugs during pregnancy even if the baby was born healthy. It was also hypothesized that participants would only recommend testing women suspected of drug use. Students overwhelmingly supported turning in a woman who had used drugs during pregnancy even if the baby was born healthy. Surprisingly, students also strongly supported testing all pregnant women for drugs, not just those suspected of drug use even though it's considered a violation of fourth amendment rights. This also indicate that drug use during pregnancy is a serious issue to participants and if there was a law that advocated drug testing pregnant women there may be strong support for it even though it is a violation of her fourth amendment rights. It should also be noted that these last

questions may have been affected by the participant having just read 21 scenarios about drug use during pregnancy which could prime their responses whereas if they hadn't just read all of the scenarios they may not have agreed as much.

As mentioned earlier, community sentiment can influence whether laws are enacted. This study shows that the participants' sentiment is largely in agreement with current laws. Policy makers may want to look into funding for more rehabilitation and drug education services for pregnant drug users. The means indicate a high agreement with rehabilitation and drug education for offenders. In addition to considering a more rehabilitative approach policy makers may want to consider decriminalizing marijuana. Alcohol, cocaine and methamphetamine were regarded much more negatively and garnered more punitive recommendations than marijuana.

Limitations of Study

A limitation of this study includes using a strictly student subject pool which could affect external validity. It may affect the generalizeability of the results to criminal justice, healthcare professionals and those in the general population, however, these students will be going into the fields discussed and are expected to be a general representation of who is currently practicing in the fields of healthcare and criminal justice as well as the general population. There were not that many differences between the college majors in this study, but there could be differences in real life. While right now criminal justice majors, in general, are not more emotional and punitive, years of dealing with these situations may make criminal justice professionals more emotional and punitive. Another limitation of the study is there were significantly more female respondents than male respondents. The limited sample size of males could account for

less accurate representation of the general population for males. A final limitation of the study is that only people in Nevada took the survey which may limit the generalizability of the results to other states. It should also be noted that some order effects could have occurred because all participants read the scenarios in the same order. The final three questions could have been primed for their responses by having just read 21 different scenarios about women who used drugs during pregnancy.

Future Research Recommendations

It is unknown whether this study is generalizable to those outside of the student population. Future research may want to expand to include criminal justice and healthcare professionals in the field as well as more of the general population and a higher sample of males. Future research may also extend the study outside of Nevada in order to see if results are comparable to other states. Due to the results of the study more research regarding community sentiment about marijuana may be beneficial. Future research should also investigate why participants feel all pregnant women should be drug tested. Is it due to things like the prominence of media stories? Reactions may indicate a “moral panic.” These areas may provide insight into how accurate these results are.

Chapter 9 - Conclusions

The purpose of this paper was to see whether factors like drug type, injury level, whether the woman quitting the drug and whether the woman having a previous child influenced emotional responses and sentence recommendations. Generally these factors did influence what respondents felt and recommended. Findings indicate that drug use during pregnancy is considered a problem and something should be done about it. As discussed previously, when laws are out of line with community sentiment people may be less likely to abide by those laws. The following aspects point to possible changes that could help legitimize current laws.

Research suggests that marijuana is not viewed as negatively as alcohol, cocaine and methamphetamine which could indicate support for decriminalizing the drug. Research also showed that participants recommended rehabilitation and drug education in addition to punishments like prison at the medium and high injury levels which supports adding more rehabilitative and drug education services when creating laws to deal with drug use during pregnancy. Criminal justice students were shown to have more apathy than health and other students which could indicate a need for health related courses to educate them about health issues.

Participants also supported testing for those suspected of drug use as well as all pregnant women in general which indicates there would be support for laws that advocated drug testing pregnant women. Because this would be an unreasonable search and seizure, which violates an individual's fourth amendment rights, it is not expected that a law could be passed for mandatory drug testing of pregnant women; however it is interesting that participants would support such a law.

In sum, though student sentiment generally seems to be in agreement with existing laws there is support for more rehabilitation and drug education when dealing with pregnant drug offenders. Caution is advised when supporting changes to laws. For example, the support shown for drug testing all women could be considered a “moral panic,” as discussed previously in the paper, and lead to laws that are ineffective or infringe on people’s rights. Research from this paper suggests that making rehabilitation and drug education services more readily available and adding these services to any punishment a woman receives for using drugs while pregnant may be an effective approach to dealing with drug use during pregnancy. It is important to study ways of dealing with this issue to develop a system that will treat not only the problem, but promote healthier outcomes for offenders.

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Appendix A

Survey Scenarios

Scenario 1: Pregnant woman A is addicted to marijuana. She continues its use throughout her pregnancy. The baby has a low birth weight that the doctor attributes to the marijuana usage.

Scenario 2: Pregnant woman A1 is addicted to marijuana. She continues its use throughout her pregnancy. The baby is born healthy.

Scenario 3: Pregnant woman A2 is addicted to marijuana. She continues its use throughout her pregnancy. The baby is stillborn and the doctor attributes this to the marijuana usage.

Scenario 4: Pregnant woman B is addicted to cocaine. She continues its use throughout her pregnancy. The baby has a low birth weight that the doctor attributes to the cocaine usage.

Scenario 5: Pregnant woman B1 is addicted to cocaine. She continues its use throughout her pregnancy. The baby is stillborn and the doctor attributes this to the cocaine usage.

Scenario 6: Pregnant woman B2 is addicted to cocaine. She uses throughout her pregnancy. The baby is born healthy.

Scenario 7: Pregnant woman C is addicted to cigarettes. She smokes throughout her pregnancy. The baby has a low birth weight and the doctor attributes this to the cigarettes.

Scenario 8: Pregnant woman C1 is addicted to cigarettes. She continues to smoke throughout her pregnancy. The baby is born healthy.

Scenario 9: Pregnant woman C2 is addicted to cigarettes. She smokes throughout her pregnancy. The doctor believes this to be a contributing factor to why the baby is stillborn.

Scenario 10: Pregnant woman D is an alcoholic. She drinks throughout her pregnancy. The baby has a low birth weight that the doctor attributes to alcohol usage.

Scenario 11: Pregnant woman D1 is an alcoholic. She drinks throughout her pregnancy. The baby is born healthy.

Scenario 12: Pregnant woman D2 is an alcoholic. She drinks throughout her pregnancy. The baby is stillborn and the doctor attributes this to the alcohol consumption.

Scenario 13: Pregnant woman E is addicted to methamphetamine. She uses throughout her pregnancy. The baby has a low birth weight that the doctor attributes to the methamphetamine usage.

Scenario 14: Pregnant woman E1 is addicted to methamphetamine. She uses throughout her pregnancy. The baby is born healthy.

Scenario 15: Pregnant woman E2 is addicted to methamphetamine. She uses throughout her pregnancy. The baby is stillborn and the doctor attributes this to methamphetamine usage.

Scenario 16: Pregnant woman E3 is addicted to methamphetamine. She uses it through the first 5 months of her pregnancy, then quits the drug. The baby is born healthy.

Scenario 17: Pregnant woman E4 is addicted to methamphetamine. She uses it through the first 5 months of her pregnancy, then quits the drug. The baby is stillborn and the doctor attributes this to the methamphetamine usage.

Scenario 18: Pregnant woman E5 is addicted to methamphetamine. She uses through the first 5 months of her pregnancy, then quits the drug. The baby is born with a low birth weight which the doctor attributes to the earlier methamphetamine usage.

Scenario 19: Pregnant woman E6 is addicted to methamphetamine. She used throughout her pregnancy. The baby was stillborn and the doctor attributed this to the methamphetamine usage. The woman got pregnant again and continued her drug use throughout the pregnancy. The baby was born with low birth weight and the doctor attributes this to the methamphetamine usage.

Scenario 20: Pregnant woman E7 is addicted to methamphetamine. She used throughout her pregnancy. The baby was born with low birth weight and the doctor attributes this to the methamphetamine usage. The woman got pregnant again and continued her drug use throughout the pregnancy. This baby was born with low birth weight that the doctor once again attributed to the methamphetamine usage.

Scenario 21: Pregnant woman E8 is addicted to methamphetamine. She used throughout her pregnancy. The baby was born healthy. The woman got pregnant again and continued her drug use throughout her pregnancy. This baby was born with a low birth weight that the doctor attributed to the methamphetamine usage.

General Questions:

- If the doctor knows that a woman used any of the illegal drugs listed above (methamphetamine, cocaine, marijuana), but the baby is born healthy, should the doctor report the woman's drug use to authorities?
- Should doctors be required to test all women for drug use?

- Should doctors be required to test women they suspect have used drugs? (If yes, in the comments section, please specify if they should test for any drug (ex. alcohol) or just illegal ones.)

Table 1

Effects of Drug Type on Emotions and Sentences (presented by low, medium, high injury)

	Drug Type				
	Marijuana	Cigarettes	Alcohol	Cocaine	Meth
Disgust					
Low**	3.42	3.56	3.93	3.93	4.24
Medium**	3.63	3.91	4.20	4.04	4.37
High**	4.14	4.22	4.33	4.37	4.53
Anger					
Low**	2.99	3.36	3.77	3.72	4.08
Medium**	3.38	3.76	4.04	3.91	4.25
High**	3.92	4.02	4.19	4.19	4.41
Contempt					
Low**	2.62	2.76	3.03	3.03	3.19
Medium**	2.75	2.99	3.13	3.15	3.32
High*	3.14	3.17	3.20	3.27	3.43
Sympathy					
Low	1.83	1.76	1.79	1.81	1.90
Medium	2.11	2.03	2.00	2.06	2.06
High*	2.41	2.29	2.20	2.17	2.18
Apathy					
Low	1.86	1.78	1.89	1.84	1.85
Medium	1.99	1.96	1.98	1.91	1.91
High	2.10	2.01	1.95	2.03	1.95
Rehabilitation					
Low**	3.90	3.38	4.10	4.37	4.49
Medium**	3.97	3.53	4.19	4.42	4.42
High**	4.16	3.67	4.25	4.50	4.56
Prison					
Low**	2.60	2.30	2.72	3.29	3.53
Medium**	2.81	2.43	3.04	3.53	3.68
High**	3.48	3.03	3.50	3.84	4.04
Drug Education					
Low**	4.17	3.64	4.27	4.41	4.50
Medium**	4.18	3.85	4.33	4.46	4.44
High**	4.36	4.03	4.36	4.51	4.58
Foster Care					

	Low**	2.84	2.33	3.13	3.51	3.74
	Medium**	3.14	2.45	3.22	3.76	3.84
	High	n/a	n/a	n/a	n/a	n/a
No Punishment						
	Low**	2.04	2.43	2.21	1.74	1.90
	Medium**	1.86	2.33	2.15	1.72	1.88
	High**	1.80	2.21	2.05	1.64	1.75

*p< .05

**p< .001

meth = methamphetamine

n/a = This value could not be measured since the baby in the scenario was stillborn and could therefore not be placed in foster care.

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 2

Effects of Injury Severity on Emotions and Sentences (presented by drug type)

		Injury Severity		
		Low	Medium	High
Disgust				
	Marijuana**	3.37	3.63	4.09
	Cigarettes**	3.56	3.94	4.19
	Alcohol**	3.91	4.20	4.31
	Cocaine**	3.92	4.08	4.38
	Methamphetamine**	4.23	4.38	4.50
Anger				
	Marijuana**	3.00	3.39	3.92
	Cigarettes**	3.37	3.77	4.00
	Alcohol**	3.77	4.05	4.17
	Cocaine**	3.72	3.93	4.17
	Methamphetamine**	4.07	4.22	4.38
Contempt				
	Marijuana**	2.61	2.72	3.19
	Cigarettes**	2.77	2.99	3.21
	Alcohol*	2.99	3.08	3.20
	Cocaine**	3.04	3.19	3.34
	Methamphetamine**	3.19	3.28	3.46
Sympathy				
	Marijuana**	1.82	2.15	2.39
	Cigarettes**	1.81	2.06	2.25
	Alcohol**	1.83	2.04	2.18
	Cocaine**	1.85	2.10	2.16
	Methamphetamine**	1.90	2.05	2.12
Apathy				
	Marijuana	1.87	1.95	2.08
	Cigarettes	1.83	1.93	1.96
	Alcohol	1.89	1.95	1.91
	Cocaine	1.88	1.91	1.99
	Methamphetamine	1.84	1.88	1.89
Rehabilitation				
	Marijuana**	3.88	3.95	4.14
	Cigarettes**	3.39	3.52	3.69

	Alcohol*	4.09	4.18	4.25
	Cocaine*	4.36	4.44	4.50
	Methamphetamine*	4.48	4.42	4.56
Prison				
	Marijuana**	2.61	2.77	3.45
	Cigarettes**	2.32	2.42	3.05
	Alcohol**	2.75	3.02	3.48
	Cocaine**	3.31	3.52	3.87
	Methamphetamine**	3.53	3.62	4.02
Drug Education				
	Marijuana**	4.12	4.16	4.34
	Cigarettes**	3.65	3.86	4.03
	Alcohol*	4.25	4.34	4.36
	Cocaine*	4.38	4.47	4.51
	Methamphetamine*	4.49	4.45	4.57
Foster Care				
	Marijuana**	2.82	3.11	n/a
	Cigarettes	2.33	2.42	n/a
	Alcohol	3.14	3.22	n/a
	Cocaine**	3.49	3.75	n/a
	Methamphetamine	3.74	3.84	n/a
No Punishment				
	Marijuana*	2.05	1.86	1.81
	Cigarettes	2.41	2.34	2.23
	Alcohol	2.20	2.14	2.07
	Cocaine	1.77	1.69	1.64
	Methamphetamine	1.90	1.88	1.74

*p< .05

**p< .005

n/a = This value could not be measured since the baby in the scenario was stillborn and could therefore not be placed in foster care.

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 3

Differences in Means for Emotional Responses when Woman Quit

	Emotions				
	Disgust	Anger	Contempt	Sympathy	Apathy
Low Injury					
Used	4.25**	4.08**	3.18*	1.92*	1.84*
Quit	3.58	3.44	2.87	2.14	2.03
Medium Injury					
Used	4.38**	4.21**	3.29*	2.04	1.90
Quit	3.86	3.73	3.01	2.19	2.03
High Injury					
Used	4.50**	4.37**	3.44**	2.14*	1.90
Quit	4.09	3.93	3.12	2.42	2.03

*p < .05

**p < .001

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 4

Differences in Means for Sentencing Responses when Woman Quit

	Sentences				
	Rehab	Prison	Drug Ed.	Foster Care	None
Low Injury					
Used	4.49**	3.54**	4.48*	3.74**	1.90*
Quit	4.03	2.93	4.26	2.91	2.16
Medium Injury					
Used	4.42*	3.64**	4.45	3.83**	1.87
Quit	4.18	3.25	4.36	3.19	2.05
High Injury					
Used	4.56**	4.02**	4.57*	n/a	1.74**
Quit	4.21	3.52	4.41	n/a	2.03

*p < .05

**p < .001

none = no punishment

n/a = This value could not be measured since the baby in the scenario was stillborn and could therefore not be placed in foster care.

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 5

Differences in Means for Emotional Responses when Woman had Previous Baby

	Emotions				
	Disgust	Anger	Contempt	Sympathy	Apathy
Low Injury					
No Previous	4.38	4.22	3.30	2.04	1.87
Previous	4.44	4.29	3.46	1.94	1.87
Medium Injury					
No Previous	4.38*	4.22**	3.30*	2.04	1.89
Previous	4.60	4.52	3.58	2.08	1.89
High Injury					
No Previous	4.38**	4.22**	3.31**	2.04	1.87
Previous	4.69	4.59	3.65	1.95	1.88

* $p < .05$

** $p < .001$

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 6

Differences in Means for Sentencing Responses when Woman had Previous Baby

	Sentences				
	Rehab	Prison	Drug Ed.	Foster Care	None
Low Injury					
No Previous	4.42	3.64*	4.45*	3.84*	1.87
Previous	4.55	3.92	4.58	4.07	1.73
Medium Injury					
No Previous	4.42*	3.64**	4.45*	3.84**	1.88*
Previous	4.64	4.13	4.65	4.34	1.68
High Injury					
No Previous	4.42*	3.64**	4.45**	3.84**	1.88
Previous	4.60	4.26	4.67	4.40	1.69

* $p < .05$

** $p < .001$

none = no punishment

low injury = The mother engaged in drug abuse, but the baby was born healthy.

medium injury = The mother engaged in drug abuse and the baby had a low birth weight.

high injury = The mother engaged in drug abuse and the baby was stillborn.

Table 7

Differences in Means for College Majors' Emotional Responses

	Emotions				
	Disgust	Anger	Contempt	Sympathy	Apathy
Scenario 1					
CJ	3.83	3.50	2.79	2.29	2.18
Health	3.59	3.21	2.55	1.85	1.82
Other	3.53	3.41	2.75	2.24	1.95
Scenario 2					
CJ	3.40	2.93	2.68	2.14	2.00
Health	3.26	2.94	2.53	1.70	1.85
Other	3.39	3.03	2.62	1.72	1.79
Scenario 3					
CJ	4.03	3.90	3.21	2.68	2.59**
Health	4.12	3.79	3.09	2.06	1.74
Other	4.12	3.97	3.20	2.44	2.02
Scenario 4					
CJ	4.13	4.00	3.28	2.50	2.39**
Health	3.79	3.67	3.06	1.88	1.70
Other	4.17	4.02	3.16	2.00	1.78
Scenario 5					
CJ	4.52	4.32	3.33	2.63	2.63***
Health	4.18	3.97	3.18	1.81	1.61
Other	4.42	4.24	3.41	2.14	1.88
Scenario 6					
CJ	4.03	3.75	3.11	2.35**	2.44**
Health	3.68	3.64	3.03	1.65	1.71
Other	3.98	3.73	2.98	1.74	1.68
Scenario 7					
CJ	3.97	3.74	3.07	2.48**	2.48**
Health	3.79	3.56	2.85	1.71	1.68
Other	3.98	3.90	3.07	2.05	1.83
Scenario 8					
CJ	3.62	3.22	2.78	2.26***	2.03***
Health	3.32	3.18	2.41	1.38	1.53
Other	3.64	3.51	2.95	1.83	1.71
Scenario 9					

	CJ	4.00	3.89	2.89	2.59	2.52**
	Health	4.03	3.79	3.00	1.91	1.59
	Other	4.39	4.16	3.44	2.28	1.89
Scenario 10						
	CJ	4.41	4.11	3.26	2.52**	2.48**
	Health	4.15	3.94	2.97	1.68	1.62
	Other	4.14	4.09	3.05	2.02	1.89
Scenario 11						
	CJ	4.03	3.82	3.07	2.22**	2.70***
	Health	3.76	3.62	2.88	1.47	1.47
	Other	3.95	3.86	3.09	1.82	1.74
Scenario 12						
	CJ	4.41	4.25	3.08	2.52	2.59***
	Health	4.15	3.94	3.06	1.79	1.47
	Other	4.37	4.28	3.37	2.25	1.83
Scenario 13						
	CJ	4.55	4.39	3.44	2.58	2.67***
	Health	4.36	4.09	3.33	1.79	1.64
	Other	4.30	4.21	3.21	1.98	1.66
Scenario 14						
	CJ	4.45	4.25	3.30	2.48**	2.69***
	Health	4.32	4.03	3.29	1.65	1.44
	Other	4.09	4.02	3.07	1.82	1.68
Scenario 15						
	CJ	4.59	4.61	3.48	2.48	2.67***
	Health	4.44	4.18	3.38	1.79	1.52
	Other	4.49	4.39	3.45	2.18	1.75
Scenario 16						
	CJ	3.72	3.61	3.00	2.48**	2.52**
	Health	3.56	3.32	2.74	1.76	1.79
	Other	3.47	3.39	2.89	2.20	1.96
Scenario 17						
	CJ	4.21	4.07	3.19	2.48	2.52**
	Health	4.03	3.76	3.12	2.26	1.79
	Other	4.09	3.98	3.12	2.49	1.93
Scenario 18						
	CJ	4.03	3.93	3.19	2.44	2.59**
	Health	3.79	3.53	2.88	2.12	1.76
	Other	3.84	3.77	2.96	2.18	1.91
Scenario 19						
	CJ	4.72	4.71	3.70	2.52	2.56***
	Health	4.68	4.50	3.67	1.65	1.39
	Other	4.68	4.60	3.57	1.93	1.82
Scenario 20						
	CJ	4.66	4.57	3.69	2.52	2.52**

	Health	4.59	4.44	3.53	1.82	1.47
	Other	4.59	4.55	3.52	2.09	1.82
Scenario 21						
	CJ	4.37	4.21	3.46	2.18	2.26**
	Health	4.47	4.26	3.41	1.79	1.47
	Other	4.43	4.33	3.44	1.98	1.89

**p < .05

***p < .01

CJ = Criminal Justice

Table 8

Differences in Means for College Majors' Sentence Recommendations

	Sentences				
	Rehab	Prison	Drug Ed.	Foster Care	None
Scenario 1					
CJ	3.97	2.69	4.03	3.28	1.43**
Health	3.94	2.71	4.29	2.97	2.00
Other	3.95	2.83	4.15	3.12	1.98
Scenario 2					
CJ	3.86	2.59	4.03	2.97	2.14
Health	3.79	2.56	4.15	2.68	2.00
Other	3.93	2.66	4.15	2.83	2.03
Scenario 3					
CJ	4.21	3.60	4.31	n/a	1.89
Health	4.12	3.29	4.44	n/a	1.76
Other	4.12	3.47	4.31	n/a	1.80
Scenario 4					
CJ	4.45	3.37	4.41	3.83	1.54
Health	4.44	3.53	4.56	3.68	1.82
Other	4.41	3.54	4.40	3.75	1.69
Scenario 5					
CJ	4.43	4.11	4.54	n/a	1.63
Health	4.61	3.79	4.61	n/a	1.64
Other	4.48	3.80	4.44	n/a	1.64
Scenario 6					
CJ	4.29	3.24	4.39	3.61	1.70
Health	4.35	3.29	4.44	3.47	1.76
Other	4.40	3.34	4.34	3.44	1.83
Scenario 7					
CJ	3.39	2.44	3.43**	2.50	2.59
Health	3.53	2.15	4.09	2.06	2.44
Other	3.57	2.55	3.93	2.59	2.18
Scenario 8					
CJ	3.29	2.18	3.46	2.32	2.59
Health	3.15	2.06	3.68	2.15	2.59
Other	3.60	2.50	3.71	2.44	2.28
Scenario 9					

	CJ	3.54	2.93	3.89	n/a	2.19
	Health	3.62	2.79	4.09	n/a	2.50
	Other	3.79	3.21	4.07	n/a	2.09
Scenario 10						
	CJ	4.29	2.86	4.39	3.29	2.26
	Health	4.29	2.85	4.47	2.91	2.26
	Other	4.07	3.21	4.23	3.38	2.02
Scenario 11						
	CJ	4.30	2.56	4.29	3.25	2.15
	Health	4.12	2.74	4.38	2.94	2.32
	Other	3.96	2.82	4.17	3.16	2.19
Scenario 12						
	CJ	4.25	3.46	4.36	n/a	2.15
	Health	4.35	3.24	4.42	n/a	2.12
	Other	4.21	3.67	4.34	n/a	1.98
Scenario 13						
	CJ	4.43	3.93	4.57	4.18	1.74
	Health	4.62	3.64	4.53	3.76	1.91
	Other	4.30	3.49	4.34	3.71	1.93
Scenario 14						
	CJ	4.50	3.55	4.57	4.07	1.85
	Health	4.65	3.68	4.62	3.85	1.82
	Other	4.38	3.45	4.37	3.51	1.95
Scenario 15						
	CJ	4.50	4.14	4.57	n/a	1.59
	Health	4.68	4.00	4.65	n/a	1.88
	Other	4.51	3.96	4.52	n/a	1.73
Scenario 16						
	CJ	4.11	2.71	4.43**	2.93	2.11
	Health	4.18	3.06	4.48	2.97	2.09
	Other	3.91	2.93	4.04	2.86	2.22
Scenario 17						
	CJ	4.00	3.66	4.36	n/a	1.74
	Health	4.18	3.56	4.50	n/a	2.15
	Other	4.36	3.43	4.37	n/a	2.07
Scenario 18						
	CJ	4.07	3.31	4.39	3.36	1.85
	Health	4.24	3.24	4.45	3.24	2.18
	Other	4.20	3.23	4.28	3.07	2.07
Scenario 19						
	CJ	4.50	4.24	4.59	4.64**	1.56
	Health	4.71	4.35	4.82	4.59	1.74
	Other	4.59	4.21	4.61	4.18	1.73
Scenario 20						
	CJ	4.61	4.17	4.54	4.61**	1.41

	Health	4.71	4.09	4.79	4.53	1.79
	Other	4.63	4.12	4.63	4.11	1.73
Scenario 21						
	CJ	4.41	4.00	4.59	4.31**	1.50
	Health	4.68	4.00	4.71	4.26	1.71
	Other	4.52	3.81	4.48	3.80	1.84

**p < .05

***p < .01

CJ = Criminal Justice

none = no punishment

n/a = This value could not be measured since the baby in the scenario was stillborn and could therefore not be placed in foster care.

Table 9

Gender Differences in Means for Emotional Responses

	Emotions				
	Disgust	Anger	Contempt	Sympathy	Apathy
Scenario 1					
Male	3.25**	3.13	2.47	1.84	1.92
Female	3.80	3.48	2.81	2.28	1.99
Scenario 2					
Male	3.10	2.68	2.21***	1.53**	2.00
Female	3.48	3.12	2.79	1.95	1.79
Scenario 3					
Male	3.72**	3.53**	2.84	2.08	2.11
Female	4.28	4.07	3.32	2.52	2.05
Scenario 4					
Male	3.75**	3.72	2.68**	1.89	2.00
Female	4.20	4.01	3.38	2.17	1.85
Scenario 5					
Male	4.19	4.03	3.00	2.00	2.11
Female	4.46	4.25	3.48	2.23	1.92
Scenario 6					
Male	3.74	3.55	2.62**	1.67	2.05
Female	3.99	3.78	3.21	1.93	1.77
Scenario 7					
Male	3.67	3.54	2.86	1.97	2.25
Female	4.05	3.87	3.07	2.08	1.80
Scenario 8					
Male	3.51	3.38	2.73	1.84	2.03
Female	3.57	3.34	2.77	1.78	1.71
Scenario 9					
Male	3.82**	3.65**	2.92	2.08	1.94
Female	4.37	4.14	3.31	2.32	1.95
Scenario 10					
Male	3.95	3.97	2.83	1.92	2.17
Female	4.33	4.09	3.18	2.09	1.85
Scenario 11					
Male	3.74	3.68	2.81	1.72	2.11
Female	4.00	3.83	3.12	1.85	1.78

Scenario 12						
Male	3.97**	3.97	2.86	1.97	2.06	
Female	4.48	4.27	3.37	2.27	1.83	
Scenario 13						
Male	4.08**	4.05	3.00	1.86	1.97	
Female	4.52	4.29	3.43	2.15	1.84	
Scenario 14						
Male	3.97	3.89	2.89	1.77	2.09	
Female	4.37	4.16	3.32	1.99	1.73	
Scenario 15						
Male	4.19**	4.19	3.00	1.89	1.94	
Female	4.64	4.46	3.63	2.25	1.88	
Scenario 16						
Male	3.45	3.38	2.57	1.94	2.09	
Female	3.61	3.44	3.00	2.22	2.02	
Scenario 17						
Male	3.89	3.89	2.86	2.11	2.03	
Female	4.20	3.96	3.26	2.56	2.02	
Scenario 18						
Male	3.68	3.68	2.72	1.94	1.97	
Female	3.96	3.77	3.11	2.34	2.05	
Scenario 19						
Male	4.42	4.41	3.39	1.78	1.94	
Female	4.81	4.68	3.74	2.07	1.84	
Scenario 20						
Male	4.42	4.38	3.37	1.86	1.89	
Female	4.69	4.59	3.64	2.22	1.88	
Scenario 21						
Male	4.13**	4.13	3.19	1.70	1.84	
Female	4.57	4.35	3.55	2.10	1.86	

**p< .05

***p< .01

Table 10

Gender Differences in Means for Sentence Recommendations

	Sentences				
	Rehab	Prison	Drug Ed.	Foster Care	None
Scenario 1					
Male	3.85	2.69	4.00	2.92	1.87
Female	4.00	2.80	4.24	3.20	1.86
Scenario 2					
Male	3.67	2.54	3.95	2.59	2.05
Female	3.98	2.65	4.20	2.93	2.05
Scenario 3					
Male	3.97	3.23	4.05**	n/a	1.95
Female	4.22	3.57	4.48	n/a	1.75
Scenario 4					
Male	4.23	3.38	4.38	3.74	1.76
Female	4.52	3.55	4.48	3.75	1.66
Scenario 5					
Male	4.32	3.73	4.35	n/a	1.64
Female	4.59	3.93	4.58	n/a	1.64
Scenario 6					
Male	4.26	3.18	4.34	3.42	1.84
Female	4.40	3.36	4.40	3.52	1.76
Scenario 7					
Male	3.53	2.45	3.74	2.45	2.35
Female	3.51	2.40	3.92	2.41	2.35
Scenario 8					
Male	3.58	2.34	3.63	2.37	2.53
Female	3.32	2.28	3.65	2.31	2.40
Scenario 9					
Male	3.76	2.92	3.95	n/a	2.20
Female	3.65	3.07	4.07	n/a	2.24
Scenario 10					
Male	4.16	2.89	4.14	3.27	2.03
Female	4.20	3.09	4.43	3.20	2.20
Scenario 11					
Male	4.14	2.83	4.14	3.16	2.19
Female	4.06	2.70	4.31	3.10	2.23

Scenario 12						
Male	4.11	3.38	4.24	n/a	2.08	
Female	4.33	3.55	4.43	n/a	2.05	
Scenario 13						
Male	4.30	3.34	4.38	3.70	1.97	
Female	4.48	3.78	4.48	3.89	1.84	
Scenario 14						
Male	4.42	3.43	4.39	3.67	1.83	
Female	4.52	3.59	4.54	3.78	1.91	
Scenario 15						
Male	4.44	3.62**	4.50	n/a	1.71	
Female	4.60	4.20	4.60	n/a	1.76	
Scenario 16						
Male	4.03	2.95	4.08	2.73	2.03	
Female	4.04	2.90	4.33	2.99	2.21	
Scenario 17						
Male	4.19	3.29	4.27	n/a	2.17	
Female	4.23	3.63	4.46	n/a	1.95	
Scenario 18						
Male	4.08	3.13	4.24	3.05	2.00	
Female	4.22	3.31	4.41	3.25	2.07	
Scenario 19						
Male	4.57	4.00	4.58	4.32	1.69	
Female	4.62	4.38	4.70	4.44	1.70	
Scenario 20						
Male	4.65	4.05	4.59	4.38	1.54	
Female	4.64	4.16	4.68	4.33	1.73	
Scenario 21						
Male	4.42	3.77	4.55	3.97	1.59	
Female	4.59	3.98	4.58	4.10	1.78	

**p < .05

***p < .01

none = no punishment

n/a = This value could not be measured since the baby in the scenario was stillborn and could therefore not be placed in foster care.