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Emotional dysregulation and risky sex among incarcerated women with a history of interpersonal violence

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Abstract

Incarcerated women, in comparison to non-incarcerated women, are at high risk for sexually transmitted infections (STIs) and many have experienced interpersonal violence. The psychological construct of emotional dysregulation – which includes heightened intensity of emotions, poor understanding of emotions, negative reactivity to emotion state, inability to control behaviors when experiencing emotional distress, and maladaptive emotion management responses – is a possible pathway to explain the link between interpersonal violence exposure and STI risk. The present study examined maladaptive emotion management responses for emotional dysregulation (i.e., avoidance and numbing, and dissociation) occurring in the context of risky sexual behavior. We collected qualitative data from 4 focus groups with a sample of n=21 incarcerated women (18+ years) from facilities in urban New England. Qualitative data were analyzed using a thematic analysis approach. Findings indicated that incarcerated women reported engaging in a variety of maladaptive responses for emotion management during sexual encounters. These maladaptive responses for emotion management appear to increase sexual risk behaviors and alter women's ability to implement STI protective behaviors such as sexual negotiation and condom use. Preventive interventions to reduce sexual risk behaviors should incorporate strategies

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to promote emotional regulation among incarcerated women with histories of interpersonal violence.

Keywords

HIV risk; prison; women; interpersonal violence; emotional dysregulation; incarcerated

INTRODUCTION

Incarcerated populations are at high risk for sexually transmitted infections (STIs) including syphilis, chlamydia, gonorrhea, and HIV compared to non-incarcerated populations (Chandra et al. 2012). Incarcerated women (18+ years) are particularly vulnerable to STIs compared to incarcerated men as well as the general U.S. population of women (Greenfield and Snell 1999; Hutton et al. 2001). For example, a systematic review showed rates of syphilis were three times higher among incarcerated women compared to incarcerated men. Similarly, a national study of inmates in state and federal prisons documented HIV prevalence of 1.9% among incarcerated women (Maruschak 2012), far higher than the HIV prevalence of 0.6% among the general U.S. population of women (UNAIDS 2012).

Interpersonal violence, including childhood and adulthood physical and sexual abuse, is also highly prevalent among incarcerated women, and is one common explanation for the high rates of STIs in this population (He et al. 1998; Chandra et al. 2012; Stockman, Lucea, and Campbell 2012; Campbell et al. 2008; Wu et al. 2003; Mullings, Marquart, and Hartley 2003; Lewis 2005; Hutton et al. 2001). National data estimated that 50% of incarcerated women have experienced abuse (Harlow 1999). Localized cross-sectional studies of incarcerated women throughout the U.S. including in Ohio, Georgia, and Illinois indicated far higher rates based on self-report, ranging from 68% to 98% (McDaniels-Wilson and Belknap 2008; Blackburn, Mullings, and Marquart 2008; Cook et al. 2005; Cutrone 2010). A study of incarcerated women in California identified an association between childhood trauma and STIs such that an increase of one traumatic event in childhood was associated with a 23% increase in odds of having an STI (Messina and Grella 2006a). Although the association between interpersonal violence and STI risk, particularly HIV is well-established among populations of high-risk women (El-Bassel et al. 2001; Baral et al. 2012; Arriola et al. 2005; Dunkle et al. 2004), less research exists to explain why or how this link occurs, particularly among incarcerated women.

Emotion dysregulation is a psychological construct well-known to result from traumatic experiences (Cole, Michel, and Teti 1994; Gross and Muñoz 1995) and may be an important mechanism linking interpersonal violence victimization with risky sexual behaviors. Emotion regulation is defined as the ability to recognize, understand, express emotions appropriately, and utilize emotional cues to respond with behavioral and cognitive strategies that enhance functioning (Powell 2003). Emotional dysregulation is defined by heightened intensity of emotions, poor understanding of emotions, negative reactivity to emotion state, inability to control behaviors when experiencing emotional distress, and maladaptive emotion management responses for altering the duration and/or intensity of emotional

experiences (Weiss et al. 2013). We focus specifically on one component of emotional dysregulation in our paper, maladaptive emotion management since these behaviors may directly affect sexual risk behaviors, thus may be target areas to better understand how to prevent or diminish risk taking behaviors. Examples of maladaptive emotion management (i.e., maladaptive strategies for altering the duration and/or intensity of distressing emotional experiences) include avoidance and numbing, and dissociation. These strategies for managing strong and intense emotions may result in cognitive or behavioral actions that affect sexual decision making. Avoidance and numbing involves diminished interest and engagement in activities, feelings of detachment from others, and experiences of restricted emotion (Foa, Davidson, and Frances 1999; Asmundson, Stapleton, and Taylor 2004; Honig et al. 1999). Dissociation is characterized by a lack of awareness of self and/or one's surroundings (i.e., feeling “spaced out,” “blackout,” or detached/separate from one's body or surroundings); survivors of interpersonal violence are significantly more likely to report these experiences, especially when presented with trauma reminders, than those without violence exposure (Van Der Kolk et al. 1996). These strategies for managing strong and intense emotions – avoidance and numbing, and dissociation – may adversely affect sexual decision making. We further detail theoretical pathways that might link emotional dysregulation to sexual risk taking via the maladaptive emotion management strategies of avoidance and numbing, and dissociation.

Avoidance and numbing are maladaptive emotion management strategies. Avoidance is volitional avoidance of things that cause distress or arouse anxiety. Numbing is not volitional, and involves the experience of blunted emotions. Avoidance and numbing can increase sexual risk behavior in two ways. First, avoidance and numbing can perpetuate a pervasive sense of threat or diminish accurate assessments of threats. Avoidance and numbing can thus disrupt the appropriate fight-or-flight response, diminish an individual's awareness of their environment, decrease sensitivity to potential cues regarding impending risk (Messman-Moore and Long 2003), or interfere with the correction of inaccurate or negative appraisals regarding safety (Ehlers and Clark 2000). As studies with victims of interpersonal violence demonstrate, this diminished capacity to identify situations of risk or delayed risk perception increases engagement in sexually risky situations (Walsh, DiLillo, and Messman-Moore 2012; Messman-Moore and Long 2003). Second, individuals may try to manage emotions by using alcohol and drugs to avoid or numb intense emotions. However, substance use can further increase sexual risk by skewing perceptions of risky situations, risky sexual partners, and interfere with decision making on implementation of protective sexual behaviors such as negotiating condom use (Donenberg and Pao 2005). Substance use has also been shown to elevate STI risk due to a wide range of negative health behaviors such as sharing of needles or engaging in sex work (Brief et al. 2004). In sum, avoidance/numbing results in a range of negative cognitions and behaviors associated with elevated STI risk (Cavanaugh, Hansen, and Sullivan 2010).

Dissociation is another type of maladaptive emotion management strategy that can increase sexual risk behavior. One response to dissociation is compulsive sexual behavior (Chaney and Chang 2005). Compulsive sexual behavior might result in heightened sexual risk behavior including increased episodes of unprotected sex or sex with partners of unknown HIV status (Benotsch, Kalichman, and Pinkerton 2001; Kalichman and Simbayi 2004).

Similar to avoidance and numbing, individuals may cope with dissociative symptoms by using substances (Seedat, Stein, and Forde 2003). As noted, substance use can alter accurate assessments of sexual risk situations and increase negative health behaviors (e.g., unprotected sex or sex with multiple partners) associated with heightened STI risk and victimization.

These maladaptive strategies for managing emotion dysregulation are one possible explanation for how a history of interpersonal violence might be linked with sexual risk behaviors. Although few studies directly examine emotion dysregulation as a mechanism linking interpersonal violence with risky sex, several studies suggest possible theoretical pathways for this linkage. For example, studies suggest that emotional dysregulation decreases engagement in goal-oriented behavior (Ehring and Quack 2010) while other studies indicate that goal-setting is crucial for implementing protective sexual behaviors (Armitage and Conner 2001) such as condom use (Albarracin et al. 2001). Other studies suggest that emotional dysregulation is linked to decreased risk perception and thus, poor defensive behaviors against sexual perpetrators (Kumpfer et al. 2002). This poor risk perception increases the possibility of re-victimization since individuals who have previously experienced interpersonal violence tend to leave a risky situation later than those who have not experienced previous violence (as measured through vignettes) (Walsh, DiLillo, and Messman-Moore 2012).

We need studies that disentangle how specific aspects of emotional dysregulation – including how the maladaptive emotion management strategies of avoidance, numbing, and dissociation – are associated with sexual risk behaviors. For example, two STI risk reduction interventions among minority populations and at risk adolescents 12–19 years of age explored whether affect management skills in addition to a standard intervention would enhance protective behaviors (DiClemente et al. 2001; Brown et al. 2011). Neither study focused on incarcerated women's experience of emotion management in relation to sexual risk, and neither study qualitatively explored emotion management in relation to risky sexual behaviors. Understanding how maladaptive emotion management strategies might contribute to risky sexual behaviors among a population of high risk women can help inform the design of STI preventive or risk reduction interventions. To our knowledge, the role of maladaptive emotion management strategies in risky sexual behavior has not been examined among incarcerated women with a history of interpersonal violence. Given the high prevalence of STIs and interpersonal violence among incarcerated women, they represent an ideal population for enhancing our understanding of how one specific aspect of emotional dysregulation - maladaptive strategies for emotion management - might contribute to engagement in risky sexual situations for a high-risk population of women. We are guided by the question, “In the context of past victimization, how do emotions affect sex?”

METHODS

Study Setting

This qualitative study consisting of focus groups was conducted in four women's state prison facilities in two Northeastern states in October 2011–April 2012. Two facilities were minimum security and two were medium security. All study procedures were approved by

Brown University (Protocol #1012000314) and by the Departments of Corrections for this study.

Participants and Procedures

Participants were recruited within each prison facility. For recruitment, an announcement was made in common areas and paper slips were provided for women to use to indicate their interest in the study and reviewed by trained research staff. Then, research staff met with potential participants ($n = 47$) privately to tell them more about the study and to screen them for eligibility. To be eligible, participants had to: a) be 18 years or older; b) report experiencing at least one lifetime episode of physical or sexual violence or victimization based on the Trauma History Questionnaire (Green 1996) and c) report at least one episode of unprotected sex with a male in the thirty days prior to incarceration. Of the 47 women screened for eligibility, $n=25$ were eligible, $n=18$ were ineligible ($n = 6$ for no victimization, $n = 12$ for no unprotected sex), 3 were not interested, and 1 was unavailable to be interviewed. All eligible women provided written, signed informed consent, covering the risks and benefits of participating, mandated reporting issues regulated by the state Department of Corrections, and procedures for study confidentiality. Women were also informed that they could withdraw from the study at any time with no penalty. Twenty-one of the 25 eligible and consenting women attended the focus groups. Four (16%) of the 25 eligible and consenting women did not participate because they changed their minds or had scheduling conflicts.

Four focus groups were conducted with 3–8 women each, with the primary goal of gathering qualitative data to inform the development of a treatment program to address the needs of incarcerated women at high risk for STIs due to histories of interpersonal violence and engagement in high risk sexual behaviors. Focus group discussions took place in a private room in each facility and lasted approximately 1.5 hours. Study investigators (JJ and/or CZ) facilitated the focus groups with a second research team member co-facilitating (CK) and a third member taking notes. The discussions focused on the experiences of women in prison more generally, although participants could choose to respond with details on their own experiences if they chose to. The discussions were guided by a semi-structured discussion guide that asked about (1) perceptions of HIV risk, (2) condoms, and (3) sexual situations, safety, and violence. Our analysis focused on the last portion of the guide which explored sexual situations, safety and violence including the question “In the context of past victimization, how do emotions affect sex?” (see Appendix 1). Prior to the start of the focus group, facilitators reviewed informed consent, described the nature of the questions being asked, and described the focus group setting to all participants. Facilitators reminded participants to keep comments made in focus groups confidential but also informed participants that they could not guarantee that other participants would keep comments confidential. Focus groups were audio recorded and the transcripts were transcribed verbatim.

Data Analysis

Our analytical approach was guided by a thematic analysis approach (Braun and Clarke 2006). First, we coded based on the main discussion questions displayed in our semi-

structured discussion guide (see Appendix 1). Codes, corresponding to each of the main discussion questions were generated by three coders (JJ, CK, RR). All coders hold doctoral degrees in different disciplinary fields including clinical psychology, anthropology, and social policy, adding rigor to the coding process by contributing from their different disciplinary perspectives. Initial coding of transcripts was conducted independently. Then, team meetings were used to verify codes and identify coded passages, discussing each transcript line-by-line and reconciling differences using team consensus. Codes were then entered into NVivo 8 software. Based on analysis of aggregate quotes within each code, specific sub code concepts were identified (e.g., numbing) and then subsequently clustered into broader unified themes (e.g., strategies for emotional dysregulation). Summaries of these themes were written by CK and RR and verified by JJ. We show the themes used for the analysis for this paper in Appendix 2. Although up to six focus groups were originally planned, four focus groups provided adequate qualitative data to inform the development of a treatment program, with qualitative data reaching saturation after the fourth focus group. We assessed saturation based on Morse's concept of the saturation an adequate "richness" of data (Morse 1995).

FINDINGS

Participant Characteristics

Participants were a mean age of 34.9 years. The majority of the participants were non-Hispanic white (80%), Hispanic (10%) or mixed race (10%), which is roughly representative of incarcerated women in the Northeast. Sentences ranged from 90 days to 9 years in length. Offenses for current incarceration ranged from prostitution to embezzlement. Many had experienced multiple incarcerations and could share experiences about safe sex after prior releases from prison. Recidivism is common, with over 60% of incarcerated populations in the U.S. facing rearrest, reconviction, or return to prison within 3 years (Langan and Levin 2002). Participants described a wide range of past experiences with interpersonal violence. Interpersonal violence can increase risk for recidivism among incarcerated women, with studies showing that this may be due to male perpetrators coercing women to engage in illegal activities or because women use illegal substances to cope with the emotional and mental health sequelae of victimization (Zust 2009). Sexual violence – including both sexual abuse and rape – was a common occurrence during both childhood and adulthood, perpetrated by family members, casual and regular intimate partners, and by clients of women who were engaged in sex work.

History of interpersonal violence affects sexual experiences

Participants in all four focus groups, and all 21 participants (100%) described how their histories of interpersonal violence affected their experiences and perceptions of sex (see Appendix 1, Code 3.3). First, participants highlighted how interpersonal violence made it difficult for women to engage in both emotional and physical intimacy with sexual partners. *"I had a hard time after he would maybe strangle me or hit me, punch me, whatever he did to me, then those same hands wanted to be tender to me. I couldn't – after a while, I couldn't – those hands couldn't be tender to me anymore. They were the hands that were hurting me, so I didn't want him to touch me anymore because they weren't tender hands anymore."*

Second, some participants described interpersonal violence as an experience that turned women from the role of “abused” to “abuser.” One participant described this process in the following manner, *“I’ve been raped. I was raped from seven to twelve, so it was my stepdad, so to me, it became normal, I guess. The beginning is the pain, and then is I don’t like it, I feel violated, and then it comes dramatic, and then you stay for a couple of years in drama, where all you want is revenge from guys. Then I get raped again, and then I start being an abuser.”* Third, participants described a perception that sexual violence was a common experience for women. *“A man taking it from you, that’s how it happens to a lot of women. It’s happened to me a few times.”* Fourth, participants described a perception of sex as a tool for satisfying other needs that they had. One participant compared sex to a weapon, saying, *“We use sex like weapons. That’s how we use sex . . . we withhold sex because our boyfriend’s not doing something we want. That’s the norm now.”* Finally, many participants viewed sex as a violent experience; one participant described succinctly as, *“To me, the whole sex act is already violent itself.”*

Negative emotions during sex

Not surprisingly, participants described a wide range of strong and primarily negative emotions when anticipating or engaging in sex. This theme was present in all four focus groups, and among 19 (90%) of 21 women (see Appendix 2, sub code 3.2.4) These negative emotions included disgust with the sexual experience as well as sexual partners. *“I felt grossed out by men in general and one touching me like that.”* Other participants viewed sex as a chore, resulting in a reaction of, *“hurry up and finish. Get away from me. Don’t touch me.”* Participants described experiencing a desire for sex to end as quickly as possible. *“They’ve got the stopwatch going. They’re waiting for that three-pump dump type deal.”* Participants also described feelings of guilt during sex, saying, *“Yeah, if you’re – like at first, you’re just like horny or something, and you want to sleep with someone, maybe you’ll feel guilt. You’ll feel guilt, or like – feel like you’re being used, even though you’re the one like trying to use the other person for your needs.”* Women described strong and negative emotions associated with sex within the context of their experiences with interpersonal violence.

Maladaptive coping strategies for emotion dysregulation (avoidance, numbing, and dissociation) during sex

Participants described coping with these emotions in a variety of ways. In all four focus groups, and 16 (76%) of 21 participants described coping with emotions by numbing and avoidance strategies (see Appendix 2, sub code 3.2.1). Several participants describing numbing. One participant described this as, *“You’re cold, you’ve got a block, you’ve got a wall right there, so you ain’t feeling any feelings when you’re doing what you’re doing [having sex]. I numbed myself, that’s how I numbed myself was by getting high. If I wasn’t taking medication like I should have been doing, I was getting high. I always had a numb.”* A participant summarized the relationship between interpersonal violence and numbing in the following way: *“I suffered abuse as a child so it took me a long time to trust a man in that way ... ‘cause I was a very – no other word for it, frigid. Frigid and rigid.”* Similarly, another participant described the process of numbing during a sexual encounter, *“I just became very numb to sex. Like I said, it’s more of a chore than anything to me, with men,*

definitely.” The process of numbing is summed up well in one participant's statement of, “I don't have many emotions during sex anymore ... I think it's more of a chore, like something I have to do if I'm in a relationship.”

Participants also described coping with fears of violence through avoidance strategies. Avoidance included avoidant behaviors and avoidance of feelings. Avoidant behaviors included not vocalizing sexual needs or choosing not to negotiate protective behaviors such as condom use. Avoidance was directly tied to histories of interpersonal violence, with women describing fear of how partners might react to requests for condom use. When asked whether women felt comfortable negotiating condom use with partners, one participant stated, *“I would be afraid of the question”* and went on to describe her partner's likely negative reaction to a conversation about condom use as, *“Why do you want me to use a condom? Are you dirty? Whore. Where have you been?”* The same participant explained that rather than negotiating condom use, she would rather resign herself, stating, *“I'll just let him do what he has to do.”* Similarly, another participant elucidated the relationship between avoidance and interpersonal violence, saying, *“When we talk about putting a condom on, some people are scared to ask men to put a condom on because of their past history.”* One participant described how her stress led her to avoid a condom discussion, *“The stress, or maybe the thought of violence might be happening, or maybe just losing more trust in the relationship and trying to build up, and you don't want them to think you have something, or that it's your fault. Men are very good at flipping it, like just a couple words make us feel this big so quick. Just a couple words and they shoot us down, break us down, break us in half. It's like—you're like you've got a cement block on your chest. You're like, “Oh, my God, why would they do that? Why would they say that?” Then you're like, “It's my fault; I should have never asked him to put a condom on.”* Thus, participants avoided communicating with sexual partners about their desires and needs for fear that this conversation would escalate into violence. *“You don't wanna get hurt or abused or anything like that so you're just gonna give in whether you want to or not.”*

Participants primarily described avoiding strong negative feelings associated with sex through substance use. This theme emerged in three focus groups, with nine (43%) of the 21 participants describing use of substances and alcohol to avoid strong emotions during sex (see Appendix 2, sub code 3.2.6). For example, many participants stated that they would not have been able to engage in sex if they did not first use drugs and alcohol: *“Being high helps a lot, even in my wanting to have sex. I feel like sometimes when I'm running, I feel like I couldn't even have sex if I wasn't high.”* Another participant described how drugs and alcohol helped her to cope with the strong negative emotions she experienced during sex: *“I feel guilty, like I shouldn't be doing it [having sex]. I feel gross, like feeling like I have to be high or I have to be drunk.”* Another participant described that her substance-induced avoidance allowed her to completely disengage from the sexual experience. She stated that she would, *“Get high. If I'm high, there's many encounters that I'll never remember, so I couldn't tell you what I was feeling at that point. It's kind of like if somebody works at McDonald's, they forget what their favorite menu item is. Sooner or later, all the food starts tasting the same because it's all made with the same thing, just different combinations.”*

Participants also described coping with emotional dysregulation by dissociating from sexual experiences. This theme emerged in three focus groups, with nine (43%) of 21 participants describing dissociation during sex. Participants described dissociation as the feeling that they “*just want it [sex] over and done with.*” Other participants described the process of dissociating during sex as, “*I don't really think anything. I can't even identify what I'm thinking, except, what am I going to get out of this? You just had sex with a guy, why? You feel disgusting all over again.*” Participants were less likely to articulate explicit associations dissociation and risky sex, compared to describing how numbing and avoidance affected sexual behaviors. Those who did explicitly describing how dissociation affected sex suggested that this maladaptive coping strategy increased risky sexual situations and behaviors. For example, avoidant coping through the use of drugs and alcohol elevated STI risk by impairing participants' ability to assess risk and by decreasing the likelihood of engaging in protective behaviors. As one participant stated, “*when I'm using, I don't think about all that. I don't think about safe sex. I don't think about my safety, period. I don't think about well—who that man's been with, how many females he's been with, never mind myself.*” Dissociation elevated risk for STI because participants are not actively engaged in risk assessment or decision making. As one participant described, “*I could leave jail and be like, I'm going to use protection. I'm going to stop prostituting. I'm going to try to be normal, or whatever. But when I'm right there, I don't make those decisions. They're pre-made answers. It's like when I'm in a situation with a guy. It's like someone in my head presses a play button and I do it.*”

DISCUSSION

To our knowledge, few studies have elaborated on the specific aspects of emotion dysregulation that might lead to sexual risk behavior, especially among incarcerated women with a history of interpersonal violence. The present study expands upon our understanding of how emotional dysregulation might be linked to increased STI risk by examining one specific component of emotional dysregulation – maladaptive emotion management responses – might be linked to risky sexual experiences. Participants described a wide range of strong and negative emotions associated with sex ranging from disgust to guilt. A range of maladaptive emotion management responses (e.g. avoidance, numbing, and dissociation) were used to cope with these strong and negative emotions within a risky sexual context. The use of these maladaptive emotion management responses increased engagement in their risky sexual behaviors and elevated their risk of STIs in three main ways. First, women who experienced numbing were not engaged in the “moment” during potentially sexually risky situations. Second, women who implemented avoidant behaviors to diminish strong emotions, had difficulty implementing protective behaviors such as negotiating with sexual partners around sexual needs and use of condoms. Women using substances as an avoidant coping mechanism also faced impaired assessments of sexually risky situations and partners. Third, dissociation diminished women's capacity to engage in healthy sexual decision making, and also led to women to engage in compulsive behaviors such as paid sex work and sex with partners of unknown status (Paul et al. 2001). Taken as a whole, these narratives reveal that incarcerated women with histories of interpersonal violence use a

number of maladaptive strategies to manage strong emotions within sexual situations, which have increased their vulnerability for STI infection and re-infection.

Our findings complement the handful of few studies that have examined how emotion dysregulation might be linked with sexual risk behavior among vulnerable populations. For example, our finding that avoidant behaviors might serve as one possible pathway through which emotion dysregulation increases sexual risk behavior is consistent with a study on women from the general population with a history of child sexual abuse (Messman-Moore, Walsh, and DiLillo 2010). Similarly, our finding that numbing could lead to sexual risk behavior, including through the use of substance has been found in related high risk populations such as drug users (Knight et al. 2005) and is consistent more generally with studies that document the association between numbing and sexual risk behaviors (Cavanaugh, Hansen, and Sullivan 2010). Finally, our finding on the role of dissociation in sexual risk behavior confirms the link posited by existing theoretical models (Miller 1999) and closely parallels findings from the literature that found dissociation to be related to sexual victimization (DePrince 2005; Testa, VanZile-Tamsen, and Livingston 2007) by affecting decision making (Noll et al. 2003).

Interestingly, while some participants were able to articulate the linkage between emotional dysregulation and risky sexual behaviors, other women seemed to have difficulty articulating this linkage. It is possible that the link was not there for them. Alternately, women may have difficulty in identifying the linkage between maladaptive coping strategies and sexual risk behaviors, particularly for dissociation and numbing. This is because these maladaptive coping strategies make it inherently difficult to cognitively process and remember how emotional dysregulation is linked to sexual risk behaviors.

Our findings extend upon the work on violence and HIV risk in several ways. First, much of the existing literature focuses on the relationship between intimate partner violence and HIV (Campbell et al. 2008; Gielen et al. 2007; Seth et al. 2010). Our study broadened the scope from intimate partner violence to interpersonal violence and this is important because incarcerated the prevalence of violence among incarcerated women is often perpetrated by non-intimate partners such as family members, friends, or strangers (Tripodi and Pettus-Davis 2013; Raj et al. 2008; Messina and Grella 2006b). Second, our expanded focus on sexual risk behaviors which might result in other STIs including but not limited to HIV might be helpful given the link between the epidemic STIs with different forms of interpersonal violence (Greenberg 2001; Stockman, Lucea, and Campbell 2013; Arriola et al. 2005; Wilson and Widom 2008). Finally, few studies have examined the link between emotion dysregulation and STI risk among incarcerated women. Other studies exploring emotion management as a mechanism linked to sexual risk have focused on adolescents (Brown et al. 2008; DiClemente et al. 2001), or college women in relation to HIV (Roemmele and Messman-Moore 2011). Expanding our understanding of emotion dysregulation and STI risk among a high risk population of women such as incarcerated women with histories of interpersonal violence can offer additional insight into this relationship.

There are several limitations to our study. First, due to the potentially sensitive nature of discussion topics focused on STIs, interpersonal violence, and sexuality, participants may have censored their experiences and opinions in the group discussion. This might particularly be the case in the incarcerated context where women are living with each other. Second, it is unknown if our results are generalizable to other incarcerated populations and settings, or other victimized women, which could vary due to cultural and community differences. Third, we did not verify the STI including HIV status of women using biological testing and the women's responses might have varied by their status. Finally, the qualitative nature of our study limited our ability to quantify statistical associations between various maladaptive emotion management responses and STI risk behaviors and to assess temporal relationships between interpersonal violence, emotion dysregulation, and STI risk behaviors. Further, a longitudinal prospective study would contribute to our understanding of how emotion management responses alter STI risk behaviors in this population of women.

Despite these limitations, we believe our study has the potential to inform the development of STI interventions for incarcerated women with histories of interpersonal violence. Developing evidence-based interventions for this population is critical for protecting the health of female prisoners, particularly given increasing incidence of STIs among women, and a rapidly growing female prison population (Sabol, Minton, and Harrison 2007). Specifically, our findings suggest that STI preventive interventions for incarcerated women who have a history of interpersonal violence may need to incorporate skills-based training on emotional regulation. Interventions that have targeted emotional regulation skills have been successful with survivors of interpersonal violence in reducing their trauma-related symptoms (Zlotnick et al. 1997) and in reducing HIV risk among adolescents affected by trauma (Brown et al. 2011) and non-incarcerated women (Wyatt et al. 2004). Similar interventions need to be developed and tested for incarcerated women.

Appendix

Appendix 1

Partial Focus Group Discussion Guide for Incarcerated Women at Risk for HIV

Discussion Section 1: HIV Risk

- 1.1. Under what circumstances do women leaving prison use protection?
- 1.2. How do drugs and alcohol affect women's decision-making about protection?
- 1.3. How do women get HIV?
- 1.4. How concerned are women about getting HIV as they leave prison?
- 1.5. How can women protect themselves from HIV?

Discussion Section 2: Condoms

- 2.1. What do you think about condoms?
- 2.2. Where can you get male and female condoms in the weeks after you leave prison?
- 2.3. What do male partners think about condoms?
- 2.4. How and when do women talk with partners about using condoms?
- 2.5. Are condoms sexy?

- 2.6. Do you think women should be ready to put a condom on a man or to use one themselves?
- 2.7. How does any of this change when a woman thinks her partner might be violent?
- 2.8. Do you think that women can talk about condoms with their partners without getting hurt?

Discussion Section 3: Sexual situations, safe sex, and violence

- 3.1. When women want to use protection but don't, what gets in their way?
- 3.2. *In the context of past victimization, how do emotions affect sex?*
- 3.3. What happens when women have had violence in their lives?
- 3.4. Who controls sexual situations?
- 3.5. In what sexual situations are women powerful? In what sexual situations are women not powerful?
- 3.6. What can women do to stay strong and protect and empower themselves?

Appendix 2

Root code of emotion dysregulation - subcodes and participant contributions

Root code 3.2: In the context of past victimization, how do emotions affect sex?		
Sub code name	# of focus groups in which this code appeared (N=4)	# of participants (%) (N=21)
3.2.1 Avoidance and numbing	4	16 (76%)
3.2.2 Affect dysregulation	3	8 (38%)
3.2.3 Emotions during sex	4	15 (71%)
3.2.4 Negative emotions	4	19 (90%)
3.2.5 Positive emotions	3	11 (52%)
3.2.6 Using substances to cope with emotions	3	9 (43%)
3.2.7 Dissociation	3	9 (43%)

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