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Vulnerability and Protective Factors for Sexual Assault

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What Do We Know?

Approximately 1 in 5 women experience sexual assaults in adulthood during their lives (see Post, this volume, for review), including experiences of unwanted sexual contact, sexual coercion, attempted rape, and completed rape that result from threat, force, or incapacitation from alcohol or drugs (either willingly or unwillingly consumed). In this chapter, we examine vulnerability factors that increase women's risk of experiencing sexual assault as well as protective factors that reduce the risk of being assaulted. We also discuss how these factors affect the likelihood that women who have experienced sexual assault will be revictimized. In cross-sectional research, it can be difficult to distinguish factors that increase the likelihood of experiencing an assault from consequences of being assaulted. Thus, although we review some cross-sectional studies (some of which are on college students), we focus on recent longitudinal studies that have prospectively examined vulnerability and protective factors for sexual violence in representative samples of women. This review is organized using a social ecological model, which includes societal factors at the macro-level, situational factors at the meso-level, and individual, relationship, and family factors at the micro-level.

Vulnerability Factors

Vulnerability factors are those that increase women's risk of being sexual assaulted. By identifying relevant risk factors, we gain important insight into why some women face a greater risk of sexual assault due to societal, situational, and individual variables. Understanding and targeting these factors is necessary to reduce the risk of sexual assault in the population and to target intervention and prevention programs appropriately.

Macro-Level: Societal Factors

Although existing studies examining macro-level vulnerability factors are limited due to

using cross-sectional designs, they suggest that certain structural factors increase risk for sexual assault. For example, the alienating conditions of urban life contribute to higher sexual assault rates in urban compared to rural areas (Baron & Straus, 1989). Sexual assault perpetrators are more likely to be known by their victims in rural areas, however, whereas perpetrators are more likely to be strangers in urban areas, and assaults perpetrated by strangers are more likely to be reported to authorities (Menard, 2005). Thus, the excess and distinctive risk of sexual assault in urban areas, although real, may be partially accounted for by a greater rate of stranger assaults.

On a broader scale, correlational analyses have found that sexual assault is more frequent in states in which there is more social disorganization (hence fewer social constraints against rape), unemployment, and economic inequality (Baron & Straus, 1989). Relations between geographical location and sexual assault prevalence may be explained in part by regional differences in cultural attitudes and practices. For example, cultural support for violence is an important factor that influences sexual assault prevalence across states (Baron & Straus, 1989), and cultural spillover theory maintains that norms which favor violence for socially legitimate purposes tend to be generalized to other social contexts and increase the likelihood of sexual assault (Baron & Straus, 1989). Research also suggests that greater consumption of pornography in the population relates to greater sexual assault prevalence (Baron & Straus, 1989). Other cultural factors associated with greater risk of sexual assault include acceptance of rape myths and attitudes and traditional beliefs about sex roles (e.g., men should pay for dates), which may engender women's passivity with men in sexual situations and men's willingness and likelihood of being sexually aggressive with women (Muehlenhard, 1988).

General attitudes towards women also appear to be important in predicting sexual assault (e.g., Hines, 2007). Indeed, research suggests that gender inequality is a significant factor that

contributes to sexual assault. For example, sexual assault is most prevalent in cities and states in which gender inequality is greatest in terms of the proportion of men to women in the population as well as in economic, educational, political, and legal institutions (Baron & Straus, 1989).

Feminist theory argues that the unequal social status of women relative to men may be a root cause of sexual assault. According to social disorganization theory, gender inequality in society may lead to more sexual assault because women's issues receive less attention and support.

Evidence regarding these hypotheses is mixed, however, with some recent studies actually showing positive relations between gender equality and higher sexual assault rates (e.g., Austin & Kim, 2000), supporting a "backlash" hypothesis. That is, women may be more likely to experience sexual assault as they gain greater equality, perhaps because they are exposed to more risky situations and potential perpetrators by virtue of their greater participation in society, or because men are threatened by women and commit sexual assault to maintain inequality (e.g., male dominance). Contradictory findings regarding the relations between gender inequality and sexual assault prevalence may result from differences in level of analysis (macro- versus individual-level; Martin, Vieraitis, & Britto, 2006), type of assault (e.g., acquaintance- versus stranger-perpetrated; Pazzani, 2007), or simply how gender inequality has been operationalized in studies (e.g., women's actual status versus their status relative to men; Martin et al., 2006). For example, Martin et al. (2006) recently found that higher absolute achievements in economic, educational, employment, and occupational domains were associated with less sexual assault among women, but sexual assault rates increased when women's achievements in these domains approached men's (i.e., relative status, or gender equality).

Meso-Level: Situational Factors

Although broader societal factors have a significant impact on women's vulnerability to

experiencing sexual assault, it is also important to consider more proximal situational factors that affect sexual assault risk. Being on a date, attending a party, or going to a bar increase women's vulnerability for experiencing sexual assault, particularly by acquaintances and strangers or men whom women do not know well. This may be because alcohol is more common in these situations, as are men's misperceptions of women's sexual interest (see Abbey, Ross, McDuffie, & McAuslan, 1996, for a review). Isolated or private locations are also riskier contexts for sexual assault as opposed to public places, where informal social control (e.g., other people, passing cars) may reduce assault risk (Ullman, 2007). Spontaneous social situations may also be riskier than those that are planned, as well as dates in which men take greater control, women are more passive, and more drinking is involved (Ullman, 2007). Further research is needed, however, to understand exactly how risky situations contribute to greater risk of sexual assault in women.

Micro-Level: Individual Factors

Much more research has examined micro-level factors pertaining to individual women's vulnerability for sexual assault. Having a history of victimization may set the stage for increasing a woman's risk of experiencing another sexual assault, so researchers are studying why this link exists. Previous research has also found links between victimization and trauma history, family dynamics, sexual attitudes and behavior, risk perception, mental health, and substance use and abuse. Each of these factors is a potential mediator of the effect of prior victimization on future risk of sexual violence, but each also relates to vulnerability for experiencing sexual assault in women with no abuse or assault history. Next, we review the research discussing the relations between each factor and risk for both a first incident or repeated sexual assaults.

Prior victimization history. The single greatest factor that increases women's vulnerability for experiencing sexual assault is having previously experienced abuse or assault.

Sexual, physical, and emotional abuse in either childhood or adolescence predicts greater risk of sexual assault in women, especially if there is a history of early or severe abuse or multiple abuse types (Acierno, Resnick, Kilpatrick, Saunders, & Best, 1999; Jankowski, Leitenberg, Henning, & Coffey, 2002; Messman-Moore & Brown, 2004; Smith, White, & Holland, 2003). Further, research suggests that child sexual abuse (CSA) victims who are revictimized as adolescents are more likely than others to experience additional revictimization as adults (Himelein, 1995; Smith et al., 2003). Experiencing an assault during adulthood also increases the likelihood for future victimization (e.g. Livingston, Testa, & VanZile-Tamsen, 2007). For example, having a history of relationship conflict, including interpersonal violence and emotional abuse in dating relationships, is associated with women's risk of sexual assault (e.g., Messman-Moore, Coates, Gaffey, & Johnson, in press; Testa, VanZile-Tamsen, & Livingston, 2007). Thus, both distal and proximal victimization experiences are important factors to consider for understanding women's vulnerability for adult sexual assault.

Trauma history. A history of other stressors or traumas (e.g., youth or community violence exposure) may also create vulnerability to sexual assault, possibly through their effects on problem drinking (Ullman & Najdowski, in press) or mental health sequelae (Hedtke et al., 2008). Bursik and Grasmick (1993) suggested that social disorganization theory explains this link because socially disorganized communities typically have higher crime rates, and women may experience sexual assault in the context of other crimes. Although research has not consistently supported social disorganization theory as an explanation for sexual assault (Pazzani, 2007), this theory may be more applicable to assaults perpetrated by strangers, which are likely to be similar to other crimes that occur in disadvantaged communities. Less research has examined how other traumatic experiences such as combat, disaster exposure, or community

violence contribute to sexual assault risk, yet some qualitative work has illustrated these connections (e.g., Miller, 2008).

Family dynamics. Family factors also impact women's vulnerability for experiencing sexual assault. Among CSA victims, Siegel and Williams (2001) found that girls who ran away from home and whose family backgrounds included having a mother who had been arrested were at significantly increased risk of adolescent victimization relative to other girls. Similarly, unmarried adult CSA victims who reported having mothers who were unavailable due to emotional problems, medical illnesses, or substance use problems were at higher risk for retraumatization, including sexual assault, compared to other women (Banyard, Williams, & Siegel, 2002). Women's perceptions of their childhood family environments also influence sexual assault risk. For example, sexual assault appears to be more common among women who report lower levels of (a) paternal care/warmth (Jankowski et al., 2002), (b) concern and support between family members, and (c) family expressiveness (Messman-Moore & Brown, 2004).

Attitudes: Gender, sex, and rape myths. Attitudes have long been thought to relate to sexual victimization risk, although research has not determined that this is actually the case. Some research has shown that attitudes towards sexuality are related to women's risk of assault (e.g., Himelein, 1995; Koss & Dinero, 1989). For example, Himelein (1995) found that having more liberal beliefs about sexual motivations and behaviors prospectively predicted sexual assault in college women. Less sexually conservative women in Himelein's (1995) study also tended to report more consensual sexual experiences, however, which is also a risk factor for sexual assault, as discussed later. Conclusions regarding relations between attitudes and sexual assault risk are also precluded because prevention programs designed to change attitudes about rape myths and towards women generally have a limited impact on sexual assault risk as

revealed by the few studies that have examined their effects (for review, see Schewe, Volume 2). Existing research may have failed to find consistent and convincing relations between attitudes and sexual assault risk because such effects have not yet been delineated to a specific enough degree. For instance, Kalof (2000) found that, over a two-year period, different types of rape supportive attitudes had unique effects on vulnerability to specific forms of sexual victimization among college women. Overall, discrepancies in the research support Koss and Dinero's (1989) argument that attitudes and behaviors do not render women "uniquely vulnerable to victimization" (p. 249), although more fine-grained analyses may be required to fully understand how attitudes influence sexual assault risk.

Risk-taking behaviors. Although Siegel and Williams (2001) found that sexually precocious behaviors did not predict increased risk of victimization during adolescence, numerous longitudinal studies using both college and community samples have revealed that the tendency to engage in risky or impulsive sexual behaviors, including having many prior sexual partners, poses a risk of being sexual assaulted for adult women (e.g., Combs-Lane & Smith, 2002; Siegel & Williams, 2001; Testa et al., 2007). Even intentions to engage in risk-taking behaviors (e.g., accepting a ride from a stranger) strongly predict prospective risk of sexual victimization (Combs-Lane & Smith, 2002). Risk-taking behaviors may also mediate the effect of past abuse on risk for future victimization. For example, compared to nonabused women, women who had experienced CSA, especially severe CSA, had relationships with more partners who were sexually risky and aggressive (Testa, VanZile-Tamsen, & Livingston, 2005). To the extent that exposure to more and riskier partners increases women's risk of prospective sexual assault, these results suggest one pathway by which prior victimization influences future assault risk.

Risk perception. In addition to actually engaging in risky behaviors, failures to perceive risk in a situation or detect danger cues are associated with increased vulnerability for experiencing sexual assault (see Gidycz, McNamara, & Edwards, 2006). Research suggests that it is not only risk perception that matters, however, but also the ability and willingness to act when a threat is recognized, which can be affected by women's thoughts and emotions at the time of an attack (Gidycz, McNamara, & Edwards, 2006). Longitudinal studies have revealed that both lower levels of risk recognition and delayed responses to risk in hypothetical situations predict both an initial sexual assault and revictimization in college women (Messman-Moore & Brown, 2006).

Mental health. Intellectually disabled women are more likely to be victims of sexual violence than are nondisabled women (Petersilia, 2001). Schizophrenia, depression, and dissociation are also associated with increased risk for sexual assault (e.g., Banyard et al., 2002). In addition to chronic mental health conditions, psychological distress experienced as a consequence of abuse or assault (e.g., posttraumatic stress disorder [PTSD], low self-esteem, guilt, self-blame) may confer risk for sexual assault (e.g., Livingston et al., 2007). Greater risk among women experiencing these conditions may result from an increased likelihood of being targeted by perpetrators who view them as vulnerable. Alternatively, or perhaps in addition, such women may be less likely or able to detect risk and resist assault (e.g., Acierno et al., 1999). Recent research has suggested that women's attempts to cope with symptoms (i.e., "self-medicate") by using sex, alcohol, or drugs mediate the effect of psychological distress on subsequent sexual assault risk (Messman-Moore, Ward, & Brown, in press). Treating psychological symptoms, including those that result from previous victimization experiences, may help women to avoid risk of future assault, particularly by reducing risky behaviors and

substance use that leads perpetrators to target them.

Substance use and abuse. Several cross-sectional and longitudinal studies using both community and college samples have shown that substance use, particularly heavy alcohol use, is a robust risk factor for the sexual assault of women (e.g., Gidycz, Loh, Lobo, Rich, Lynn, & Pashdag, 2007; Messman-Moore, Ward, & Brown, in press; Parks, Hsieh, Bradizza, & Romosz, 2008; Siegel & Williams, 2001; Testa et al., 2007). For example, Parks et al. (2008) collected daily-diary data from college women for 8 weeks using interactive voice response technology. Women were more likely to be involved in sexual aggression on heavy drinking days compared to non-drinking days, although sexual aggression was not associated with severity of psychological symptoms, number of sexual partners, or prior victimization. Gidycz et al. (2007), in contrast, found that college women's risk of experiencing another assault over several months increased as a function of both level of drinking and history of and severity of prior sexual victimization. Nonvictimized women were not likely to be assaulted during the study regardless of alcohol use but, compared to nonvictimized non-drinkers, heavy drinking women who had been severely assaulted were 10 times more likely to experience sexual assault. Thus, drinking may confer an immediate risk for sexual assault whereas factors such as psychological symptoms, number of partners, and prior victimization may only show effects over longer time periods.

Fewer studies have examined the role of drug use in women's experiences of sexual assault, but those that have suggest that it increases women's risk for assault. In fact, one study found that marijuana use, but not alcohol use, predicted sexual victimization in a large sample of young women and men (Martino, Collins, & Ellickson, 2004). In contrast, a prospective study of a representative sample of women showed that neither alcohol nor drug use predicted subsequent

assault (Acierno et al., 1999), although the study did not assess sexual assaults in which women were given substances or were too intoxicated to resist attack. Thus, it is important for research to take both drug and alcohol use into consideration when examining predictors of sexual assault.

Substance use reduces women's intentions and abilities to resist unwanted sexual advances (Testa, VanZile-Tamsen, Livingston, & Buddie, 2006), but it is also dangerous for women because of the possibility of being assaulted while incapacitated by alcohol or drugs. Kaysen, Neighbors, Martell, Fossos, and Larimer (2006) studied the incidence of incapacitated rape, or rape due to a woman being incapacitated by alcohol, among college women and men over the course of 3 years. Incapacitated rape was prospectively predicted by heavier alcohol consumption and more negative alcohol-related consequences, and alcohol use also increased following victimization, suggesting a dangerous cycle of relations between alcohol use and sexual victimization. Greater problem drinking and alcohol dependence in sexual assault survivors have been found to relate to beliefs and expectancies about how one behaves when using drugs or alcohol and drinking to cope with distress (Ullman & Najdowski, in press), factors that put victimized women at even greater risk of experiencing future incapacitated rape.

Demographics. Just being a woman is a vulnerability factor for experiencing sexual assault—85% of sexual assault victims are women (Bureau of Justice Statistics, 1984)—but many other demographic variables are also associated with increased risk of sexual assault. Research has shown that younger, ethnic minority (specifically, Native American or African American), unmarried or separated women are more likely to be sexually victimized than other women according to National Crime Victimization Survey (NCVS) data (Rennison, 2002). However, other analyses of older NCVS data showed that poor, older, White suburban females were at greater risk for experiencing sexual assault compared to other women (Avakame, 1999),

whereas divorce related to fewer assaults perpetrated by acquaintances but not strangers in the National Violence Against Women Survey (Pazzani, 2007). Lesbian and bisexual women appear to be at similar or slightly higher risk of sexual assault than are heterosexual women (Balsam, Rothblum, & Beauchaine, 2005). Among college women, membership in a sorority is also a factor that increases risk of sexual assault (Mohler-Kuo, Dowdall, Koss & Wechsler, 2004), presumably because sorority members are more likely to attend parties, which increases their risk of assault. Compared to other women, women with lower incomes are more vulnerable to being assaulted, as are sheltered or homeless women (Acierno et al., 1999; Banyard et al., 2002). Women with lower education and unemployment have greater risk of sexual assault, according to both national and international victimization surveys (Avakame, 1999). Women who live away from home are more likely to experience sexual assault compared to women who live with their parents (Buddie & Testa, 2005). This is true regardless of other risk factors such as number of sexual partners, which stands counter to the idea that the absence of parental monitoring is responsible for this increased risk.

Summary of Risk Factors

In summary, a number of risk factors relate to women's vulnerability to sexual assault, with most research focusing on predictors at the individual level. Still, little research exists to explain why various demographic characteristics relate to assault risk. Such characteristics are most likely proxies for other behaviors and lifestyle circumstances that increase women's risk of being victimized, but more research is needed to identify potential mediators of these relations. Ecological and contextual factors that may also contribute to risk of sexual assault in women also warrant further study. Research is needed on risk factors for different subgroups of women in different contexts so we can better understand how individual factors (e.g., women's

characteristics and assault histories) and behaviors (e.g., substance use, sexual behavior) translate into risk for sexual assault in different situational and structural contexts. In addition, existing research highlights the need to directly examine the effects of contextual factors and consequences associated with early victimization (i.e., in childhood and adulthood) that in turn increase women's risk of revictimization as adults. Multi-level studies of risk factors using nested designs that incorporate macro-level structures, meso-level situations, and micro-level individual factors are needed as existing studies have examined only one level of analysis at a time.

Protective Factors

Although in general much less research has focused on protective factors, researchers have identified several variables that reduce women's risk of being sexually assaulted, particularly in the presence of risk. Both are reviewed in the following sections with macro-level factors reviewed first, followed by meso-level and micro-level factors.

Macro-Level: Societal Factors

Although little empirical research has documented macro-level protective factors, data from international surveys have shown that Western industrialized regions like the United States and Europe have lower rates of violence against women compared to developing regions like Africa and Latin America (del Frate, 2007). Such macro-level differences may be due to greater economic and educational opportunities (known to relate to less risk of sexual assault) and greater control over fertility for women in developed countries. Sanday's (1981) comparison of societies that were rape-prone versus rape-free provides some anthropological evidence about how macro-level factors may affect sexual assault rates. Societies that value women and feminine qualities of caring, nurturing, and valuing of nature also socialize men to respect

women and these qualities are associated with lower rates of violence against women (Sanday, 1981). Research is needed to better understand how macro-level factors may reduce sexual assault and how meso- and micro-level factors operate within different social structural locations within and between societies.

Meso-Level: Situational Factors

A promising approach to prevention is focusing on men and women as bystanders to change social norms in a rape-supportive peer culture. This approach teaches how to intervene proactively to deter a potential sexual assault from being committed, to stop peers from expressing pro-rape attitudes, and to support someone who discloses sexual assault. Also, research has examined social support following assault as a protective factor against psychological sequelae, but it appears that social support may prevent women from even experiencing sexual assault.

Bystander intervention. Research suggests that the presence of bystanders reduces the likelihood that an attack on a woman will result in completed rape (Ullman, 2007), and may even reduce women's risk of being attacked in the first place. Banyard, Moynihan, and Plante (2007) evaluated a sexual violence prevention program that taught college women and men how to intervene safely and effectively in cases of sexual violence by, for example, interrupting situations that could lead to assault before it happens or during an incident. Compared to controls, program participants were less accepting of rape myths and more willing or likely to engage in bystander behaviors, felt more confident about being an active bystander, and were more likely to have actually engaged in bystander behaviors, with most effects lasting up to 1 year later. Although this research suggests that prevention programs focusing on bystander intervention are promising, more work is needed to determine if bystanders reduce sexual assault

in the community as well as on college campuses over the long term. These interventions imply the need for and may in fact facilitate changes in social norms that support sexual assault, which can then reinforce efforts to make assault prevention a collective community responsibility, not simply the responsibility of individual women to avoid on their own.

Social support and social integration. There is some indication that social support is related to lower risk of sexual victimization and revictimization in victims of intimate partner violence and sexual assault survivors. For example, Banyard et al. (2002) found that CSA victims who reported greater satisfaction with their relationships with friends or spouses were less likely to experience additional traumas, including sexual assault. Finally, some research shows that involvement in religions characterized by high religious integration and regulation relates to lower sexual assault rates (Stack & Kanavy, 1983).

Micro-Level Factors

Avoiding high-risk behaviors may be an important strategy for individual women to reduce their personal risk of sexual assault. Although perpetrators are always responsible for assaults, it is still important to consider how women's behaviors may protect them from high-risk situations and contexts in which assault is more likely.

Avoiding risk behaviors. Clear evidence suggests that self-protection is important for reducing sexual assault risk (Ullman, 2007). Women who restrict their participation in risky activities, do not engage in sexual activity, and abstain from drinking may have lower risk of being sexually assaulted, at least by acquaintances and strangers, although data are needed to demonstrate such behaviors in fact reduce women's future victimization risk. Sexual assault that occurs within dating and romantic relationships may not be altered by such behavioral restrictions, however. Thus, although the media and police often advocate behavioral restriction,

it cannot eliminate women's risk of being assaulted. Further, it is problematic to recommend that women restrict their full participation in social life and society to avoid assault. Despite this, engaging in fewer risky behaviors does reduce women's risk of some forms of sexual assault (e.g., alcohol-related, stranger-perpetrated) to at least some extent.

Risk perception. It has been argued that perceiving risk accurately is protective against sexual assault, although it is not clear that improving risk recognition alone will reduce sexual assault incidence (Gidycz, McNamara, & Edwards, 2006). To illustrate, Gidycz et al. (2007) found that, despite being more likely to recognize their increased risk for future assault, heavy drinkers were more likely to experience sexual assault compared to nondrinkers. Brown, Messman-Moore, Miller, and Stasser (2005) suggested, "heightened risk perception may be an accurate assessment of risk that actually precedes victimization experience" (p. 963). Thus, effective programs are needed to teach women how to use the ability to recognize risk to protect themselves from being sexual assaulted. Existing research suggests that these programs do not yet exist. For example, despite feeling more likely to recognize unwanted sexual behaviors and increasing protective behaviors, college women who participated in a prevention program were no less likely to be assaulted than women in a control group (Gidycz, Rich, Orchowski, King, & Miller, 2006).

Sexual assertiveness. Sexual assertiveness may protect women from experiencing sexual assault. In support, Livingston et al. (2007) found that sexual assertiveness reduced risk of sexual assault in their large community sample of women. Of importance for understanding revictimization, sexual victimization decreased sexual refusal assertiveness over time. Related, sexual refusal self-efficacy, self-competence, and perceived control each may play roles in reducing risk for sexual assault in women (Gidycz, Van Wynsberghe, & Edwards, 2008; Testa et

al., 2007). Research also shows that the ability to communicate about and avoid misperceptions regarding one's sexual intent reduces women's risk of sexual assault (Abbey et al., 1996; Testa, Livingston, Vanzile-Tamsen, & Frone, 2003). Thus, future research should examine ways to instill sexual assertiveness and skills for communicating about sex in at risk women to reduce sexual assault incidence, particularly among women who have already been victimized.

Resistance and self-defense. A significant body of research shows that actively resisting (e.g., using forceful verbal and physical resistance strategies) sexual assault attempts reduces the likelihood of their success (see Ullman, 2007, for a review). For example, screaming, fighting, and fleeing all appear to enhance sexual assault avoidance without increasing physical injury risk to women (Ullman, 2007). Conversely, not resisting or engaging in nonforceful verbal resistance (e.g., pleading, begging, reasoning) are ineffective strategies for preventing sexual assault (Ullman, 2007). Research examining the efficacy of risk reduction programs emphasizing resistance and/or self-defense training to reduce the likelihood of sexual assault has yielded mixed findings, however. For example, Turchik, Probst, Chau, Nigoff, and Gidycz (2007) and Gidycz et al. (2008) examined college women's intentions to use different resistance tactics during a sexual assault and their actual utilization of strategies in assaults reported several weeks later. Gidycz et al. (2008) reported that women's intentions to utilize assertive resistance strategies (e.g., physically fight) predicted their actual use but Turchik et al. (2007) did not observe this effect. Future studies using consistent operationalizations of resistance tactics are needed to disentangle relations between women's intentions for resistance and strategies actually implemented so that prevention programs can target and encourage the use of strategies that are most effective in protecting women from being sexually assaulted.

Coping Strategies. Although a lot of research has examined coping in the aftermath of

sexual assault, few studies have examined relations between women's coping strategies and future sexual assault risk. Attempts to reduce women's reliance on coping by engaging in sexual behavior or using drugs or alcohol to reduce distress or self-medicate may be helpful, because both of these forms of coping increase sexual assault and revictimization risk (e.g., Messman-Moore, Coates, et al., in press). Research should examine whether adaptive coping strategies (e.g., help-seeking) protect women from being victimized. Such coping strategies may reduce sexual assault risk, for example, by strengthening women's links to social support networks or reducing women's substance use or contact with high-risk sexual partners.

Summary of Protective Factors

Although less research has been conducted on protective factors reducing women's risk of being sexually assaulted than on risk factors, currently it appears that the presence of bystanders willing to intervene to stop an assault, perceiving one's risk of assault, avoiding risky behaviors (e.g., heavy drinking), engaging in resistance if attacked or threatened, greater sexual refusal assertiveness or self-efficacy, and possibly social support and coping strategies can reduce women's risk of sexual assault. Research on protective factors is in its infancy, however, and little prospective research exists to guide us on what helps protect women from sexual assault. Although societal factors like development status of nations and higher valuation and status of women may be macro-level protective factors, such evidence is descriptive and correlational in nature and requires more rigorous research to understand fully.

How Do We Know It?: A Critical Analysis of the Research

Various studies have examined risk and protective factors for sexual assault and it is important to understand the challenges faced by researchers studying this personal issue and limitations of the research methods (e.g., study design, sampling strategies) to evaluate the

significance of individual study findings. For example, a key limitation is that much of our knowledge is still based on cross-sectional studies using non-representative samples, precluding us from drawing inferences and generalizing findings to the population. We will also discuss whether, despite such limitations, there is agreement amongst researchers in the field, and what findings are still up for debate.

Challenges in Studying Correlates of Sexual Assault

The topic of sexual assault is difficult to study for several reasons. First, studies rely on victims reporting or acknowledging sexual assault experiences, which they do not always do. Reporting is especially low for nonstereotypic assaults (Menard, 2005). A further challenge involves the need to understand vulnerability and protective factors for sexual assault in context. This need is highlighted by research demonstrating that risk factors differ as a function of type of assault who the perpetrator is (i.e., stranger, acquaintance, intimate partner), the level of force involved, whether drug or alcohol use is involved, and even across subgroups of ethnic groups (e.g., Kalof, 2000; Messman-Moore, Coates, et al., in press; Pazzani, 2007; Testa et al., 2003; Testa et al., 2007). For example, Testa et al. (2007) found that whether an intimate partner compared to nonintimate perpetrator assaulted women was related to the type of sexual assault they experienced (i.e., intimate partners were more likely to sexually coerce their victims), and unique risk factors emerged as a function of perpetrator identity. Currently we know more about vulnerability factors than protective factors, but research demonstrates the importance of taking context into account to gain a more complete understanding of how effects may vary.

Gaps and Weaknesses in Existing Knowledge

Existing studies have a number of limitations related to methodology, samples, and analyses. One problem with existing research related to sexual assault risk is that most studies

are not longitudinal. Cross-sectional research precludes the ability to determine whether variables are predictors or consequences of sexual assault. Of those studies that are longitudinal, many use homogenous samples, composed predominantly of White college students. Although most research has focused on college women and risk of acquaintance rape, an important high-risk group, sexual assault is also prevalent in the community, and we know less about behavioral and situational risk factors for assault in community-residing women. Studies using large, representative, and diverse samples of women in terms of age, race, and socioeconomic status are needed to better understand vulnerability and protective factors for sexual assault among women in the broader community. Given that college women are younger, more privileged, and typically higher functioning compared to other women, it is likely that the contexts and factors related to their assaults differ from those of older, less privileged, and psychologically distressed women in society. Given the clear association between women's lower status and increased sexual assault risk, it is important that attention also focus on vulnerable socioeconomic groups. Longitudinal studies should also concentrate on subgroups of women who are at high risk for sexual assault, such as those with mental health problems or physical disabilities, which may be unable to avoid risk factors for sexual assault. And, although most research on sexual assault is focused on women in college or in the community, research on women in high-risk contexts in which sexual assault is common, such as prison, is also important.

Better measures of relevant risk factors are needed as well as theoretically driven research to understand how vulnerability and protective factors play a role in risk of assault. Especially lacking is research on protective factors, although some studies suggest that they exist and that integrating such factors in prevention efforts may reduce sexual assault. The field has yet to develop integrated theoretical models to test multiple levels of vulnerability and protective

factors that relate to sexual assault. As yet, there is not enough research integrating such factors ranging from the ecological to the individual level, nor is there adequate work on how individual-level factors affect sexual assault risk in different situational contexts and social structures. This should be an important focus of future research, as we already know that risk for different types of assault by different perpetrators also varies according to women's contexts and age (i.e., college vs. community samples).

Finally, although more is known about characteristics of sexually aggressive men (see Knight, this volume) than about factors related to risk of sexual victimization in women, it is important to keep in mind that without data on perpetrators, attempts to identify risk and protective factors in women may fall short, as least in identifying root causes that help in developing primary prevention. Such research is critically important for secondary prevention and treatment, however, as it can help us to determine who is at risk, why, and in what circumstances, so interventions are based on appropriately targeted factors derived from research and address women who face the greatest risk of assault. Thus, longitudinal studies are needed of large representative samples of women from the community to better understand the role of individual, contextual, and ecological risk and protective factors for sexual assault, including data on perpetrators.

Consensus and Conflicting Positions

There is consistency across several studies showing that women's lower absolute status (e.g., greater poverty, low education, unemployment) is a risk factor for sexual assault, using both macro-level state and micro-level individual data. These results support feminist theory suggesting that women's lower status in society is related to higher sexual assault rates, whereas social disorganization theory has had less support, particular with regard to known-offender

assaults (Pazzani, 2007). There is also little disagreement regarding behavioral risk factors for sexual assault, although some have suggested that personality factors, attitudes, and beliefs are important whereas others have argued they are not significant risk factors. It is likely that personality differences between women who have been sexually assaulted and those who have not are actually effects of being assaulted (McMullin, Wirth, & White, 2007), but this is difficult to know without longitudinal research examining personality factors and victimization over time, which is currently lacking.

Where Do We Go From Here?:

Recommendations for Funding Priorities and Policy Change

Although further exploration of factors contributing to and reducing the incidence of sexual assault is required, there is a great deal of research already available upon which funding priorities and policies can be based in efforts to reduce sexual assault among women. Beginning at the macro-level, women's status (e.g., education, employment) within and between societies has been found to be inversely related to sexual assault rates. Existing research on this issue is cross-sectional and limits the conclusions that can be drawn, but improving women's position in society should lead to lower assault rates, although some increase in assault may occur while that shift in relative status of men and women is occurring due to men's "backlash" against women's status gains.

Research also suggests that prior victimization plays a significant role in women's risk of adult sexual assault. Thus, prevention of abuse and assault, especially during childhood and adolescence, is particularly important for reducing assault risk. Sexual assault prevalence rates obtained in community samples have not declined or changed over the past 20 years (see Post, this volume), suggesting that prevention efforts have not addressed underlying factors adequately

to reduce sexual assault in women. Although research is still needed to understand why risk of sexual assault is higher for women abused in childhood and adolescence, the existence of this link clearly implies that child abuse prevention should be linked to sexual assault prevention and that research must take a life-span perspective to understand how early experiences increase risk for later revictimization. This is important given the young age at which most women experience sexual assault. Longitudinal research on risk for revictimization may in fact help to identify risk and protective factors that also apply to women's risk for first sexual assaults.

Currently much less funded research is examining risk and protective factors as compared to treatment and prevention of sexual assault. Such research is expensive and time-consuming, yet identifying risk and protective factors from such studies should consequently help to inform better treatment and prevention strategies for sexual assault. More research on women from the community is needed to better understand factors related to their risk of sexual assault. We know that women differentially situated in the social structure (e.g., those having lower SES and living in poorer neighborhoods) face greater or less risks of violence in general, and research is needed to determine whether this is also true of sexual assault. This work must be focused on understanding which women face risk of what types of assault in which specific contexts.

Finally, public policies are needed to address women's underreporting of sexual assault, provide a more supportive response to survivors, and create services in places women feel comfortable going to for assistance in the community. Often women delay reporting their sexual assault experiences and/or seeking help, especially when they know the offender. As a consequence, our knowledge about sexual assault risk and protective factors is probably biased towards assaults by strangers and men less well-known to women, except for research on date and acquaintance rape in college women. Thus, policies ensuring that women have services and

assistance available to them, while providing obvious benefits to assault survivors, may also increase reporting of atypical rapes as well as our knowledge of factors related to them. A new generation of research on risk and protective factors for different types of sexual assault in different subgroups of women in the population is needed to provide a better empirical basis for effective treatment and prevention initiatives.

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