

# Adolescent Susceptibility to Deviant Peer Pressure: Does Gender Matter?

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**Abstract** It is well known that adolescent risk-taking behaviors often occur in social settings among peers, however, it is unclear whether there are gender differences in the susceptibility to deviant peers, an antecedent to risk-taking behaviors. This qualitative review examines gender differences in adolescent susceptibility to deviant peer pressure in order to better understand processes that contribute to adolescent risk-taking behavior. The review of 26 studies revealed two primary trends: (1) compared to adolescent females, adolescent males appear to be more susceptible to peer influences that encourage risk-taking behaviors, or (2) there is no consistent gender difference in susceptibility to such peer influences. Only two studies reviewed suggested adolescent females to be more susceptible to deviant peer pressure than adolescent males. The discussion offers two useful perspectives that may explain the two trends in the literature. First, gender role socialization theory is consistent with the observed trend that adolescent males are more susceptible to deviant peer pressure for risk-taking behaviors than females as they seek alignment with the masculine ideal. Second, the conceptual and methodological issues, such as using typically male-dominated risk-taking tasks and assessments (i.e., delinquency scale) to measure both males' and females' outcomes, may obscure underlying patterns of gender differences in susceptibility to peer influence. Future researchers are encouraged to empirically examine these trends in order to create appropriate interventions.

**Keywords** Gender · Deviant peer pressure · Risky behavior · Adolescence · Review

## Introduction

Risk-taking behaviors during adolescence contribute to high rates of unintentional injury (Sleet et al. 2010; Turner et al. 2004) and are a leading cause of death among adolescents in the United States (Heron 2016). A consistent finding in the developmental literature is the correlation between adolescent risk-taking behaviors (e.g., delinquency, substance use, risky sex) and those of their peers (Crosnoe and McNeely 2008; Flannery et al. 1994; Prinstein and Wang 2005). Developmentally, peer reference groups become increasingly salient during adolescence, and most risk-taking behaviors occur within the peer context (Crosnoe and McNeely 2008). Although some studies suggest that adolescent males engage in more of some types of risk-taking behaviors (i.e., substance use and delinquency; Erickson et al. 2000) and have more deviant peer affiliations than females (Mears et al. 1998; Svensson 2003), it remains unclear “whether the *social processes* [emphasis added] leading to these outcomes also differ by gender” (Erickson et al. 2000, p. 402).

This qualitative review attempts to answer the question of whether adolescent males or females are more susceptible to deviant peer pressure, and it posits hypotheses gleaned from the literature. Consistent with prior conceptualizations (i.e., Brown et al. 1986; Santor et al. 2000), this review considers deviant peer pressure to be a social factor that increases adolescents' tendency to engage in risk-taking behaviors, including substance use, promiscuous or unprotected sex, and delinquency, and focuses on their *subjective* experience and feeling of pressure from deviant peers to engage in risk-taking behaviors (as opposed to the presence of deviant

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peers in their social network). Whereas gender differences in risk-taking behavior have been the subject of much research (e.g., Byrnes et al. 1999), questions about gender differences in the social processes preceding risk-taking behaviors has received less attention. The purpose of this review is to utilize an interdisciplinary approach to fill this gap in the literature by examining the role of gender in adolescents' subjective experience of deviant peer pressure.

### **Adolescence: A Time for Gender Salience and Peer Influences**

From a developmental perspective, gender roles, norms, and expectations become especially salient to youth during early and middle adolescence (Hill and Lynch 1983), and this notion is supported by evidence from longitudinal studies (e.g., Galambos et al. 1990). This occurs, in part, as a function of gender socialization processes in which socializing agents, such as parents, peers and the media, shape gender norms and behavioral expectations. These agents are powerfully influential throughout development, but they are particularly so earlier in childhood (Leaper and Friedman 2007) and again during pubertal development (Hill and Lynch 1983). It is hypothesized that one such reason for this increase in gender-role attitudes is that it stems from the elevated importance of peers during adolescence (Perry and Pauletti 2011).

As such, adolescence is not just a time for the increasing importance of peer relationships, but it is also a time of increased susceptibility to peer pressure. It is clear from previous studies that peers affect adolescents' decisions to engage (or not engage) in risky behaviors (Blakemore and Mills 2014; Miller 2009). Social acceptance becomes central to much of adolescent behavior, perhaps because it is a developmentally sensitive period in which youth are highly attuned to picking up on and responding to social cues from their social environments (Blakemore and Mills 2014). Thus, to the degree that social conformity is perceived as central to popularity among peers, early and middle adolescents are especially vulnerable to peer pressure as they strive toward peer approval and acceptance (Gavin and Furman 1989).

### **Who are More Resistant to Deviant Peer Pressure: Males or Females?**

Evidence on gender differences in risk-taking behavior is mixed. Some studies find that these differences may change over historical time or development, and can differ across types of risk-taking behaviors. For example, although meta-analytic findings have shown that males are more prone to risk-taking (or more likely to engage in risk-taking

behaviors), the size and significance of the effects vary across domains and by age (Byrnes et al. 1999; Storvoll and Wichstom 2002), suggesting that other salient factors in adolescence may be at play (i.e., peer pressure). Additionally, the desirability of engaging in risk-taking behaviors and succumbing to peer pressure may differ for males and females (Byrnes et al. 1999; Closson 2009). Prior research has shown that adolescents who are more susceptible to peer pressure have more difficulty establishing social competence and have a harder time making their own judgments about risk-taking behaviors (Allen et al. 2006). Similarly, Young et al. (2009) qualitative study found that college females described their drinking patterns as motivated by pressure to make favorable impressions on their male peers. As such, it is important to identify factors that contribute to certain youth's heightened vulnerability to peer pressure. For example, adolescent females are often thought of as being more resistant to deviant peer influences than males (Hanish et al. 2005). However, gender differences in susceptibility to deviant peer pressure have not been thoroughly examined in the literature. As discussed below, there are three mutually exclusive hypotheses regarding gender and susceptibility to peer pressure in adolescence.

One hypothesis suggests that females are more resistant to deviant pressure than are males. This idea is supported by research showing that adolescent females' sensitivity to social relationships is an asset facilitative of interpersonal competence rather than deviance (Rose and Rudolph 2006). In this way, females may be better able to resist deviant peer influences as they simultaneously consider how their involvement in risky behaviors might damage other highly valued (or prioritized) relationships with parents, teachers, and friends. Indeed, prior work has indicated that adolescent females are more skillful at balancing both affiliation and reputational needs (Sheldon 1992), whereas adolescent males may be more likely to prioritize status goals (LaFontana and Cillessen 2010) and may be more focused on dominance hierarchies (Rose and Rudolph 2006).

An alternative hypothesis is that females may be *less* resistant to deviant peer pressure than males. It has been established that adolescent females tend to have heightened sensitivity to social-evaluative concerns, or a reliance on close relationships as a source of self-evaluation and self-worth (Rudolph and Conley 2005), and are more attuned to the benefits of peer conformity for the aims of acceptance, popularity, and likability. While females' heightened attunement to social-evaluative cues and need for approval are generally thought of as beneficial to their interpersonal relationships (i.e., Rose and Rudolph 2006), this sensitivity may be detrimental if it is manifested as a heightened sensitivity to peer pressure as a means of preserving close relationships. Indeed, in a study of young children, in comparison with males, females were more negatively influenced (i.e.,

evidenced increased aggression) by exposure to externalizing peers. Interestingly, the non-gender-normative nature of those behaviors made them particularly powerful, such that when females are exposed to gender-atypical behaviors (e.g., aggression, rule-breaking), their influences are especially salient (Hanish et al. 2005).

A third explanation is that adolescent males and females may experience similar peer pressure across domains, but the adolescent, regardless of gender, who has a stronger peer orientation may be the influencing factor in who is less resistant to deviant peer pressure, hence explaining why some studies find no gender difference (Abbott-Chapman et al. 2007; Blais and Weber 2001; Brown 1982). In their study of early adolescents' susceptibility to peer influence, Allen and colleagues found no evidence of a moderating effect of gender, indicating that both males and females who scored higher on a generalized measure of susceptibility to peer influence were both at greater risk of early sexual behavior, externalizing behaviors and substance use (Allen et al. 2006). Similarly, Miller (2009) found that, for both adolescent males and females, susceptibility to peer influence is a risk factor for delinquency. Further, longitudinal findings have shown that adolescents with an extreme peer orientation [i.e., a "negative aspect of peer orientation (in which adolescents) would sacrifice developmentally positive aspects of their lives to maintain these relationships", p. 625] are involved in increased problem behaviors three years later, regardless of gender, as they abandon parental influences in favor of peer influences (Fulgini et al. 2001). These studies support the hypothesis that susceptibility to deviant peers is predictive of risk-taking behaviors yet suggest that several types of associations between gender and deviant peer pressure are possible.

It is important to note that all three of these explanations are equally plausible and that the current literature does not lend a clear interpretation regarding which hypothesis is empirically supported. Therefore, the present study aims to systematically sift through the current literature and conduct a qualitative review.

## The Present Study

Previous research clarifies the role of peer influence as central to adolescent risk-taking. Together with research on gender role socialization processes and the gender intensification hypothesis, prior studies provide a foundation from which to conduct a more thorough examination of the relationship between gender and susceptibility to deviant peer influences. A growing body of work has begun to establish the predictive power of susceptibility to deviant peer influence on adolescents' risk-taking behaviors, a determinant of behavior that appears to be a general risk factor across

genders. Building on the burgeoning research showing adolescents are highly attuned to picking up on and responding to social cues from their environments (Blakemore and Mills 2014), we examine whether and how deviant peer influence affects adolescent males and females differently during a period of development in which gender stereotypes may be especially influential in shaping perceived social norms (de Visser and McDonnell 2011; Young et al. 2009).

An additional aim is to propose theoretical explanations for the observed findings. To achieve this, we first organize the existing literature on gender differences in susceptibility to deviant peer influence after a careful survey of the literature for studies that met the inclusionary criteria. As previously described, we begin by identifying studies that have examined gender differences, not in risk-taking itself, but in susceptibility to deviant peer influence, an antecedent to risk-taking behaviors. Second, based on a review of the literature, we introduce hypotheses, described below, to explain the observed trends and stimulate future research.

## Methods

Studies for this qualitative review were chosen based on several criteria. Our independent variable was gender and the dependent variable was susceptibility to deviant peer pressure. Consistent with others in the field, we operationalized peer pressure as the subjective experience of social influence (Brown et al. 1986; Santor et al. 2000) to engage in risk-taking behaviors. Because our primary interest was to understand adolescents' *subjective* experience of deviant peer influence, we focus mostly on adolescents' self-reported experiences of peer influence, but also included a few experimental studies of deviant peer influence that reported findings separately for males and females. These experimental studies' results were based on adolescents' behavior in the presence and absence of a deviant confederate.

Due to the dearth of studies that have directly examined the question of whether adolescent males or females are differentially susceptible to deviant peer pressure using a subjective scale, our operational definition of susceptibility to deviant peer pressure includes a broad spectrum of measures assessing both pressure to engage in specific risk-taking behaviors, such as delinquent activities (Crockett et al. 2006), as well as measures that assess the broader experience of peer pressure without reference to specific behaviors (i.e., asking participants to respond to conflicting hypothetical situations such as, "Some people go along with their friends just to keep their friends happy" and "Other people refuse to go along with what their friends want to do, even though they know it will make their friends unhappy"; Steinberg and Monahan 2007). As stated in the reviewed literature, peer influence on risk-taking behaviors tends

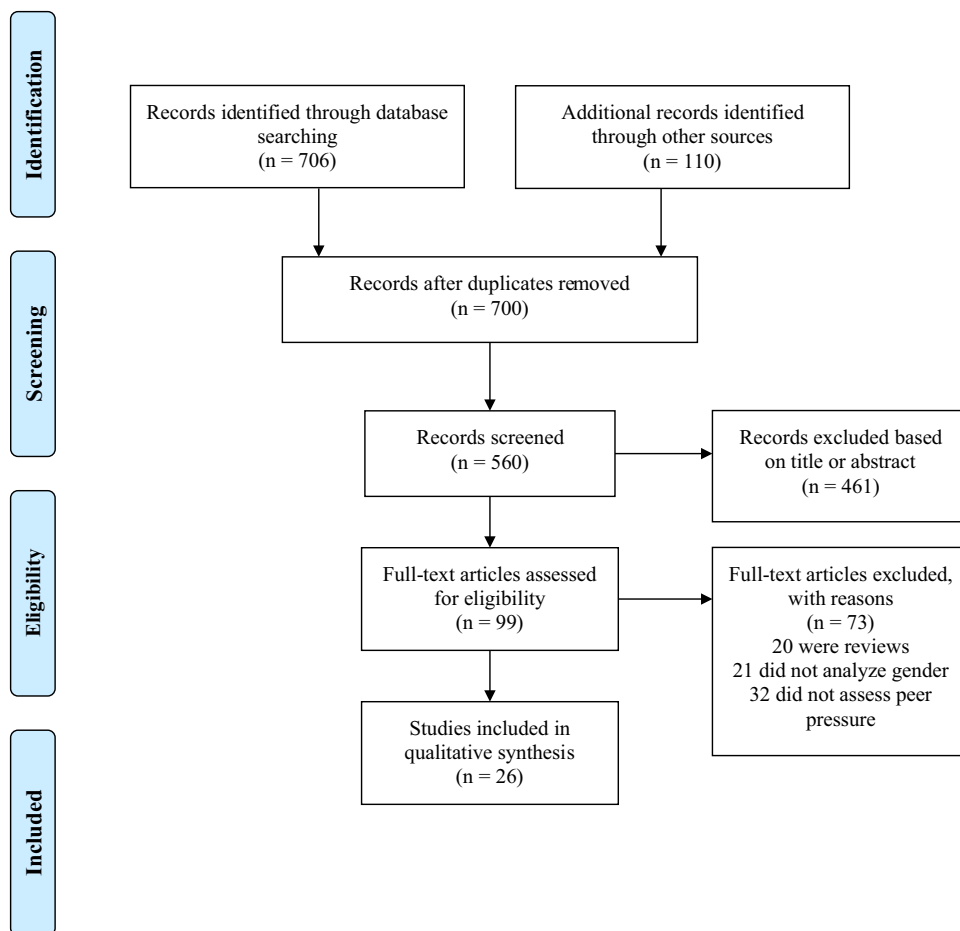
to peak from early adolescence (LaFontana and Cillessen 2010) to emerging adulthood (Bradley and Wildman 2002); therefore, we included studies that assessed peer pressure in early, middle, and late adolescence, as well as studies with college students.

The following criteria were used in the literature search. The studies must have been available in peer-reviewed English language journals. These studies were obtained through (a) searching online and computerized data bases (e.g., PsycINFO) using all combinations of the keywords: *adolescent*, *peer pressure*, *peer influence*, *gender*, *susceptibility to peer influence*, and *resistance to peer influence* and (b) examining references cited in prior reviews and empirical studies. We did not restrict our review to studies published within a specified time period.

Several types of peer studies, while relevant from a broader perspective on peer relations and risk-taking, were excluded. First and importantly, we excluded studies that assessed associations between deviant peer affiliations and risk-taking behavior but that did not include a separate measure assessing adolescents' experience of

peer pressure or peer influence. Second, studies that have examined deviant peer affiliations (Prinstein et al. 2001), peer contagion (Cohen and Prinstein 2006), and deviancy training (e.g., Dishion et al. 1996; Svensson 2003) using sociometric nominations without measuring the direct, subjective experience of peer pressure (e.g., Prinstein and Wang 2005) were excluded. These types of studies helped to clarify that peer behavior is correlated with adolescents' risk behavior involvement, but do not directly address whether males and females experience peer pressure differently. Finally, studies that do not test gender effects (e.g., Storvoll and Wichstrom 2002) were excluded. Even when studies collected gender information, we could not include some studies in our review because they did not formally test gender effects in final analyses when gender did not statistically contribute to the prediction of risk-taking in preliminary analysis (e.g., Trucco et al. 2010; Urberg 1992). We outlined the details of the process of inclusion and exclusion in a PRIMSA figure (Moher et al. 2009). We eventually identified 26 studies that met the outlined criteria (see Fig. 1).

**Fig. 1** PRISMA flowchart of search and selection strategy



## Results

A summary of the 26 studies reviewed appears in Table 1. We found that there is no gold standard assessment within this literature for measuring susceptibility to peer pressure, as noted by the plethora of measures that aim to assess this variable. Some researchers have employed hypothetical vignettes or experimental paradigms with peer presence, whereas others used single-item measures, but most used self-reports of subjective perceptions of deviant peer pressure or peer pressure more broadly.

Despite this caveat, among these 26 studies, we identified that 46% of studies ( $n = 12$ ) suggest males are more prone to experience deviant peer pressure than females, yet 46% of the studies ( $n = 12$ ) also found no gender difference in susceptibility to deviant peer pressure. A small minority of studies ( $n = 2$ ; Nahom et al. 2001; Shepherd et al. 2011) demonstrated a greater female proneness to be susceptible to peer pressure. Thus, our review of the literature does not appear to support the argument that adolescent females are more susceptible to deviant peer pressure.

## Discussion

The aim of the present review was to organize the existing literature on gender differences in the susceptibility to deviant peer pressure. Previous studies have revealed two patterns between gender and susceptibility to peer pressure: (1) 46% of the reviewed studies showed more male sensitivity to peer pressure in the context of risk-taking; and (2) 46% showed no gender difference. There was a lack of strong evidence (8% of the reviewed studies) that females are more susceptible to peer pressure than males within the risk-taking domains included in the present review. These mixed results led us to consider several possible explanations. First, we discuss gender role socialization theory and focus on masculine ideals as explanations for why males may be more susceptible than females to deviant peer influence. Next, we explore possible reasons why several studies found no gender difference in adolescent susceptibility to deviant peer pressure. Finally, we identify broader theoretical and measurement issues in the study of susceptibility to peer pressure.

### Adolescent Males' Heightened Susceptibility to Deviant Peer Pressure

Nearly half of the studies reviewed here indicated that adolescent males are more susceptible to deviant peer pressure than females. One explanation for this finding is that adolescent males may be more influenced by deviant peer pressure as they attempt to fit traditional images cast by gender

role stereotypes that link masculinity with toughness and autonomy, as is the case for substance use and aggressive behavior (Courtenay 2000; Mahalik et al. 2007). In this way, gender role stereotypes, which intensify during adolescence (Hill and Lynch 1983), may not only be descriptive of gendered behavior, but prescriptive as well (Fiske and Stevens 1993). The increasing salience of gender role stereotypes during adolescent development juxtaposed against socialization pressures from peers can heighten adolescents' awareness about the consequences of deviating from masculine and feminine norms for males and females, respectively. For instance, studies have shown that early adolescents perceive social status and risky, defiant behaviors to be more closely associated with male popularity and peer approval (Closson 2009; Iwamoto and Smiler 2013; Mahalik et al. 2007; Rienzi et al. 1996; Schulte et al. 2009), and males who deviate from gender-congruent expectations experience negative social consequences, such as peer rejection (Bosson et al. 2006; Mora 2012). As a result, males may feel socialization pressures to assert traditionally masculine behaviors such as rule-breaking and defiance.

In addition to the aforementioned explanation that adolescent males are more susceptible to deviant pressure as a consequence of gender socialization processes or as a means for better aligning with the masculine ideal, there is evidence to suggest that adolescent males are more prone to risk-taking than females because their social environments afford them more opportunities, such as more access to delinquent peers (Mears et al. 1998) and less adult supervision (Boyer and Byrnes 2009). For example, Boyer and Byrnes (2009) assessed the frequency of different types of risk-taking opportunities, such as being at a party with alcohol, and found that adolescent males engaged in more risk-taking behaviors in part because they reported more situational opportunities for deviance than females. To the degree that males report having more deviant peers than females (Dishion et al. 1996; Mears et al. 1998), they may simply have more social opportunities to experience deviant peer influence, rather than being more susceptible to deviant peer influence than females.

The third perspective as to why adolescent males may be more susceptible to deviant peer pressure than females may be due to the types of behaviors in which males face more peer pressure to engage during adolescence. For example, adolescent males' risk-taking is known to be associated with a strong peer orientation (Michael and Ben-Zur 2007), but adolescent females' risk-taking behaviors have been correlated with peer and non-peer relationships such as parental relationship quality (i.e., emotional closeness, communication and mutuality). Thus, a peer-socialization model suggesting that peers are more salient relationships for male adolescents than female adolescents, who are focused on both peer and non-peer relationships, ought to be considered.

**Table 1** Summary of studies that examined adolescents' susceptibility to peer influence

Study	N <sub>males</sub>	N <sub>females</sub>	Age group	Race	Length of study	Research design	Susceptibility measure	Conclusion	Pertinent study dependent variable
Allen et al. (2012)	85	98	Early adolescence Mid adolescence	58% Caucasian 29% African American 8% Mixed race 5% Other	Cross-sectional	Correlational	Adolescent Problem Inventory, for boys (Freedman et al. 1978); Parallel Problem Inventory, for girls (Gaffney and McFall 1981)	B = G	Substance use
Berndt (1979)	217	217	Early adolescence Mid adolescence Late adolescence	<90% Caucasian	Cross-sectional	Correlational	Antisocial Conformity (Berndt 1979)	B > G	Antisocial conformity
Bradley and Wildman (2002)	174	206	Young adulthood	Almost 90% Caucasian	Cross-sectional	Correlational	Emerging Adult Peer Pressure Inventory (EAPPI; Bradley and Wildman 2002)	B > G	Reckless substance use Reckless sexual behavior Reckless driving General reckless behavior
Brown (1982)	66	231	Young adulthood	100% Caucasian	Cross-sectional	Correlational	Peer Pressure (Brown 1982)	B = G	Risky sexual behavior substance use
Brown et al. (1986a)	505	522	Early adolescence Mid adolescence Late adolescence	98% Caucasian	Cross-sectional	Correlational	Peer Pressure Inventory (PPI; Brown et al. 1986)	B = G	Importance of crowd affiliation Importance of reputation Importance of conformity
Brown et al. (1986b)	187	196	Early adolescence Mid adolescence Late adolescence	100% Caucasian	Cross-sectional	Correlational	Peer Pressure Index, Modified (PPX; Brown, 1982)	B = G	Antisocial conformity Perceived peer pressure General Misconduct
Clasen and Brown (1985)	342	347	Early adolescence Mid adolescence Late adolescence	<93% Caucasian	Cross-sectional	Correlational	PPI	B = G	Peer involvement Conformity to peer norms General misconduct
Crockett et al. (2006)	255	263	Mid adolescence Late adolescence	41% White 36% Black 23% Hispanic	Cross-sectional	Correlational	Negative peer pressure (Crockett et al. 2006)	B > G	Risky sexual behavior
De Gaston et al. (1996)	982	943	Early adolescence Mid adolescence	55.4% White 16.9% Hispanic 13.3% Black 14.4% Other	Cross-sectional	Correlational	Single item: "How much pressure do you feel from others to have sex?"	B > G	Risky sexual behavior
Duangpatra et al. (2009)	319	288	Young adulthood	Not reported	Cross-sectional	Correlational	EAPPI (Bradley and Wildman 2002)	B > G	Risky sexual behavior Risky substance use General risky behavior
Dumas et al. (2012)	548	522	Mid adolescence Late adolescence Young adulthood	80.1% White 9.4% Asian Canadian 2.3% Arab Canadian 8.3% Other	Cross-sectional	Correlational	Modified PPI (Brown et al. 1986)	B > G	Risky substance use General deviancy

**Table 1** (continued)

Study	N <sub>males</sub>	N <sub>females</sub>	Age group	Race	Length of study	Research design	Susceptibility measure	Conclusion	Pertinent study dependent variable
Erickson et al. (2000)	834	1166	Mid adolescence Late adolescence	69.7% Non-Hispanic White 15.4% Asian American 9.4% Hispanic American 5.5% African American	Longitudinal	Correlational	Antisocial conformity (Berndt 1979)	B = G	Peer deviance Susceptibility to peer deviance Delinquency Risky substance use
Flannery et al. (1994)	514	500	Early adolescence	64% Caucasian 24% Hispanic	Cross-sectional	Correlational	PPI Modified (Brown et al. 1986)	B = G	Substance use Peer pressure Peer substance use Impulsivity
Fulgini and Eccles (1993)	815	956	Early adolescence	Predominately White	Cross-sectional	Correlational	Extreme peer orientation (Fulgini and Eccles 1993)	B > G	Peer advice seeking Extreme peer orientation Junior high school adjustment
Gardner and Steinberg (2005)	52	54	Mid adolescence	44.8% White 55.2% Non-White	Cross-sectional	Experimental	Chicken lab task (Sheldrick 2004)	B = G	Risk taking Risk preference Risky decision making
Goldstein et al. (2005)	694	663	Mid adolescence	66.1% African American 33.9% European American	Longitudinal	Correlational	Extreme peer orientation (Fulgini and Eccles 1993)	B > G	Extreme peer orientation Problem behaviors
Iwamoto and Smiler (2013)	138	124	Late adolescence Young adulthood	74.1% European American 7.5% Native American 5.3% Latino 11.8% No Response	Cross-sectional	Correlational	Peer pressure (Santor et al. 2000)	B > G	Conformity to masculine norms peer pressure General conformity Alcohol use
Knee and Neighbors (2002)	23	53	Young adulthood	40% Caucasian 21% African American 18% Asian American 16% Hispanic 4% Other	Cross-sectional	Correlational	Perceived peer pressure (adapted from Keeffe 1994)	B = G	Perceptions of peer pressure Alcohol consumption
Maslowsky et al. (2011)	34	35	Mid adolescence	63.8% White 18.8% Black 4.3% Hispanic 4.3% Asian-American 2.9% Native American 5.7% Other	Cross-sectional	Correlational	Single item: "How much pressure do you feel from friends and schoolmates to do [behavior]?"	B = G	Risk behavior Planned risk behavior Sensation seeking Impulsivity Peer pressure
Nahom et al. (2001)	586	551	Mid adolescence	47% Caucasian 24% African American 20% Asian American 9% Other	Longitudinal	Correlational	Single item: "How much pressure do you feel from others to have sex?"	B < G	Pressure to engage in sexual behavior

Table 1 (continued)

Study	N <sub>males</sub>	N <sub>females</sub>	Age group	Race	Length of study	Research design	Susceptibility measure	Conclusion	Pertinent study dependent variable
O'Brien et al. (2011)	48	52	Young adulthood	57% White 21% Black 19% Asian 2% Hispanic 1% Other	Cross-sectional	Experimental	Delay of discounting task (in the presence of same-sex peer)	B = G	Risky behavior in presence of peers
Santor et al. (2000)	40	105	Late adolescence	70% White 25% Black 5% Other	Cross-sectional	Correlational	Peer pressure (Santor et al. 2000)	B = G	Peer pressure Peer conformity Need to feel popular
Shepherd et al. (2011)	54	35	Young adulthood	88% Caucasian	Cross-sectional	Experimental	Enthusia Professional Racing Driving Simulation (Konami, 2005)	B < G	Risky driving with and without peer influence
Steinberg and Monahan (2007)	2484	1183	Early adolescence Mid adolescence Late adolescence Young adulthood	38% Black 27% White 26% Hispanic 4% Asian 5% Other	Longitudinal	Correlational	Resistance to peer influence (RPI; Steinberg and Monahan 2007)	B > G	Resistance to peer influence
Sumter et al. (2009)	221	243	Early adolescence Mid adolescence Late adolescence	Not reported	Cross-sectional	Correlational	RPI (Steinberg and Monahan 2007)	B > G	Resistance to peer influence
Teese and Bradley (2008)	85	123	Young adulthood	Not reported	Cross-sectional	Correlational	EAPPI (Bradley and Wildman 2002)	B > G	Reckless substance use Reckless driving Reckless sexual behavior



Additionally, this hypothesis may explain why adolescent males are more susceptible to deviant peer pressure (Rose and Rudolph 2006).

The fourth possible explanation for adolescent males' susceptibility to deviant peer pressure is that adolescent males may be less cognitively and emotionally equipped than females with coping skills and regulatory capabilities that help them effectively resist deviant peers (Steinberg and Monahan 2007). For example, one study found that mid-adolescent males are more likely to engage in (hypothetical) delinquent behavior regardless of perceived consequences than females, whereas females display more temperance and perspective, indicators of more advanced psychosocial maturity (Cauffman and Steinberg 2000). Relative to adolescent males, adolescent females' social competence (Allen et al. 2006; Rose and Rudolph 2006) and socialization differences in their moral development (Gilligan 1982; Mears et al. 1998) may also provide a greater buffer against deviant peer influences. For example, although youth's moral considerations (i.e., evaluating how right or wrong deviant behaviors are) of delinquent behaviors reduces susceptibility to deviant peers for both adolescent males and females, males are still more susceptible to deviant peers even if their own disapproval of delinquent behavior is strong (Mears et al. 1998). On the other hand, if females strongly disapprove of delinquent behaviors, the effect of delinquent peers is not significantly different than zero. This finding led Mears and colleagues to conclude that gender differences in delinquency stem from differences in psychosocial skills and regulatory abilities that influence moral decision-making.

### No Gender Differences in Susceptibility to Peer Pressure

While nearly half of the reviewed articles showed male susceptibility to deviant peer pressure, the other half of studies reviewed showed non-significant gender differences. There are two possible interpretations for these patterns of results. One explanation is that, given evidence that males and females engage in similar mean levels of risk-taking behavior (e.g., Abbott-Chapman et al. 2007; Santor et al. 2000), it is possible that they have similar susceptibility to deviant pressure to engage in such behavior as well. As attitudes about gender appropriate behavior shift across historical time, it may also be the case that adolescent male and female experiences are becoming increasingly similar, at least in some ways. For example, adolescent males and females may experience comparable levels of deviant peer pressure around substance use in particular (Santor et al. 2000).

A second possibility is that gender differences may exist, but are masked by the methodological issues in the present study. For instance, domains of risky behaviors may moderate the gender effect on peer susceptibility. Specifically,

males and females may experience peer pressure for different types of risky behaviors (Brown 1982; Brown et al. 1986b), but when all the types are combined, as was done for most articles included in this review, overall gender differences may disappear. Whereas males may be more susceptible to deviant peer influences to engage in risky behaviors that are overt and antisocial (Berndt 1979; Brown et al. 1986a), females may be more vulnerable to other deviant social pressures to engage in less overt behaviors not captured in the measures used by the studies reviewed. For instance, evidence shows that, compared to male counterparts, adolescent females feel more pressure from friends and the media to lose weight and pursue thin ideals in health-compromising and risky ways (Ata et al. 2007). In fact, concern over such conceptual and methodological issues plagues a majority of the studies included in this review, as discussed below.

### Broad Conceptual and Methodological Challenges

The findings of the current review revealed several conceptual and methodological issues that may have hampered the progress of research on gender and susceptibility to peer pressure. These concerns include a lack of careful consideration on the domain of risky behavior, gold standard measurement of peer pressure, and attention to the demographic characteristics of the sample.

#### *Domain of Risky Behavior*

First, the aforementioned issue of a lack of domain specificity is a challenge facing much of the research on gender differences in adolescent susceptibility to deviant peer pressure. In the present study, our operationalization of risk-taking behaviors, while consistent with the literature, may overlook important areas in which clearer gender differences might emerge. For example, rather than describing males as more susceptible to peer pressure, it may be more accurate to describe females as less susceptible to deviant peer influences when risky behaviors are defined as delinquency and substance use, which were commonly assessed in the peer pressure measures included in this review. As such, it may be that more domain-general research (i.e., studies which include both more male-prone and female-prone risky behaviors) yields non-significant gender differences, whereas domain-specific studies reveal clearer and consistent gender differences. Similarly, whereas male proneness may exist more clearly when deviant peer pressure is measured using domain-specific, traditional risky behaviors (e.g., delinquency, misconduct), female proneness may be more apparent when studies specifically focus on other behavioral domains (e.g., those related to body image pressures).

Moreover, the issue of domain specificity may shed light on another finding in the present review: the small minority

of studies ( $n=2$ ; Nahom et al. 2001; Shepherd et al. 2011) that demonstrated a greater female proneness to be susceptible to peer pressure. For example, Nahom et al. (2001) relied on a single, domain-specific item: peer pressure to have sexual intercourse. While unprotected sex during adolescence is more widely regarded an example of a risk-taking behavior, engaging in sexual intercourse in general does not necessarily convey risk. Given females' heightened sensitivity to social relationships (Rose and Rudolph 2006), it may be the case that females experience greater pressure than males to have sexual intercourse in order to meet relational goals (i.e., in order to preserve relationship harmony). It stands to reason that engagement in sexual intercourse, which is not necessarily a risky behavior, may be one specific domain where a female proneness to conform to peer pressure exists. However, De Gaston et al. (1996) also used a broad, single-item measure with results indicating a contradictory finding, such that that males reported more pressure to have sexual intercourse. Thus, evidence for female sensitivity to deviant peer pressure in this review is weak and inconsistent.

### *Measurement of Peer Pressure*

An issue related to the domain of risky behaviors concerns inconsistencies in the tools used to measure adolescent susceptibility to peer pressure. For example, most of the studies finding a male tendency to experience peer pressure used self-report measures focused on delinquency, misconduct and substance use (e.g., Berndt 1979; Bradley and Wildman 2002; Crockett et al. 2006; Duangpatra et al. 2009; Dumas et al. 2012). However, other studies showing this pattern of male-proneness used self-report measures that assessed broader experiences of peer pressure (Goldstein et al. 2005; Iwamoto and Smiler 2013; Steinberg and Monahan 2007; Sumter et al. 2009). Such inconsistencies in the tools used to assess susceptibility to deviant peer pressure complicate findings and make it challenging to determine whether there are reliable gender differences.

Moreover, while some authors used single-item scales (e.g. De Gaston et al. 2006; Nahom et al. 2001) or constructed their own scales (e.g., Maslowsky et al. 2011), other measures of peer pressure were more widely used. For example, the Peer Pressure Inventory (PPI; Brown et al. 1986a, b; Clasen and Brown 1985) assesses perceptions of explicit peer pressure across multiple domains and was used the most frequently in the literature. Other common assessment tools used included the Extreme Peer Orientation (Fuligni and Eccles 1993), the Emerging Adult Peer Pressure Inventory (EAPPI; Bradley and Wildman 2002), and the Resistance to Peer Influence scale (RPI; Steinberg and Monahan 2007). Such inconsistency in the tools used to measure adolescent susceptibility to peer pressure, in addition to the lack of attention to domain-specificity, likely contributes to the

dearth of clear and consistent gender differences in adolescent susceptibility to peer influence. Even when gender was assessed in the studies included in this review, it was often not the primary focus of the research. Future research in this area would benefit from greater consistency and specificity in the risk domains assessed and in the tools used to assess them.

### *Demographic Variables*

One limitation of the studies reviewed, and thus a limitation of the current study, is the lack of attention to demographic factors such as age and race which thereby prevented developmental or racial comparisons by gender. In regard to developmental status, several studies grouped early, middle and late adolescents together (Berndt 1979; Brown et al. 1986a, b; Clasen and Brown 1985; Crockett et al. 2006; Steinberg and Monahan 2007; Sumter et al. 2009), making it difficult for the present review to tease apart potential developmental differences in susceptibility to peer pressure between male and female adolescents. Future researchers are encouraged to report age differences in a more structured manner to determine whether susceptibility to deviant peer pressure follows a similar trajectory.

Similarly, a majority of studies did not report analyses of race separately for males and females. In addition, less than half of the studies included in the present review recruited samples that were racially and ethnically diverse (see Table 1). As such, the present study was unable to conduct a more fine-tuned analysis of racial or ethnic differences in susceptibility to peer pressure between males and females. Relatedly, while not included in the present review, cultural norms may influence adolescents' attitudes towards their peer groups and risky behavior. Given the aforementioned issues, future researchers are encouraged to focus on teasing apart the influences of age, race, culture, and domain of risky behavior on gender differences in adolescent susceptibility to deviant peer pressure.

## **Conclusion**

There are both developmental and individual differences in the susceptibility to deviant peer pressure, which has been shown to be predictive of adolescent risk-taking behavior (Steinberg and Monahan 2007). Building on this understanding, the present review examined adolescents' susceptibility to peer pressure to engage in risky behaviors, and specifically, focused on how males and females may differ in their susceptibility to deviant peers. As such, the present study identified 26 studies that examined the association between gender and susceptibility to deviant peer pressure, and we introduced hypotheses to explain two

primary trends: (1) adolescent males appear to be more susceptible to peer influences that encourage risk-taking behaviors, and (2) several studies indicated that there is no consistent gender difference. We offer two explanations based on our review of the literature: (1) gender role theory, which suggests that adolescent males experience more peer pressure for risk-taking; and (2) conceptual and methodological factors, which may obfuscate underlying patterns of gender differences in susceptibility based on contextual factors, or the outcome (i.e., type of risky behavior) under investigation. We observed both measurement inconsistencies and a lack of attention to contextual moderators, and encourage future psychologists, sociologists, and family researchers to empirically examine these hypotheses in order to determine appropriate targets of intervention. Empirical investigations of these hypotheses may reveal whether gender-specific programs that deal with decision-making in the context of peer relations would be effective in strengthening adolescents' ability to resist deviant peer influences.

**Authors' contributions** SSM conceived of the study, conducted the review searches and data abstraction, and drafted the manuscript. LMD participated in the conceptualization of the study, consolidated information from the collected literature, and created the table. DVS and MNN participated in the conceptualization of the study and contributed to the writing and critical revision of the manuscript. All authors read and approved the final manuscript.

#### Compliance with ethical standards

**Conflict of interest** The authors report no conflict of interests.

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